



Vision Plan Appendices

These appendices are a collection of technical and planning documents prepared during the Vision Plan process, including but not limited to reports describing the existing conditions, assessing the variety of open space resources, and identifying opportunities for action within the Vision Plan area.

These documents informed the development of the Vision Plan, and provided the scientific and qualitative data, summarized community and stakeholder input, and consolidated other important background information to guide the development of the Vision Plan's goals and priority actions. These appendices also provide a basis for implementing the Vision Plan, serving as the starting point for gathering additional, more detailed information to support site-specific projects.

These reports are not intended to replace Midpen's adopted policies and land use plans, nor describe final decisions of the Board. Instead these reports provide a baseline of existing conditions to build upon later with additional evaluations and findings.

Appendix A: Vision Plan Work Plans



Todd Diechendorf

Long Ridge Open Space Preserve



Appendix A-1:

Board Report (R-13-10): Consider Endorsing the Vision Planning Process

Prepared for:

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Prepared by:

Midpeninsula Regional Open Space District

January 2013



Midpeninsula Regional
Open Space District

R-13-10
Meeting 13-02
January 15, 2013

AGENDA ITEM 1

AGENDA ITEM

Consider Endorsing the Vision Planning Process, including the Communication, Engagement, and Public Participation Plan

GENERAL MANAGER'S RECOMMENDATION

Discuss, provide input to staff, and endorse the proposed Vision Planning process and the associated Communication, Engagement, and Public Participation Plan (CEPP).

SUMMARY

The Midpeninsula Regional Open Space District (District) is embarking on an exciting new project to establish, with partner and public feedback, a District-wide vision for land preservation, resource management, public recreation, and working lands. The vision planning process will ensure consistency with the District's mission, utilize the most current scientific data and planning analysis, and reflect the priorities and values of the Board and public. The Vision Plan will allow the District to (1) prioritize future land conservation, stewardship, public access, and land management decisions so as to achieve the greatest benefit given limited resources, (2) leverage support for new funding sources, including a future capital finance program, and (3) engage the public in the District's work to a greater degree. The Vision Plan will guide the District for the next ten to fifteen years and ensure that current and future staff and funding resources are being targeted to those activities that are of highest value and provide the greatest public benefit. The Vision Plan will also serve as an update to the District's 1998 Regional Open Space Study and 1992 Master Plan, fulfilling the San Mateo County LAFCo condition of approval for the 2004 Coastal Protection Program.

Vision Plan development provides an excellent opportunity to engage and inspire the public served by the District, both by providing information about the District and by involving the community in the creation of a shared vision for the future of the District and the region's open space. A five-phase public engagement effort will be seamlessly integrated with the overall planning process, reaching out to an ever broadening circle of media, partners and stakeholders. A Community Advisory Group (CAG) will be formed and is expected to play an important role in shaping the vision by facilitating, reviewing, and interpreting public input.

The project is on an aggressive timeline and is scheduled for completion in April 2014, spanning two fiscal years. The Fiscal Year (FY) 2012-13 Planning Department budget includes \$300,000 for the Vision Plan project. To date \$60,739 has been expended. Upon Board endorsement, anticipated additional FY 2012-13 expenditures would total \$120,900, leaving \$118,361 unspent for this fiscal year. For FY 2013-14, the estimated budget would be \$610,900.

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As part of the FY 2013-14 Action Plan development, staff has estimated the level of District non-field staff involvement needed to implement the proposed Vision Plan at approximately 10% (equivalent to about 6 full-time employees). Assuming that all non-field vacant positions are filled, staff has concluded that no new permanent staff positions would be needed to undertake the Vision Plan. Instead, staff would be reassigned from other District and Department projects and additional capacity needs covered through an increase in intern hours or outside contract services.

DISCUSSION**Background**

The District actively preserves a regional greenbelt of open space land, protects the natural environment, and provides opportunities for public recreation and environmental education for the San Francisco Peninsula and South Bay, as well as the broader Bay Area region. The District, like many other agencies, is experiencing staffing and funding constraints that limit its ability to further its mission. To address these challenges, the District's Strategic Plan calls for an Open Space Vision Plan that will: 1) prioritize lands and activities within District boundaries for conservation, public access, landscape restoration, and agriculture, to maximize the beneficial impact given the available resources; 2) enhance regional collaboration to leverage the strengths of other conservation and partner organizations; 3) build public support to create a common vision; and 4) generate wide support for future funding efforts to enhance financial and staffing resources to successfully create greater balance between the three parts of the District's mission.

As presented to the Board at the October 10, 2012 meeting (see R-12-100), the Vision Plan will utilize a community value-based planning process that integrates public values and knowledge with scientific data and expertise. The approach will benefit the District by:

- Enhancing our visibility and overall organizational sustainability
- Building alignment between the District, its partners, and surrounding communities
- Creating an informed public, who knows what the District does and feels part of it
- Defining those priorities that have the greatest public support

Vision Plan Components

The Vision Plan document will identify a suite of high-priority areas and actions as well as goal-oriented action selection criteria that reflect both the District's mission and community values. Inspirational imagery and compelling information that demonstrate the importance of the District's work on the Peninsula will be infused throughout the document.

The Vision Plan will include the following four major components, which are defined below and further described in Attachment 1:

Major components of the Vision Plan document	What it consists of
Open Space Goals	Goals that reflect the District's mission and community values. Example: Protect rare species

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Action Selection Criteria	Guidelines for decision making that assist in the selection of Priority Actions, and later offer a way to measure progress towards achieving the Open Space Goals. Example: Preserve land within large intact habitat patches
Priority Area Maps	Maps and GIS data displaying areas of high open space values. Example: A map displaying areas of high biodiversity
Priority Actions	Subarea-specific priority actions for land protection, land stewardship, and ecologically sensitive public access and education on the Peninsula. Forms the basis and structure for the Capital Funding Program. Example: Control sediment within the San Gregorio Creek Watershed

Each Vision Plan component will be organized into the following themes, and reflect the District's Mission and public values (themes may be refined as part of the planning process):

- Healthy Plants, Animals, and Watersheds
- Locally Sustainable Working Lands (cultivated lands, grazing, and restoration forestry)
- Low Intensity Recreation, Health, Access to Conserved Lands, and Environmental Education
- Beauty, Scenery, Rural Character, and Cultural Resources

The Vision Plan will evaluate lands within District boundaries with each of these open space themes in mind, and identify the best places to accomplish the Open Space Goals. The Plan will feature succinct text, tables, and maps that highlight key aspects of each theme, including geographic distribution and factors influencing the sustainability (i.e. threats) of each theme. As a result of this work, the District will gain:

1. A more robust GIS database and decision support tool to assist with future project selection
2. Detailed memo characterizing lands within District boundaries according to the Open Space Themes
3. Enhanced coordination with our partners and the larger community to expand our resource network to facilitate future collaborative work

Vision Plan Process and Timeline

The Vision Plan process consists of five phases of public engagement represented by the acronym SHEDD: Getting Started, Hearing the voices, Enriching the conversation, Deliberating, and Deciding. The attached CEPP describes these phases in further detail (see Attachment 2). The scientific data analysis and planning work will be seamlessly integrated into each SHEDD phase, as summarized below. The Community Advisory Group (CAG) is expected to play an important role beginning with Phase 2.

Phase 1: Getting Started (July 2012 – January 2013)

The Getting Started phase is largely complete, and has consisted of selecting and hiring two lead consultants (Public Dialogue Consortium (PDC) and Jodi McGraw Consulting) to: 1) refine the project scope of work, 2) define the integrated team of consultants needed to support the project, 3) develop the CEPP that will guide the outreach efforts, and 4) obtain Board input on and endorsement of the proposed planning process.

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Staff has worked closely with the two lead consultants to refine the vision planning process that is presented in this report. Jodi McGraw Consulting is leading the planning and analysis portion of the Vision Plan, while PDC is leading the public outreach aspects. Based upon Board input, staff made a concerted effort to reduce the number of meetings, streamline the Vision Plan process, and utilize staff resources efficiently. This report and attachments represent the Phase 1 deliverable, and the task of forming the CAG will conclude Phase 1.

Phase 2: Hearing the Voices (January – May 2013)

This phase is focused on building new relationships, and broadly eliciting aspirational voices to understand the public's values and vision for the future of open space in the District. This phase will incorporate a series of Community Conversations that will begin with the inner circle consisting of the District Board, CAG, and other close partners, and spread outward to an ever broadening network through a structured series of small, informal interviews. Trained student interns and potentially District volunteers will conduct the Community Conversations, documenting the general tenor of the conversation as well as inspirational quotes. Baseline polling research will inform the interview topics. As requested by the Board, interviews will strike the appropriate balance between allowing participants to imagine the future while also being grounded in the District's mission and the general Vision Plan themes. This phase will also involve new tools and materials for initiating broad public outreach and engagement, through media, email, and social networking. Further information about the CAG can be found in the November 28, 2012 Board Report (see R-12-119).

As the Community Conversations occur, the foundational planning and analysis steps will begin. During this phase, the Planning Team will synthesize and evaluate existing information, and fill any essential data gaps. The Planning Team will prepare a brief report that characterizes lands within District boundaries according to the open space themes plus any additional themes that emerge from the community conversations. This report will inform development of initial Open Space Goals, and ultimately assist in the identification of priority areas and actions.

Four CAG meetings (two of which are preserve tours) and two Board meetings will occur during this phase. The final results will be:

- Initial list of Vision Plan themes (see page 3 for examples)
- Initial list of Open Space Goals
- Detailed memo that characterizes lands within District boundaries

Phase 3: Enriching the Conversation (June – September 2013)

The Enriching the Conversation phase of the CEPP is focused on enhancing, clarifying, and expressing the District's perspective, and synthesizing public input to shape the major Vision Plan components (i.e. open space themes, goals, action selection criteria, and priority actions). The enrichment aspect includes educating the public about the District, reflecting back what was previously heard, obtaining feedback on topics of primary importance to the District, and enhancing the understanding of open space as part of quality of life.

Once open space themes and goals are finalized, the development of Action Selection Criteria will begin. The Criteria will consist of decision making guidelines that will be used to select the Priority Actions in the next phase, and will later measure the progress on achieving the Open Space Goals. The CAG will be closely involved in developing the Criteria.

Once the Criteria are finalized, the planning and analysis team will integrate community input and other available information to create spatial data layers that depict the various open space

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values, and otherwise illustrate the Vision Plan themes and Open Space Goals via Priority Area Maps, which will be used to identify Priority Areas and Actions in the next phase.

The planning and analysis team will then determine the potential actions that could be undertaken by the District and its partners to accomplish the Open Space Goals. The Criteria, Priority Area Maps, and consultants and staff knowledge will be used to create the initial set of potential actions.

Three CAG meetings (one of which is a preserve tour) and one Board meeting will occur during this phase. The final results will be:

- Full list of Vision Plan themes
- Full list of Open Space Goals and values
- Full List of Action Selection Criteria
- Priority Area Maps
- Draft list of potential actions

Phase 4: Deliberating (October – December 2013)

The Deliberating phase involves assessing and prioritizing the information developed throughout the Vision Plan process so far. This phase will address a challenging, but critical, question: What actions are most important to accomplish the Goals, given limited resources and competing interests? By establishing Priority Actions, rather than identifying specific projects, the District will retain flexibility in its annual work planning. Those Priority Actions that are beyond the District's current means could become the basis for a District Capital Finance Program, if so desired.

The public will be invited to attend one of three large meetings spread throughout the District as well as participate online to learn about how prioritizing different open space goals can affect Priority Actions. They will consider possible outcomes and priorities, and then rank their relative importance.

One CAG meeting, three large public meetings, and one Board meeting will occur during this phase. The final results will be:

- Prioritized List of Open Space Goals
- List of Priority Actions

Phase 5: Deciding (January – April 2014)

This final phase involves documenting the Vision Plan process as well as further synthesizing public input and technical data into a draft summary Vision Plan that can be circulated for feedback. After CAG and Board input is received and incorporated on the initial draft, a final wave of public outreach will occur to disseminate the first public draft of the Plan with feedback elicited via multiple ways. The project team will incorporate public input and move the Vision Plan document to final Board approval.

This phase includes two CAG meetings and two Board meetings. The final results will be:

- Summary Vision Plan document with the final Priority Actions
- GIS Database

R-13-10**FISCAL IMPACT****Consultant Services**

With the proposed consultant services to complete Phases 2 through 5 of the Vision Plan process (discussed further in Agenda Items 2 and 3 at tonight's meeting, see R-13-08 and R-13-09), the total consultant services costs to complete the Vision Plan process as outlined above would be as follows:

Public Dialogue Consortium

Phase 1 (FY12-13)	\$25,000
Phases 2 through 5 (FY12-13 and 13-14)	\$180,000
10% Contingency (FY12-13 and 13-14)	\$18,000
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Not-to-Exceed Total Amount:	\$223,000

Jodi McGraw Consulting

Phase 1 (FY12-13)	\$35,739
Phases 2 through 5 (FY12-13 and 13-14)	\$301,178
10% Contingency (FY12-13 and 13-14)	\$30,117
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Not-to-Exceed Total Amount:	\$367,034

District Staffing and Direct Costs

As part of the FY 2013-14 Action Plan development, staff has estimated the level of District non-field staff involvement needed to implement the proposed Vision Plan at approximately 10% (equivalent to about 6 full-time employees). Assuming that all non-field vacant positions are filled, staff has concluded that no new staff positions would be needed to undertake the Vision Plan. Instead, staff would be reassigned from other District and Department projects and additional capacity needs covered through an increase in intern hours or outside contract services.

The following table describes the approximate level of Vision Plan support expected by department:

<i>Department</i>	<i>Total Hours</i>	<i>% Time*</i>	<i>Equiv. Staff**</i>
Administration:	218	1%	0.1 FTE
Controller:	29	0.25%	0.05 FTE
General Counsel:	43	1%	0.02 FTE
Natural Resources:	1076	6%	0.5 FTE
Office of the General Manager:	890	11%	0.4 FTE
Operations (Management staff only):	518	4%	0.23 FTE
Planning:	4044	19%	2.0 FTE
Public Affairs:	3667	16%	1.6 FTE
Real Property:	2122	20%	1.0 FTE
TOTAL	12,607		5.9 FTE

* % Time = Total percentage of time for the entire department; is a factor of the total number of full time employees in each department

**FTE = Full time employee

Two lead staff from the Planning and Real Property Departments would devote a substantial portion of their time to the Vision Plan project, taking them away from normal assignments and requiring a reduced Department workload. To avoid an adverse impact on other District key projects, staff recommends temporarily backfilling these two employees during FY13-14 by

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increasing GIS Intern hours in the Planning Department, and providing for potential contract staff (i.e. outside contract services) in the Real Property Department. The cost of temporary backfilling is shown row 3 in the table below.

District Budget

The Vision Plan will span several fiscal years. Taking consultant costs, direct costs, and the cost of temporary employee backfilling into account, the cost implications by fiscal year of the Vision Plan as outlined in this report are shown in the following table:

	FY12-13 Expenditures To Date	Remaining FY12- 13 Budget Expenditures	Estimated FY13-14 Budget	TOTAL
Consultant Costs				
Public Dialogue Consortium	\$25,000	\$46,000	\$152,000	\$223,000
Jodi McGraw Consulting	\$35,739	\$48,400.00	\$282,900	\$367,039
Direct Costs				
Online Public Engagement (Mindmixer)		\$10,000	\$10,000	\$20,000
Graphic Design		\$2,500	\$2,500	\$5,000
Mailing		\$6,000	\$10,000	\$16,000
Meetings		\$3,000	\$17,000	\$20,000
Document Printing			\$6,500	\$6,500
Map Printing		\$200	\$1,000	\$1,200
Employee Backfill				
Planning Intern		\$4,800	\$19,000	\$23,800
Contract Planner			\$110,000	\$110,000
TOTAL:	\$60, 739	\$120,900	\$610,900	\$792,539

The FY12-13 Planning Department budget includes \$300,000 for the Vision Plan project and is sufficient to cover the work anticipated to occur during the remainder of this fiscal year, as shown in the following table:

FY12-13 Vision Plan Approved Budget	\$300,000
FY12-13 Expenditures to Date	\$(60,739)
Anticipated Additional FY12-13 Expenditures	\$(120,900)
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FY12-13 Budget To Remain Unspent	\$118,361

BOARD COMMITTEE REVIEW

No Board Committee review was needed for this item. The full Board continues to remain apprised of ongoing Project progress and next steps.

PUBLIC NOTICE

Notice was provided pursuant to the Brown Act. Notice was also sent to the interested parties list for this project.

R-13-10**CEQA COMPLIANCE**

Endorsement of the Vision Plan planning process and the CEPP does not constitute a project under California Environmental Quality Act (CEQA), as it will not result in a direct physical change in the environment [CEQA Guidelines Section 15060(c)(2)].

NEXT STEPS

Upon Board endorsement and after incorporating Board input, staff will begin work on the Vision Plan as outlined. Initial efforts will include formation of the CAG, including Board ratification of the final list of participants.

Attachment(s)

1. Description of Vision Plan Components
2. Communication, Engagement, and Public Participation Plan

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Attachment 1. Description of Vision Plan Components

Major components of the Vision Plan document	What it consists of	How it will be developed	How it will guide District work
1. Open Space Goals	<p>Goals that reflect the District's mission and community values.</p> <p>Example: Protect rare species</p>	<p>Open space goals will be developed with the District Board of Directors (Board), Community Advisory Group (CAG), staff and public participation. Staff will draw upon District Policy during the creation of the goals. The public, CAG, and Board will prioritize the open space goals by evaluating the tradeoffs and implications of accomplishing each goal.</p>	<p>Assist in the selection of the Priority Actions</p>
2. Action Selection Criteria	<p>Guidelines for decision making that offer a way to measure progress towards achieving the Open Space Goals.</p> <p>Example: Preserve land within large intact habitat patches.</p>	<p>Action Selection Criteria will be developed with Board, CAG, staff and public participation. Staff will draw upon District Policy during the creation of the criteria. The public, CAG and Board will prioritize the criteria by evaluating the tradeoffs and implications.</p>	<p>Assist in the creation of the Priority Area Maps; Assist in the identification of Priority Actions; Guide future project selection and, over time, direct District resources towards the outcomes the public values the most.</p>
3. Priority Area Maps	<p>Maps and GIS data displaying areas of high open space values.</p> <p>Example: A map displaying areas of high biodiversity</p>	<p>GIS analysis/ scientific study; public participatory mapping</p>	<p>Assist in locating where projects should occur and in developing the Priority Actions</p>
4. Priority Actions	<p>Subarea-specific priority actions for land protection, land stewardship, and ecologically sensitive public access and education on the Peninsula.</p> <p>Examples: Control sediment in San Gregorio Creek Watershed; Provide additional family friendly recreation opportunities on the San Mateo Coastside</p>	<p>The prioritized open space goals, criteria, priority area maps and expert staff knowledge will be used to determine priority actions. Priority Actions will be refined during the public deliberation process.</p>	<p>These priority actions will guide the District's work over time and structure the Capital Funding Program to focus on the places that best accomplish the open space goals and achieve the highest valued outcomes. By establishing general, high-level priority actions, rather than identifying site-specific projects, the District will retain flexibility in its annual work planning.</p>



Appendix A-2:

Communication, Engagement, & Public Participation Plan

Prepared for:

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Prepared by:

Midpeninsula Regional Open Space District in collaboration with
Public Dialogue Consortium

December 2012

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BACKGROUND

In 2011, the Midpeninsula Regional Open Space Planning District's (District) Strategic Plan called for the development of a Vision Plan to articulate the specific priorities, goals, and broadly-defined activities the District will undertake in the next 10 to 20 years. This Vision Plan will be consistent with the District's mission, utilize scientific data and analysis, and reflect the priorities and values of the public. It will allow the District to (1) prioritize future land conservation, stewardship, public access, and land management decisions so as to achieve the greatest benefit given limited resources, (2) leverage support for new funding sources, including a possible future funding measure, and (3) engage the public in the District's work to a greater degree.

The Open Space Vision Plan will be designed not only for the District, but also as a tool for local conservation partners to inform conservation choices and investments at a regional level. As such, the Vision Plan will promote inter-organizational coordination, and will leverage private and public funds to accelerate the pace of, and maximize the impact on, land conservation, resource stewardship, and recreational access. The Vision Plan will be designed as an adaptive document to be updated as new information is collected and conditions or needs change. It will also serve as an update to the District's 1998 Regional Open Space Study and 1992 Master Plan.

The development of the MROSD Vision Plan provides an excellent opportunity to engage and inspire the public served by the District. It is an opportunity to provide information about the District and to integrate the community into the creation of a shared vision for the future of MROSD and the region's open space.

PURPOSE AND OVERVIEW

The purpose of this document is to outline a Communication, Engagement, and Public Participation Plan (CEPP), an integral part of the

overall Vision Planning effort. The CEPP will detail the actions the District would take to cultivate relationships with key stakeholders and the surrounding communities, educate and include the public in the activities and mission of MROSD, and increase support for the Vision Plan by incorporating public involvement throughout the life of the project, ensuring the transparency of the vision planning process.

The CEPP would enable collaborative public involvement that invites innovative ideas and articulates public values, priorities and recommendations, to inform and influence the final Vision Plan.

Meaningful, creative, and robust public involvement in the planning process requires strategies and activities designed to garner both broad and in-depth input and feedback to inform the final Vision Plan. The CEPP organizes these strategies and activities into a five-phase process represented by the acronym SHEDD: **Getting Started, Hearing the voices, Enriching the conversation, Deliberating, and Deciding.** SHEDD is an approach to public dialogue work that the Public Dialogue Consortium (the District's consultant) has effectively used to enable diverse communities and organizations to engage in productive communication that leads to meaningful action.

Critical to the development and effective implementation of the CEPP is its seamless integration with the overall planning process. Each CEPP phase aligns with a corresponding Planning Team work plan phase. Outreach and planning are integrated to form a vision planning process that integrates public values and knowledge with scientific data and expertise. (See Appendix B)

The five CEPP phases are described below, followed by a description of the three outreach methods that would be implemented throughout all phases.

FIVE PHASES OF COMMUNICATION, ENGAGEMENT, AND PUBLIC PARTICIPATION

The CEPP phases are sequential, however, they do not have clear and distinct boundaries; rather, the phases overlap and flow together. The description below shows the sequence and timing of the CEPP in the planning process and outlines the focus of each phase, and the types of activities involved.

Summary Table:

Five Phases of the CEPP

Phases	What it consists of	How it Supports Vision Plan
Phase 1 Getting Started 9/12-1/13	Setting up outreach and engagement infrastructure, including a Community Advisory Committee.	Creates conditions for engaging stakeholders and public in Vision Plan.
Phase 2 Hearing the Voices 1/13-5/13	Engaging stakeholders, including the public, in “community conversations” to learn what is most important to them in relation to open space.	Gathers public aspirations, values and preferred actions. Also increases public awareness of the District’s work and the Vision Planning Process.
Phase 3 Enriching the Conversation 6/13-9/13	Synthesizing public input, disseminating input from community conversations, and providing information to enhance public knowledge about the District’s work.	Produces draft Open Space Goals, Action Selection Criteria, and potential Priority Actions informed by public aspirations and values.
Phase 4 Deliberating 10/13-12/13	Public deliberating on question: What actions are most important to accomplishing goals, given limited resources and competing interests?	Produces a list of Priority Actions and Priority Areas based on broad public input.
Phase 5 Deciding 1/14-4/14	Drafting, disseminating for feedback, revising and finalizing a Vision Plan document.	Results in a Vision Plan that reflects public and partner input, and is Board approved.

Phase One: Getting Started

*September 2012 –
January 2013*

The initial planning phase has already started, and is focused on creating the optimal conditions for engagement by building the infrastructure and capacity that is critical to gain the desired public and partner participation, and building high levels of support for the District Vision Plan and the District itself.

This capacity-building work began with the internal conversations and processes that led to an initial short-term contract with the Public Dialogue Consortium (PDC). As part of this initial

effort, the team held several workshops with the District Board and staff.

The Getting Started phase will continue to engage the broader public as the District staff, supported by the PDC, sets up the infrastructure – including products, tools and procedures -- to enable the implementation of the three CEPP Approaches described below: Productive Partnerships, Broad Outreach, and Engagement. It requires on-going coordination between the District staff, the PDC, and the Planning Team, all of whom will meet regularly throughout the vision planning process.

Phase Two: *January - May 2013*
**Hearing the
Voices**

This phase of the CEPP is focused on building new relationships and broadly eliciting aspirational voices to begin to understand the public's values and vision for the future of open space in the District. This phase involves reaching out to an ever broadening circle of partners and stakeholders who will be encouraged to work with the District throughout the Vision Planning Process. Some of these partners and stakeholders will be asked to participate in a Community Advisory Committee (CAC) to advise the District Board and actively participate in shaping the process and the final product.

This phase is about hearing the values, visions and aspirations of diverse stakeholders, including the general public, through *Community Conversations*. These conversations will begin with the inner circle consisting of the District Board, Community Advisory Committee and other close partners. A keystone tool for this phase of the CEPP will be the *Community Conversations protocol*. This protocol includes a simple introductory text and set of questions that will be used to structure and guide public input across a range of populations, contexts, and modalities using interviews, small group conversations and technology tools. As requested by the District Board, *Community Conversations* will strike the appropriate balance between allowing participants to imagine the future while also being grounded in the District's mission and the general themes of most interest to the District. The flexibility of the protocol will allow the District to invite the public into open-ended conversations about what is most important to them while providing the structure to focus and aggregate the many voices that will be heard. This phase also involves creating tools and materials for initiating broad public outreach and engagement through media, email, and social networking.

As the Hearing the Voices phase progresses, the Planning Team would work with the rest of the

Project Team to review, interpret and utilize public input helping to inform the focus of their work. This *learn as we go* approach also enables the Project Team to adapt the Community Conversations protocol as needed to focus on gaps in the types of input that is being elicited or to provide clarification. This iterative process will likely overlap with the next phase of the CEPP, Enriching the Conversation.

Phase Three: *June-September 2013*
**Enriching the
Conversation**

The Enriching the Conversation phase focuses on enhancing, clarifying and synthesizing public input to shape the Vision Plan, including the Open Space Goals, Action Selection Criteria, and Priority Actions. The CAC will play a pivotal role in this process and will have working sessions at the beginning and end of this phase. The enrichment aspect includes educating the public about the District, reflecting back what was previously heard, obtaining feedback on those topics of primary importance to the District, and enhancing understanding of open space as part of quality of life. Depending on the clarity and breadth of public input provided thus far, targeted interviews and/or surveys via the web, phone, text messages and print media may be needed to successfully develop Open Space Goals and Action Selection Criteria; and to draft Priority Actions that meaningfully reflect diverse public perspectives.

This phase would incorporate close coordination between the Public Engagement Team members and the Planning Team members. This coordination will ensure that the Vision Plan reflects public values and is based on scientifically-sound analysis.

Phase Four: *October-December 2013*
Deliberating

The Deliberating phase will involve assessing and prioritizing the information developed throughout the Vision Plan process so far. This phase will

address a challenging, but critical, question: *what actions are most important to accomplishing goals, given limited resources and competing interests?* Public deliberation brings people into conversations about the identified options so they can express their priorities while hearing and considering different trade-offs. In this phase, the public will be invited to attend one of at least three large meetings where they will learn about how prioritizing different open space goals can affect priority actions, work in small facilitated discussion groups, and use keypad voting technology to express their priorities.

In addition to the public meetings, the public will be invited to participate online in this phase of the Vision Planning Process. On a Mindmixer website, the public will have access to the same information that will be shared in meetings, comment on discussion boards, and express their priorities through a survey tool.

This phase also involves a second broad wave of public outreach efforts which will include working through the networks of the Community Advisory Committee members and other partners; using the media, email, and social networking; and implementing community-focused public outreach activities.

Planning Team members will be active participants in this phase of the CEPP, which will utilize mapping tools developed by the team. Planning Team members will present data both face-to-face and online; and they will work with the rest of the team to interpret the output of the public deliberation. During the Deliberating phase, team members will also provide the planning expertise needed to produce the final Vision Plan document: a MROSD-focused decision-making tool that is thoroughly grounded in public values as well as scientific data and analysis.

Phase Five: Deciding

January – April 2014

The final phase of the CEPP, Deciding, involves first creating a draft Vision Plan that will document the Vision Plan process and synthesize public input and planning data. The draft will initially be circulated to all Vision Plan process participants. After the Community Advisory Committee and the Board review the draft and the Project Team incorporates their input, it will be disseminated to the public and the District will elicit feedback using a range of modalities. The Project Team will then incorporate public input and present the Vision Plan document for final Board approval.

THREE APPROACHES TO COMMUNICATION, ENGAGEMENT, AND PUBLIC PARTICIPATION

Three approaches to effective communication, engagement and public participation are woven together throughout all phases of the CEPP. They include:

- **Productive Partnerships**
Working through sustained relationships with individuals and organizations focused on the elements of the District's mission
- **Broad Public Outreach**
Reaching and engaging diverse populations in the Vision Planning process
- **Public Engagement and Input**
Utilizing various strategies and tools for involving diverse populations in the Vision Planning process

Similar to the phases, these approaches do not have hard boundaries; they intersect and build upon one another, forming a cohesive and comprehensive strategy.

Productive Partnerships

Working through sustained relationships with individuals and organizations focused on open space

The District's leaders know that its key partners are important to the delivery of its mission. The District's success in the future will depend, in part, upon its ability to collaborate and work creatively with its partners to leverage resources. The Vision Planning process provides an excellent opportunity to strengthen partnerships while tapping into the expertise, communication tools, and networks that partner organizations can contribute. Ultimately, the relevance and potential impact of the process and the final Vision Plan can increase significantly with each key partner that actively participates.

Involving Partners

The PDC will work with the District staff to invite partner organizations to participate in the Vision Planning Process. Partners may choose to participate by:

- Referring individuals and/or assisting with introductions for Vision Planning process Community Conversation interviews.
- Hosting a small group Vision Planning process Community Conversation.
- Receiving partner-targeted email updates as well as general newsletters. These would include press releases and specific requests for input.
- Incorporating information and invitations to engage into their newsletters, listservs, and/or blogs.
- Disseminating targeted surveys.
- Hosting a large public meeting during the Deliberating phase of the Vision Planning process.
- Sponsoring snacks or facilitating outreach meetings or Community Conversations.

Community Advisory Committee (CAC)

As discussed under the description of the Hearing the Voices CEPP phase, some partners and stakeholders will be invited to serve as members of the Community Advisory Committee, which is a key strategy in the Productive Partnerships approach. The 20 to 25 selected representatives will be asked to participate for the duration of the Vision Planning process to provide advice, articulate their visions, goals and objectives, and to provide referrals and introductions to other leaders and potential participants. The goal is to build sustained relationships with individuals and organizations that continue after the Vision Planning process to support ongoing collaboration with the District. This subject is further discussed in the MROSD November 28, 2012 Board Report.

Broad Public Outreach

Reaching and engaging diverse populations in the Vision Planning process

Communications messaging and materials for broad public outreach will be developed and utilized throughout the Vision Planning process. Outreach efforts will be designed to 1) educate the public about the Vision Planning process and MROSD, 2) invite the public to provide input, and 3) to receive and respond to public inquiries.

The use of communication tools and technologies described below will be coordinated to form a comprehensive plan for broad, consistent public outreach. Materials will be tailored to reach specific populations and translated as needed. Relevant planning and scientific data will be incorporated into outreach efforts using non-technical language and clear, thorough explanations using methods designed to elicit meaningful feedback.

Media & Publicity

Media relations are a key component of the Vision Planning process, and will be used to increase public awareness of, and support for, MROSD and its mission. The communications effort will

focus on developing productive, active relationships with media outlets that will promote coverage through feature stories, editorials, op-ed pieces, news reports, and other District references. The entire Vision Planning process outreach effort will use a consistent approach to develop and reinforce key messages.

Timely, compelling story pitches will be developed to generate media interest throughout the Vision Planning process. These pitches will be tailored to target specific outlets and contacts, including online media, traditional media organizations such as community newspapers and other, population-specific content providers, supported by language translations as needed. A top ten list of priority media contacts will be identified as part of a broader effort that will include approximately 50 media contacts, building upon existing District media relationships.

Branding the Vision Planning Process

District staff will work collaboratively with the MROSD Board and the CAC to generate an inspirational, descriptive brand for the Vision Planning process. This distinct title will anchor public outreach materials and will be designed to capture attention and generate recognition.

Broad Public Outreach through Websites & Social Media Networks

The MROSD website (www.openspace.org) will be regularly updated to provide timely Vision Plan information and promote participation. It will include summary data, specific quotes, compelling stories, photos and videos as well as links to additional sources and options for engagement.

The MROSD website will also route visitors to a separate, interactive Vision Planning process-specific platform for online participation. This online platform will focus on inspiring meaningful public participation using maps and other information tools, surveys, questions to prompt public response; it will also provide opportunities to rank or vote on alternatives and to post ideas, comments or questions. The District is currently using MindMixer for this purpose, which is also

expected to be employed for the Vision Planning process.

Social media networks – including Twitter, Facebook, blogs, LinkedIn, and Yelp -- will be integrated into the communication and outreach plan to enhance public relations, provide public education and outreach, encourage public engagement, and receive public input.

Newsletters/ListServes/Email Lists

Newsletters will be produced to 1) educate the public about the District and the Vision Planning process, 2) invite and inspire the public to participate in the Vision Planning process using interview questions, surveys, and maps, and 3) to inform the public of future activities and opportunities for participation.

Email (e.g. Mail Chimp) will be utilized to regularly update and invite the public to participate in MROSD activities during the Vision Planning process. Continuously expanding email and mailing lists and developing databases will be a priority throughout the Vision Planning process for online and hard-copy newsletter distribution. Monthly updates will be sent out via email. Newsletters, possibly distributed quarterly in conjunction with the District newsletter, will be mailed to those not on an email list. Partner organizations will be engaged and invited to share monthly newsletters (or portions of it) with their email lists, leveraging existing relationships and communication resources.

Print Materials

Hard-copy materials, including flyers, and posters will be developed and distributed at MROSD preserves as well as community events such as Farmers Markets and street fairs. Flyers will also be disseminated through the Community Conversations interviews and meetings (see below) and through partner organizations.

Engagement and Participation

Utilizing various strategies and tools for involving diverse populations in the Vision Planning process

Engaging broad and in-depth public participation will require creative, focused effort throughout the Vision Planning process. Various methods will be employed to invite and inspire meaningful and useful public engagement, with a focus on gathering and synthesizing input and feedback from diverse populations.

Community Conversations Protocol

Community Conversations interview questions and small group conversations questions will be developed collaboratively for interviews and surveys with partners and diverse groups. The Community Conversations Protocol will include an introduction to MROSD activities, mission, and the Vision Planning process.

Concentric Circles Approach

As a top priority, the Vision Planning process will use a Concentric Circles networking approach to expand the number of participants, and to ensure access to diverse and critical populations. The Board, partners and the Community Advisory Committee, as well as other participants, will be encouraged to provide connections and introductions with a range of individuals, community leaders and organizations that are representative of diverse populations. Trained, supported Outreach and Engagement Interns (see below) will interview referred individuals or small groups and request additional referrals to individuals and community-based organizations to encourage participation in the Vision Planning process.

Outreach & Engagement Interns

Student interns from San Jose State University and San Francisco State University will be selected, trained and supervised by PDC in the use of the Community Conversations Protocol to assist with relationship building, data collection, and documentation of partner/public input during the public engagement process. Interviewees will be selected through referrals and contacts identified through the Concentric Circles Approach. Interns will collect photos, video and public input and

Vision Planning process information to use in media and social media channels.

Phone/Text Message Outreach

Voicemail and text messaging will be used to allow for participation by those who do not have access to web-based technology, and to provide an additional avenues for public input. Information about how to participate via text message and voice mail will be disseminated through print materials as well as other media and publicity channels.

Public Forums

Extensive public participation will be integral during the fourth CEPP phase, Deliberating, as described above on page 6. During this phase, the public will use the values-based Action Selection Criteria, developed using public from Phase Two of the CEPP (see page 5), to prioritize Open Space Goals and rank Priority Actions. In three public forums, hosted in different locations within the District, the public will learn about how prioritizing different Open Space Goals can affect Priority Actions, work in small facilitated discussion groups, and use keypad voting technology to express their priorities.

Preserve Tours

As part of the Vision Planning process, the number Docent and staff guided tours of the MROSD preserves may be increased and the public outreach about the tours will be expanded. The MROSD Preserve Tours can offer an excellent opportunity to engage the public in brief conversations based on the Community Conversation Protocol and to encourage participation in the Vision Planning Process more broadly in addition to educating the public about the work of the District. The District staff will also host three preserve tours for the CAC.

Strategies to Include Diverse Voices

Strategies for inviting diverse public voices into the vision planning conversation are desirable for educational purposes, and to elicit broad public

participation and input. The “grassroots” efforts articulated below support the activities specified in the media and publicity section.

- Create handouts for preserve visitors (for example, 2nd graders visiting Deer Hollow Farm, other student groups and field trips, organized user groups, etc.) to take home and invite parent/family/friend participation and engagement through mail in surveys, websites, phone/text, and public forums.

- Identify non-open-space-related public places in the region to interview/survey individuals and build contact lists (for example libraries, community/cultural centers, school events, churches, outdoor shops & groups, retirement & independent living centers etc.).
- Identify regular community group meetings and methods to invite member participation.
- Identify community leaders who are willing and able to invite participation.

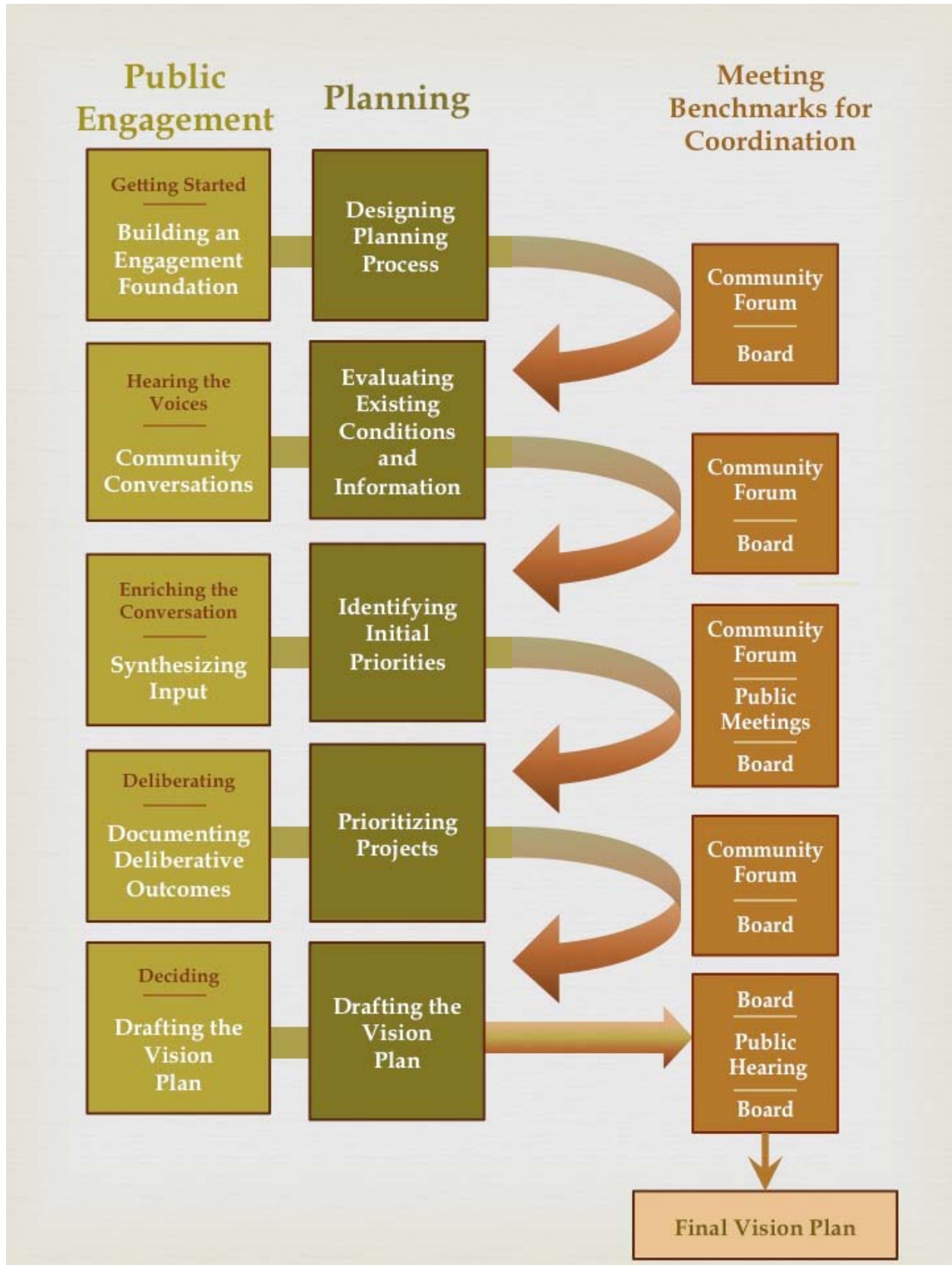
BOARD, STAFF AND CONSULTANT ROLES

It is important to clarify that this document articulates the District’s CEPP as a component of the entire planning process; the District Board will direct its implementation. The Board will meet at least once within each phase of the process to guide implementation, and the plan assumes that individual Board members will be involved in many CEPP activities, particularly the Community Advisory Committee that will be formed as the CEPP is initiated.

The Public Dialogue Consortium has been selected to work with the District staff to assist in

the development and implementation of the CEPP. The full Project Team includes the District staff, PDC, and Jodi McGraw Consulting. PDC will lead the public participation efforts as defined in the CEPP, and Jodi McGraw Consulting is leading the Planning Team. This document outlines how the work of the Planning Team integrates with the CEPP (see Appendix A). However, it does not explicitly define the role of the PDC as it is assumed here that PDC will be involved in assisting the District staff in all phases of the CEPP. A separate detailed work plan outlines specific PDC activities.

APPENDIX A: DIAGRAM OF INTEGRATED PLANNING PHASES



APPENDIX B: SUMMARY TABLE OF CEPP ACTIVITIES

SHEDD	Partnerships	Outreach	Engagement	Core CEPP Implementation
Phase I Getting Started 9/12-1/13	Identify & clarify CAC Develop plan for partner communication.	Branding and message development Research media targets	Set-up Vision Planning process Technology Tools and Processes for Outreach and Engagement	Project Team meeting schedule Coordination between CEPP & planning team.
Phase 2 Hearing the Voices 1/13-5/13	CAC Meetings: 2 meetings and 2 tours; referrals for engagement; advise on outreach; review technical & public input data. Work with partner organizations networks for outreach.	Targeted Media Relations/Publicity Website/social network outreach Email newsletters (2) Flyers, posters, brochures	Community Conversation protocol: Aspirations, Values, Priorities Train Student Interns. Conduct interviews, small group meetings, and technology-based Community Conversations	Ongoing collaborative documentation & interpretation of Community Conversations input Board Study Sessions (3/13 & 5/13)
Phase 3 Enriching the Conversation 6/13-9/13	CAC Meetings (monthly): 2 meetings and 1 tour; advise on Vision Plan goals and criteria based on public input and technical data; identify data gaps. Update Partner Communication Plan	Update Media stories & messages incorporating Phase 2 public input. Website/social network outreach using public input from Phase 2. Email newsletter	Online discussions around Phase 2 public input Targeted engagement to fill data gaps: interviews and surveys	Merge public input & technical planning data to produce Vision Plan goals and criteria. Board Study Session (9/13) Develop materials and processes for deliberation phase.
Phase 4 Deliberating 10/13-12/13	CAC meeting (1): (10/13) Develop initial list of Priority Actions; Advise on tools and processes for public deliberation; advise on outreach for public meetings.	Targeted Media Relations/Publicity Email newsletters (9/13; 12/13) Flyers and posters Work with Partner organizations networks for outreach efforts.	Website deliberation tools with texting & voicemail options Large Public Deliberation Meetings (3 in 10-11/13) using small discussion groups and keypad voting.	Merge public input and technical planning data Board Study Session (12/13)

Appendix A: Vision Plan Work Plans

SHEDD	Partnerships	Outreach	Engagement	Core CEPP Implementation
<p>Phase 5</p> <p>Deciding</p> <p>1/14-4/14</p>	<p>CAC meetings (1/14, 3/14): Advise on Vision Document and outreach for public input on drafts; advise on final drafts.</p> <p>Solicit Partner organization input on Vision Document</p>	<p>Targeted Media Relations/Publicity</p> <p>Email newsletter (2/14)</p> <p>Disseminate draft vision plan via website & partner organizations</p>	<p>Website, social media, texting and voice mail discussion of Vision Document.</p>	<p>Iterative drafts of Vision Document influenced by public input.</p> <p>Board Public Hearings (2/14; 4/14)</p>



Appendix A-3:

Planning Team Tasks to Prepare the Vision Plan

Prepared for:

Midpeninsula Regional Open Space District
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December 2012

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Planning Team Work Plan

As technical coordinator for the Planning Team, Jodi McGraw will lead work by the Planning Team Consultants to integrate public input with scientific information to develop the Vision Plan. The work plan outlines tasks for each of the four phases of the Community Engagement and Public Participation (CEPP) Plan (Box 1). For each phase, the first task specifies the data synthesis, analysis, and other plan preparation work that the Planning Team Consultants will conduct to develop the Vision Plan, while the second task describes how the Planning Team Consultants will collaborate with members of the Process Team to obtain and interpret community input. Together, the tasks will integrate scientific information and community input to identify priority areas and actions through this stepwise planning process (Figure 1).

Planning Team Roles

As described in greater detail in the task outlined below, and as outlined in Table 3, the Planning Team Consultants will work alongside District staff and interns serving on the Planning Team, who will play a critical roles in the planning process, including:

- Providing existing data and information about the District and the broader region
- Conducting specific GIS data development tasks and analyses (Task 1.2)
- Preparing all final project maps
- Reviewing memos outlining proposed planning approaches, in order to provide guidance
- Reviewing draft reports outlining findings, in order to provide feedback.

District staff will also be instrumental in facilitating the Planning Team Consultants' collaboration with the Process Team, to provide them with materials that will be used as part of the public engagement; assist with the interpretation of public input to develop the plan's themes, open space goals, and selection criteria; and ultimately receive community feedback on the draft Vision Plan.

Hearing the Voices (January – May)

In the first phase of the project, the Planning Team Consultants will evaluate existing conditions within the planning area, and assist the Process Team with public engagement to identify the final Vision Plan open space themes and goals.

Task 1: Characterize the Planning Area

Objectives: Examine the existing conditions of the planning area which will provide the foundation for planning and generate materials that will promote effective community engagement.

BOX 1: Project Phases

Hearing the Voices
(January –May 2013)

Enriching the Conversation
(June-September 2013)

Deliberating
(October-December 2013)

Deciding
(January – May 2014)

The Planning Team Consultants will complete work initiated in Phase 2, to synthesize and critically evaluate the existing information for the planning area, and then fill the data gaps identified as essential to planning.

Task 1.1: Compile and Critically Evaluate Available Information

The Planning Team Consultants will identify and obtain all relevant spatial data and other essential information about including reports and conservation plans, which can inform planning. This work will build on work conducted during the first phase of the planning process, in which the District's in-house GIS was supplemented with data from other sources including recent planning projects, to begin to catalogue information that can be used to evaluate the known open space themes. This initial database with additional information for the known themes that is identified by the public including partners serving on the Community Forum. The database will also be expanded to include information needed to address new themes identified by the public during the Process Team's concurrent work to implement the initial phase of the CEPP.

Working closely with District GIS staff, Jodi McGraw Consulting will lead the work of the Planning Team Consultants to compile all relevant spatial data into a project GIS, featuring a topically-organized directory of GIS data (layers) and a corresponding ArcMap file (*.mxd), and an updated excel database listing the GIS data. The GIS, which will be shared with other members of the Planning Team to facilitate their work, will be an essential tool to identify conservation priorities and preparing maps and other content needed for the CEPP Plan and the broader Vision Plan. The final project GIS will also be a key product of the project, which will facilitate Vision Plan implementation (Task 8).

As data is compiled and synthesized, the Planning Team Consultants will continue to critically evaluate sufficiency and accuracy of the available information to inform effective planning to identify priority actions for the open space goals for each theme. This analysis will be used to refine the current planning methods for each theme, which are outlined in Table 3 based upon existing data, and anticipated open space goals from the known themes.

Task 1.2: Develop New Information to Fill Data Gaps

In this task, the Planning Team Consultants will synthesize existing data into composite data layers, and develop new data to fill gaps determined to be critical to planning for the various themes. Table 3 identifies data that the team developing for the known themes. This task will primarily involve processes to prepare existing spatial data for use in subsequent planning analyses (e.g. open space value analysis) and preparing maps. It will also include development of new data for themes for which there is limited relevant spatial data (e.g. cultural resources). This task will be conducted in coordination with District GIS staff, who will assist with specific GIS tasks, including digitizing cultural resource data and evaluating density credits for Santa Clara County; assistance of District GIS staff will also be instrumental to the Planning Team Consultant's successful work to correctly apply the data to the achieve the goals of the planning project.

Prior to implementing the tasks, the Planning Team Consultants will meet with District staff to review the proposed data creation methods, to ensure that the data will be most effective at meeting the planning needs.

Task 1.3: Prepare a Report Characterizing the Planning Area

The Planning Team Consultants will prepare a memo that characterizes the planning area according to the themes. For each theme, the report will feature succinct text, tables, and draft maps that highlight key aspects of the theme including its open space values, their geographic distribution within the planning area, and factors influencing their persistence (i.e. threats).

The memo will serve several purposes including:

- Providing information about the planning area that will inform subsequent planning decisions, including analyses to characterize open space values, and ultimately identify priority areas and actions;
- Provide content for outreach materials prepared by the Process Team for public engagement, branding, and messaging, including to facilitate public input during the “Enriching the Conversation” phase and subsequent phases of the CEPP Plan; and
- Provide draft content that can ultimately be used by the District to prepare the Vision Plan and other project products.

Deliverables: 1) Memo characterizing the planning area, and 2) GIS database for use in planning.

Task 2: Identify the Themes and Initial Open Space Goals

Objectives: Facilitate initial community engagement to ensure the public is provided with information about the District needed to provide input on the Vision Plan, and that public input can most effectively be integrated in planning analyses.

Concurrently with tasks to characterize the planning area (Task 1), the Planning Team Consultants will work with the Process Team to obtain community input during the “Hearing the Voices” phase of the CEPP Plan.

Task 2.1: Support Outreach to Identify Open Space Themes and Goals through the CEPP

The Planning Team Consultants will aid the Process Team’s work to craft the specific outreach methods including questions, outreach techniques, and data synthesis and analysis approaches, in light of the available information, and the anticipated, subsequent planning techniques. The purpose of the assistance is to ensure the public input will be most conducive to identify themes and initial open space goals; specifically, that it can be used to:

- Refine the list of themes, to ensure that the Vision Plan is addressing the important, relevant aspects of open space conservation; and
- Identify appropriate open space goals for each theme, that are most aligned with the District’s mission.

Planning Team Consultants will review and provide comments on the methods that will be used to obtain detailed input.

Task 2.2: Revise Themes and Develop Open Space Goals

The Planning Team Consultants will review the community input synthesized by the Process Team from the “Hearing the Voices” phase of the CEPP, along with the analysis of the existing conditions about the planning area (Task 1.3) to identify the final open space themes and goals. These will be outlined in a brief memo and reviewed with the Project Team and revised, as needed.

Deliverables: 1) Comments on the initial public engagement methods, and 2) revised list of open space themes and goals.

Enriching the Conversation (June - September)

In this second phase of the project, the Planning Team Consultants will use the initial public input to characterize the relative value of open space for achieving the goals within each theme, while working with the Process Team to develop specific criteria for identifying priority actions.

Task 3: Conduct Analyses to Characterize Open Space Values

Objectives: Integrate community input and other available data and information to create spatial data layers that depict the various open space values and otherwise illustrate the Vision Plan open space themes and goals.

In this task, the Planning Team Consultants will use available information to characterize the relative open space value of land within the District for achieving the goals within each theme. This analysis will produce spatial data layers that will provide the foundation for identifying priority areas and actions based on selection criteria during the subsequent phase of the planning process.

Task 3.1: Design Analyses to Characterize Open Space Values

The Planning Team Consultants will design analyses that will be used to characterize the relative value of open space within the planning area for achieving the goals. Where spatial analyses are appropriate for the goal, and feasible based on available data, analyses will be conducted in GIS to prepare maps that indicate the relative value of land. The specific analytical techniques will vary, depending on the goal and data, but may include:

- Overlay analyses, which to illustrate the additive value of multiple co-occurring features; and
- Suitability analyses, to identify areas that are most suitable based on multiple criteria.

Where GIS-based analyses are not appropriate, open space value will be characterized through:

- Qualitative mapping, to generally delimit areas of relative value, or identify zones reflecting alternative open space values; and
- Narrative descriptions of the factors that influence open space values, which could be mapped by the District pending availability of additional spatial data.

The Planning Team Consultants will outline the proposed open space value analyses in a memo, which will be provided for review by other members of the Project Team prior to implementation, so that adjustments can be made to ensure the analyses are most effective.

Task 3.2: Implement Open Space Value Analyses

The Planning Team Consultants will implement the analyses to characterize the relative value of open space within the planning area for the various themes. Table 3 outlines the anticipated analyses, which may be adjusted based on input from the public or District.

The Planning Team Consultants will then develop a brief memo including text, tables, and maps that highlight the results.

Task 3.3: Revise Open Space Value Analyses

Based on feedback from the Process Team, the Community Forum, and the Board, the Planning Team Consultants will revise the open space value analyses and update the memo.

Deliverables: 1) Draft Open Space Values memo and 2) Final Open Space Values memo

Task 4: Develop Selection Criteria

Objectives: Use community input to formulate criteria that could be used to evaluate the relative merits of District actions.

The Planning Team Consultants will collaborate with the Process Team during the “Enriching the Conversation” phase of the CEPP Plan to develop selection criteria for priority actions and areas of the Vision Plan.

Task 4.1: Draft the Selection Criteria to Identify Priority Actions

The Planning Team Consultants will use information about the planning area and community input obtained through the “Enriching the Conversation” phase of the CEPP to draft selection criteria that will be used to identify priority actions designed to achieve the goals within each theme.

For each goal, the criteria will identify the characteristics of an action, with an emphasis on what specifically the action will accomplish to promote the overall goal. The criteria will be designed to be evaluated on a scale of relative impact, spanning from negative to high positive, with quantitative scores assigned to each category. The criteria will then be assembled in a matrix that can be used to calculate the overall value of the action for achieving the open space goals.

The draft criteria matrix will be provided to the Project Team for review and comment. JMc will then revise the criteria based on input from the Project Team.

Task 4.2: Review and Revise the Draft Selection Criteria

The Planning Team Consultants will attend the meeting of the Community Forum to facilitate to review the open space value analyses and draft criteria. The Planning Team Consultants will then

revise the matrix of criteria based on feedback. JMc will then attend the Board meeting to discuss the open space value analysis and selection criteria.

Deliverables: 1) Draft Selection Criteria matrix, and 2) Final Selection Criteria matrix

Deliberating (October - December)

In the third phase of the project, the Planning Team Consultants will apply the criteria to identify priority actions. The Planning Team Consultants will also support work by the Process Team review the priority actions with the community and deliberate on the relative priority of the open space goals within the Vision Plan.

Task 5: Identify Draft Example Priority Actions

Objectives: Use selection criteria to select priority actions that can illustrate the value of implementing the Vision Plan.

In this task, the Planning Team Consultants will apply the selection criteria to identify a suite of draft priority actions for each of the Vision Plan open space goals. The draft priority actions will facilitate public deliberation on the Vision Plan, by providing real-life examples of the actions that might be implemented to achieve the goals based upon the criteria identified thus far during the planning process. The draft final priority actions will be revised, along with the criteria upon which they were identified, as needed, based on feedback from the community during this phase of the CEPP Plan. The final list of priority actions will be incorporated by the District into the Vision Plan to illustrate for the community what can be accomplished through its implementation.

Task 5.1: Draft Example Priority Actions

The Planning Team Consultants will use the criteria and available information about the planning area, including the results of the conservation value analysis, to identify an initial list of priority actions. Where appropriate, GIS-based analyses will be used to select priority actions using the priority area layers developed through the open space value analyses, as well as other spatial information that indicate priority geographic areas. For example, if the criteria for protecting biodiversity are to conserve areas supporting rare species that are most threatened by development, then the GIS can be used to identify areas of high value for rare species that are also subject to high threat.

Where criteria do not lend themselves to spatial analyses, the Planning Team Consultants will apply the criteria to identify general actions. Where priority action locations are specified, the team will strive to balance the geographic distribution of priority actions with the plan area.

The Planning Team Consultants will prepare a brief memo identifying the preliminary list of priority example actions which will be reviewed by the Project Team.

Task 5.2: Revise Example Priority Actions based on Project Team Input

Planning Team Consultant Tasks

The Planning Team Consultants will revise the example priority actions based on feedback on the preliminary list provided by the Project Team. The resulting memo will contain content including maps, tables, and text that can facilitate work to attain public input during the “Deliberation” phase.

Task 5.3: Finalize Priority Actions based on Community Input

Based upon input from the community through the deliberation phase (Task 6), the Planning Team Consultants will revise the priority actions. This may require additional analyses to apply adjusted selection criteria. The resulting revised priority actions will be described in the Vision Plan (Task 7).

Deliverables: 1) Draft Priority Actions 2) Revised Draft Priority Actions, and 3) Final Priority Actions

Task 6: Finalize the Selection Criteria and Priority Actions

Objectives: Obtain feedback from the community on the priority actions and their relative importance for the Vision Plan.

The Planning Team Consultants will collaborate with the Process Team during the “Deliberating” phase of the CEPP, in which the public will evaluate the priority actions developed based upon the criteria, and deliberate on the relative priority of the various goals within the Vision Plan.

Task 6.1: Support Community Deliberation of the Criteria and Goals

Select Planning Team Consultants will facilitate public deliberation by:

- Assisting with design of the community meetings;
- Preparing limited additional materials electronic copies of large format maps for the community meetings; and
- Participating in the three anticipated community meetings, in order to answer questions about how they were selected based upon scientific data and public input.

Task 6.2: Review Community Feedback

The Planning Team Consultants will review the input from the community meetings to identify how it might be used to refine the priority actions or reflect their relative priority. This process will include:

- Meeting with the Project Team to discuss the input and its implications and identify possible adjustments; and
- Preparing for and attending the meeting of the Community Forum to discuss the community’s input and the options for adjustments.

This information will be used to revise the priority actions as part of Task 5.3.

Deliverables: Draft maps for public meetings

Deciding (January – April 2014)

In this final phase, the Planning Team Consultants will develop content for use by District staff or others to develop the Vision Plan. The Planning Team Consultants will also create the project GIS database, that will serve as the decision-support tool for the project. JMc will participate in the process by which the public will review the Vision Plan, and the District Board will approve it, as part of the “Deciding” process conducted within the community.

Task 7: Develop the Draft Vision Plan

Objectives: Synthesize the planning products to develop content that can be used by the District to develop the Vision Plan.

Task 7.1: Outline the Vision Plan

The Planning Team Consultants will create a memo identifying the specific text, tables, maps, images, and graphics that will be developed by the Planning Team Consultants for use by the District to develop the Vision Plan. The memo will be reviewed by the Project Team, and then revised based upon input received to ensure that the Vision Plan is developed to best meet the District’s needs.

Task 7.2: Prepare Content for an Administrative Draft Vision Plan

The Planning Team Consultants will develop initial draft content that can be used by the District to develop the Vision Plan, based on the final annotated outline, and provide it to the Project Team for administrative review.

Task 7.3: Prepare Content for the Second Administrative Draft Vision Plan

The Planning Team Consultants will revise the draft Vision Plan content based upon feedback received on the draft content.

Task 7.4: Review the Public Draft Vision Plan

The Planning Team Consultants will review a complete draft of the Vision Plan prepared by the District or others and provide feedback designed to ensure that it accurately reflects the process and products of the planning process. The Planning Team Consultants will provide one electronic markup of the draft Vision Plan.

Task 7.5: Participate in the Public Review Process

The Planning Team Consultants will collaborate with the Process Team to support the process through which the public will review the draft Vision Plan, as part of the “Deciding” phase of the CEPP. Selected consultants of the Planning Team will:

- Prepare for and attending the Community Forum meeting to discuss comments on the Public Draft Vision Plan;
- Review the feedback received on the Vision Plan through the Community forum and other modalities, including comments on the District website, and identifying changes that can be made, and other responses to the comments;

- Attend the Board meeting to review the Final Draft Vision Plan (Task 7.4)

Task 7.6: Facilitate Preparation of the Final Draft Vision Plan

The Planning Team Consultants will facilitate the District's work to make final revisions to the Vision Plan based on comments received from the public through the "Deciding" phase of the CEPP Plan.

Deliverables: 1) Memo outlining Vision Plan content, 2) Draft and Revised Content for Use by the District to prepare the Vision Plan and 3) comments on the public draft Vision Plan, and 4) final content for the Final Vision Plan.

Task 8: Develop the Vision Plan GIS

Objectives: Create a GIS database that can be integrated within the District's existing database, and facilitate use of data and maps developed for Vision Plan

In this task, the Planning Team Consultants will create the Final Vision Plan GIS database, which will assist the District's implementation of the Vision Plan.

Task 8.1: Design the Database

The Planning Team Consultants will coordinate with District staff to design the database, to ensure that it is developed in such a way to maximize utility and ease of integration with the District's existing Conservation Atlas. Planning Team Consultants will prepare a brief memo outlining proposed database creation methods and components, which will be provided to District staff for review.

Task 8.2: Develop the Draft Database

Planning Team Consultants will prepare the draft Vision Plan database based upon the methods designed in Task 8.1. The database is anticipated to include the following:

- A single map file containing the topically organized data layers used to create the Vision Plan maps;
- A file database containing the shapefiles, rasters, and layer files in the map;
- The Vision Plan maps both as ArcGIS map files (.mxd) and images (.jpg);
- Descriptive metadata for the data produced as part of the Vision Plan;
- An excel workbook outlining information about the database, including the sources and content of data layers and their locations within the file database and map.

Task 8.3: Finalize the Database

Planning Team Consultants will provide the draft database to the District, review its contents through an on-line meeting (e.g. web-ex), and then make any adjustments needed to make it more useful to the District.

Task 9: Project Coordination and Management

In this task, Jodi McGraw will work to coordinate and manage work the other Planning Team Consultants.

Task 9.1: Project Meetings

In this task, the Planning Team Consultants will attend periodic meetings to coordinate their work with the District members of the Planning Team, as well as the larger Project Team including the public engagement consultant.

Task 9.2: Project Communications

To maintain clear communications among project participants and keep the planning tasks on their designated timelines, Jodi McGraw will maintain regular contact via telephone and e-mail with the District's Planning Team Lead, Casey Cleve-Hiatt, and other consultants on the planning team.

Task 9.3: Project Administration

Jodi McGraw will develop and administer contracts between the four other Planning Team Consultants (i.e. subconsultants); coordinate work by the subconsultants, to ensure timely delivery of high-quality products and services; and prepare monthly invoices and progress reports for the District that track the team's expenses and progress toward project milestones.

Timeline

Table 5 outlines an anticipated 18-month timeline for completion of the project tasks and deliverables outlined above.

Budget

Table 6 outlines the initial estimated costs for the Planning Team Consultants to implement the project tasks, based on the assumptions outlined in Table 4. Itemized costs for the recreation and cultural subconsultants are provided in the accompanying excel workbook, which also details costs for the data development for the Vision Plan (Task 1.2).

Attachment 2. Planning Team Qualifications

Project Lead and Ecologists – Jodi McGraw Consulting

With 20 years of experience conducting research, conservation planning, and habitat management and restoration in the Santa Cruz Mountains, Dr. Jodi McGraw is familiar with the biodiversity conservation values and threats within the District. Recently, she led the development of conservation plans in the region, including the Conservation Blueprint for Santa Cruz County, the Santa Cruz Mountains Linkages Conceptual Area Protection Plan, and the Santa Cruz Mountains Redwoods Conceptual Area Protection Plan. As a result of these and other projects in the region, she has working knowledge of the available data and relevant tools needed to develop a robust Biodiversity Element of the Vision Plan.

Trained as a terrestrial plant ecologist, Dr. McGraw has studied the fire ecology of natural ecosystems within the Santa Cruz Mountains. Working in collaboration with fire practitioners, Dr. McGraw has developed fire management plans including burn prescriptions and management treatments to simulate the beneficial effects of fire, in order to promote biodiversity based on an understanding of the natural disturbance regime of the ecosystems, and the practical constraints on fire management. This experience, combined with her knowledge of GIS tools for spatial analyses, will enable her to assist the District with development of the Fire Element.

Forest Consultant- Nadia Hamey

Nadia Hamey has been a Registered Professional Forester (RPF) licensed by the State of California since 2005 with a broad background in forest management and environmental analysis. She has prepared management plans and supervised projects for a variety of governmental, private, corporate, and non-profit clients. As a forester for Big Creek Lumber Company since 2003, Ms. Hamey has developed extensive hands-on experience in implementing strategies for an array of clients with varied management goals. Of particular significance, she has developed and successfully implemented strategies that result in accelerating growth on individual trees through carefully planned thinning of young growth redwood stands, reducing dominant stem densities and gaining conditions more characteristic of old growth forests. She has also recently been acting as the property manager for the CEMEX Redwoods property, a conservation partnership that strives to preserve habitat and working forest values on a large tract of open space in north Santa Cruz County, while also planning to introduce public recreation. These experiences have allowed Ms. Hamey to gain skills which are well-suited to the tasks desired for preparation of the Open Space Vision Plan.

Agricultural Consultant – Sustainable Agriculture Education (SAGE)

SAGE has extensive experience working on agricultural visioning, analysis and implementation planning projects in the Bay Area and beyond. Relevant experience includes: management of the Conserving Coyote Valley Agriculture Feasibility Study (2011-12); participation as the agricultural consultant in the Conservation Vision for the Santa Clara County Open Space Authority (2012-13); co-authorship of the report, Sustaining Our Agricultural Bounty: An

Assessment of the Current State of Farming and Ranching in the San Francisco Bay Area (2011); and Participation in the California Agricultural Vision process and the Bay Area Urban-Rural Round-Table (2008-2011). In addition, SAGE has on-the-ground experience developing Agricultural Parks on public and private land, and managing the pilot Sunol Water Temple AgPark on land owned by the San Francisco Public Utilities Commission. SAGE President, Sibella Kraus, who will lead the SAGE work for the District's Open Space Vision Plan, has in addition a background in the development of landmark projects, such as the Ferry Plaza Farmers Market which instigated the acclaimed Ferry Building Public Market.

Cultural Resource Consultants – Mark Hylkema and Pacific Legacy, Inc.

The Cultural Team has extensive experience in the prehistory and history of South Bay, Santa Cruz Mountains, and Peninsula regions. The team is comprised of staff from Pacific Legacy, Inc. and Mark Hylkema. Pacific Legacy team members include: Thomas Jackson, Ph.D., Principal Investigator; Hannah Ballard, M.A., Project Manager, Historical Archaeologist; and Elena Reese, M.A., Historical Archaeologist and Historian. Mr. Jackson is a Principal of Pacific Legacy, Inc., and has more than 35 years experience as a professional archaeologist in cultural resources management. Mr. Jackson meets the Secretary of Interior's standards as an archeological Principal Investigator. Ms. Ballard is a Senior Archaeologist specializing in Historical Archaeology. Ms. Ballard has over twelve years experience in Cultural Resources Management and sixteen years experience in prehistoric and historic period archaeology in California including projects on Stanford lands and in Santa Clara County. Ms. Ballard has experience with all scales of cultural resources management projects including record and information searches, historical context research, and writing, cultural landscape analysis. Ms. Reese is a Historical Archaeologist and Historian with twenty-four years experience in cultural resource management. She specializes in historical research and has extensive experience in the South Bay and Peninsula areas. Prior to her tenure at Pacific Legacy, she served as staff archaeologist for Ohlone Family Consulting and Stanford University. Mr. Hylkema (prehistoric archaeologist) has 32 years of professional archaeological experience with an emphasis in Native American cultural history and prehistory. He is currently the Santa Cruz District Archaeologist with California State Parks. Mr. Hylkema has extensive experience with South Bay, Santa Cruz Mountains and Peninsula archaeology and has conducted several previous cultural resources evaluations for the Midpeninsula Regional Open Space District. The Cultural Team is currently completing the Santa Cruz Mountains CAPP Project for Sempervirens Fund, which has many similar elements to the MROSD Vision Plan.

Recreation Consultant – Alta Planning + Design

Alta Planning + Design staff are highly experienced in designing, conducting, and supporting public participation programs including in support of high level conceptual plans or visions for large complex geographic areas. Alta Planning + Design is North America's leading firm specializing in the planning and design of bicycle, pedestrian, and trail facilities. This includes planning and design for parks, open space and greenways at every scale and stage. The Alta staff

for this project are experts in the use of GIS and related tools to collect, organize, analyze and present regional concepts for open space access and activities, and have made presentations to the California Trails and Greenways Conference on the subject. The services will be provided from Alta's Berkeley office. Principal-in-Charge Randy Anderson will provide ongoing oversight and guidance and will personally participate at key meetings and milestones. Hannah Kapell will be Project Manager, with day-to-day responsibility for coordination and management of tasks and budget.

Appendix B: Community Conversations Report



Jack Caschid

Monte Bello Open Space Preserve



Appendix B-1:

Imagine The Future Of Open Space: COMMUNITY CONVERSATIONS SUMMARY REPORT

Prepared for:

Midpeninsula Regional Open Space District
330 Distel Circle, Los Altos, CA 94022

July 2013

Prepared by:

Sandy Sommer (Midpeninsula Regional Open Space District), Linda Blong (Public Dialogue Consortium), and Alex Roa (Midpeninsula Regional Open Space District)



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INTRODUCTION

The purpose of this document is to provide a report on the Vision Plan team’s efforts to elicit the public’s vision and aspirations for the future of open space in the Midpeninsula Regional Open Space District (District). Toward this end, the community engagement process included a series of partner, small group, and “person on the street” interviews called “Community Conversations” to meaningfully engage the public in the visioning process and build understanding and support for the District. Community Conversations are a flexible but consistent way to gather people’s thoughts, ideas, aspirations, and values in a way that fosters two-way engagement, supports relationship-building, and complements scientific polling.

WHAT WE DID AND HOW WE DID IT

District staff and the public participation consultant, Public Dialogue Consortium (PDC), worked with the community conversation strategy in the second phase of the vision planning process (April – June 2013). The “conversations” took different forms, including in-person or telephone interviews, facilitated small group conversations (like a focus group), and online “town hall” discussions. The online discussions used the Mindmixer web platform (see imagine.openspace.org), which is effective in engaging technology-savvy members of the public. Community Conversations began with the District Board, the Community Advisory Committee

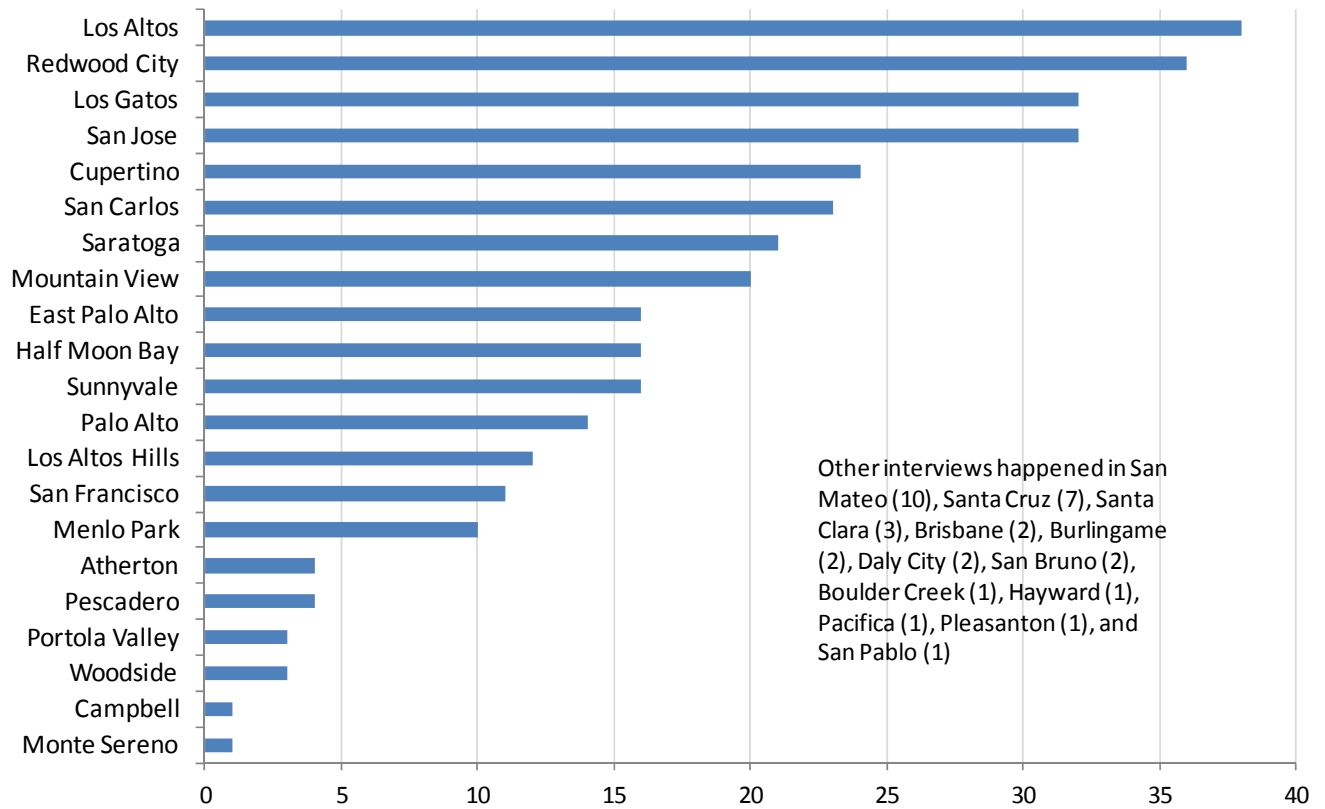
(CAC), and other close partners. The invitation to participate online (see Attachment A) was posted at District preserves and distributed at outreach events.

Community members were asked four open-ended questions designed to elicit thoughts on what is important to them as they envision the future of open space. The questions were:

1. Keeping these open space themes in mind, what do you want the Peninsula, South Bay, and San Mateo Coast to be like in the future?
2. How might these open space themes contribute to the future you imagine?
3. Can you tell me more about why these things you have mentioned are important to you?
4. What are the most important actions that the Midpeninsula Regional Open Space District or others could take to move us toward the kind of future you want?

75 Trained student interns (from San Francisco and San Jose State Universities) and 20 District Rangers conducted the in-person conversations, documenting topics raised during the conversation as well as notable quotes. Community conversations took place throughout the District, including six farmer’s markets, District events, and on most District preserves. Students also conducted a number of phone interviews of members of the public referred by the CAC. The community conversations reached over 725 people, including more than 225 people at District Preserves.

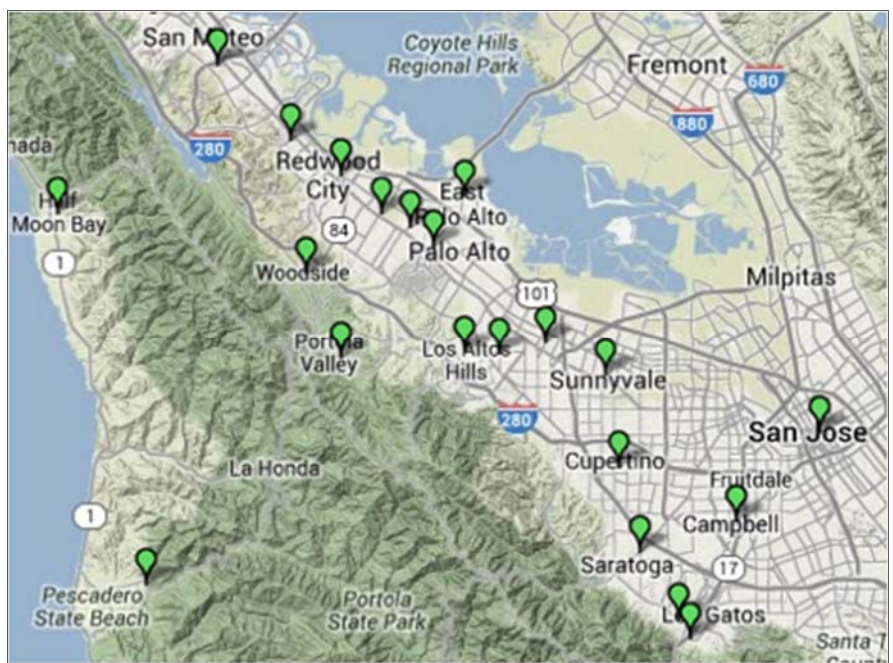
Location of Conversations (Cities)



In addition to the conversations represented above, the Vision Plan website reports over 17,000 page views by almost 1,800 visitors and 300 active (signed-in) participants so far.

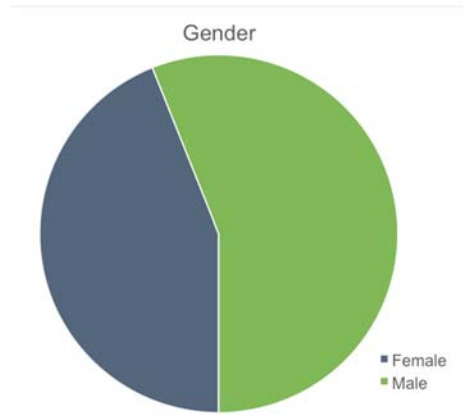
It is likely that these participants will continue to engage and increase in numbers as the vision planning process continues.

Location of Community Conversations

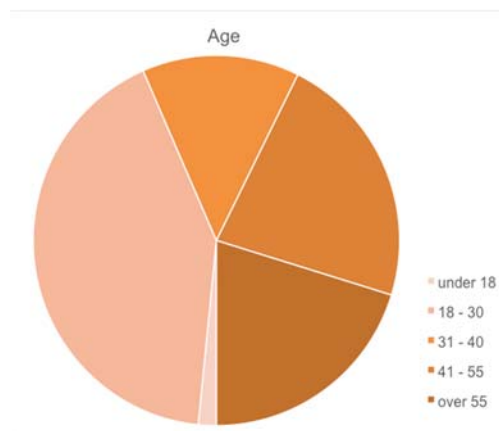


Who We Talked To (Demographics)

The community conversations engaged diverse and broadly distributed participants in the vision planning process. The gender distribution of participants through in-person methods (see chart at right) and the Vision Plan Website were quite similar.

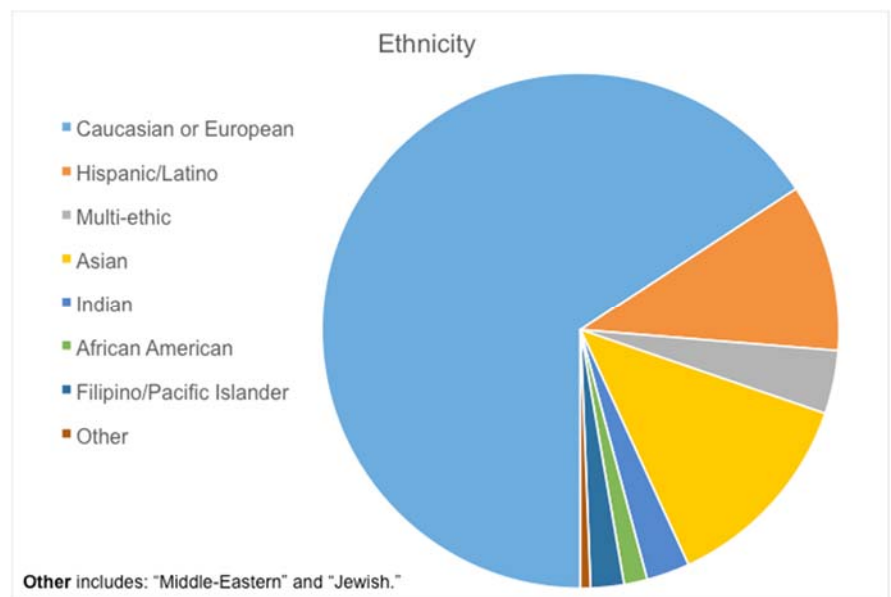


While the in-person conversations were dominated by participants in the 18-30 year old range (see chart at right), the age distribution of online participants was more weighted toward the 41-55 year old range.

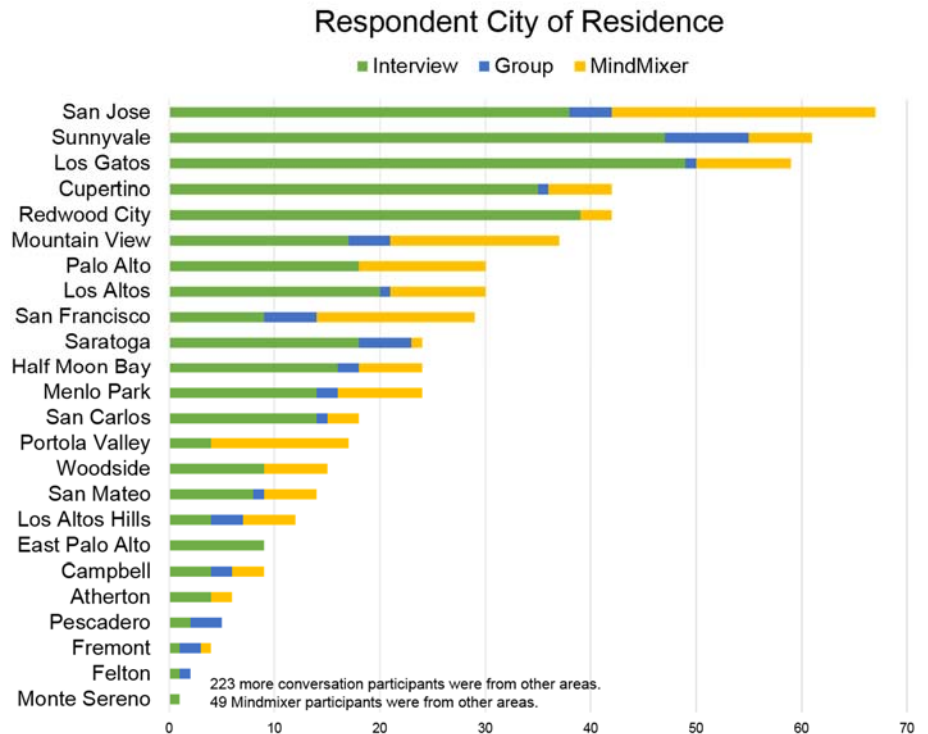


Participants self-identified their ethnicity, and many chose not to answer the question. Although Caucasian/European participants are somewhat overrepresented, participants were still ethnically diverse.

In future stages, the Vision Plan team will continue to outreach to diverse communities with an emphasis on Hispanic/Latino and Asian groups.



The additional cities of residence not shown on the chart at right include some of the rural unincorporated areas in the District as well as some out-of-District areas.



Public Input Analysis Process

The analysis and interpretation of subjective information like the Vision Plan community conversations required a loosely structured approach. Once PDC had compiled all the various forms of public input into one online database, staff began the process of organizing and analyzing each quote or comment received, identifying the dominant Vision Plan theme being expressed. A method to capture more detail was also needed, because, as the following quote shows, participants often co-mingle the themes when they are sharing their values and aspirations:

“The natural resources, working land, access to the preserves, and scenery and history tie in together. They interrelate with each other. For me, recreational access is very important, especially for mountain biking.”

Over a month-long process of review and refinement, staff developed a series of categorized topic tags to capture the topics commonly mentioned and allow analysis of the various dimensions that a participant is attempting to communicate. This approach allowed each quote and comment to be tagged with a primary topic and up to two sub-topics in addition to the overall Vision Plan Themes. Attachment B shows the tag and sub-tag scheme that was developed.

With the help of PDC, District staff used the tags to sort, group, and review quotes and comments to find common meanings. Once all the quotes and comments were tagged, themes and sub-tags were grouped together, and commonalities were identified. A list of quotes was generated that illustrated representative participant viewpoints, as further described in the next section.

COMMUNITY CONVERSATIONS RESULTS

Themes Overall

The conversations were fairly well balanced amongst the Vision Plan themes. However, as shown in the following chart, the **Outdoor Recreation and Healthy Living** theme came up more frequently than the others. The top two most commonly mentioned themes were mentioned in more than half of the conversations.

Vision Plan Themes

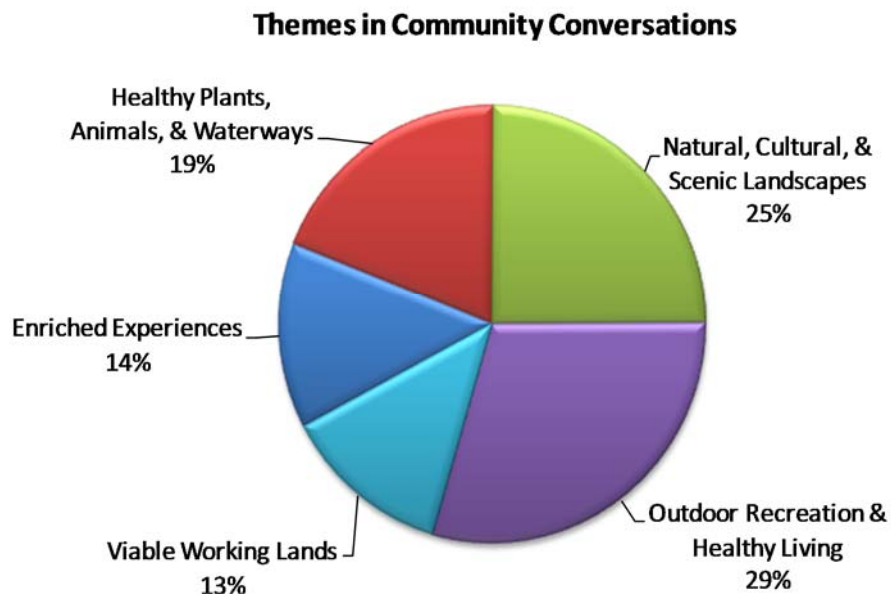
Outdoor Recreation and Healthy Living

Natural, Cultural, and Scenic Landscapes

Healthy Plants, Animals and Waterways

Enriched Experiences

Viable Working Lands

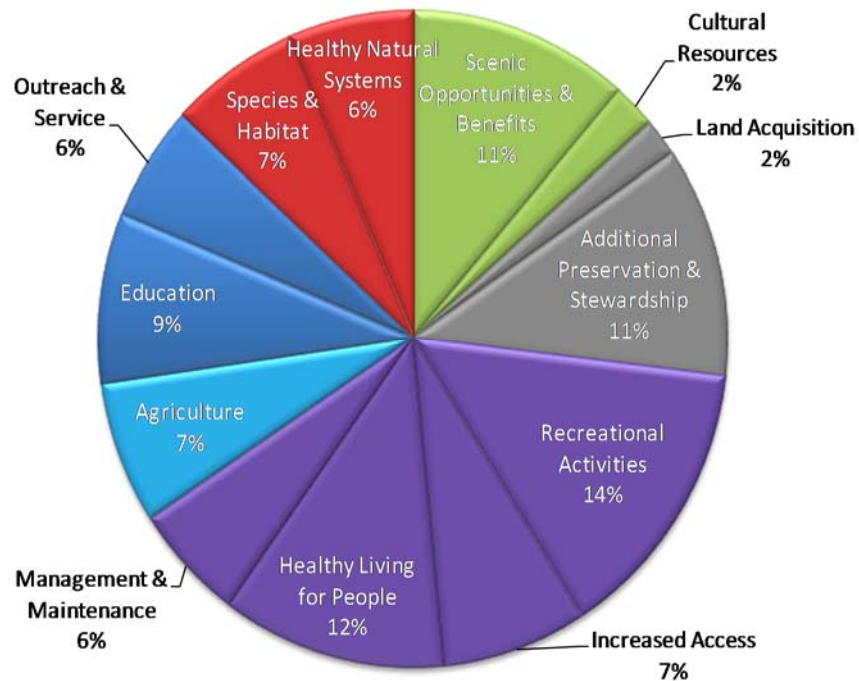


Topic Tags Overall

Overall, regardless of theme, the top four most commonly mentioned topic tags were *Recreational Activities*, *Healthy Living for People*, *Additional Preservation / Stewardship*, and *Scenic Opportunities / Benefits*.

Cultural Resources and *Land Acquisition* were the least commonly mentioned topics overall. The chart at right shows the overall percentage of times that each topic tag was mentioned.

Community Conversation Topics



Topics by Theme

The topic tags were also grouped by theme to further identify trends and commonly shared viewpoints, discussed further below. Additional participant quotes are provided in Attachment C.

Outdoor Recreation and Healthy Living Theme

Although all topics were mentioned within the Outdoor Recreation and Healthy Living Theme to some degree, *recreational activities*, *increased public access* and *healthy living for people* were the **most prominent topics** that participants mentioned.

	Sample Participant Quote
Participants frequently mentioned the relationship between outdoor recreational activities and healthy living for people.	“Being outdoors in open space areas that allow recreation is good for our community and our youth. It brings friends and family together, but most importantly it allows everyone the opportunity of potentially living a healthier lifestyle.”
Participants frequently talked about the desire for more overall access to open space.	“I love to run and hike, so I want more access to be able to do these outdoor activities.”
Participants frequently talked about the desire for more hiking and mountain biking trails. Comments reflected a variety of viewpoints.	“Multi-use trails particularly for mountain bike, hiking and dogs. I think we should have more multi usage trails, with off shoots, so hikers who prefer fire roads can hike on fire roads, and those who prefer single track can hike single track as well. Trails that mountain bikers that prefer technical mountain biking or single track can enjoy.”
Often participants expressed an interest in expanding regional	“Increase cycling connections to allow for 50-100 mile loop rides. Many of us like long, exploratory rides; I'd like to be able to do it all on dirt, away from

	Sample Participant Quote
trails and trails that are community connectors.	traffic. A large loop route up high on the ridge with multiple routes leading down to the coast and the populated areas of the Bay would be lovely.”
Participants commonly mentioned management and maintenance in conjunction with recreational activities.	“As a user, I would like to see trail maintenance. A poorly maintained trail gets eroded, and bridges may go out. Please provide more funding for infrastructure, building trails, accessing trails, managing & maintaining lands, and patrolling lands.”
People discussed their interest in expanding the variety of trail experiences.	“The preserves are close to the public (urban areas) and can provide recreational activities without having to drive to Yosemite. Please provide more camping, backpacking, overnight opportunities. Have more staging areas to allow more public.”
Many participants mentioned increasing the availability of places to take their dogs.	“I enjoy the outdoors, and that's why I do a lot of hiking. I like to take my dogs with me since it's great exercise for them too. Plus it's my main way of getting outside since I work a lot during the week.”
Many participants mentioned the importance of sharing outdoor recreational experiences with their friends and families.	“It is vastly important for me to have safe and healthy place to take my family to enjoy nature and animals. I feel like most of the places that I had when I was a kid are gone. When the plants are healthy, the water is clean, and the animals are milling about it is a beautiful scene. My kids often stay indoors most of the week playing video games or doing homework so it is important to get them outside and active. Sometimes we take a plant book or bird book and try to teach the kids about all the different things we see these places serve as a bonding time for our family.”
Many related their outdoor recreational experiences to open space conservation and preservation in the region.	“Since I use these locations for recreation, preservation is near and dear to my heart. I think we need stop development in our rural areas. We need to make sure that future generations have access to hike, bike or run. There is no where else that people can go and enjoy these types of locales. Suburbs are taking over and there are fewer and fewer places that people can get away from the stress of the daily grind.”
Participants expressed concerns about management of multiple trail uses and trail impacts.	“I know it may be expensive, or funding may be an issue but more ranger presence would enforce the rules of the trails and then people would adhere to the rules by picking up after their dogs, etc. so it could be more enjoyable for everyone.”
Participants seem to feel that management and maintenance of open space should be a priority.	“Open Space areas are full of living things, whether plants or animals, so they need to be properly maintained.”

Healthy Plants, Animals, and Waterways Theme

Although many topics were mentioned within the Healthy Plants, Animals, and Waterways, *iconic species or habitats, healthy natural systems, and additional preservation, conservation and stewardship* were the most prominent topics that participants mentioned.

	Sample Participant Quote
Participants frequently said that seeing plants or animals was an important aspect of their recreational experience.	“When I go hiking in open space, I really don’t want to see what I can see in an urban environment, I want to see the trees and the plants that are native to the area. That are more likely to originate there. I want to see nature. I don’t want to see weeds along the trail but native plants and animals.”
Participants frequently mentioned the importance of clean water and clean air.	“I am an outdoors person, so all of these really matters to me. Clean air is a signature symbol of Northern California and I would like to keep it that way instead of it all being industrialized, as well as keeping clean water running.”
Participants frequently mentioned protecting natural open space from development.	“The single greatest thing the District could do is to continue to protect open spaces and further connect lands - this speaks to all the themes.”

	Sample Participant Quote
Participants frequently mentioned additional conservation and preservation in conjunction with this theme.	“I grew up in the mountains, so it is very important to me that others respect nature. We need to preserve natural landscapes because they are dying out.”
Participants often related the health of nature to the health of people.	“Having healthy plants and animals, clean air and water directly correlates with human health based on the food we eat, the air we breathe, and the water we drink.”
Some participants discussed restoring fisheries.	“I think it is important to support fish passage projects to restore steelhead & salmon. Many pristine and protected MROSD streams currently lack steelhead and salmon runs due to human built migration barriers downstream of these open space areas. Most of the best salmonid habitat and perennial stream flow on the Peninsula occurs on MROSD streams. MROSD must engage with and support local groups and efforts working to provide fish passage downstream, and outside of, their Preserve boundaries.”
Some highlighted the importance of ecosystems, biodiversity, and connectivity.	“It’s all about the connections. Connecting habitats and connecting trails. Enhance the wildlife corridor for species that need a certain range like mountain lions, bobcats, deer, and coyotes. Mountain lions need to be able to cross roads and need to have a habitat that connects all throughout.”
Participants often mentioned management and maintenance of invasives	“Midpen must be more active managers, but you don’t have the staff now as it is. Think about more use of citizens - get the public to help survey the lands and wildlife. Provide more opportunities for volunteers to manage pampas grass, broom and other invasives.”
Participants mentioned purchasing additional land to preserve natural areas.	“I was raised in the Bay Area- in San Mateo – and I have seen how the area has changed. I am getting on in years and now, but I can look back and remember this area as a child. I am interested in protecting what is left. It is disturbing how much has already been lost. MROSD have done a remarkable job of preserving vast amounts of open space. But need to be vigilant and continue to do this – it won’t just happen on its own. We need to have a common vision that stretches out into the future. Take advantage of opportunities that come up to acquire lands. Have the funding to do that, work with land trusts, must partner with them to provide access for the public and manage the land.”

Enriched Experiences Theme

Although all topics were mentioned within the Enriched Experiences Theme to some degree, *education, outreach and community service*, and *healthy living for people* were the most prominent topics that participants mentioned.

	Sample Participant Quote
Participants frequently mentioned finding new ways to outreach to people about the benefits of open space.	“I think people need to know how important those spaces are, and actually know the effects and what happens to the environment when more people live there. There should be training so people can volunteer and help do their part.”
Participants frequently expressed the importance of educating people about nature.	“I may be an old woman, but that doesn't mean I'm not still curious to learn about what's going on outside my white picket fence. I love taking docent-led hiking tours. I bought a bird book, but am always eager to learn more from people that are more knowledgeable than myself. I would like to see groups established for older women who are still healthy and want to hike together. I have found that taking long walks keeps me both physically and mentally sharp, and I'd like to have access to new places to engage in this activity.”

	Sample Participant Quote
Participants often connected knowledge about nature with healthy lifestyles.	“I want people to know about the trails, to have information on what's going on with them; keeping the community involved to stay healthy and moving.”
Participants expressed an interest in more outreach about recreational activities in open space	“I am a Boy Scout so nature is very important to me. I believe that not enough people know enough about nature and what it contains. An endless amount of knowledge can be gained from nature. Exercise and education can happen at the same time in nature such as hiking in the woods, walking or cycling thus making it a very valuable asset to society.”
Participants mentioned an interest in ensuring that the next generation would be able to relate to nature.	“I am definitely in favor of access to these lands because I think that it is important for people to understand their natural surroundings. I think that it is especially important for children so that they can learn at a young age and grow up knowing about the importance of nature.”

Natural, Cultural, and Scenic Landscapes Theme

Although all topics were mentioned within the Natural, Cultural, and Scenic Landscapes Theme to some degree, *scenic opportunities and benefits*, and *additional preservation, conservation and stewardship* were the most prominent topics that participants mentioned.

	Sample Participant Quote
Participants frequently expressed an appreciation of beauty.	“Walking the trails and taking in the beautiful scenery is what it's all about, and we can't do that if we don't maintain what we have.”
Participants frequently mentioned desiring escape and refuge.	“Having open space by a community is beneficial. The closer it is the more people will visit. Those benefits include a chance to be out in nature and appreciate it. To get away from hustle bustle, as well as breathing the clean air and appreciating the peaceful atmosphere.”
Participants frequently mentioned the need for preserving scenic beauty.	“Nature inspired me at a young age to become a park ranger when I get older. I want others to be able to get inspired by nature in the same way, and I want the preservation of these beautiful lands more than anything else.”
Participants mentioned an interest in ensuring that the next generation would be able to experience the beauty.	“It's always nice to have places to go and relax with your family. When I go out to nature it reminds me a little bit of where I am from. Future generations will not be able to enjoy places out in nature if someone doesn't do something to protect them.”
Participants somewhat frequently mentioned the restorative effects of nature as an important part of their recreational experience.	“I enjoy taking my grandmother who is in a wheelchair over to Rancho to breathe some clean fresh air. My grandmother doesn't speak much, but she enjoys being out there and her mood uplifts when she is among the wildlife.”
Participants occasionally mentioned the importance of preserving cultural resources.	“It is important for us to leave behind signs or traces of our history that can be admired for years to come. The amount of beauty and inspiration I receive from visiting various preserved sites allows me to remain adamant about continuing our efforts to preserve landmarks. I wish people took better care of our nation's and area's landmarks. I plan to visit landmarks in the surrounding areas during my free time this summer.”

Viable Working Lands Theme

Although many topics were mentioned within the Viable Working Lands Theme, *agriculture, food systems, and agricultural lifestyle* and *healthy living for people* were the most prominent topics that participants mentioned.

	Sample Participant Quote
Participants frequently expressed an appreciation for the area’s agricultural heritage	“People are drawn to visit these farms that are producing their food. That first link is through their gut. Then they get this other wealth of knowledge and experience that comes from intimate connection that farms have with the environment, and act as interpreters for the land and as a step towards understanding all of the ecosystem functions of that place: the soil, water, and climate. All you need to grow or raise animals, all that comes from a really deep relationship to a place which often exists over generations.”
Participants frequently discussed food systems and its relationship to healthy people	“Everybody eats and every hiker, mountain biker, birder; all eat. And what people eat is consistent with their ecological desires about Open Space preservation. There hasn’t always been a connection to the consequences of their actions and food can play a really great role for us to understand the impact of our consumption to the planet.”
Participants frequently mentioned the importance of working lands to providing jobs	“Many jobs are created through farms and this is where we grow our healthy food. Without having sustainable farms, we would not be able to provide the food we sell in our supermarkets. The use of productive land not only creates healthy food, but also jobs.”
Some participants discussed their perspective on the District’s management of working lands.	“Protect the farms and ranches. I would like to see the preservation of farms and ranches. Midpen is continuing to acquire land and not able to manage land the way they really want to. Decent ranches just sit fallow. I think you should leave them as a working piece of land, do the studies, and then come back, so the land doesn't go fallow.”

Comparison to Benchmark Scientific Survey

The community conversations input is intended to complement rather than replicate the core values section (Section 4) of the March 2013 Benchmark Scientific Survey conducted by Strategic Research Institute, by paying attention to the patterns of emotions expressed and words used by participants. Due to the subjective nature of the response collection and tagging procedure, strict numerical comparisons would be inappropriate.

Many of the values expressed by community conversation participants are generally consistent with the findings of the Benchmark Survey. For example, participants frequently mentioned the relationship between outdoor recreational activities and healthy living for people. This sentiment echoes Question 4.7 in the Scientific Survey, which shows that survey respondents agree that recreational amenities contribute to health and wellness. Similarly, community conversation participants frequently expressed an appreciation of beauty and the desire for escape and refuge. These sentiments echo Questions 4.9 in the Scientific Survey, which shows that survey

respondents agree that natural landscapes, panoramic vistas, and green hillsides provide relief from urban density. It is also worth noting that many participants mentioned increasing the availability of places to take their dogs, consistent with the responses to Survey Question 11.1.

The core values section of the Scientific Survey did not include questions about the following subjects, all of which were raised in numerous community conversations, so no comparison is possible:

- *Recreational Activities* and *Increased Access* topic tags (raised in 21% of community conversations)
- *Education* and *Outreach and Community Service* topic tags (raised in 15% of community conversations).

Caution is advised when comparing the frequently mentioned community conversation topics with the other sections of the Scientific Survey (such as Section 9), because the questions asked in the community conversations were not phrased in terms of potential public investments or expenditures.

The Vision Plan team may wish to further explore the subject of management and maintenance of District lands in the next phase of public engagement, because, even though this subject was only raised in 6% of community conversations, the Scientific Survey found that respondents strongly agreed that regional nature preserves and recreational facilities must be properly maintained.

OUTCOMES AND NEXT STEPS

The community conversations have provided valuable input to the vision planning process during theme and goal development. For example, the planning team added another theme in response to the frequent mention of education and outreach topics. The goals also evolved in response to the community conversation input.

In addition, the community conversations were a vehicle for outreaching to and educating people about the work of the District. Engaging people in conversations that related the District's mission to their own interests and experiences made the information relevant and therefore memorable. This is especially beneficial given the many participants who had never heard of the Midpeninsula Open Space District – including

most of the students who conducted the interviews. Also, asking people to help shape the work of the District invited a positive and respectful relationship between the District and the public, especially in the over 225 conversations conducted by rangers. The rangers positioned themselves as respectful listeners eager to hear the preferences and concerns of the visitors to the preserves. This kind of engagement shifts the way people understand and talk about the District and its work.

The planning, outreach, and relational outcomes of the community conversations provide a solid foundation for the next steps of the Vision Planning Process. Phase 3, Enriching the Conversation, focuses on clarifying and synthesizing public input to shape the Vision Plan, including the Action Selection Criteria and Priority Actions. The enrichment aspect includes reflecting back what was previously heard, educating the public about the District, and obtaining feedback on those topics of primary importance to the District. The community conversation results will be referenced during the process of drafting Priority Actions, to ensure that they meaningfully reflect diverse public perspectives.



IMAGINE

the FUTURE *of* Open Space



We Need Your Input

The Midpeninsula Regional Open Space District would like your input in helping us define the future of your open space preserves. Join us now through May 2014 by taking part in surveys, making comments, joining focus groups, and more. Find out how you can help Imagine the Future of Open Space. Get started today by visiting www.openspace.org/

imagine or link directly to our online forum at <http://imagine.openspace.org>.



Celebrating 40 years, over 60,000 acres, 26 open space preserves, and 220 miles of trails within Santa Clara, San Mateo and Santa Cruz counties.



IMAGINE

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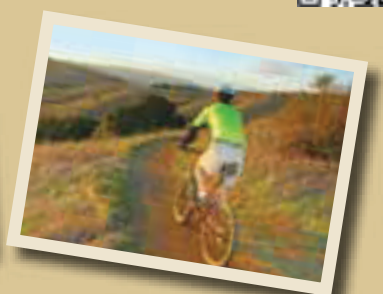
Tell us how YOU imagine the future of Open Space

Midpeninsula Regional Open Space District would like your help in defining open space on the Peninsula, South Bay, and San Mateo Coast. Help us imagine a future that includes:

- Healthy plants, animals, and waterways
- Viable working lands

- Access to open space for exercise and education
- Beautiful scenery and interesting history

Comment on these and other themes that are important to you at <http://imagine.openspace.org> or obtain more information at www.openspace.org/imagine



COMMUNITY CONVERSATIONS ANALYSIS CODES

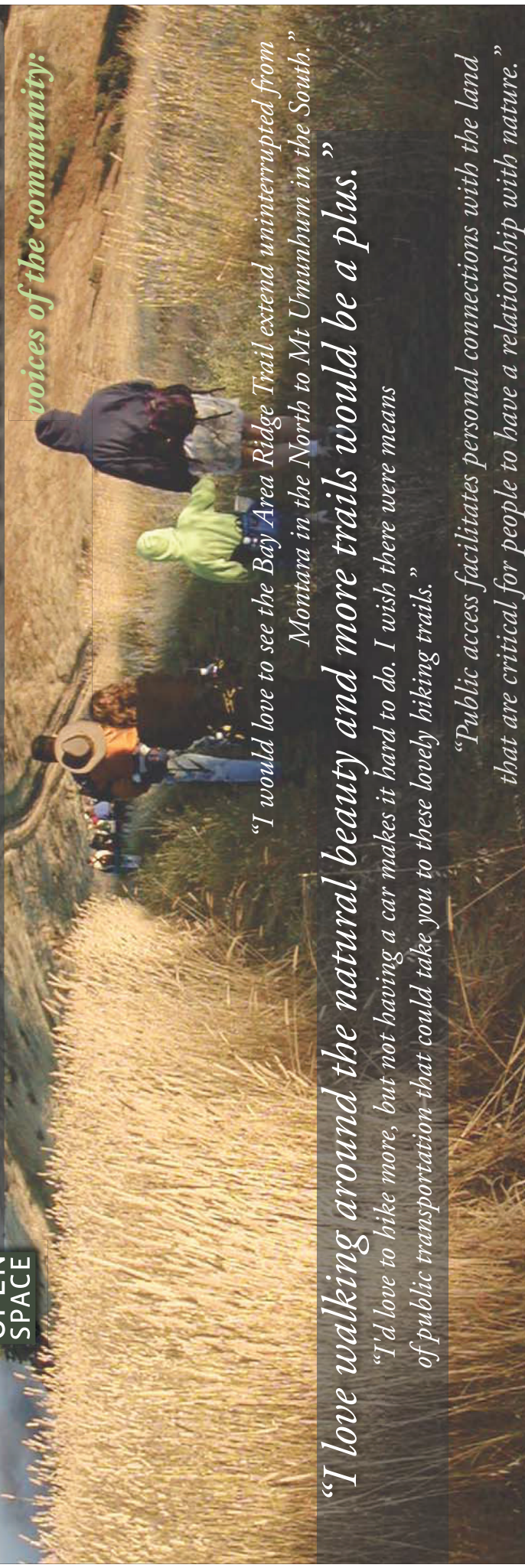
Items in **bold** are the sub-tags. Items in blue are examples of what might fall into this tag.

SELECT ONE		SELECT UP TO THREE	
Top-Level Theme Tag			
Outdoor Recreation and Healthy Living	OUT	Healthy Natural Systems	HN
Enriching Experiences	EEX	Natural Environment	
Natural, Cultural, and Scenic Landscapes	LND	Ecosystems	
Healthy Plants, Animals and Waterways	HTH	Greenbelt	
Viable Working Lands	WRK	Sustainability	
		Healthy Living for People	HP
		Food Systems/Agriculture	
		Healthy Foods	
		Air Quality	
		Fitness	
		Quality of Life	
		Escape/Refuge	
		Increased Access	IA
		Distance from/connections with Urban	
		Increased public access (general)	
		Transportation	
		Access Hours	
		Managing District Lands	ML
		Protection	
		Stewardship	
		Balancing multiple land uses	
		Outreach & Community Service	OC
		Outreach and Communication	
		Volunteer/Community Service	
		Public Awareness	
		Additional Preservation, Conservation, and Stewardship	AD
		Preservation	
		Stewardship	
		Land Management	
		Protection	
		Future Generations/Time	
		Anti-Development	
		Restoration	
		Corridor/Connections	
		Landmarks/Historical Structures	
		Acquire / purchase land	
		Climate Change	
		Agriculture, Food Syst. & Heritage	AG
		Economic Benefits of Agriculture	
		Agriculture Creates Jobs	
		Regional Ag	
		Local Ag	
		Food Systems	
		Sustainable Agriculture	
		Working Lands Heritage	
		Cultural Resources	CR
		Protection	
		Education	
		Interpretation	
		Education	ED
		Education	
		Youth	
		Learning about Landmarks and History	
		Interpretation	
		Recreational Activities	RA
		Hiking	
		Trails	
		Corridor/Connections	
		Facilities	
		Cycling	
		Dogs	
		Safety	
		Areas with Multiple-Uses	
		Trash	
		Low-Impact	
		Equestrian	
		Camping	
		Regional Trails	
		Local	
		Hunting/Fishing	
		Scenic Opportunities & Benefits	SC
		Greenbelt	
		Escape/Refuge	
		Beauty and Scenery	
		Access	
		Future Generations/Time	
		Anti-Development	
		Iconic Species or Habitats	SH
		Plants	
		Water	
		Animals	
		Fisheries	
		Habitat	



imagine the future of open space... OUTDOOR RECREATION & HEALTHY LIVING

voices of the community:



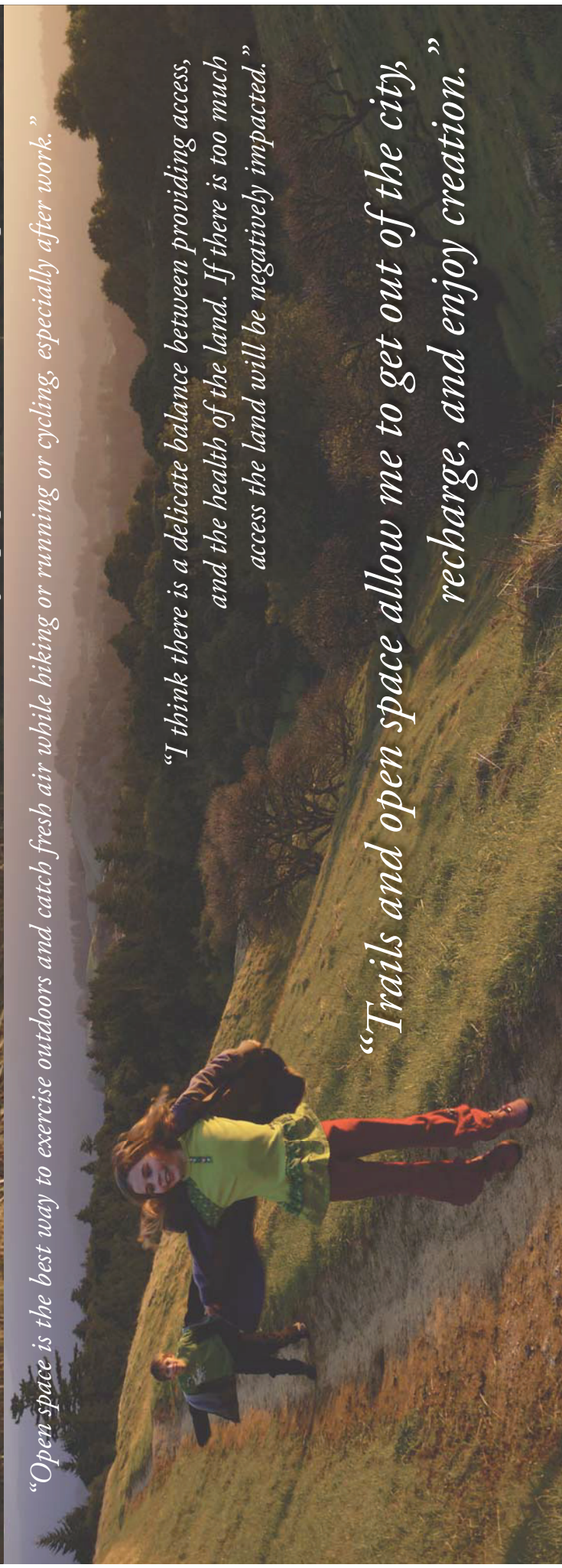
“I would love to see the Bay Area Ridge Trail extend uninterrupted from Montara in the North to Mt Umunhum in the South.”

“I love walking around the natural beauty and more trails would be a plus.”

“I’d love to hike more, but not having a car makes it hard to do. I wish there were means of public transportation that could take you to these lovely hiking trails.”

“Public access facilitates personal connections with the land that are critical for people to have a relationship with nature.”

“Open space is the best way to exercise outdoors and catch fresh air while hiking or running or cycling, especially after work.”



“I think there is a delicate balance between providing access, and the health of the land. If there is too much access the land will be negatively impacted.”

“Trails and open space allow me to get out of the city, recharge, and enjoy creation.”



imagine the future of open space...

HEALTHY PLANTS, ANIMALS & WATERWAYS

voices of the community:

"These spaces are abundant with nature's true treasures. We should see them as jewels, not for sale."

"Nothing is more important to me than keeping our water system clean, animals free, and plants safe from foreign weeds."

"We need to look at the question; 'Are we saving the land the right way?'"

"Improve water quality and balance water use so the Coastal creeks can support fish again!"

"Yes please! We need salmon and steelhead again!!!"
"Yes, yes, stream restoration should be a high priority."

"We need connected lands for plants and animals to thrive."

"I like to run through natural preserves, and seeing plants and animals is part of that experience"





imagine the future of open space...

ENRICHED EXPERIENCES

voices of the community:

"Let's get people connected to the land, so they know why it's important."

"Please increase interpretive centers and signage!"

"If we start educating youth today about the benefits of the open space, they can be the leaders and advocates for the future."

"There needs to be more outreach to universities; even college students do not know much about open space."

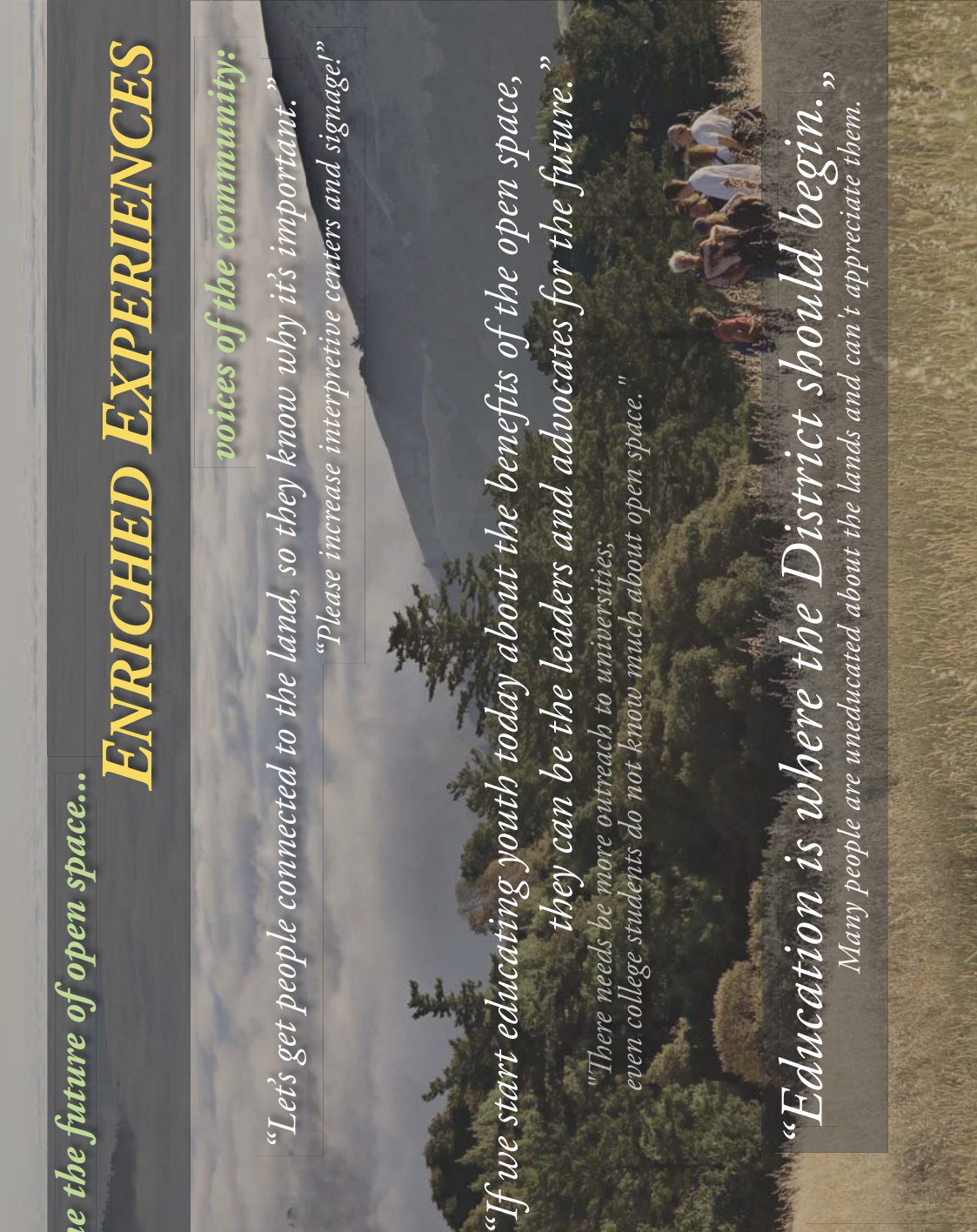
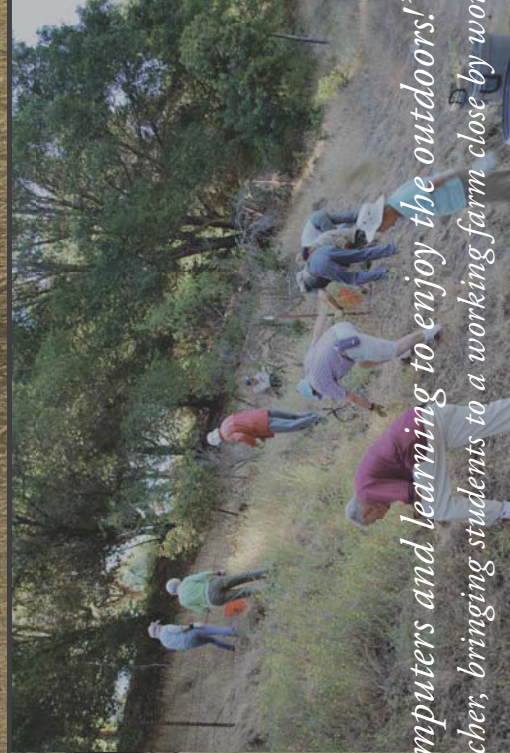
"Education is where the District should begin."

Many people are uneducated about the lands and can't appreciate them."

"I didn't even know these places you're mentioning existed, why is that? Is it really anyone's fault or just my own?"

"Let's get kids out from behind computers and learning to enjoy the outdoors!"

"As a first grade teacher, bringing students to a working farm close by would be an unforgettable experience."





imagine the future of open space...

NATURAL, CULTURAL & SCENIC LANDSCAPES

voices of the community:

"I am a writer, and I find inspiration in tranquility, peace, and silence like the open space gives. It's miles from the busy city, it's like a whole new world. I find it's beauty, scenery, and history a kickoff for my poetry."

*It's a real joy to leave the city life, for just a moment, and meditate here.
I find serenity, sublime, and beauty in these green scenes."*

"You never run out of beautiful places to go here!"

"Most people I know who visit our preserved open spaces appreciate the stability of them - there is comfort in returning to a place and seeing it (relatively) unchanged year on year, decade on decade... This holds true also for the coastal landscapes, even the pastoral, rural working lands. Coastsiders (even those of us who only recently rooted here) want the backdrop of our lives to maintain..."

"I'd like to see them preserved as much as possible - particularly those areas that hold some significance - some historic value."

"Also being able to lift my eyes up to the open and beautiful hills from the busy freeways keeps me sane because it brings back memories of wonderful, peaceful times and makes me smile. Thanks for keeping the open spaces open and safe from urban sprawl."





imagine the future of open space...

VIABLE WORKING LANDS

voices of the community:

"Agriculture is healthy for the community and healthy for the land."

"Let's find a way to connect the food grown in our area to the people that live here."

"It is healthy to have people working lands. By having ag operations, it decreases trespassing, vandalism, and growing marijuana. It all works together."

"Working land is just as important to our world as the parks and reservoirs."

"There should be productive use of land however, farming should not hinder the preservation of that land for the animals living there."

Appendix C: Healthy Nature Planning and Analysis Reports



Karl Gohl

Rancho San Antonio Open Space Preserve



Appendix C-1:

Biodiversity of the Midpeninsula Regional Open Space District

Prepared for:

Midpeninsula Regional Open Space District
330 Distel Circle, Los Altos, CA 94022

March 2015

Prepared by:

Jodi McGraw (Jodi McGraw Consulting)
with forest management input from Nadia Hamey (Hamey Woods)



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PREFACE

This report provides an overview and assessment of the biological conservation values within the Vision Plan Area—the approximately 371,000-acre area that includes the Midpeninsula Regional Open Space District’s jurisdiction, sphere of influence, and adjacent land holdings. This summary touches on aspects of the biological resources within the District’s approximately 57,000 acres of open space preserves, though importantly, this high-level assessment does not address important site-level conditions and considerations that are instead the subject of general plans, management plans, and other implementation plans.

The report integrates existing information, including prior regional plans, District policies, reports, scientific studies, and geographic information system data. It was developed by ecologist Jodi McGraw, with the assistance of Justin Burks, and input from Nadia Hamey, Registered Professional Forester, on forest management (Section 6).

The report completes a critical first task in the technical component of the Vision Planning Process, which is designed to evaluate the existing conditions of the biological resources within the plan area. Information contained in this report can be used to develop various aspects of the “Healthy Plants, Animals, and Water” component of the Vision Plan, including the goals, criteria, and priority actions; it also provides information that might aid outreach to the community through implementation of the project’s Community Engagement and Public Participation Plan.

As the next step in the Vision Planning process, key components of the analysis presented here will be integrated in a spatial analysis designed to identify areas within the Vision Plan Area that are most important to conserving biodiversity. Data currently anticipated to be included in the analysis include:

- Vegetation, with scores for the various types based upon their ratings (Table 3, Figure 3);
- Streams, scored based upon the stream rating (Table 4, Figure 4);
- Watersheds, scored based upon the watershed rating (Table 5, Figure 5);
- Ponds (Figure 7);
- Rare species occurrences, with scores reflecting the frequency of rare species (Figure 8); and
- Landscape connectivity, including linkages as well as habitat patches weighed by their size (Figure 9).

Additional data presented in this report can be integrated into the analysis, which will be designed to identify areas where habitat protection, restoration, and/or management protects, can be conducted to promote one or more biodiversity conservation objectives.

Importantly, the maps here are developed for large-format printing and while they can also be viewed on a computer screen, they will lack detail if printed on letter-sized paper.

EXECUTIVE SUMMARY

Centered on the San Francisco Peninsula, the Vision Plan Area features diverse ecosystems of the Santa Cruz Mountains Bioregion, from salt-water wetlands to towering redwood forests. These ecosystems support rich assemblages of plants and animals, and provide a host of important services, including water filtration, crop pollination, and carbon sequestration. Their viability requires conservation of large contiguous habitat areas and management to address the various factors that fragment and degrade habitat. Conservation in the region, which is an important part of the Central Coast Ecoregion (TNC 2006) and the California Floristic Province, which is a global biodiversity hotspot (Myers et al. 2000), can also help promote statewide and global conservation.

Nearly 78% of the approximately 370,000-acre Vision Plan Area, which includes the District's jurisdiction, sphere of influence, and landholdings, features natural or semi-natural land cover, including vegetation and water (Table 1, Figure 1). Converted lands, including developed areas and intensive agriculture (e.g. row crops), are concentrated in the relatively flat Santa Clara Valley, leaving the wetlands that fringe the San Francisco Bay, and the variable terrain of the Santa Cruz Mountains relatively intact (Figure 1).

Terrestrial Communities

Across the Vision Plan Area, fine-scale variability in geology, soils, hydrology, and microclimate, as well as history of land use and natural disturbance, including fire, interact in complex ways to support diverse communities of plants and animals, which include 33 mapped natural plant communities (Table 1, Figure 1). The complex geology of the Santa Cruz Mountains plays a large role in the diversity of natural systems, by creating variable topography and giving rise to unique soils including serpentine, sandstone, and shale-derived soils, each of which features unique assemblages of plants and animals adapted to their inimical conditions (Section 1.2).

Serpentine communities and maritime chaparral are among the Vision Plan Area's sensitive plant communities: globally rare communities that collectively cover on an estimated 19,648 acres within the plan area, including 1,355 acres in the District's nearly 57,000 acres of open space preserves (Table 2, Figure 2). Other sensitive communities include extensive wetlands, riparian forests, valley oak woodlands, and old-growth redwood forests.

Rare Species

These sensitive communities comprise several of the region's species 'hot spots'—species-rich areas that support many of the Vision Plan Area's 96 plants and 66 animals that are rare, threatened or endangered (Table 8). These species, which include 11 plants and 16 animals that have been listed as state or federally endangered (Tables 6 and 7), are concentrated in the region's grassland, maritime chaparral, riparian, serpentine, and old-growth forest communities, representative areas of which are found within the District's open space preserves (Table 8, Figure 8).

Aquatic Ecosystems

District open space preserves, and the broader Vision Plan Area, also feature important aquatic systems, including streams and ponds, which give rise to wetlands and riparian vegetation, provide a source of free water for terrestrial species, and support several rare and endangered species (Section 2). The Vision Plan Area's ponds provide breeding habitat for California red-legged frog, California tiger salamander, San Francisco garter snake, and western pond turtle, which require intact, adjacent upland habitats as occur within the District's open space preserves (Section 2.2).

The Vision Plan Area contains just over 1,100 miles of coastal streams, including 37 miles of cool, mountain creeks, such as San Gregorio Creek, that drain to the Pacific Ocean and provide habitat for endangered coho salmon—a species that is at the southern end of its range in the Santa Cruz Mountains (Table 4, Figure 4). These streams also support the threatened steelhead trout, which inhabits an additional 160 miles of creeks in the Vision Plan Area, including several such as Stevens Creek, which drain to the San Francisco Bay (Table 4, Figure 4). District open space preserves contain important breeding habitat within these and other streams, and also protect watershed lands which are essential to maintaining in-stream habitat conditions, as well as water quality in the San Francisco Bay and near-shore environments of the Pacific Ocean (Table 5, Figures 5 and 6).

Landscape Connectivity

Connectivity within the Vision Plan Area's streams is critical to maintaining populations of coho salmon, steelhead, and other anadromous fish, such as Pacific lamprey, which live as adults in the bay and ocean but return to the upper reaches of mountain streams to breed. Removal of fish passage barriers, including dams as well as some bridges and culverts, can facilitate access to important spawning habitat, and increase fish populations. Streams also provide important linkages for terrestrial species, particularly in urban or intensively cultivated areas where dense riparian vegetation creates important cover that facilitates movement by animals. Stream corridors may facilitate movement of species across the densely developed Santa Clara Valley and Highway 101 and Interstate 280, thus connecting the bay lands in the northeastern portion of the District to intact habitat within the Santa Cruz Mountains foothills (Figure 9).

Such landscape connectivity is critical to the maintenance of biodiversity within the Santa Cruz Mountains. The Vision Plan Area support large, contiguous habitat patches, including the northern portion of a 61,000-acre patch centered on Big Basin State Park, which is the largest area of contiguous habitat in the Santa Cruz Mountains (Figure 9). Such large habitat areas are essential, as they support a disproportionate richness of species, are more resistant to habitat degradation caused by edge effects, and are important for wide-ranging species. The central and western portions of the plan area feature numerous large patches, which together can support population of species with large home ranges, including mountain lions, which feature home ranges of up to 100 square miles (Beier 1993).

Long-term persistence of mountain lion as well as the genetic diversity and viability of other species within the Santa Cruz Mountains relies on maintaining connectivity to the adjacent Diablo and Gabilan mountain ranges, which are located to the east and south. This linkage, which can create a more than 100-mile latitudinal gradient that can enable species range shifts in response to climate change, requires restoring connectivity through the Highway 17 corridor, which constitutes a major choke point in the linkage. The District, which manages a series of open space preserves in this area, can partner with state transportation and wildlife agencies to promote connectivity through this area (Figure 9).

Habitat Management

The District's approximately 57,000 acres of open space preserves create the backbone of a network of protected lands in the Vision Plan Area, which includes 156,000 acres (42%) of parks, open space, and private lands protected through conservation easements. Though safeguarded from development, habitat within these protected lands is threatened by a variety of factors that degrade and fragment habitat, imperil rare species populations, and disrupt important ecosystem services (Table 9).

To address these threats, the District recently adopted a comprehensive resource management policy, which identifies goals and specific implementation measures to address the myriad, often interrelated, threats (MROSD 2011). In addition to providing measures for the protection of landscape connectivity,

special-status species populations, and sensitive communities, the policies address broader issues of watershed management.

Soil Erosion

District resource management policies include implementation measures to limit soil erosion and sedimentation, the threat of which is greatest in the rugged western slopes underlain by erosive sedimentary rocks, and in the southeastern portion of the District where erosive serpentine underlies steep slopes covered by chaparral (Figures 10 and 11).

Non-Native Plants

The policies also incorporate measures to control and prevent the establishment of invasive plants, which outcompete native plants, degrade habitat for animals, and can alter ecosystem structure and functions, including by promoting fire (Table 11). These species dominate 9,557 acres, 860 acres (9%) of which are within District open space preserves (Table 10, Figure 12), and invasions are ongoing.

Grasslands

District resource management policies also address the need for stewardship of the Vision Plan Area's widespread plant communities. In addition to the invasion and spread of non-native plants, the region's grasslands are being degraded by encroachment from woody plant species in the absence of fire, which is a natural part of the disturbance regime. Grazing management in six open space preserves with a total of approximately 7,000 acres of grasslands is helping prevent unnatural succession, reduce cover of non-native plants, and reduce fine fuels that can promote wildfire. Expanding grazing management to other preserves including Windy Hill, Monte Bello, and Long Ridge (Figure 13), may help protect an additional 1,000 acres of grasslands from shrub and tree encroachment from adjacent coastal scrub and hardwood woodlands, thus maintaining important habitat for several grassland plants and animals.

Hardwood Forests

The Vision Plan Area's nearly 47,902 acres of hardwood forest, 37.8% of which are located in District open space preserves, are also subject to unnatural succession. Exclusion of fire from these forests, which are otherwise dominated by species of oak, tanoak, and California bay, facilitates establishment of Douglas fir—a conifer mapped as emergent or co-dominant on 17,848 acres of hardwood forest. Prescribed fire or forest management treatments that simulate their effects by killing Douglas fir can be used to maintain hardwood forests and habitat oak-dependent animals (Table 14). Forest management treatments are also needed to address the negative effects of sudden oak death—a pathogen killing oaks and tanoaks in approximately half of the District's open space preserves (Figure 15). Treatments include removing infected carriers (e.g. California bay), applying fungicide to heritage oaks, and fuel management projects to reduce the threat of severe wildfire caused by the dead wood (Table 14).

Redwood-Douglas Fir Forests

Fire and other forest management and restoration techniques can also be used to restore coast redwood-Douglas fir forests, which cover an estimated 78,271 acres (21%) of the Vision Plan Area, including 12,915 acres in District open space preserves (Figure 14). As a result of extensive harvests during the past two centuries, Specifically, tree thinning can create more widely-spaced, larger redwood trees more characteristic of old-growth forests. Such thinning treatments are being used by a variety of conservation organizations in central and northern California to buffer and expand old growth-forests, which provide important habitat for marbled murrelet, Vaux's swift, and other species that require late-seral forests, which are also less fire-prone and more fire-resistant (Table 14).

Fire Management

Fire management treatments, including prescribed fire as well as treatments that mimic its effects, can be used to promote the natural community structure and species composition within grasslands, shrublands, and other forests in the Vision Plan Area. As a result of their evolution with recurring fire, many native plants and animals feature adaptations to fire and the habitat conditions it creates. An estimated 21,048 acres of vegetation within the Vision Plan Area, including 8,419 acres within District open space preserves, features fire-dependent communities—chaparral and closed cone conifer forests featuring plants that regenerate following fire (Table 15, Figure 16). Treatments to promote fire-adapted and fire-dependent species should be designed to protect fire-sensitive species, such as California sycamore and other riparian species.

Fire management projects for vegetation management can also reduce the risk of wildfire, which threatens lives and property particularly where residential development occurs in close proximity to natural vegetation. Notably, 8,749 acres of development occurs within a half mile of a District open space preserve (Figure 17). Developed by integrating a variety of information and considerations, including fuel conditions, fire behavior, development patterns, infrastructure, and community input, two recent Community Wildfire Protection Plans developed within the Vision Plan Area identify priorities areas for fuel reduction and other wildfire threat abatement projects (Figure 17). Vegetation management projects in these areas, which can include shaded fuel breaks and prescribed burning within District open space preserves, can reduce threat of wildfire in the region.

Global Change

By the end of the century, the average annual temperature in California is predicted to increase by up to 8.1° F (Cayan et al. 2008). The future hotter and likely drier climate in the region may threaten the viability of many rare species in the Vision Plan Area, including narrowly endemic species (e.g. serpentine plants and insects), salmonids, pond-breeding species, and species that inhabit wetlands and coast redwood-Douglas fir forest (Table 16). Aspects of the Vision Plan area that can promote resiliency of species to climate change include wet areas, such as springs and streams, which provide water and feature moister microclimates; cooler north-facing slopes and steep canyons (Table 17, Figure 18).

By the end of the century, sea level is anticipated to rise by more than 4.5 feet (Heberger et al. 2009). The resulting inundation and attendant erosion and flooding could eliminate coastal and bay habitats, including rock outcroppings, dunes, cliffs, and wetlands. Protecting land adjacent to the coast can facilitate migration of these systems, where feasible, and conserve the sensitive communities and species they support as sea level rises.

TERRESTRIAL COMMUNITIES

Vegetation

The Vision Plan Area features a complex and diverse mosaic of vegetation, including 33 mapped natural plant communities that support diverse assemblages of native plants and animals (Table 1, Figure 1). Broadly speaking, the coastal terraces and adjacent foothills support extensive grasslands with patches of coastal scrub and maritime chaparral, which are innervated by hardwood woodlands and conifer forests that line the canyons (Figure 1). These forests, which include extensive areas of coast redwood and Douglas-fir forest (Section 6), predominate on the higher-elevation western slope and ridgeline of the Santa Cruz Mountains, where winter rainfall and summer fog are more plentiful. The warmer and drier eastern slope of the range is dominated by chaparral, with forests comprised of oaks, California bay, and other hardwoods on the cooler north-facing slopes and canyons. The inland foothills support grasslands and oak savannas, which give way to flat expanses of land that has largely been converted to urban use in the Santa Clara Valley. Extensive wetlands ring the southern San Francisco Bay in the northeastern portion of the District, while the San Mateo Coast features a range of communities along the coastal strand, including beaches, dunes, bluffs, cliffs, and wetlands (Figure 1).

Vegetation Conservation Values

Provide habitat for diverse assemblages of plants and animals

Facilitate movement of plants, animals, and ecological processes, such as fire

Provide ecosystem services—benefits to humankind from including:

- Water filtration (wetlands and riparian vegetation trap sediment)
- Soil stabilization/erosion regulation
- Carbon sequestration
- Pollination for crops
- Pest control
- Natural hazard regulation (e.g. prevent flooding)

Provide aesthetic values (e.g. scenery)

Across the Vision Plan Area, fine-scale variability in geology, soils, hydrology, and microclimate, as well as history of land use and natural disturbance, including fire, interact in complex ways to give rise to a diversity of plants and animals, each of which is adapted to the unique conditions.

- The bay and estuaries support coastal salt marsh communities, the dominant species of which depend on the hydrology, and grade from cordgrass (*Spartina foliosa*) in the low tidal zone, to pickleweed (*Salicornia pacifica*) in the middle zone, saltgrass (*Distichlis spicata*) in the high tide zone.
- Stream corridors are lined by riparian forests, which on the coast side primarily support red alder (*Alnus rubra*), and arroyo willows (*Salix lasiolepis*) while those on the eastern slope of the Santa Cruz Mountains feature big leaf maple (*Acer macrophyllum*), California sycamore (*Platanus racemosa*), and cottonwood (*Populus* spp.).
- Oak forests are dominated by coast live oak particularly along the coast and in lower-elevation areas, interior live oak (*Quercus wislizenii*) further inland, and canyon live oak (*Q. chrysolepis*) at higher elevations; stands of black oak are restricted to the highest elevation ridgeline, while blue oak (*Q. douglasii*) occur on the lower elevation foothills of the interior.
- Conifer forests are dominated by coast redwood (*Sequoia sempervirens*) and Douglas-fir (*Pseudotsuga menziesii*) on the western slope of the Santa Cruz Mountains and in drainages on the eastern slope, where foothill pines (*Pinus sabiniana*) and knobcone pines (*Pinus attenuata*) are scattered amidst manzanitas in the higher-elevation areas in the southeastern portion of the Vision Plan Area.

Geology and soils play a particularly important role in adding to the biodiversity of the District. The Santa Cruz Mountains feature largely-granitic and metamorphic Salinian Block basement rocks that are overlain by a series of marine sedimentary rocks from Paleocene to Pliocene-era, which in turn, are often overlain by non-marine sediments of the Pleistocene and Holocene (Thomas 1961). Mountain building, including uplift, folding, and faulting, combined with erosion including landslides, have created fine-scale variation in geologic formations that provide the parent material for soil development, which is also influenced by the variable climate, hydrology, and the vegetation itself. Biologically-significant geology and soils include:

1. Outcroppings of **serpentine soil** on the eastern slope of the Santa Cruz Mountains, which are derived from the Franciscan Complex. These soils have high concentrations of heavy metals that are toxic to most plants; however, serpentine soils support unique and diverse communities that include numerous narrowly endemic species adapted to the inimical soil conditions (Section 3). Within the District, serpentine areas are around the Sierra Azul Open Space Preserve, in the southeast, and in the inland foothills near the city of Woodside.
2. Outcroppings of **sandy soils** derived from sandstone and granite that support species endemic to the northern portion of the Santa Cruz Mountains, including Montara manzanita (*Arctostaphylos montaraensis*), King's Mountain Manzanita (*Arctostaphylos regismontana*) and Santa Cruz cypress (*Hesperocyparis abramsiana*).
3. Outcroppings of shale which support sparse maritime chaparral and knobcone pine in a community known as '**The Chalks**' in the Waddell, Green Oaks, and Cascade creek watersheds in the southwestern portion of the District.

Sensitive and Biologically-Highly Significant Communities

These and other natural communities within the District area globally rare, being restricted just to the San Francisco Bay Area, or in some cases, the Santa Cruz Mountains. These sensitive communities, which cover 19,648 acres within the Vision Plan Area, are priorities for conservation (Table 2, Figure 2).

Other communities, such as wetlands, riparian communities, and grasslands, though once more widespread, have been made rare as a result of widespread habitat conversion for urban and agricultural uses (Table 2). These biologically-highly significant communities support rich assemblages of plants and animals, many of which are in decline within the state or globally (Section 3).

Maintaining biodiversity within the Vision Plan area, and Santa Cruz Mountains more broadly, will require conserving the sensitive and biologically highly-significant communities, as well as representative areas of the other naturally communities, including the more widespread types, which provide extensive habitat and important ecosystem services. To identify the areas within the Vision Plan Area that are most important for biodiversity conservation, the natural communities were prioritized (Table 3, Figure 3).

District open space preserves support 1,356 acres of sensitive communities (Table 3, Figure 3). These include extensive areas of serpentine within Sierra Azul OSP, saltwater wetlands in Ravenswood OSP and Stevens Creek Shoreline Nature Study Area, maritime chaparral at Pulgas Ridge OSP, and California buckeye woodlands scattered within the preserves along Skyline. The District resource management policies address protection of these and other sensitive communities and habitats on District lands, including through the policies for the management of vegetation, grazing, forest, wildland fire, and invasive species, as well as the policy related to ecological succession.

Table 1: Vegetation within the District Vision Plan Area

Vegetation and Other Land Cover	Plant Communities	Acres	Percent in District Preserves
Coastal Strand	<i>Coastal strand</i>	405	0%
Grassland	<i>California annual grassland</i>	36,174	16.6%
	<i>Native grassland</i>	278	23.7%
	Grassland Subtotal	36,451	16.7%
Coastal Scrub	Coastal scrub	16,570	0.1%
	Mixed coastal scrub	2,158	10.9%
	<i>Coastal bluff scrub</i>	102	0%
	California sagebrush scrub	204	66.7%
	Coyote brush scrub	960	45.1%
	Mixed coyote brush scrub	21,171	21.0%
	Poison oak scrub	1,338	33.5%
	Coastal Scrub Subtotal	42,503	13.4%
Chaparral	Ceanothus chaparral	473	47.1%
	Chamise chaparral	7,875	23.4%
	<i>Manzanita chaparral</i>	851	71.6%
	Mesic chaparral	2,805	70.5%
	<i>Mixed chaparral</i>	11,021	47.1%
	Chaparral Subtotal	23,026	42.8%
Oak savanna	<i>Oak savanna</i>	41	22.8%
Hardwood Forest	California bay	3,303	31.3%
	California buckeye	921	29.8%
	Coast live oak	14,206	18.7%
	Mixed hardwood forest	26,779	51.8%
	<i>Oak woodland</i>	3,049	15.0%
	Hardwood Forest Subtotal	48,257	37.9%
Conifer Forest	Foothill pine woodland	236	70.3%
	Knobcone pine forest	591	74.6%
	<i>Monterey pine forest</i>	189	0%
	Redwood forest	52,195	12.6%
	Douglas fir forest	8,141	1.9%
	Mixed Douglas-fir forest	17,849	34.7%
	<i>Santa Cruz cypress forest</i>	6	0%
	Conifer Forest Subtotal	79,206	17.1%
Riparian	<i>Riparian shrubland</i>	1,743	18.3%
	<i>Riparian woodland</i>	4,236	23.4%
	Riparian Subtotal	5,980	21.9%
Wetland	<i>Wet meadows</i>	64	14.2%
	<i>Freshwater marsh</i>	884	5.2%
	<i>Salt/brackish marsh</i>	4,704	2.4%
	Wetland Subtotal	5,652	3.0%

Table 1: Vegetation within the District Vision Plan Area

Vegetation and Other Land Cover	Plant Communities	Acres	Percent in District Preserves
Other Natural and Semi- Natural Land Cover	<i>Water</i>	27,216	0.8%
	<i>Barren/Rock</i>	255	47.3%
	Non-native or ornamental plants	9,557	9.0%
	Sparsely vegetated or unvegetated	9,425	3.9%
Other Natural and Semi-Natural Land Cover Subtotal		46,452	3.4%
Converted Land Cover	Agriculture	3,924	2.5%
	Quarry/Mine	1,590	0%
	Built up/Urban	77,464	0.3%
	Converted Land Cover Subtotal	82,978	0.4%
Total		370,951	15.3%

¹ Biologically highly significant plant communities are *italicized*.

Table 2: Sensitive plant communities within the District Vision Plan Area

Type	Community	Acres	Percent in District Preserves
Coastal Strand¹	Dune	31	0%
Grassland	California annual grassland - purple needlegrass	40	57.2%
	Purple needlegrass	2	100.0%
	Native grassland	63	55.9%
	Meadow barley	5	93.7%
	Dwarf coyote brush prairie	167	0%
	Grassland Subtotal	276	23.3%
Chaparral	Brittleleaf manzanita	79	99.7%
	Chamise - leather oak ²	10	100.0%
	Leather oak ²	<1	0%
	Giant chinquapin	5	76.4%
	Interior live oak - Kings Mountain manzanita	85	0.8%
	Manzanita chaparral - knobcone pine ³	420	0%
	Chaparral Subtotal	600	15.6%
Hardwood Forest	California buckeye woodland	919	29.9%
	Valley oak woodland	1,674	4.1%
	Hardwood Forest Subtotal	2,593	13.2%
Conifer Forest	Douglas-fir - chinquapin forest	47	93.1%
	Old growth coast redwood forest	3,349	0.1%
	Older second growth and other older redwood forests	4,554	1.9%
	Monterey pine forest	189	0%
	Santa Cruz cypress forest	4	0%
	Conifer Forest Subtotal	8,143	1.7%
Riparian	Box elder forest	40	2.1%
	California sycamore woodland	35	22.2%
	Central Coast riparian forest	955	1.8%
	Riparian Subtotal	1,030	2.5%
Wetland	Bulrush marsh	14	2.4%
	Cattail marsh	18	36.1%
	Freshwater marsh	820	4.7%
	Salt/brackish marsh	4,704	2.4%
	Sedge-rush meadow	29	30.8%
	Wetland Subtotal	5,652	3.0%
Serpentine	Native Plant Communities on Serpentine Soils²	1,390	38.0%
	Total	19,648	7.1%

¹ Communities along coast, including dunes and bluffs

² Community on serpentine (ultramafic) soil, which typically supports rich assemblages of rare and unique plants and animals

³ Coastal knobcone pine forests are actually maritime chaparral (e.g. 'The Chalks')

Table 3: Vegetation and land cover types in the Vision Plan Area according to their priority for conservation

Priority	Category	Acres	Percent	
			of Total Vegetation	In District Preserves
Sensitive and Biologically Highly-Significant Native Communities				
1	Sensitive ¹	19,648	5.3%	6.9%
2	Biologically Highly Significant ²	69,667	18.8%	11.1%
Sensitive and Biologically Highly-Significant Subtotal		89,315	24.1%	10.2%
Other Native Communities Based on Relative Rarity in Vision Plan Area				
3	Uncommon (1,000 acres)	3,065	0.8%	63.7%
4	Fairly Common (>1,000 acres - 10,000 acres)	34,589	9.3%	49.3%
5	Common (>10,000 acres)	142,071	38.3%	19.1%
Other Native Communities Subtotal		179,725	48.4%	23.6%
Other Land Cover				
6	Non-Native	18,953	5.1%	6.4%
7	Degraded and Agricultural	3,924	1.1%	2.5%
8	Urban/Built Up	79,034	21.3%	0.3%
Other Land Cover Subtotal		101,911	27.5%	1.5%
Total		370,951	100%	15.3%

¹ Communities designated as rare in California (S1-S3) and/or globally (G1-G3)

² Non-sensitive types that have high richness particularly of special status species

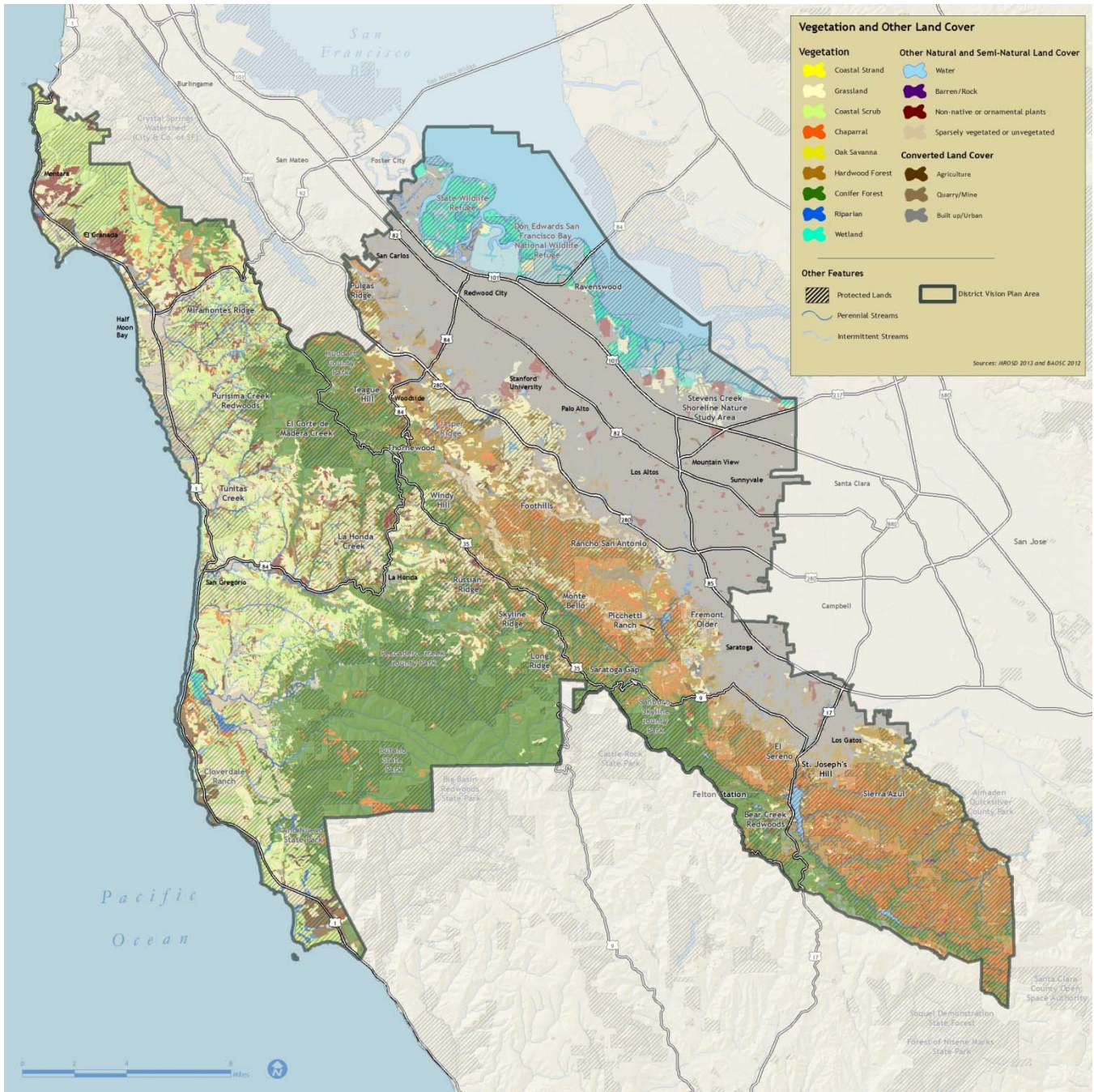


Figure 1: Vegetation and other land cover

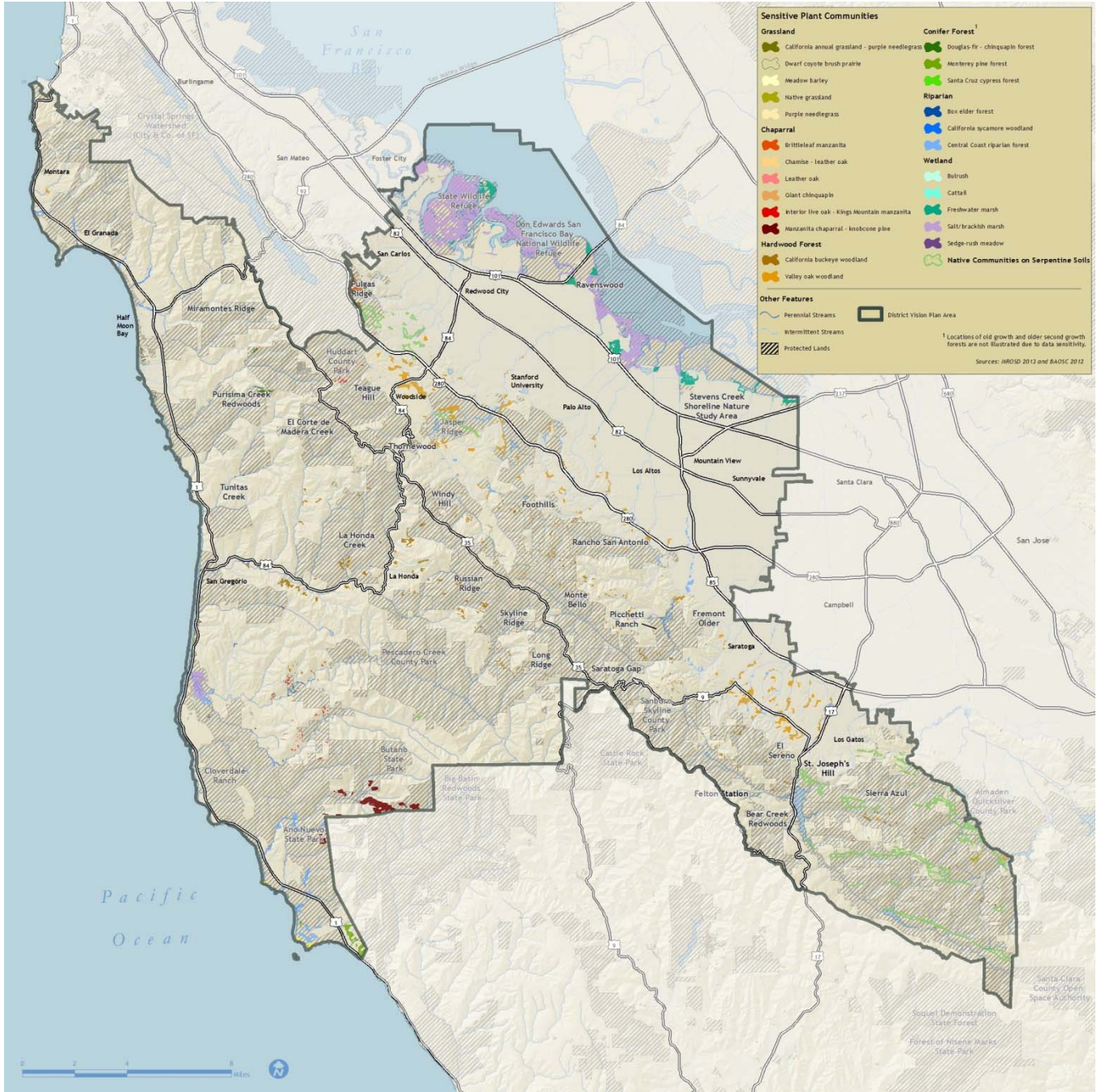


Figure 2: Sensitive plant communities

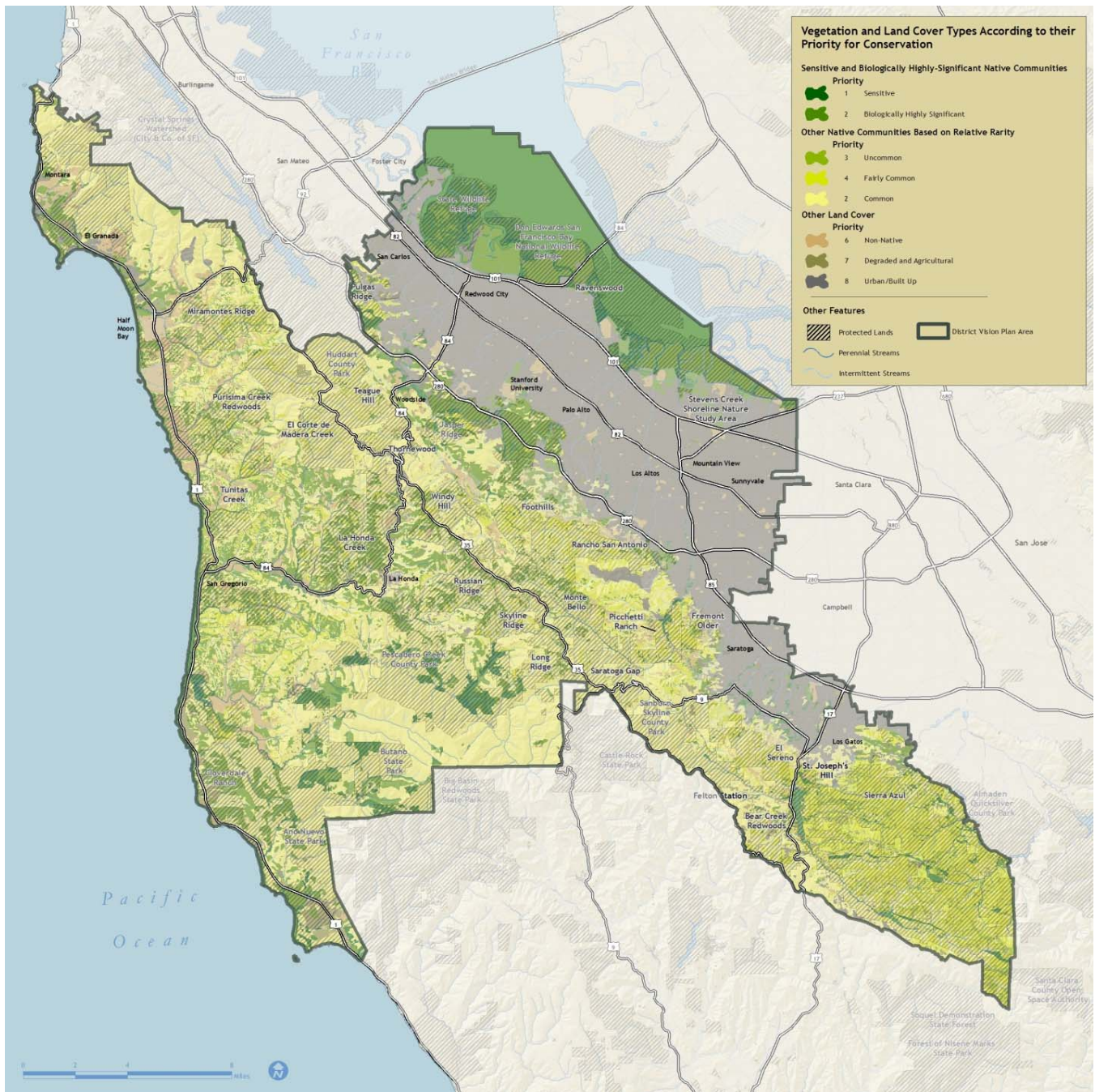


Figure 3: Vegetation and land cover types according to their priority for conservation

AQUATIC COMMUNITIES

Streams and Watersheds

The Vision Plan Area features just over 1,100 miles of coastal streams that drain to the Pacific Ocean directly or via the San Francisco Bay (Table 4, Figure 4). These streams support a wealth of biodiversity conservation values (inset box).

Importantly, nearly 37 miles of cool mountain streams that drain directly to the Pacific Ocean support the endangered Central California Coast coho salmon (*Oncorhynchus kisutch*); the Santa Cruz Mountains constitute the southern end of this species' range. An additional 160 miles of streams support threatened Central California Coast steelhead trout (*Oncorhynchus mykiss irideus*); these include streams that drain to the San Francisco Bay (Table 4, Figure 4).

Steps to conserve the imperiled salmonids, anadromous fish that breed in coastal streams but live their adult lives in the Pacific Ocean, can help conserve a wide range of resident fish species and other riverine species, such as foothill yellow-legged frog (*Rana boylei*), as well as promote other stream conservation values. Therefore, for purposes of planning, streams were generally characterized according to their value for coho salmon and steelhead, and according to their hydrology; specifically, whether they flow year round (perennial) or flow seasonally in typical rainfall years (intermittent) (Table 4).

As part of prior plans, watersheds were rated according to their importance for recovery of endangered coho salmon (NMFS 2010) and threatened steelhead trout (CDFW 2012; Figure 5), as well as the condition of the watershed—the land drained by a stream—which can greatly influence stream water quality and other habitat conditions downstream, including habitat within the San Francisco Bay and near-shore environment of the Pacific Ocean.

Watersheds in the Bay Area were also previously characterized according to their existing conditions based on a variety of land uses, including urbanization, cultivation, and timber harvest (BAOSC 2012). Most watersheds on the northern and eastern portion of the District were characterized as “suburban” or “urban”, owing their relative density of development. Watersheds on the western slope of the Santa Cruz Mountains were largely classified as ‘rural’, reflecting their lower-density residential development; with a few characterized as ‘agricultural’ or ‘forestry’ based on their respective land uses (Figure 5). Notably, the Mindego Subwatershed of San Gregorio Creek Watershed, and the Upper Stevens Creek Watershed, as well as several upper watersheds of the Guadalupe River in the southeastern portion of the District, were rated as “Wildland”, reflecting their low-intensity and frequency of land use.

Results of these prior plans were used to rate watersheds within the Vision Plan Area according to their value for conservation (Table 5, Figure 6). For steelhead watersheds, the land use condition was also factored in, to reflect the fact that conservation of land within urban and suburban watersheds is less likely to influence stream habitat conditions than conservation of lands in watersheds of relatively lower-intensity land use (Table 5).

Stream Conservation Values

Provide habitat for riverine species, including a variety of invertebrates and fish; most notably, endangered coho salmon and threatened steelhead trout.

Provide breeding habitat for amphibians and reptiles, including foothill yellow-legged frog, California red-legged frog, western pond turtle, and San Francisco garter snake.

Support freshwater wetlands and riparian forests, which provide important nesting habitat for many Neotropical migratory birds.

Provide freshwater to terrestrial animals, such as black-tailed deer and mountain lion.

Feature riparian corridors that can facilitate animal movement through urbanized or cultivated areas

Safeguard water quality in the San Francisco Bay and Pacific Ocean.

District open space preserves feature several tributaries to San Gregorio Creek, a coho stream including Bogess, Harrington, and La Honda creeks in the La Honda Creek OSP, and Mindego and Alpine creeks in Russian Ridge OSP (Figure 6). Along with El Corte de Madera OSP, these District lands protect significant portions of the watersheds of these creeks, which are among the highest priorities for conservation, as well as other headwaters of the San Gregorio Creek Watershed.

The District OSPs also contain significant portions of several steelhead streams, including Tunitas Creek (Tunitas Creek OSP) and Lobitos Creek (Purisima Creek Redwoods OSP) in San Mateo's northern coastal watersheds, as well as streams that drain to the San Francisco Bay, including Stevens Creek (Monte Bello OSP) and upper Guadalupe Creek (Sierra Azul OSP; Table 6).

The District's resource management policies for wildlife management and water resources feature numerous goals and practices to protect and enhance stream habitat for all riparian and riverine species, as well as safeguard water quality. The policies and practices address several factors that fragment and degrade stream habitat and watersheds (Section 5), including sedimentation and pollution, unnatural barriers to upstream migration, maintenance and restoration of important stream habitat features, including pools created through large woody debris recruitment.

Table 4: Streams reaches supporting rare salmonids (Tier 1)

Stream by Major Watershed	Miles
<i>Gazos Creek Watershed</i>	
Gazos Creek	7.7
Middle Fork Gazos Creek	1.1
Gazos Creek Watershed Total	8.9
<i>Pescadero Creek Watershed</i>	
Bradley Creek	2.2
Butano Creek	8.8
Evans Creek	0.4
Honsinger Creek	3.6
Lambert Creek	0.6
Little Boulder Creek	0.7
Oil Creek	4.1
Pescadero Creek	24.9
Peters Creek	4.9
Slate Creek	1.3
Tarwater Creek	0.9
Pescadero Creek Watershed Total	52.4
<i>Pilarcitos Creek Watershed</i>	
Apanolio Creek	3.5
Arroyo Leon	8.2
Mills Creek	2.6
Pilarcitos Creek	5.9
Tributary to Mills Creek	1.5
Pilarcitos Creek Watershed Total	21.6
<i>San Francisquito Creek Watershed</i>	
Bear Creek	3.5
Los Trancos Creek	6.7
San Francisquito Creek	13.3
Tributary to Bear Creek	5.2
Tributary to Los Trancos Creek	2.5
San Francisquito Creek Watershed Total	31.2
<i>San Pedro Creek Watershed</i>	
South Fork San Pedro Creek	0.4
Middle Fork San Pedro Creek	0.1
San Pedro Creek Watershed Total	0.5
<i>San Gregorio Creek Watershed</i>	
Alpine Creek	5.5
Bogess Creek	5.0
Harrington Creek	4.8
La Honda Creek	5.0
Langley Creek	1.7
Mindego Creek	2.9
San Gregorio Creek	11.3
Tributary to San Gregorio Creek	3.8
Woodruff Creek	1.3
San Gregorio Creek Watershed Total	41.2
<i>Tunitas Creek Watershed</i>	

Table 4: Streams reaches supporting rare salmonids (Tier 1)

Stream by Major Watershed	Miles
East Fork Tunitas Creek	2.7
Tunitas Creek	5.2
Tunitas Creek Watershed Total	7.9
Other Watersheds	
Denniston Creek	1.1
Frenchmans Creek	3.4
Guadalupe Creek	0.1
Lobitos Creek	5.0
Old Womans Creek	1.7
Pomponio Creek	1.9
Soquel Creek	1.8
Stevens Creek	12.3
Waterman Creek	2.9
Whitehouse Creek	3.4
Other Watersheds Total	33.6
All Tier 1 Streams	196.3

¹ Criteria used to rate streams. Only Tier 1 streams are listed in this table; all streams are illustrated in Figure 4.

Tier 1a: Stream reach supports coho salmon

Tier 1b: Stream reach supports steelhead, but not coho salmon

Tier 2a: Stream reach is perennial and is located in a watershed that supports coho salmon or steelhead; however, the stream itself is not occupied.

Tier 2b: Stream reach is intermittent and is located in a watershed that supports coho salmon or steelhead

Tier 3: Stream reach is perennial and not located in a coho salmon or steelhead watershed

Tier 4: Stream reach is ephemeral/intermittent and not located in a coho salmon or steelhead watershed

Table 5: Subwatersheds according to their tier which indicates their priority for conservation

Subwatershed	Major Watershed	Acres	% of Total Area
<i>Tier 1a: Core Watersheds for Coho Recovery (NMFS 2010)</i>			
Gazos Creek	Gazos Creek	7,174	2.1%
Alpine Creek	San Gregorio	3,548	1.0%
Bogess Creek	San Gregorio	2,542	0.7%
Harrington Creek	San Gregorio	3,092	0.9%
Kingston Creek	San Gregorio	787	0.2%
Mindego Creek	San Gregorio	2,464	0.7%
San Gregorio Creek	San Gregorio	5,371	1.6%
Soquel	Soquel	710	0.2%
Tier 1a Total		25,688	7.6%
<i>Tier 1b: Phase I Watersheds for Coho Recovery (NMFS 2010)</i>			
Honsinger Creek	Pescadero	1,682	0.5%
Oil Creek	Pescadero	2,819	0.8%
Pescadero Creek	Pescadero	13,633	4.0%
Peters Creek	Pescadero	6,307	1.9%
Slate Creek	Pescadero	1,929	0.6%
Tarwater Creek	Pescadero	1,194	0.4%
Upper Pescadero Creek	Pescadero	3,817	1.1%
Clear Creek	San Gregorio	956	0.3%
Coyote Creek	San Gregorio	1,126	0.3%
El Corte de Madera Creek	San Gregorio	4,742	1.4%
La Honda Creek	San Gregorio	3,940	1.2%
Langley Creek	San Gregorio	273	0.1%
Lawrence Creek	San Gregorio	1,557	0.5%
Weeks Creek	San Gregorio	644	0.2%
Woodhams Creek	San Gregorio	545	0.2%
Woodruff Creek	San Gregorio	1,923	0.6%
San Lorenzo River	San Lorenzo	213	0.1%
Waddell Creek		812	0.2%
Waterman Creek		1,175	0.3%
Tier 1b Total		49,286	14.5%
<i>Tier 1c: Phase II Watersheds for Coho Recovery (NMFS 2010)</i>			
Bradley Creek	Pescadero	3,918	1.2%
Little Butano Creek	Pescadero	2,607	0.8%
Lower Butano Creek	Pescadero	3,205	0.9%
South Fork Butano Creek	Pescadero	1,961	0.6%
Upper Butano Creek	Pescadero	6,010	1.8%
East Waddell Creek		11	0.0%
Tier 1c Total		17,712	5.2%
<i>Tier 2a: Steelhead Watershed (non-Urban or suburban)</i>			
Apanolio Creek	Pilarcitos	1,251	0.4%
Arroyo Leon	Pilarcitos	3,020	0.9%
Mills Creek	Pilarcitos	2,419	0.7%
Bear Creek	San Francisquito	1,087	0.3%
Bear Gulch	San Francisquito	1,939	0.6%
Dry Creek (San Francisquito)	San Francisquito	1,012	0.3%

Table 5: Subwatersheds according to their tier which indicates their priority for conservation

Subwatershed	Major Watershed	Acres	% of Total Area
West Union Creek	San Francisquito	3,548	1.0%
Dry Creek (Pilarcitos)	Tunitas	1,495	0.4%
East Fork Tunitas Creek	Tunitas	1,490	0.4%
Tunitas Creek	Tunitas	4,472	1.3%
Denniston Creek		2,578	0.8%
Frenchman's Creek		2,622	0.8%
Pomponio Creek		4,548	1.3%
Soquel Creek		165	0.0%
Whitehouse Creek		1,836	0.5%
Tier 2a Total		33,483	9.9%
<i>Tier 2b: Steelhead Watershed Characterized as Urban or Suburban</i>			
Albert Canyon	Pilarcitos	735	0.2%
Pilarcitos Creek	Pilarcitos	3,829	1.1%
Corte Madera Creek	San Francisquito	9,290	2.7%
Los Trancos Creek	San Francisquito	4,473	1.3%
San Francisquito Creek	San Francisquito	8,960	2.6%
Stevens Creek	Stevens	10,282	3.0%
Guadalupe Creek	Guadalupe	4,065	1.2%
Guadalupe River		286	0.1%
Hale Creek		2,292	0.62%
Lobitos Creek		2,580	0.8%
Permanente Creek		5,492	1.48%
San Pedro Creek		1,466	0.4%
SF Bay and Estuary		33,374	9.8%
West Branch Permanente Creek		2,263	0.61%
Tier 2b Total		89,387	24.1%
<i>Tier 3a: Non-anadromous fish watershed (Not characterized as urban or suburban)</i>			
Upper Guadalupe Creek	Guadalupe	3,059	0.9%
Upper Los Gatos Creek	Guadalupe	23,688	7.0%
Madonna Creek	Pilarcitos	1,073	0.3%
Nuff Creek	Pilarcitos	683	0.2%
Upper Stevens Creek	Stevens	10,837	3.2%
Arroyo de los Frijoles		2,251	0.7%
Cascade Creek		1,334	0.4%
Cold Dip Creek		1,106	0.3%
Green Oaks Creek		1,140	0.3%
Martini Creek		822	0.2%
Purisima Creek		5,649	1.7%
Unknown Coastal Creek		7,664	2.3%
Upper Pilarcitos Creek		89	0.0%
Upper San Mateo Creek		556	0.2%
Uvas Creek		154	0.0%
Small Coastal Drainages		2,034	0.6%
Tier 3a Total		62,139	18.3%
<i>Tier 3b: Non-Anadromous Fish Watershed Characterized as Urban or Suburban</i>			
Alamitos Creek Watershed	Guadalupe	4,983	1.5%

Table 5: Subwatersheds according to their tier which indicates their priority for conservation

Subwatershed	Major Watershed	Acres	% of Total Area
Los Gatos Creek	Guadalupe	5,147	1.5%
Ross Creek	Guadalupe	2,943	0.9%
Corinda Los Trancos Creek	Pilarcitos	561	0.2%
Adobe Creek		7,679	2.3%
Arroyo Canada Verde		2,025	0.6%
Arroyo de en Medio		1,621	0.5%
Atherton Channel		8,386	2.5%
Barron Creek		2,017	0.54%
Belmont Creek		760	0.2%
Calabazas Creek		10,721	3.2%
Cordilleras Creek		4,169	1.2%
Deer Creek		961	0.3%
Kanoff Creek		400	0.1%
Matadero Creek		5,705	1.54%
Montara Creek		1,035	0.3%
Pillar Point Marsh		763	0.2%
Redwood Creek		7,304	2.2%
San Tomas Aquino Creek		6,283	1.69%
San Vicente Creek (San Mateo County)		1,057	0.3%
Saratoga Creek		7,763	2.09%
Sunnyvale Channel		9,403	2.8%
Small Coastal Drainages		1,457	0.4%
Tier 3b Total		93,142	25.1%
Grand Total		370,838	100.0%

¹ Tier 1: Coho Salmon Recovery Plan Watersheds (NMFS 2010)

Tier 1a: Core Watershed

Tier 1b: Phase 1 Watershed

Tier 1c: Phase II Watershed

Tier 2: Steelhead (non-coho salmon) watersheds in the Watershed Integrity analysis (BAOSC 2012)

Tier 2a: Not characterized as urban or suburban

Tier 2b: Characterized as urban or suburban

Tier 3: Non-anadromous fish watersheds in the Watershed Integrity analysis (BAOSC 2012)

Tier 3a: Not characterized as urban or suburban

Tier 3b: Characterized as urban or suburban



Figure 4: Stream reaches according to their priority for conservation

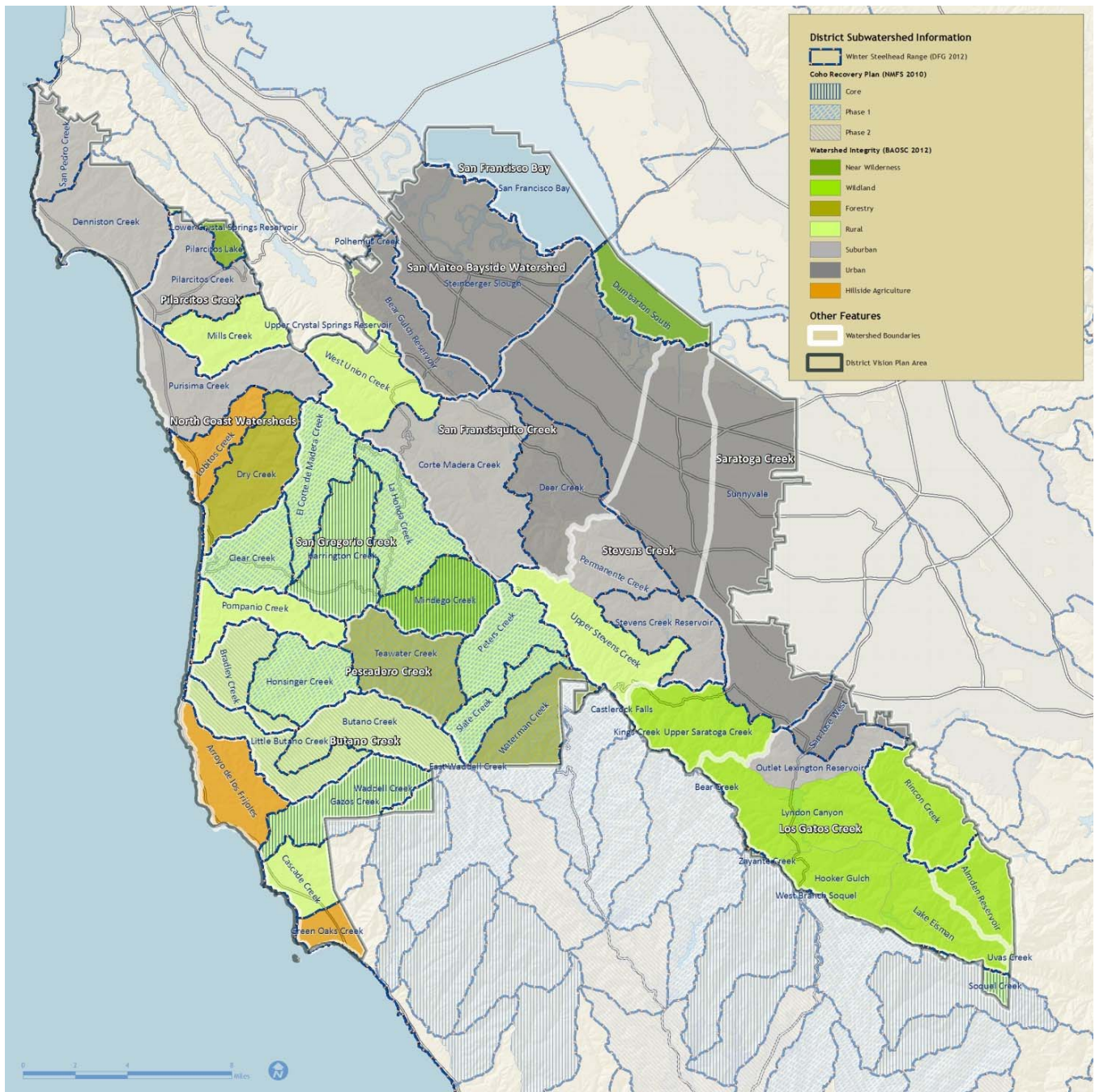


Figure 5: District subwatershed information from prior plans

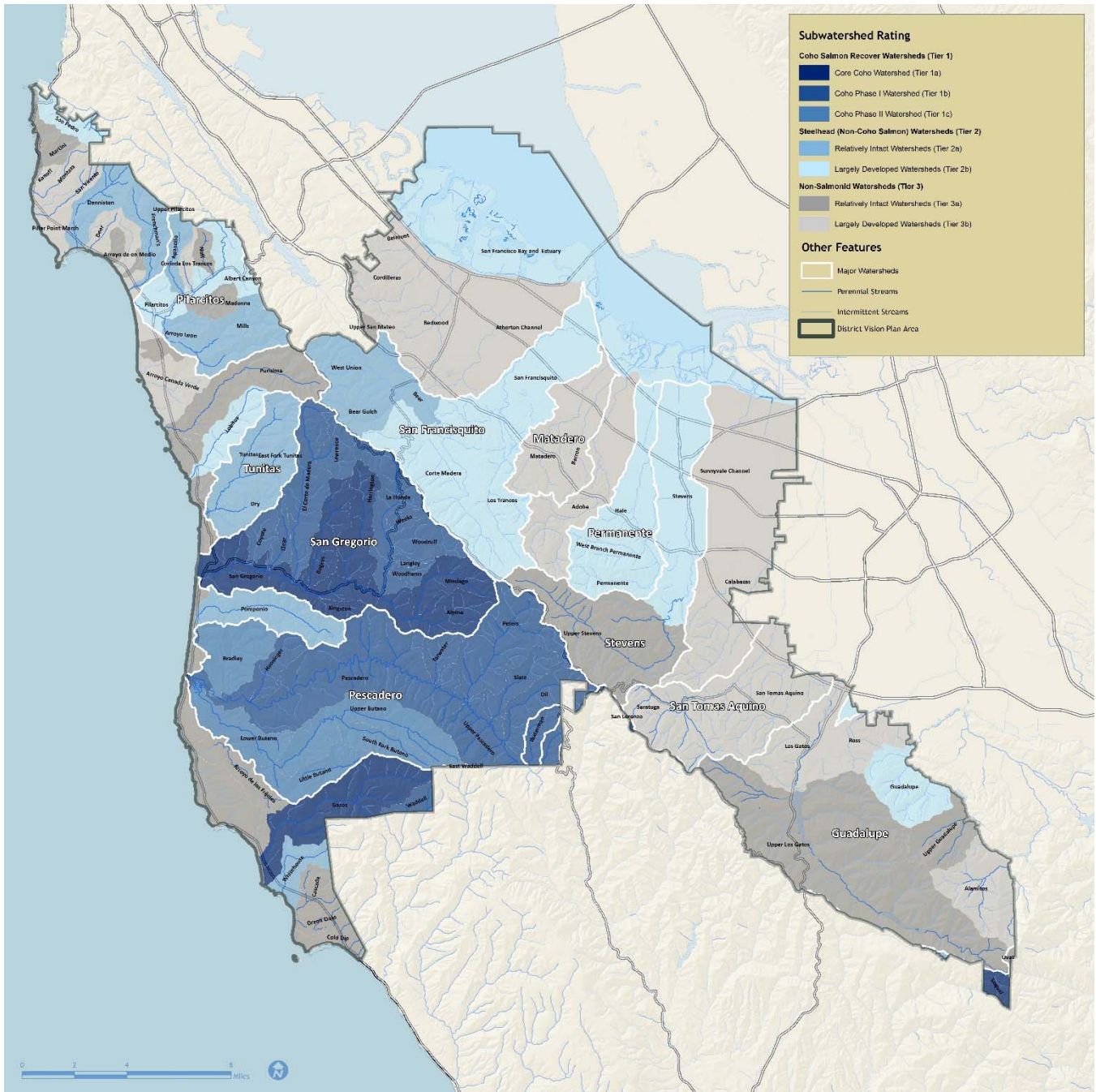


Figure 6: District subwatershed rating for conservation

Ponds and Other Water Bodies

The District features numerous water bodies, including a portion of the San Francisco Bay, several reservoirs, lakes, and ponds (Figure 7). Like streams, ponds within the Vision Plan Area feature a diversity of important biodiversity conservation values (inset box).

Existing District preserves features numerous ponds, including several that provide important breeding habitat for special-status species, including San Francisco garter snake, California red-legged frog, and western pond turtle (Section 3). Though many of these ponds were artificially created as part of historic cattle ranching operations, these ponds replace habitat lost elsewhere including in the urbanized portions of the District, and are critical to the recovery of many endangered species populations (USFWS 2003).

The District open space preserves (OSPs) contain 12 ponds that have failed. Located within the La Honda Creek, Skyline Ridge, Monte Bello, and Fremont Older OSFs, these ponds require repairs to restore their hydrology and habitat (Figure 7). Such restoration supports the District's resource management policy to maintain and enhance habitat that has particular value for native animals, and may also facilitate conservation grazing, which the District uses to maintain grassland habitat and reduce fire threat on selected lands.

Pond Conservation Values

Support rare wetlands including freshwater marshes along their margins

Provide habitat for native aquatic species, including pond-breeding amphibians such as San Francisco garter snake, California red-legged frog, and western pond turtle.

Provide habitat for birds including migrants along the Pacific flyway and resident and breeding birds that nest in adjacent marshes and riparian areas.

Supply water for terrestrial species, including black-tailed deer and mountain lion.

May confer resiliency to a future hotter, and likely drier, climate.

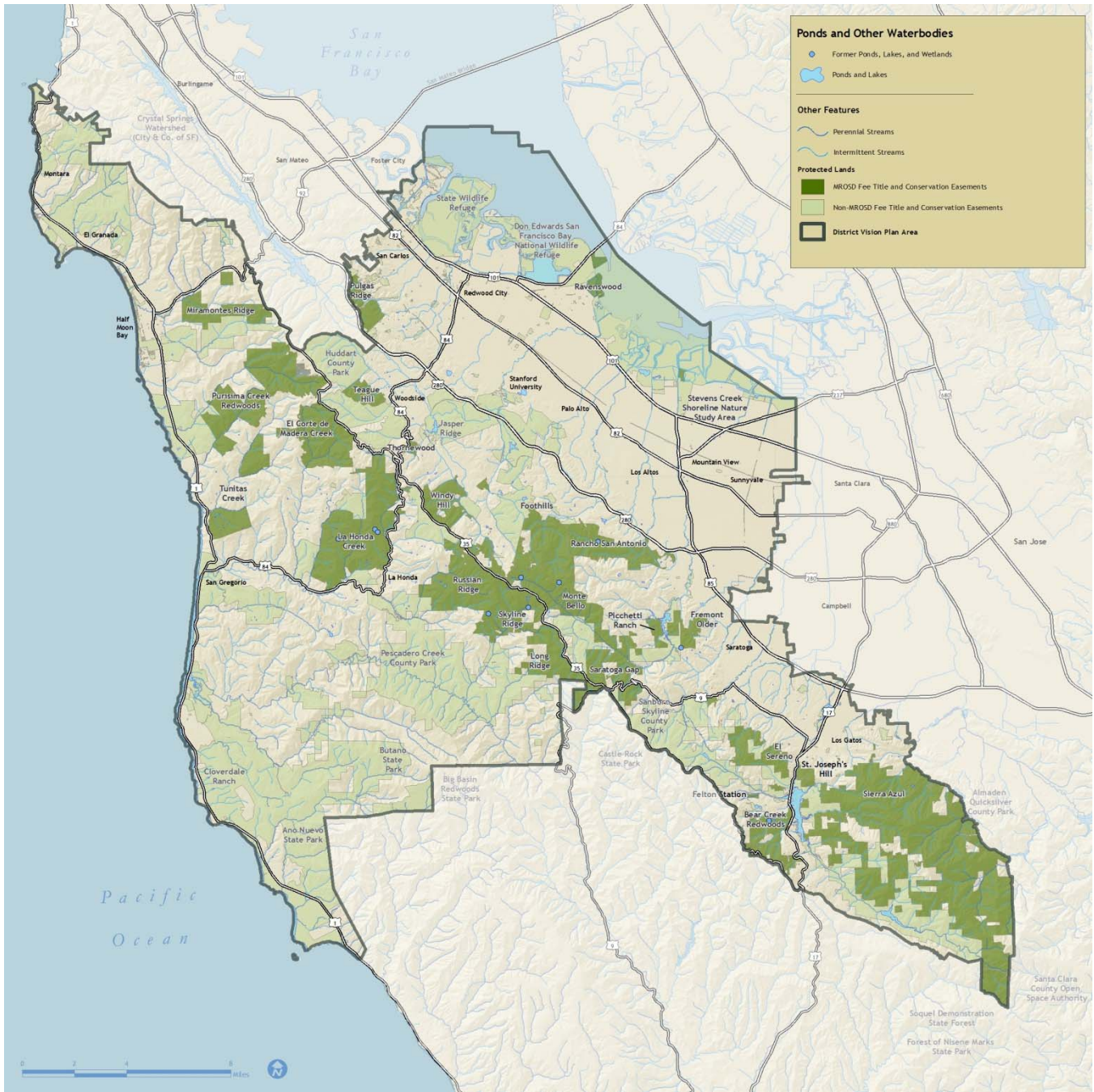


Figure 7: Ponds and other water bodies

RARE SPECIES

The Vision Plan Area supports at least 96 rare, threatened, or endangered plant species, 11 of which are state or federally-listed as threatened or endangered (Table 6). The plan area also supports at least 66 species of rare, threatened, or endangered animals; these include 16 species that have been listed as threatened or endangered (Table 7).

Within the Vision Plan Area, rare plants and animals are concentrated within a series of ‘hot spots’, including sensitive communities (Table 8, Figure 8). The Districts OSPs safeguard portions of many of areas, which are critical for regional biodiversity conservation (Table 8).

Several rare species within the Vision Plan Area are experiencing declines due to a variety of factors, including habitat conversion, fragmentation, and degradation (Section 5). The District resource management polices incorporate numerous goals and implementation measures designed to protect and enhance rare species habitat within District open space preserves. Coordinated measures by the District and other conservation agencies and organizations working within the region will be essential to the recovery and long-term persistence of these and other species.

Table 6: Rare and locally unique plants

Scientific Name	Common Name	Status ¹
<i>Acanthomintha duttonii</i>	San Mateo thorn-mint	FE, SE, List 1B.1
<i>Agrostis blasdalei</i>	Blasdale's bent grass	List 1B.2
<i>Allium peninsulare</i> var. <i>franciscanum</i>	Franciscan onion	List 1B.2
<i>Amsinckia douglasiana</i>	Douglas' fiddleneck	List 4.2
<i>Androsace elongata</i> ssp. <i>acuta</i>	California rockjasmine	List 4.2
<i>Arabis blepharophylla</i>	coast rock cress	List 4.3
<i>Arctostaphylos andersonii</i>	Anderson's manzanita	List 1B.2
<i>Arctostaphylos montaraensis</i>	Montara manzanita	List 1B.2
<i>Arctostaphylos reqismontana</i>	Kings Mountain manzanita	List 1B.2
<i>Astragalus nuttallii</i> var. <i>nuttallii</i>	Nuttall's milkvetch	List 4.2
<i>Astragalus pycnostachyus</i> var. <i>pycnostachyus</i>	coastal marsh milk-vetch	List 1B.2
<i>Astragalus tener</i> var. <i>tener</i>	alkali milk-vetch	List 1B.2
<i>Calandrinia breweri</i>	Brewer's redmaids	List 4.2
<i>California macrophylla</i>	round-leaved filaree	List 1B.1
<i>Calochortus umbellatus</i>	Oakland mariposa lily	List 4.2
<i>Calochortus uniflorus</i>	large flowered star tulip	List 4.2
<i>Calyptridium parryi</i> var. <i>hesseae</i>	Santa Cruz Mountains pussypaws	List 1B.1
<i>Castilleja latifolia</i>	Monterey Indian paintbrush	List 4.3
<i>Centromadia parryi</i> ssp. <i>congdonii</i>	Congdon's tarplant	List 1B.1
<i>Chloropyron maritimum</i> ssp. <i>palustre</i>	Point Reyes bird's-beak	List 1B.2
<i>Chorizanthe cuspidata</i> var. <i>cuspidata</i>	San Francisco spineflower	List 1B.2
<i>Chorizanthe robusta</i> var. <i>robusta</i>	robust spineflower	FE, List 1B.1
<i>Cirsium andrewsii</i>	Franciscan thistle	List 1B.2
<i>Cirsium fontinale</i> var. <i>campylon</i>	Mt. Hamilton fountain thistle	List 1B.2
<i>Cirsium fontinale</i> var. <i>fontinale</i>	fountain thistle	FE, SE, List 1B.1
<i>Cirsium praeteriens</i>	lost thistle	List 1A
<i>Clarkia concinna</i> ssp. <i>automixa</i>	Santa Clara red ribbons	List 4.3
<i>Collinsia multicolor</i>	San Francisco collinsia	List 1B.2
<i>Chloropyron maritimum</i> ssp. <i>palustre</i>	Point Reyes bird's-beak	List 1B.2

Table 6: Rare and locally unique plants

Scientific Name	Common Name	Status¹
<i>Cypripedium fasciculatum</i>	clustered lady's slipper	List 4.2
<i>Cypripedium montanum</i>	mountain lady's slipper	List 4.2
<i>Dirca occidentalis</i>	western leatherwood	List 1B.2
<i>Dudleya abramsii</i> ssp. <i>setchellii</i>	Santa Clara Valley dudleya	FE, List 1B.1
<i>Elymus californicus</i>	California bottle brush grass	List 4.3
<i>Eriogonum luteolum</i> var. <i>caninum</i>	Tiburon buckwheat	List 1B.2
<i>Eriophyllum latilobum</i>	San Mateo woolly sunflower	FE, SE, List 1B.1
<i>Eryngium aristulatum</i> var. <i>hooveri</i>	Hoover's button-celery	List 1B.1
<i>Erysimum ammophilum</i>	sand-loving wallflower	List 1B.2
<i>Erysimum franciscanum</i>	San Francisco wallflower	List 4.2
<i>Fritillaria agrestis</i>	stinkbells	List 4.2
<i>Fritillaria liliacea</i>	fragrant fritillary	List 1B.2
<i>Galium andrewsii</i> ssp. <i>gatense</i>	serpentine bedstraw	List 4.2
<i>Grindelia hirsutula</i> var. <i>maritima</i>	San Francisco gumplant	List 3.2
<i>Hesperocyparis abramsiana</i> var. <i>butanoensis</i>	Santa Cruz Cypress (Butano Ridge)	FE, SE, List 1B.2
<i>Hesperolinon congestum</i>	Marin western flax	FT, ST, List 1B.1
<i>Heterotheca sessiliflora</i> ssp. <i>sessiliflora</i>	sessileflower false goldenaster	List 1B.1
<i>Hoita strobilina</i>	Loma Prieta hoita	List 1B.1
<i>Horkelia cuneata</i> var. <i>sericea</i>	Kellogg's horkelia	List 1B.1
<i>Iris longipetala</i>	Central Coast iris	List 4.2
<i>Juglans californica</i> var. <i>hindsii</i>	Northern California black walnut	List 1B.1
<i>Lasthenia californica</i> ssp. <i>macrantha</i>	perennial goldfields	List 1B.2
<i>Lathyrus jepsonii</i> var. <i>jepsonii</i>	Delta tule pea	List 1B.2
<i>Legenere limosa</i>	legenere	List 1B.1
<i>Leptosiphon croceus</i>	coast yellow leptosiphon	List 1B.1
<i>Leptosiphon rosaceus</i>	rose leptosiphon	List 1B.1
<i>Lessingia arachnoidea</i>	Crystal Springs lessingia	List 1B.2
<i>Lessingia hololeuca</i>	woolly headed lessingia	List 3
<i>Lessingia micradenia</i> var. <i>glabrata</i>	smooth lessingia	List 1B.2
<i>Limnanthes douglasii</i> ssp. <i>sulphurea</i>	Point Reyes meadowfoam	SE, List 1B.2
<i>Leptosiphon ambiguus</i>	serpentine leptosiphon	List 4.2
<i>Lomatium parvifolium</i>	small leaved lomatium	List 4.2
<i>Hosackia gracilis</i>	harlequin lotus	List 4.2
<i>Lupinus arboreus</i> var. <i>eximius</i>	San Mateo tree lupine	List 3.2
<i>Malacothamnus aboriginum</i>	Indian Valley bush-mallow	List 1B.2
<i>Malacothamnus arcuatus</i>	arcuate bush-mallow	List 1B.2
<i>Malacothamnus davidsonii</i>	Davidson's bush-mallow	List 1B.2
<i>Micropus amphibolus</i>	Mount Diablo cottonseed	List 3.2
<i>Microseris paludosa</i>	marsh microseris	List 1B.2
<i>Monardella antonina</i> ssp. <i>antonina</i>	San Antonio Hills monardella	List 3
<i>Monardella undulata</i>	curly leaved monardella	List 4.2
<i>Monolopia gracilens</i>	woodland woollythreads	List 1B.2
<i>Orthotrichum kellmanii</i>	Kellman's bristle moss	List 1B.2
<i>Pedicularis dudleyi</i>	Dudley's lousewort	List 1B.2
<i>Penstemon rattanii</i> var. <i>kleei</i>	Santa Cruz Mountains beardtongue	List 1B.2
<i>Pentachaeta bellidiflora</i>	white-rayed pentachaeta	FE, SE, List 1B.1
<i>Perideridia gairdneri</i> ssp. <i>gairdneri</i>	Gairdner's yampah	List 4.2

Table 6: Rare and locally unique plants

Scientific Name	Common Name	Status¹
<i>Pinus radiata</i>	Monterey pine	List 1B.1
<i>Piperia candida</i>	white-flowered rein orchid	List 1B.2
<i>Plagiobothrys chorisianus</i>	Artist's popcorn flower	List 1B.2
<i>Plagiobothrys chorisianus</i> var. <i>chorisianus</i>	Choris's popcorn flower	List 1B.2
<i>Plagiobothrys chorisianus</i> var. <i>hickmanii</i>	Hickman's popcorn flower	List 1B.2
<i>Plagiobothrys diffusus</i>	San Francisco popcornflower	SE, List 1B.1
<i>Plagiobothrys glaber</i>	hairless popcornflower	List 1A
<i>Potentilla hickmanii</i>	Hickman's cinquefoil	FE, SE, List 1B.1
<i>Quercus dumosa</i>	Nuttall's scrub oak	List 1B.1
<i>Ranunculus lobbii</i>	Lobb's aquatic buttercup	List 4.2
<i>Ribes victoris</i>	Victor's gooseberry	List 4.3
<i>Sanicula hoffmannii</i>	Hoffmann's sanicle	List 4.3
<i>Sidalcea malviflora</i> ssp. <i>purpurea</i>	purple-stemmed checkerbloom	List 1B.2
<i>Silene verecunda</i> ssp. <i>verecunda</i>	San Francisco campion	List 1B.2
<i>Streptanthus albidus</i> ssp. <i>peramoenus</i>	most beautiful jewel flower	List 1B.2
<i>Suaeda californica</i>	California seablite	FE, List 1B.1
<i>Thermopsis macrophylla</i> var. <i>macrophylla</i>	California false lupine	List 1B.3
<i>Trifolium amoenum</i>	showy rancheria clover	FE, List 1B.1
<i>Trifolium hydrophilum</i>	saline clover	List 1B.2
<i>Usnea longissima</i>	long-beard lichen	

¹ Federal Status Designations:

FE = Federally Endangered. Species in danger of extinction throughout all or significant portions of its range.

FT = Federally Threatened. Species likely to become endangered within the foreseeable future throughout all or a significant portion of its range.

State Status Designations:

SE = State Endangered. Species whose continued existence in California is jeopardized.

ST = State Threatened. Species, although not presently threatened with extinction, may become endangered in the foreseeable future.

California Rare Plant Rank Designations:

List 1A = Plants presumed extinct in California

List 1B = Most plants in this category are endemic to California and have experienced significant declines over several decades; these plants are rare, threatened, or endangered throughout California and elsewhere.

List 2 = Species that are common outside of California, but rare, threatened, or endangered within California

List 3 = A review list of species for which necessary information is not available to either categorize in one of the other rankings or to reject outright.

List 4 = "Watch List" plants with limited distribution or infrequent presence throughout California.

Populations of these species may exist along the perimeter of the species' range, may have declined significantly in specific locations within its range, may exhibit unique morphology, or occur on uncommon substrates.

Decimals after any of the "Status" categories represent a "Threat Rank" (e.g., "List 1B.1"):

0.1 = Seriously threatened populations in California, where over 80% of occurrences are threatened

0.2 = Marginally threatened populations in California, where between 20% and 80% of occurrences are threatened

0.3 = Populations with limited threats, where fewer than 20% of occurrences are threatened or with no known current threats

Table 7: Rare and locally unique animals

Common Name	Scientific Name	Status ¹
Invertebrates		
A freshwater isopod	<i>Calasellus californicus</i>	
Edgewood blind harvestman	<i>Calicina minor</i>	
Edgewood Park micro-blind harvestman	<i>Microcina edgewoodensis</i>	
California brackishwater snail (mimic tryonia)	<i>Tryonia imitator</i>	
Bay checkerspot butterfly	<i>Euphydryas editha bayensis</i>	FT
monarch butterfly	<i>Danaus plexippus</i>	
Mormon metalmark	<i>Apodemia mormo</i>	
San Bruno elfin butterfly	<i>Callophrys mossii bayensis</i>	FE
unsilvered fritillary	<i>Speyeria adiastrum adiastrum</i>	
Fish		
steelhead trout	<i>Oncorhynchus mykiss irideus</i>	FT
tidewater goby	<i>Eucyclogobius newberryi</i>	FE
Amphibians		
California red-legged frog	<i>Rana draytonii</i>	FT
foothill yellow-legged frog	<i>Rana boylei</i>	CSSC
California tiger salamander	<i>Ambystoma californiense</i>	FT, ST
Reptiles		
California mountain kingsnake	<i>Lampropeltis zonata</i>	CSSC
San Francisco garter snake	<i>Thamnophis sirtalis tetrataenia</i>	FE, SE
coast horned lizard	<i>Phrynosoma blainvillii</i>	CSSC
western pond turtle	<i>Actinemys marmorata</i>	CSSC
Birds		
Alameda song sparrow	<i>Melospiza melodia pusillula</i>	CSSC
American peregrine falcon	<i>Falco peregrinus anatum</i>	FE (Delisted), SE, FP
American White Pelican	<i>Pelecanus erythrorhychos</i>	CSSC
bank swallow	<i>Riparia riparia</i>	ST
black skimmer	<i>Rhyncops niger</i>	CSSC
black swift	<i>Cypseloides niger</i>	CSSC
burrowing owl	<i>Athene cunicularia</i>	CSSC
California black rail	<i>Laterallus jamaicensis coturniculus</i>	ST, FP
California clapper rail	<i>Rallus longirostris obsoletus</i>	FE, SE
California gull	<i>Larus californicus</i>	CSSC, WL
California horned lark	<i>Eremophila alpestris actia</i>	CSSC, WL
California least tern	<i>Sternula antillarum browni</i>	FE, SE
Cooper's hawk	<i>Accipiter cooperii</i>	WL
double-crested cormorant	<i>Phalacrocorax auritus</i>	CSSC, WL
golden eagle	<i>Aquila chrysaetos</i>	CSSC, FP, WL
grasshopper sparrow	<i>Ammodramus savannarum</i>	CSSC
great blue heron	<i>Ardea herodias</i>	
loggerhead shrike	<i>Lanius ludovicianus</i>	CSSC
long-eared owl	<i>Asio otus</i>	CSSC
marbled murrelet	<i>Brachyramphus marmoratus</i>	FT, SE
northern goshawk	<i>Accipiter gentilis</i>	CSSC
northern harrier	<i>Circus cyaneus</i>	CSSC
olive-sided flycatcher	<i>Contopus cooperi</i>	CSSC
osprey	<i>Pandion haliaetus</i>	WL

Table 7: Rare and locally unique animals

Common Name	Scientific Name	Status¹
peregrine falcon	<i>Falco peregrinus anatum</i>	FP
pileated woodpecker	<i>Dryocopus pileatus</i>	
purple martin	<i>Progne subis</i>	CSSC
saltmarsh common yellowthroat	<i>Geothlypis trichas sinuosa</i>	CSSC
sharp-shinned hawk	<i>Accipiter striatus</i>	WL
short-eared owl	<i>Asio flammeus</i>	CSSC
snowy egret	<i>Egretta thula</i>	
Swainson's hawk	<i>Buteo swainsoni</i>	ST
tricolored blackbird	<i>Agelaius tricolor</i>	CSSC
Vaux's swift	<i>Chaetura vauxi</i>	CSSC
western snowy plover	<i>Charadrius alexandrinus nivosus</i>	FT, CSSC
white-tailed kite	<i>Elanus leucurus</i>	FP
Mammals		
American badger	<i>Taxidea taxus</i>	CSSC
hoary bat	<i>Lasiurus cinereus</i>	
pallid bat	<i>Antrozous pallidus</i>	CSSC
ring-tailed cat	<i>Bassariscus astutus</i>	FP
salt-marsh harvest mouse	<i>Reithrodontomys raviventris</i>	FE, SE, FP
salt-marsh wandering shrew	<i>Sorex vagrans halicoetes</i>	CSSC
San Francisco dusky-footed woodrat	<i>Neotoma fuscipes annectens</i>	CSSC
Steller sea lion (northern sea-lion)	<i>Eumetopias jubatus</i>	FT
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	CSSC
western red bat	<i>Lasiurus blossevillii</i>	CSSC
Yuma myotis	<i>Myotis yumanensis</i>	

¹Federal Status Designations:

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FT = Federally Threatened. Species likely to become endangered within the foreseeable future throughout all or a significant portion of its range.

State Status Designations:

SE = State Endangered. Species whose continued existence in California is jeopardized.

ST = State Threatened. Species, although not presently threatened with extinction, may become endangered in the foreseeable future.

CSSC = California species of special concern. Animal species with California breeding populations that may face extinction in the near future.

FP = Fully protected by the State of California under Sections 3511 and 4700 of the Fish and Game Code.

WL= Department of Fish and Game Watch List

Table 8: Rare species hot spots within the Vision Plan Area

Hotspot	Description	Species Found in Hotspot¹	District Open Space Preserves Featuring the Hotspot
Aquatic			
Coastal streams and lagoons	Perennial streams that flow to the Pacific Ocean or the San Francisco Bay	Coho, steelhead, tidewater goby, California red-legged frog, foothill yellow-legged frog, Pacific giant salamander, and rough skinned newt	Many OSPs including Purisima Creek, Tunitas Creek, El Corte de Madera, La Honda Creek, Russian Ridge, Los Trancos, Monte Bellow, and Sierra Azul OSPs
Ponds and freshwater wetlands	Natural and human-created ponds and wetlands	San Francisco garter snake , California red-legged frog, California tiger salamander, western pond turtle, and tricolored blackbird	Many OSPs including Tunitas Creek, La Honda Creek, Russian Ridge, Skyline Ridge OSPs, and others
Bay wetlands	Wetlands fringing the San Francisco Bay	California seablite, northern harrier, California black rail, California clapper rail, salt-marsh harvest mouse, salt-marsh wandering shrew	Ravenswood OSP and Stevens Creek Natural Study Area
Terrestrial			
Coastal Bluffs and Dunes	Coastal strand communities	Western Snowy Plover, globose dune beetle, sandy beach tiger beetle, and coastal marsh milk-vetch	
Grasslands	Grasslands throughout District	Grasshopper sparrow, burrowing owl, white-tailed kite, golden eagle, Swainson’s hawk, northern harrier, and American badger	Many OSPs including La Honda Creek, Windy Hill, Russian Ridge, Skyline Ridge, Monte Bello, Long Ridge OSPs
Serpentine Communities	Grasslands, shrublands, savannas, and woodlands on serpentine soil	Bay checkerspot butterfly, most-beautiful jewelflower, Mount Hamilton thistle, fragrant fritillary, San Mateo Thorn-mint, Marin western flax, Crystal Springs lessingia, Santa Clara valley dudleya, and others	St. Joseph’s Hill and Sierra Azul OSPs
Maritime chaparral	Endemic communities on nutrient poor soils in reach of summer fog	Montara manzanita, King’s Mountain manzanita, and Santa Cruz manzanita	El Corte de Madera and Teague Hill OSPs
Riparian woodlands	Deciduous woodlands along streams	San Francisco common yellowthroat, yellow warbler, Cooper’s hawk, sharp-shinned hawk, long-eared owl	Many OSPs including Miramontes Ridge, Purisima Creek Redwoods, Tunitas Creek, La Honda Creek, Saratoga Gap, and Sierra Azul OSPs

Table 8: Rare species hot spots within the Vision Plan Area

Hotspot	Description	Species Found in Hotspot ¹	District Open Space Preserves Featuring the Hotspot
Sandstone Outcroppings	Sandstone outcroppings that create unique soil conditions and provide substrate for bryophytes	Santa Cruz cypress, and mosses including <i>Orthotrichum kellmanii</i>	
Coast Redwood Forest	Forests dominated by coast redwood and Douglas fir, including old-growth forests	San Francisco dusky-footed woodrat, marbled murrelet, Vaux’s swift, sharp-shinned hawk, Cooper’s hawk, pileated woodpecker, and olive-sided flycatcher	Many OSPs Purisima Creek Redwoods, Teague Hill, El Corte de Madera, La Honda Creek, Windy Hill, Russian Ridge, and Bear Creek

¹ Scientific names and species status are provided in Tables 6 and 7.

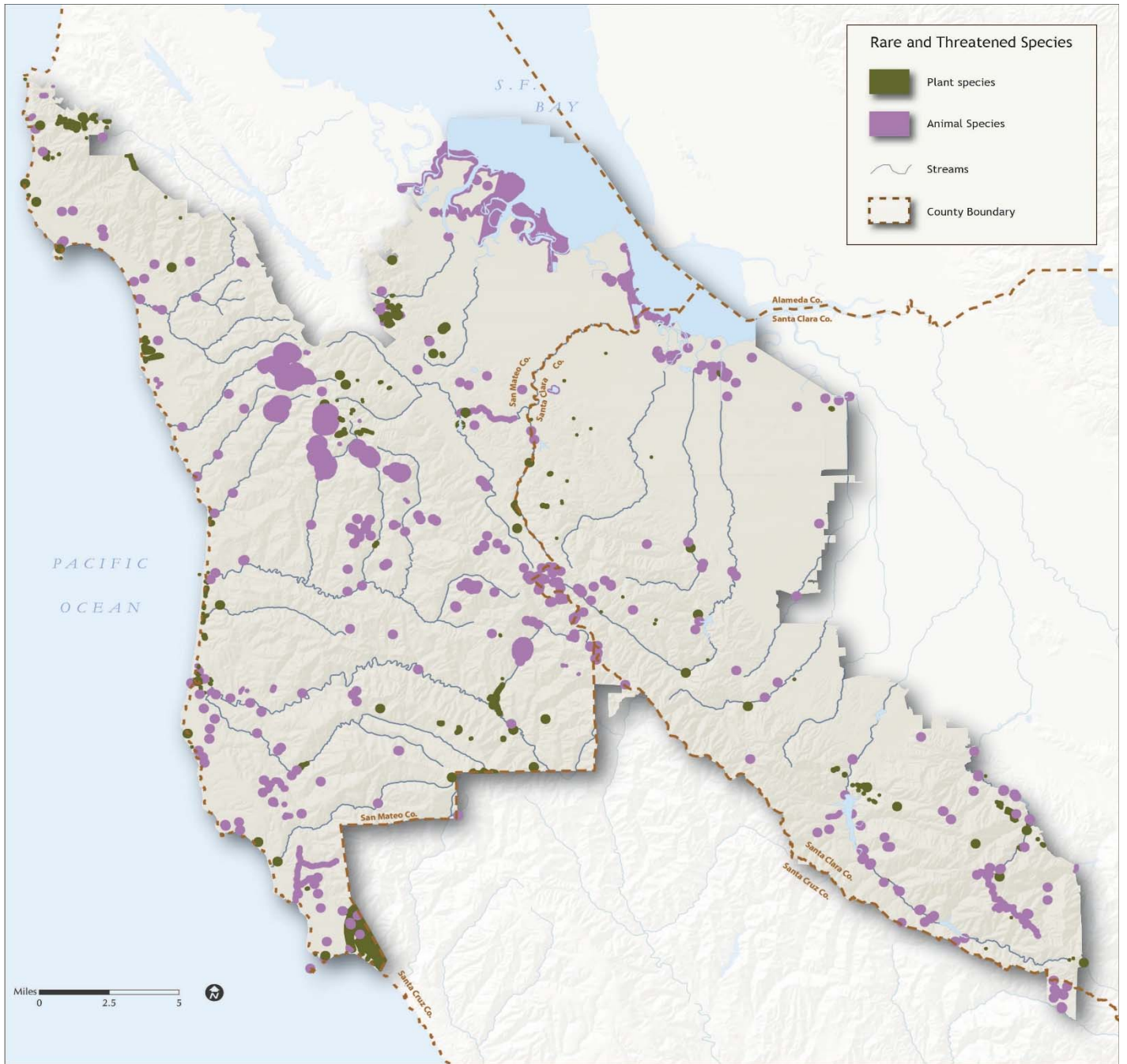


Figure 8: Known rare species occurrences

LANDSCAPE CONNECTIVITY

Long-term persistence of plants and animals within the Vision Plan Area, and the maintenance of biodiversity in the Santa Cruz Mountains Bioregion as a whole, will rely on maintaining connectivity between habitat patches within the District as well as between the Santa Cruz Mountains and the adjacent Diablo and Gabilan ranges. Over a variety of spatial and temporal scales, landscape connectivity promotes the maintenance of populations and genetic diversity, and enables individuals and species to adapt to changing conditions, including changes in climate (inset box).

The Vision Plan Area contains large contiguous blocks of habitat within the Santa Cruz Mountains Bioregion. Within the District, there are also numerous terrestrial and aquatic linkages that can help connect habitat, thus promoting long-term persistence of the species (Figure 9).

Landscape Connectivity Values

Large, interconnected patches of habitat can:

- support species with large home ranges such as mountain lions, for which individual habitat patches are insufficient to support persisting populations;
- facilitate species movement in response to changes in habitat suitability, to disperse to establish a new territory, and as part of seasonal or other migration;
- facilitate recolonization of habitat patches after a disturbance (e.g. fire);
- promote exchange of genetic material to facilitate population viability; and
- enable species range shifts in response to climate change.

Habitat Patches

The District contains large patches of relatively intact terrestrial and aquatic habitat within the Santa Cruz Mountains Bioregion (BAOSC 2013, Mackenzie et al. 2011; Figure 9). This includes approximately half of the largest contiguous habitat patch—a more than 61,000 acre area centered on Big Basin State Park, in the southwestern portion of the District. Other large patches of terrestrial habitat within the District are concentrated on the western slope of the Santa Cruz Mountains, where habitat is fragmented primarily by relatively sparse, residential development and relatively low-traffic, two-lane roads. Wetlands along the San Francisco Bay constitute the region’s aquatic habitat patches (BAOSC 2013; Figure 9). Such large habitat areas are essential, as they support a disproportionate richness of species, are more resistant to habitat degradation caused by edge effects, and are important for wide-ranging species

Linkages

The long-term persistence of populations and the maintenance of biodiversity within the Santa Cruz Mountains will require maintaining linkages between remaining patches of terrestrial and aquatic habitat.

Terrestrial Linkages

The District features numerous important landscape linkages, which can facilitate movement of both terrestrial and aquatic species (BAOSC 2013; Figure 9). The terrestrial linkage connecting the intact habitat in the northern portion of the Santa Cruz Mountains to the Diablo and Gabilan ranges to the south traverses the eastern slope of the Santa Cruz Mountains 23 miles through the District. This linkage was developed by combining the least cost corridors (i.e. most direct route through the most suitable habitat) of a suite of focal species, chosen to be representative of terrestrial species in the region (Inset box).

This important terrestrial linkage crosses Highway 17— a four-lane, divided highway which features high traffic volume and a concrete median, and is lined with attendant residential development. The north-south-trending highway constrains animal movement, rendering this area a choke point, or tenuous

portion of the linkage (Figure 9). Though not a barrier to the east-west linkage, other highways within the District create barriers for the movement of animals and ecological processes (e.g. fires and gene flow). Notably, Highway 101 and Interstate 280 are parallel, multi-line highways that traverse the Santa Clara Valley and adjacent foothills, and create barriers to connectivity between the upland habitat and the bay lands. Other smaller highways and major roads within the District, including Highways 1, 35, 84, and 92 may also inhibit movement of animals and processes (Figure 9). Though their width and traffic volume is much lower than that of Highways 17 and 101 and Interstate 280, these roads, may contain the movement of less vagile species.

Crossing structures, such as underground culverts or overpasses with directional fences that guide animals to safe routes across these and other highways can promote connectivity, as well as enhance public safety by reducing vehicle-animal collisions. The District resource management policies include numerous implementation measures designed to achieve the goal of protecting ecosystem integrity by maximizing habitat connectivity (MROSD 2011). Importantly, the District features open space preserves on either side of Highway 17, and thus will be an important partner in efforts to promote connectivity through the region (Figure 9).

Aquatic Linkages

The Vision Plan Area also features numerous streams that support coho salmon and steelhead trout: anadromous fish that must migrate from spawning (breeding) areas often high within the watersheds, to the ocean or San Francisco Bay, in the case of some steelhead runs (Figure 9; Section 2.1). Access to upstream habitat in these important aquatic linkages is constrained by numerous artificial barriers to fish passage, including dams and impassible road crossings (i.e. bridges and roads). Removing or retrofitting these features can facilitate access by anadromous fish to spawning habitat upstream, thus potentially increasing the size and viability of the rare salmonid populations.

Importantly, these and other stream corridors can also facilitate movement of terrestrial species, particularly in urban or intensively cultivated areas where dense riparian vegetation creates important cover for animals (Naiman et al. 1993, Hilty and Merenlender 2004). Such stream corridors may facilitate movement of species across the densely developed Santa Clara Valley and Highway 101 and Interstate 280, thus connecting the bay lands in the northeastern portion of the District, to the foothills on the eastern slope of the Santa Cruz Mountains (Figure 9). Importantly, though it may not be feasible to create the recommended 2 km riparian buffer in these urbanized areas (BAOSC 2013), increasing the width can promote use of riparian corridors by a broader suite of animals.

The District resource management policy for habitat connectivity, as well as the wildlife management policies, includes a variety of implementation measures to increase the connectivity within riparian and riverine systems (MROSD 2011). These include addressing anthropogenic fish passage barriers, and protecting and restoring riparian areas to promote their use by animals, as well as their other important values. District open space preserves feature portions of many of the important aquatic linkages, including tributaries to San Gregorio Creek and Stevens Creek (Section 2.1; Figure 9), providing

Focal Species for the Linkage Designs (BAOSC 2013)

Terrestrial Linkages

- American badger
- Black-tailed deer
- Bobcat
- California Quail
- Mountain lion
- Ringtail
- Western grey squirrel
- Wrentit

Aquatic Linkages

- Coho salmon
- Steelhead trout

opportunities for the District to work directly to promote landscape connectivity through implementation of these policies.

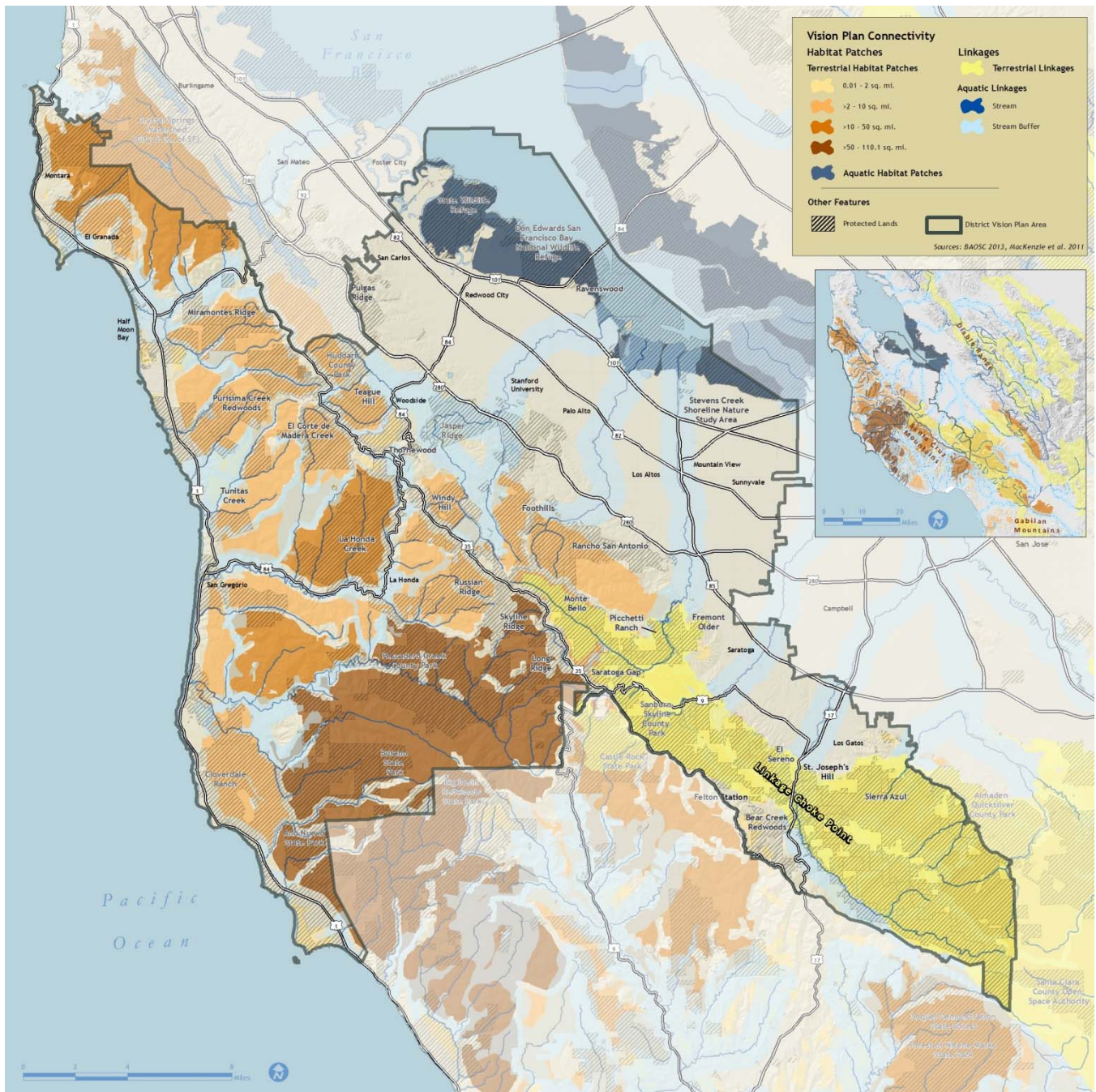


Figure 9: Habitat patch and landscape linkages

THREATS TO BIODIVERSITY

The biological conservation values of the Vision Plan Area are threatened by a variety of factors that can convert, fragment, and/or degrade habitat (Table 9). Many of these threats can also negatively impact the region’s cultural resources, recreation opportunities, water supplies, and scenic beauty.

The nature and extent of the threats vary across the landscape, due to a variety of factors including topography (e.g. slopes), vegetation (e.g. forests vs. grasslands), existing land use, population growth pressure (e.g. proximity to existing development and roads), and local land use policies. Threats also differ depending on the conservation value in question; activities that are negative for some biological systems and species might not affect, or might even improve, others.

This section further evaluates three threats that degrade biological resources within the Vision Plan area, including the District open space preserves: erosion and sedimentation, non-native plants, and grassland succession. Factors degrading forests are discussed in Section 6, while Section 7 discusses fire exclusion and Section 8 outlines potential impacts of global change.

Table 9: Threats to ecological viability of the species and communities within the Vision Plan Area

Type	Threat	Impacts
Habitat loss and fragmentation	Development	Urban, suburban, and exurban development displace native plants and animals, and render the landscape less permeable to species and ecological processes (e.g. fire).
	Agricultural conversion	Conversion of natural vegetation including grazing land to agricultural crops (e.g. row crops, vineyards, orchards, and tree farms), displaces native plants and animals. Food safety practices associated with some agriculture including fencing, depredation, poison bait stations, draining water features, and clearing vegetation can further impact animals. Agricultural activities can cause mortality to slow-moving or nesting species.
	Transportation Projects	Construction of new roads, highways, and rail lines, and expansion of existing transit corridors, can fragment habitat, isolate plant and animal populations, and cause direct mortality due to vehicle collisions.
	Mining	Mining displaces native plants and animals, can pollute air and water, and can promote non-native species.
Incompatible human uses	Incompatible grazing	Inappropriate intensity or seasonality of grazing, and cattle activity in grazing sensitive communities (e.g. wetlands and riparian areas) can displace native plants and degrade habitat for native animals in some cases. Conversely, cessation of grazing in grasslands can cause succession to other community types (e.g. coastal scrub) in the absence of other disturbances (e.g. fire), thus extirpating populations of species that require grasslands.

Table 9: Threats to ecological viability of the species and communities within the Vision Plan Area

Type	Threat	Impacts
	Incompatible forest management	Harvest activities and roads can displace some species of native plants and animals including those that require late-seral forest conditions or are wary of human activity, can cause erosion and stream sedimentation, limit recruitment of large woody debris into streams, promote the invasion and spread of non-native species, and result in direct mortality to slow-moving or nesting species.
	Stream Water use	Stream diversions can directly impact native animals and degrade habitat by reducing flows and increasing stream temperature, which can impact coho, steelhead, and other fish. Dams displace upland habitat and create barriers to aquatic species migration, thus eliminating upstream habitat for anadromous fish. Construction of diversion channels can cause direct mortality.
	Recreation	Incompatible use of natural lands by off-highway vehicles, bicycles, equestrians, hikers, campers, hunters, and fisherman, can displace native plants and animals, cause erosion, and promote the invasion and spread of non-native plants as well as populations of human commensals, including corvids that negatively impact other species including marbled murrelet.
	Other stream habitat modifications	Streambed alterations, channelization, dredging, flood-control structures, water diversion structures, culverts, dams, fords, bridges, and other modifications can degrade stream habitat, impede migration, and cause direct mortality to riverine species.
Biological invasions	Invasive plants	Invasive plants outcompete native plants, degrade habitat for native animals, alter disturbance regimes (e.g. fire frequency), and alter nutrient cycling (e.g. nitrogen availability).
	Non-native animals	Non-native animals outcompete, predate upon, and hybridize with native animals, negatively impact native plants through herbivory, and promote non-native plant invasions through disturbance (e.g. feral pig diggings).
	Emergent diseases	New diseases impact native plants (e.g. sudden oak death), amphibians (Chytrid fungus or "Bd", Ranaviruses, etc.) and birds (West Nile virus and Avian flu).
Altered fire regimes	Fire suppression	Fire suppression eliminates fire-adapted and early successional species, including species such as King's mountain manzanita (<i>Arctostaphylos ohloneana</i>) and can ultimately result in type conversion of vegetation (e.g. chaparral transitions to forest).
	Inappropriate fire frequency or seasonality	Increased fire frequency and inappropriate fire seasonality can eliminate even fire-adapted species and communities.

Table 9: Threats to ecological viability of the species and communities within the Vision Plan Area

Type	Threat	Impacts
Altered hydrologic regimes	Stream flow (including flood control)	Flood management can eliminate early-successional riverine and riparian species, prevent transport of sediment and pollution, and alter habitat conditions and displace some native species (e.g. reduced flow increases water temperature and decreases oxygen).
	Pond hydroperiod	Reducing the period of seasonal pond inundation can eliminate aquatic species that require sufficient time to complete their lifecycle.
Pollution	Nitrogen deposition	Deposition of nitrogen from pollution in the atmosphere fertilizes vegetation, can promote the invasion and spread of non-native plants, and alters the competitive balance between native plant species, thus displacing poor competitors including many endemic species in serpentine communities.
	Sedimentation	Sediment degrades spawning habitat for salmonids and other fish, and reduces the size of ponds and their period of inundation.
	Pathogens	Pathogens from cultivated land, livestock operations, septic tanks, and other sources pollute streams, sloughs, and other aquatic systems.
	Fertilizers	Agricultural run-off increases productivity in aquatic systems, degrading stream, pond, slough, wetland, and other habitat.
	Biocides	Herbicide and pesticides can impact native plants and insects, and biomagnify within food webs to acutely impact top predators.
	Other Chemicals	Other chemicals including those used to manufacture illicit drugs, including methamphetamine, can poison terrestrial and aquatic species.
Global change	Genetic erosion	Non-local genetic material introduced into natural systems from hatcheries, nurseries, and other sources can disrupt locally-adaptive genetic complexes and evolutionary processes (e.g. speciation).
	Hotter, drier climate	Climate change can displace species directly, and alter competition, predation, disease, and other species interactions and ecological processes, including disturbances such as fire, thus affecting native species.
	Increase in atmospheric CO ₂	Increased atmospheric carbon dioxide can fertilize plants, promote the invasion and spread of non-native species, and alter competitive balances between native plants, thus displacing poor competitors including many native plants.
	Sea Level Rise	Higher sea levels will inundate and remove or degrade coastal and bay communities including rock outcroppings, dunes, cliffs, and wetlands that cannot migrate to adjacent land if it is build up or armored.

Erosion and Sedimentation

The steep, mountainous terrain of the Vision Plan Area receives abundant precipitation, which can occur as part of high-intensity rainfall events that can cause soil erosion in areas featuring sparser vegetation and/or more erosive soils. Moreover, deep gullies can form in areas underlain by less stable geologic formations, including sedimentary rocks such as sandstones and shales of the Purisima formation, and the metamorphic formations including the San Franciscan, which is a melange that includes serpentine.

While erosion is a natural part of the geology and thus broader ecology Peninsula, a variety of land use activities can promote erosion, including:

- development, which increases run-off by creating impervious surfaces;
- agriculture, which generally reduces plant cover;
- roads and trails, which remove vegetation, and can channel run-off when not properly constructed or maintained; and
- fires, which removes vegetation canopy that intercepts rain drops and roots that bind soil.

These and other factors that exacerbate erosion can degrade habitat through a variety of mechanisms, including:

- removing vegetation, including sensitive plant communities and habitat for rare and endangered plants and animal species;
- promoting the invasion and spread of non-native plants, including many invasive plants that are adapted to colonizing bare areas such as jubata grass (*Cortaderia jubata*; D'Antonio et al. 1999); and
- causing sedimentation of aquatic systems, including ponds, streams, the San Francisco Bay, and the near-shore environment of the Pacific Ocean.

Within the Vision Plan Area, areas featuring higher potential for soil erosion based on multiple gauges (inset box) occur in two broad areas (Figures 10 and 11):

1. The steep terrain on the higher-elevation, western slopes of the Santa Cruz Mountains, particularly in areas underlain by Purisima Formation, which features highly-erosive sandstones and siltstone. This formation underlies nearly 40,000 acres, which are concentrated in the Pescadero and San Gregorio watersheds—the two highest priority watersheds for conservation of rare salmonids and other riverine species (Section 2.1). Stream sedimentation degrades spawning habitat for fish has been identified as a major threat to the recovery of coho and steelhead in these and other coastal watersheds (NMFS 2010).
2. The steep terrain on the eastern slope of the Santa Cruz Mountains, within the Los Gatos Creek and Upper Guadalupe Creek watersheds. The Upper Los Gatos Creek Watershed including the Bear Creek Open Space Preserve, features extensive areas of prior landslides, where future slides and earth flows are most likely to occur (USGS 1997). The eastern portion of this watershed, as well as the upper Guadalupe Creek Watershed, feature extremely steep slopes that support fire-prone chaparral, which leaves slopes open to extensive erosion once burned.

Gauges of Soil Erosion Potential

Universal Soil Loss Equation (Figure 10):
Measures soil loss potential based on:

- Precipitation
- Vegetation cover
- Soil erosivity
- Slope distance
- Slope steepness

Landslide Frequency (Figure 11): Occurrence of previous slides and earth flows, where future landslides are more likely to occur (USGS 1997).

Portions of these areas are underlain by the Franciscan Complex, a melange of metamorphic rocks including serpentine, which are prone to slides.

The District takes a variety of measures to limit soil erosion and sedimentation by implementing measures as part of two resource primary management policies:

- Geology and soils, the goal of which is to avoid or minimize soil loss and prevent or remediate contamination related to human land use, and protect unique or exceptional geologic features; and
- Water resources, the goal of which is to protect and restore natural water courses, wetlands and hydrologic processes.

Notably, protection of land in open space preserves is key to reducing soil erosion that could result from development, intensive agriculture, and other land uses.

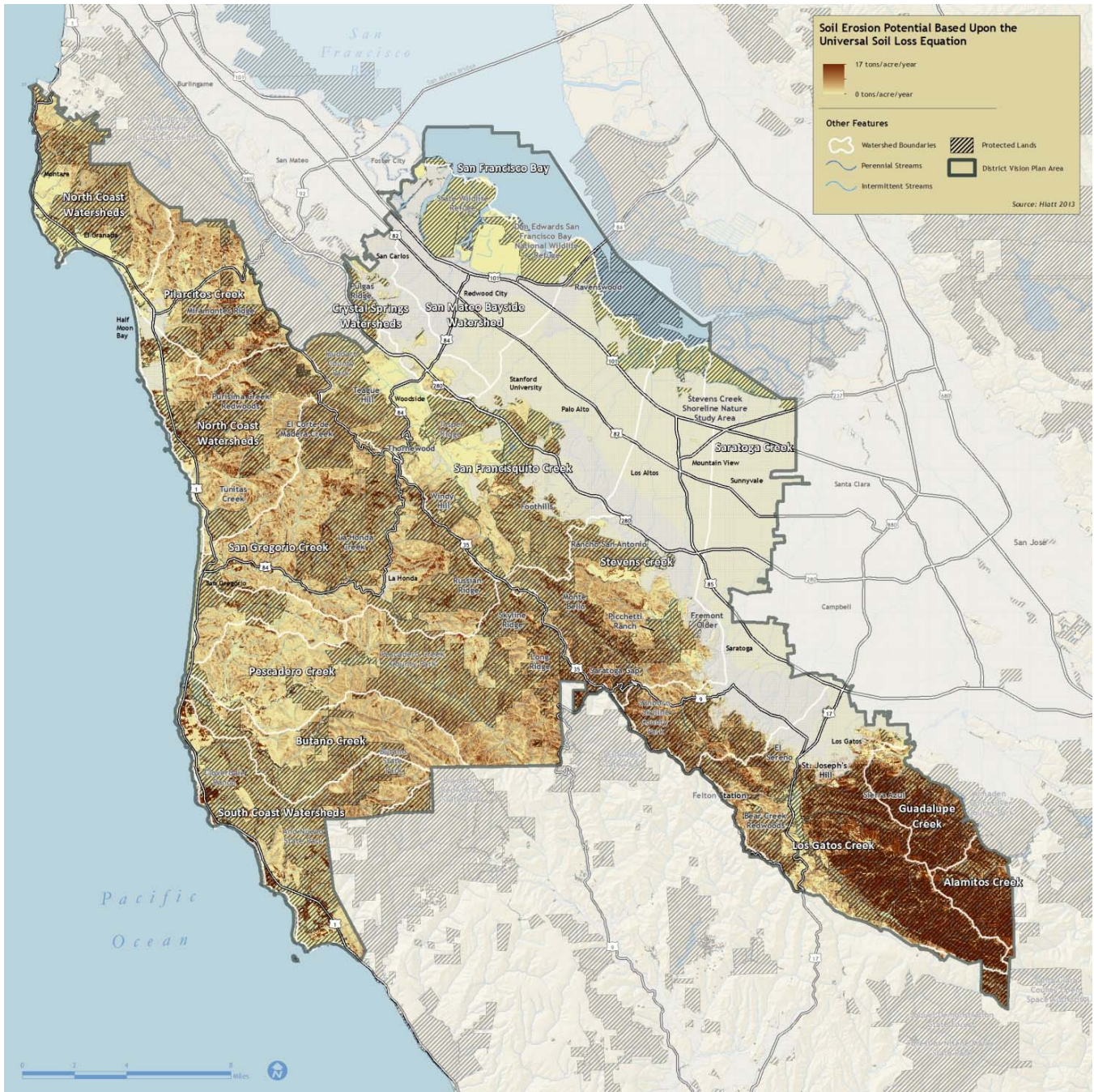


Figure 10: Soil erosion potential based upon the Universal Soil Loss Equation

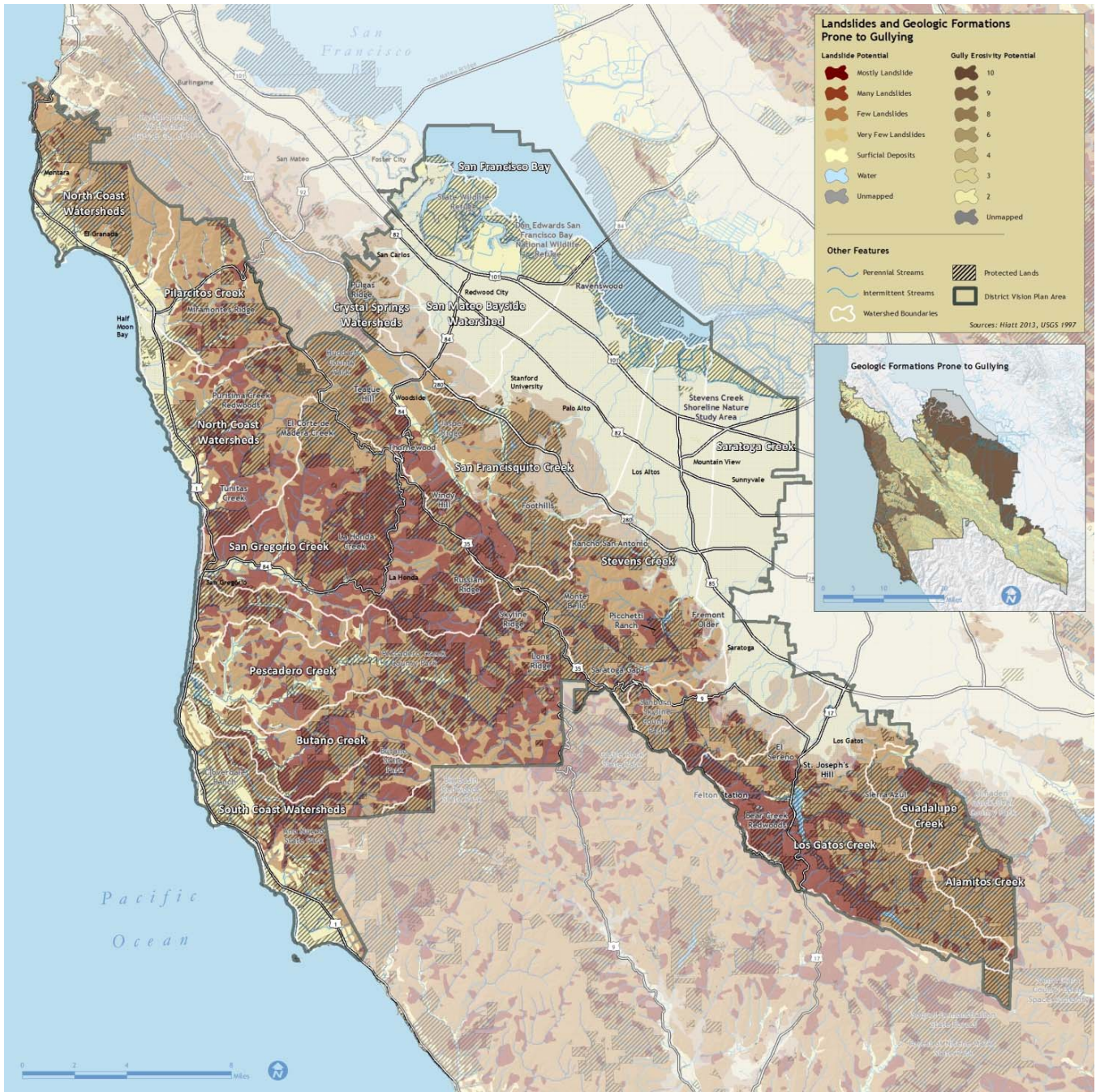


Figure 11: Landslides and geologic formations prone to gully

Non-native Plants

Natural lands within the Vision Plan Area support populations of many plant species that are not native to California. These non-native species dominate 9,557 acres, 860 acres (9%)¹ of which are within District open space preserves (Table 10, Figure 12). Additional unmapped areas also likely support high concentrations of non-native plant species, which also occur at lower abundance within the region's native plant communities (Figure 1).

Table 10: Non-native plants within the Vision Plan Area and District Open Space Preserves

Non-Native Plant Cover	Acres	Percent in District Preserves ¹
Non-Native Herbs		
Harding grass	155	50.3%
Ruderal	927	31.1%
Poison Hemlock	6	71.1%
Yellow Star-thistle Series	224	73.3%
Pampas Grass	4	0.0%
Non-Native Grass	1,987	0.0%
Non-Native Herbs Subtotal	3,303	16.2%
Non-Native Shrubs		
	113	43.4%
Non-Native Trees		
Acacia	12	77.8%
Eucalyptus	3,341	5.4%
Monterey Cypress	6	0.0%
Planted Pines	776	11.3%
Non-Native Trees	2,008	<0.1%
Non-Native Trees Subtotal	6,143	4.5%
Total Non-Native Plant Cover	9,559	9.0%

Non-native plants of all life forms occur within the District, including grasses, forbs, shrubs, and trees. Species that are relatively widespread within natural communities, often as a result of their long tenure in California, are often regarded as naturalized; these include many annual grasses such as oats (*Avena* spp.), bromes (*Bromus* spp.), and barleys (*Hordeum* spp.), which arrived with Spanish missionaries and now predominate within much of the region's grasslands. Species that have large impacts on natural systems, and can often spread rapidly following invasion, are referred to as invasive; examples of such species within the District include cord grass (*Spartina* spp.), jubata grass (*Cortaderia jubata*), yellow-star thistle (*Centaurea melitensis*), and French broom (*Genista monspessulana*).

The magnitude of the impacts of non-native plants depends on their ecology and abundance, as well as the ecology of the system that they invade (Levine et al. 2003). Table 11 lists the various mechanisms by

¹ The relatively high percentage of non-native plant communities located within in the District OSPs reflects the finer-scale mapping conducted in the District lands, where non-native vegetation types were more likely to be differentiated from native types than elsewhere in the Vision Plan Area, which was more coarsely mapped.

which non-native plants can impact native species, natural communities, ecosystem functions, and processes within the Vision Plan Area, and provides examples of each for District open space preserves.

The District manages invasive plants on District lands, following the Invasive Species Management Policy, the goal of which is to control invasive species that have a substantial impact on preserve resources in order to foster the restoration of native vegetation and habitat (MROSD 2011). Recent initiatives have included attempts to eradicate slender false brome (*Brachypodium sylvaticum*), a perennial bunchgrass that recently established near Woodside and is not otherwise known from California. The District's program included controlling the species within the Thornewood OSP, as well as an education and cost-sharing program with private landowners to ensure effective eradication.

Table 11: Examples of impacts of non-native plant species within the Vision Plan Area and District Open Space Preserves

Impact	Description	Examples and Occurrences within the Vision Plan Area		District Open Space Preserves
		Examples within the	District Open Space Preserves	
Outcompete Native Plants	Non-native plants can deplete soil moisture and/or nutrients, shade-out native species, compete for limited space, and/or create conditions that deter native plant establishment, such as dense thatch	Non-native Mediterranean annual and perennial grasses complete with native forbs (i.e. wildflowers) and grasses, reducing their distribution and abundance. Impacts are acute in serpentine grasslands, which support high concentrations of rare native plants that are negatively impacted by thatch that builds up in the absence of grazing, and can be exacerbated by atmospheric nitrogen deposition.	Grasslands and oak savannas throughout the District, including La Honda, Russian Ridge, and Long Ridge OSPs, and serpentine grasslands in Sierra Azul and St. Joseph's Hill OSPs.	
Alter Community Structure	Non-native plants alter the structure of native communities, oftentimes degrading habitat for native animals.	<ul style="list-style-type: none"> Non-native trees including Monterey cypress (<i>Cupressus macrocarpa</i>), eucalyptus (<i>Eucalyptus</i> spp.), and acacia (<i>Acacia</i> spp.), establish in grasslands and shrublands, and can create perches for birds that predate on small mammals and birds. Established as wind breaks and often planted in early homesteads, these and other trees occur patchily through the Vision Plan Area, and are prevalent in northwestern San Mateo County. Non-native cord grass (<i>Spartina</i> spp.) invades San Francisco bay mudflats used by foraging endangered clapper rail, and displaces native pickleweed marsh used by the salt marsh harvest mouse. 	<ul style="list-style-type: none"> Non-native trees occur in the Madonna Creek, Tunitas Creek, Thornewood, Fremont Older, St. Joseph's Hill, and Sierra Azul OSPs, and at lower densities in other preserves. Non-native cordgrass has established within the Ravenswood OSP, Stevens Creek Natural Study Area 	
Modify Hydrology	Non-native plants can alter hydrological conditions, which can in turn alter community structure	<ul style="list-style-type: none"> Non-native cordgrass traps sediment, chokes channels, and elevates mudflats, converting them to cordgrass meadow. <p>Giant reed (<i>Arundo donax</i>), a large perennial grass, colonizes riparian areas, narrows channels and reduces surface and</p>	<ul style="list-style-type: none"> Ravenswood OSP, Stevens Creek Natural Study Area 	

Table 11: Examples of impacts of non-native plant species within the Vision Plan Area and District Open Space Preserves

Impact	Description	Examples and Occurrences within the Vision Plan Area	Examples within the District Open Space Preserves
Promote Fire in Non-Fire Adapted Systems	Non-native plants can create fuel conditions that promote fire, which can kill native species that are not adapted to fire.	<ul style="list-style-type: none"> Non-native grasses can create fine fuels that promote fire in shrublands where widely spaced native shrubs and sparse herbs typically will not sustain fire. A grass-fire cycle can convert shrublands and woodlands to grasslands. Eucalyptus and Monterey cypress are fire-promoted, and produce fuels that can promote fire in adjacent native communities 	<ul style="list-style-type: none"> Non-native grasses create fine fuels adjacent to shrublands in throughout much of the non-forested areas in the District. Non-native trees occur within Madonna Creek, Tunitas Creek, Thornewood, Fremont Older, St. Joseph’s Hill, and Sierra Azul OSPs, and at lower densities in other preserves.
	and species composition.	ground water through extensive evapotranspiration, thus degrading habitat for steelhead, California red-legged frog, and western pond turtle, and other aquatic species in San Francisco Creek.	

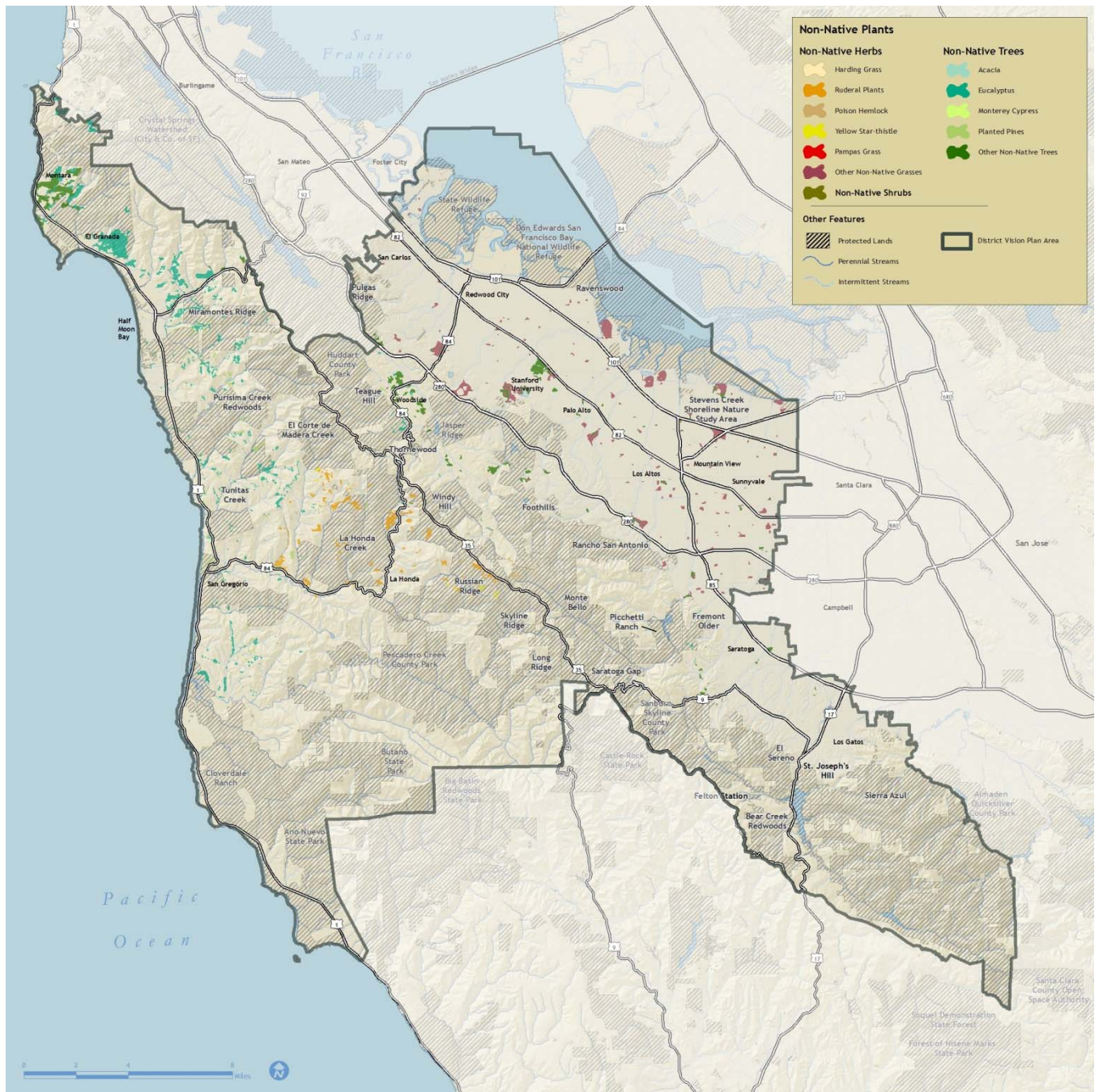


Figure 12: Communities dominated by non-native plants

Grassland Habitat Succession

The Vision Plan Area contains over 36,000 acres of grasslands—plant communities that feature moderate to dense cover of herbaceous (non-woody) plants, including primarily grasses but also forbs (broad-leafed herbs, or “wildflowers”). These include serpentine grasslands, which occur on outcrops of serpentine soil at the base of the eastern slope of the Santa Cruz Mountains, native perennial grasses featuring purple need grass, which often occurs in drier microsites (e.g. south-facing slopes or sandier soils), and coastal prairies—moist grasslands on the western slope of the Santa Cruz Mountains, within reach of the coastal fog (Table 2, Figure 2). The rich native grasslands support a diverse assemblages native plants and animals, many of which are either not found, or occur at lower abundance, in the California annual grasslands, which occur on inland areas on non-serpentine soils.

Though once widespread, California grasslands have been greatly diminished by conversion to agriculture and urban land use. As a result of widespread habitat loss and fragmentation, grasslands within the Vision Plan Area support many species that are rare or endangered (inset box).

Though the 6,087 acres of grasslands (16.6% of total) within the District open space preserves are protected from development, the persistence of rare species that they support is threatened by fire exclusion and exotic plants. In the absence of recurring fire, woody plant species including coyote brush (*Baccharis pilularis*) and Douglas fir (*Pseudotsuga menziesii*) invade from adjacent shrublands and forests and outcompete native herbaceous plants; over time, these and other woody species can convert grasslands to shrubland or woodland (McBride and Heady 1968, McBride 1974, Heady et al. 1988).

The persistence of native grassland species is also threatened by exotic plants, which have invaded and in many places become dominated by exotic grasses and forbs (Stromberg et al. 2002). These exotic plants compete with native grassland herbs for scarce soil resources and light, reducing their abundance and diversity (Corbin and D’Antonio 2004). In highly-productive coastal prairie grasslands, and serpentine grasslands fertilized by atmospheric nitrogen deposition, exotic plants also contribute to the accumulation of dense litter (thatch) on the soil surface (Weiss 1999). Such litter inhibits establishment of many native grassland herbs (Facelli and Pickett 1991, Hayes and Holl 2003), and can create a fire hazard.

Recognizing these threats, the District resource management policies include the use of well-managed livestock grazing to maintain and enhance the diversity of native plant and animal communities, as well as manage vegetation to reduce the risk of wildfires, among other benefits. Currently, the District uses conservation grazing to manage grasslands within La Honda, Purisima Creek Redwoods, Russian Ridge, Skyline Ridge, Tunitas Creek, and La Honda Creek OSPs; these preserves have the largest area of grasslands.

Rare Grassland Species
Plants
<i>San Mateo thorn-mint*</i>
<i>Marin western flax</i>
round-leaved filaree
Point Reyes meadowfoam
purple-stemmed checkerbloom
<i>most beautiful jewel flower</i>
Animals
American badger
<i>Bay checkerspot butterfly</i>
burrowing owl
golden eagle
grasshopper sparrow
northern harrier
white-tailed kite
<i>*Serpentine grassland species listed in italics.</i>

In other OSPs where grazing is not being used, grasslands may become degraded in the absence of other management to counteract the effects of fire exclusion, including prescribed fire, mowing, or other woody vegetation removal. For example, at Windy Hill OSP, the relatively large contiguous grassland observed in the 1991 aerial image has contracted and become fragmented by coyote brush encroachment (Figure 13 a and b). Brush encroachment has been much reduced at Monte Bello and Long Ridge OSPs, where only marginal increases in shrub cover appear to have occurred at the ecotone (transition area) between coastal scrub and grasslands in the upper drainages (Figure 13 c-f). Examination of thatch and species composition would be required to characterize the full impacts of the lack of disturbance in these grasslands.

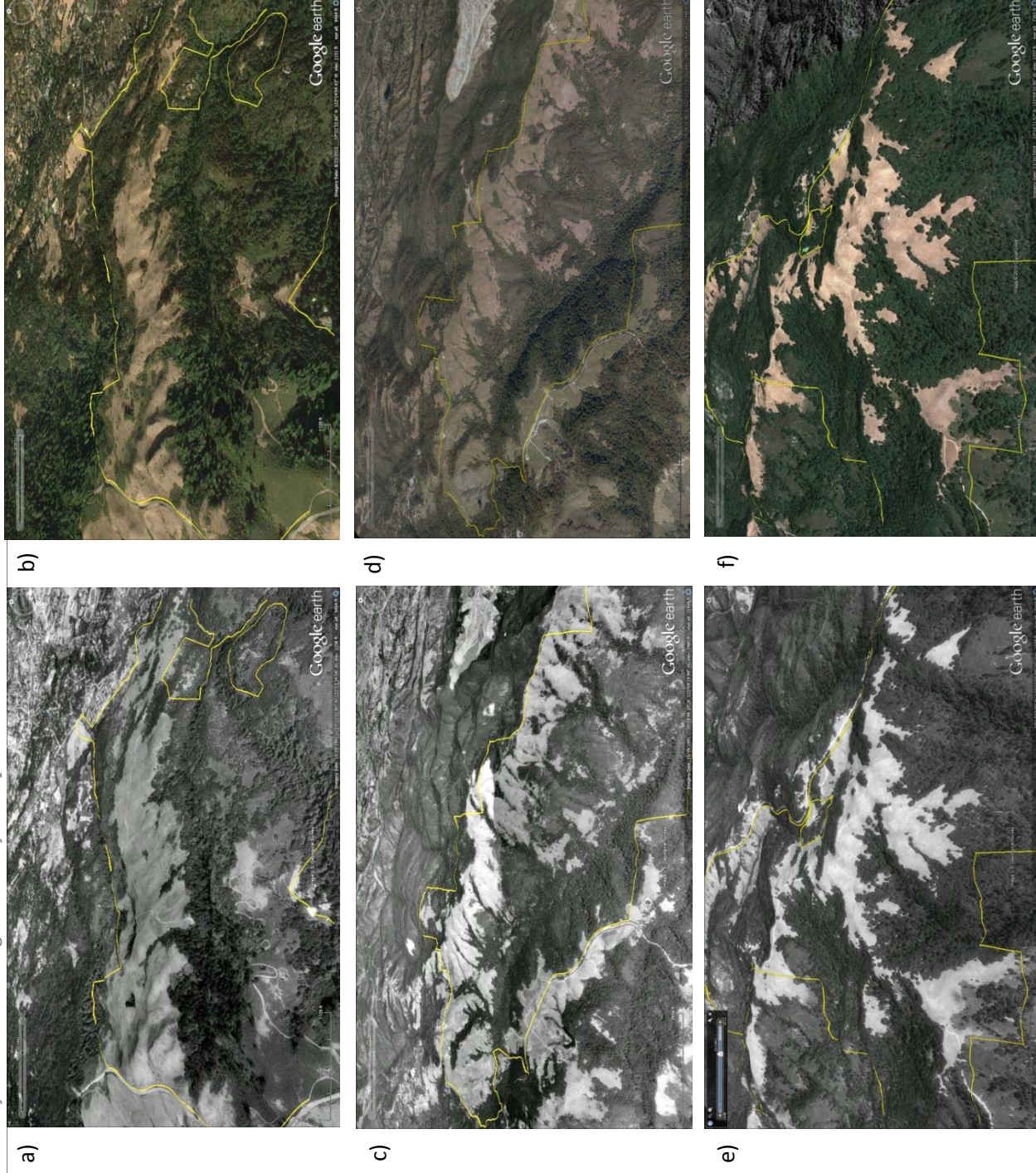


Figure 13: Grasslands within three ungrazed District Open Space Preserves in 1991 (left) and near present (right), showing: Windy Hill OSP in a) 1991 and b) 2012; Monte Bello OSP in c) 1991 and d) 2010; and Long Ridge OSP in e) 1991 and f) 2010.

FOREST MANAGEMENT AND RESTORATION

Nearly 140,000 acres (38%) of the Vision Plan Area supports forests, which are characterized by relatively dense canopy cover of trees, with an understory of primarily shade-tolerant herbs and shrubs (Table 12, Figure 14). Given their extensive cover within the Vision Plan Area, forests play a critical role in conservation of biodiversity, as well as provide a host of important ecosystem services, including protecting water quality and sequestering carbon. This section outlines key management considerations for the two main forest types.

Table 12: Forests of the Vision Plan Area

Vegetation and Other Land Cover	Acres	Percent in District Preserves
Forests		
Redwood-Douglas Fir Forest	78,271	16.5%
Hardwood Forest	47,902	37.8%
Closed-Cone Conifer Forest	961	59.5%
Riparian Forest	5,947	21.9%
Non-Native Forest	6,155	4.9%
Forest Communities Subtotal	139,235	23.9%
Other Vegetation		
Native	108,586	20.3%
Non-Native	3,412	17.1%
Other Vegetation Subtotal	111,998	20.0%
Other Land Cover		
Converted	82,932	0.4%
Water	27,116	0.7%
Other Land Cover	9,669	5.0%
Other Land Cover Subtotal	119,717	0.8%
Total	370,951	15.3%

Conifer Forest Management

The Vision Plan Area contains 78,271 acres of coast redwood-Douglas fir forests (Table 12; Figure 14), of which 12,915 acres (16.5%) are within District open space preserves. Located primarily on the western slope of the Santa Cruz Mountains, where coastal fog supplements the more plentiful rainfall, stands of this forest also occur straddle the ridgeline and innervate canyons on the eastern slope, which also feature a cooler, moister microclimate. These forests are dominated by coast redwood and/or Douglas fir, though feature also some hardwoods including predominantly tanoak and Shreve oak (*Quercus parvula* var. *shrevei*).

The Santa Cruz Mountains feature the southernmost expansive area of coast redwood-Douglas fir forests—a community type restricted to a 450-mile long strip of the Pacific coast between southern Monterey County and southern Oregon, where it is confined to areas within reach of the summer fog. Of the approximately two million acres of forest, less than 5% has not been harvested, and remains in its ‘old growth’ condition (Evarts and Popper 2011). A similar percentage of these forests in the Santa Cruz Mountains consist of old growth, the largest patch of which is nearly 3,400 acres and is located within Big Basin State Park (SRL 2008). Just to the north, within the Vision Plan area, the Butano and Pescadero

watersheds contain additional old growth forests, with other older forests mapped in the adjacent San Gregorio Creek watershed.

Due to their stand structure, canopy architecture of their trees, and other unique habitat conditions, old-growth forests provide important habitat for many species (Table 13). Notably, Vaux's swift (*Chaetura vauxi*) nests in hollow snags which are more prevalent in older forests, while the federally-endangered seabird marbled (*Brachyramphus marmoratus*) nests on large branches or 'platforms' that occur primarily in old coast redwood and Douglas-fir.

Table 13: Biologically-important characteristics of old-growth forests

Characteristic	Biological Significance
Large, living trees (200+ years old)	Feature decadent wood, broken tops, reiterated crowns, platforms, dead tops, and basal hollows, which provide important habitat for a variety of species including marbled murrelet, Vaux's swift, and pileated woodpecker; also contain a high diversity of bryophytes, fungi, and invertebrates within their canopies.
Large standing dead trees (snags)	Standing dead or mostly dead trees provide nesting, foraging, and roosting habitat for a variety of birds and mammals
Downed trees (logs)	Provide humid and thermally stable microhabitats for amphibians, reptiles, small mammals, and invertebrates on land. In streams, create pools and scours for fish, and stabilize stream banks.
Multiple plant layers	Trees of varying ages, and understory trees as well as shrubs and herbs, create a diversity of habitat conditions and food sources for animals, and promote fog drip collection.
Carbon Sequestration	Old-growth forests remove and sequester carbon dioxide from the atmosphere

Other coast redwood and Douglas-fir forests within the District have experienced timber harvest of varying type, intensity, and frequency. Most forests were clear cut in the mid-1800s, and then were subject to subsequent harvest in the 1950s and 1960s; forests in the El Corte de Madera and Purisima Creek watersheds were subject to third and fourth harvests in the 1970s and 1980s (MROSD 2011). Despite the harvest history, District preserves feature residual single old growth trees and small stands of old growth. District open space preserves also feature older Douglas fir, which develops late seral conditions earlier than coast redwood (MROSD 2011).

When compared to old growth forests, these previously-harvested forests generally feature higher densities of smaller diameter trees, which establish primarily through resprouting. This dense stand structure, coupled with more than a century of fire suppression, creates dense fuels that present a fire hazard. Coast redwoods in old growth forests typically survive fires, which typically burn the surface and do not penetrate the fire-resistant bark. However, unmanaged second-growth forests often feature substantial, and more contiguous biomass that can promote a crown fire. Such fires can kill even large trees, thus decreasing roots that hold soil in place, and promoting soil erosion and stream sedimentation.

Forests within the Vision Plan Area can be managed following the practices of conservation forestry, which are designed to promote biodiversity and ecosystem functions within a landscape that features protected forest reserves, as well as private timber lands managed for sustainable production (inset box). As part of the forests reserves, District open space preserve can be managed to accelerate late-seral forest conditions, buffer aquatic ecosystem, and enhance the complexity of the forest stand structure in ways that can promote biodiversity by creating a broader range of microhabitats.

Selective harvest of trees can provide a mechanism to accelerate late-seral stand conditions. Removing trees to create the lower-density conditions characteristic of old-growth forests promotes the growth of remaining trees, by reducing their competition for light and soil resources which can limit growth. Such thinning treatments are being used by a variety of conservation organizations in central and northern California (Table 14)

The locations and other aspects of such thinning treatments must be carefully planned in consideration of landscape-level and site-level conditions, as well as desired future conditions (i.e. goals). A variety of logistical considerations can also present opportunities or constrain selective harvest:

- Occurrence of roads, which are needed for access by equipment;
- Topography, which can influence the yarding (method of moving logs to a landing site), which can be done by ground-based tractor/skidder, cable, or helicopter; and
- Effects on the environment, including geology, soils, biological resources, cultural resources, water quality, and noise, among others.

Permitting costs, which are an expensive component of forest restoration projects, can be offset by commercializing the wood that is removed to achieve the ecological objectives. Though some woody debris should be left on the forest floor to create important habitat (Table 13), excess logs that would degrade habitat and create a fire danger can be sold to offset costs. Forest thinning projects can be used to permit other restoration work, including stream restoration projects (e.g. culvert or bridge upgrades) that require lake and streambed alteration agreements.

The District's resource management policies address a goal for forest management, which is to "Manage District land to retain and promote biologically diverse, dynamic forest conditions; maintain and enhance high quality forest and aquatic habitat; encourage and enhance the development of late-seral conifer forest; provide for visitor experiences within diverse forest habitat; and promote District and regional fire management objectives." Implementation measures for this policy are designed to ensure that forest management activities are compatible with the protection special-status plants and animals, riparian and riverine ecosystems, and water quality, among other natural resources, and include management to promote late-seral habitat conditions. More detailed analysis would be needed to

Conservation Forestry Practices (Adapted from Lindenmayer et al. 2006)

- Protect and buffer late seral stage forests
- Create a range of habitat conditions.
- Retain elements of stand structural complexity
 - Trees from multiple age cohorts
 - Large living trees and snags
 - Large diameter logs on the forest floor
 - Vertical heterogeneity created by multiple canopy layers
 - Horizontal heterogeneity, including canopy gaps
- Buffer aquatic ecosystems
- Manage the forest to maintain habitat connectivity
- Carefully design and manage road networks
- Conduct appropriate fire management

evaluate land where such management would be appropriate and feasible; however, based on landscape-level analysis of available data, El Corte de Madera, Purisima Creek, and Tunitas Creek, and Long Ridge OSPs, are important candidates, as they can buffer or expand Old Growth and/or marbled murrelet habitat.

Hardwood Forest Management

Located primarily on the upper elevation slopes, ridgeline, and eastern slope of the Santa Cruz Mountains, 47,092 acres of forest within the Vision Plan Area are dominated by hardwoods, including a oaks, tanoak, California bay (*Umbellularia californica*), and California buckeye (*Aesculus californicus*) (Table 12, Figure 14). This includes 18,107 acres of hardwood forest located within District open space preserves.

Hardwood forests are facing two main threats that necessitate active management: widespread tree mortality due to sudden oak death, and Douglas fir encroachment in the absence of natural fire.

Sudden oak death (SOD) is an emerging disease caused by pathogen, *Phytophthora ramorum*, that has resulted in extensive mortality of tanoak (*Nothocarpus densiflorus*) and oaks (*Quercus* spp.), including coast live oak (*Q. agrifolia*), black oak (*Q. kelloggii*), Shreve’s oak (*Q. parvula*, var. *shrevei*), and canyon live oak (*Q. chrysolepis*) within approximately 175 miles of the California coast. First report in the early 1990s, SOD spread rapidly coastal hardwood and conifer forests from central California to Central Oregon, including throughout much of the Santa Cruz Mountains (Rizzo and Garbelotto 2003).

Sudden oak death effects likely depend upon the extent of mortality caused, but can include:

- shifts in plant community composition (e.g. oaks replaced by less-susceptible tree species);
- declines in animal populations that rely on tanoak and oak, such as black-tailed deer (*Odocoileus hemionus*), acorn woodpecker (*Melanerpes formicivorus*), and band-tailed pigeon (*Patagioenas fasciata*);
- increased fuels and thus fire behavior (e.g. greater fire frequency and/or severity of impacts).

Over time, direct and indirect effects of the disease can cascade through the affected systems and alter ecosystem structure and functions.

The Vision Plan Area contains the highest concentration of recorded SOD detections in the Santa Cruz Mountains (Figure 15); importantly, the high frequency of observations likely reflects the more intensive monitoring of District preserves conducted as part of the District’s annual monitoring (inset box). Detections straddle the ridgeline and extend from Purisima Creek Redwoods OSP in the northwest, to El Sereno and Bear Creek Redwoods OSPs in the southeast; importantly observations east of Highway 17 are sparse, and most observations are west of Highway 9 (Figure 15).

**Elements of the District’s
10-Year Sudden Oak Death Program**

- Annual monitoring to detect symptomatic plants in new areas
- Mapping of potentially resistant trees
- Treating selected heritage trees with a fungicide
- Establishing a collaborative fund for research to guide management
- Removal of selected California bay, a carrier for the SOD pathogen, to prevent spread
- Staff training regarding disease detection and best management practices to prevent spread
- Outreach to the increase public awareness of how to prevent SOD spread

In recognition of its potential impacts, the District adopted a ten-year plan in 2005 to slow the spread of SOD, collaboratively study impacts on wildland ecology and recreation, and develop a restoration strategy for heavily-infested forests.

Forest management techniques to address SOD are largely experimental but can include (Table 14):

- Treat heritage oaks—large, mature, and iconic trees—with a fungicide (e.g. Agri-Fos) to prevent SOD infection;
- Treat California bay (*Umbellularia californica*), a carrier of SOD, with fungicide; and
- Remove infected California bay and other carriers to prevent spread of SOD.

Infected biomass should be properly disposed to prevent disease transmission, and reduce fire hazard.

The Vision Plan Area’s hardwood forests are also susceptible to degradation due to unnatural succession. Exclusion of fire from these forests facilitates establishment of Douglas fir—a late-seral stage species that is susceptible to fire when young, but is invading oak woodlands throughout California as part of fire exclusion (Barnart et al. 1996, Hunter and Barbour 2001). Douglas fir is mapped as emergent or co-dominant within 17,848 acres of hardwood forest in the Vision Plan Area. Prescribed fire or forest management treatments that simulate their effects by killing Douglas fir can be used to maintain hardwood forests and habitat oak-dependent animals (Table 14).

Table 14: Forest management treatments

Treatment	Objectives	Description	Appropriate Conditions	Forests Being Managed Using Treatment	Potentially Suitable District Preserves
Thinning Dense, Stagnated Redwood Stands	<ul style="list-style-type: none"> Promote late-seral forest conditions, which include: <ul style="list-style-type: none"> Large, well-spaced trees Snags Large woody debris 	Identify recruitment trees based on size and developed structure and remove selected trees that compete with them, thus accelerating their growth and creating spacing characteristic of old-growth forests	Dense second-growth forests where intraspecific competition limits individual tree growth	<ul style="list-style-type: none"> Byrne/Milliron Forest (Land Trust of Santa Cruz County) Garcia Forest (The Conservation Fund) Sempervirens 236 (Sempervirens Fund) Swanton Pacific Ranch (Cal Poly Foundation) 	El Corte de Madera, Purisima Creek, and Tunitas Creek, and Long Ridge OSPs, which can buffer or expand Old Growth and/or marbled murrelet habitat; other areas of dense, stagnated redwood.
Maintain Open Areas	<ul style="list-style-type: none"> Maintain forest gaps that support shade-intolerant plants (e.g. Santa Cruz mountains pussypaws, Dudley's lousewort, and Santa Cruz Mountains beardtongue Encourage a mosaic of vegetation conditions, to promotes diversity 	Clear vegetation to create early successional conditions; broadcast burn or pile burn to expose bare mineral soil and scarify seeds	Pocket meadows and shrublands impacted by encroaching trees. Also homogeneous, low diversity forests	Private forest lands in the Santa Cruz Mountains.	
Remove Encroaching Douglas Fir	<ul style="list-style-type: none"> Prevent encroachment of Douglas-fir into grasslands, shrublands, and hardwood forests, which occurs in the absence of natural fire 	<ul style="list-style-type: none"> Cut and lop/ scatter or pile-burn mature Douglas fir. Graze or mow forest edges to remove juveniles. Implement prescribed broadcast burns. 	Grasslands, shrublands, and hardwood forests including oak woodlands, which feature emerging Douglas-fir	Private forest lands in the Santa Cruz Mountains.	Saratoga Gap, Long Ridge, Skyline Ridge, Monte Bellow, Russian Ridge, Windy Hill, and El Corte de Madera OSPs all feature Douglas-fir/Mixed hardwood

Table 14: Forest management treatments

Treatment	Objectives	Description	Appropriate Conditions	Forests Being Managed Using Treatment	Potentially Suitable District Preserves
Remove Non-Native Trees	<ul style="list-style-type: none"> • Reduce threat to biodiversity • Reduce potential fire hazard. 	<p>Cut and treat non-native trees, particularly invasive trees including eucalyptus and acacia, but also planted conifers (<i>Pinus</i> spp. and <i>Cupressus</i> spp.)</p>	<p>Where non-native trees are present and can or may spread into sensitive habitats</p>	<p>Many private lands in the Santa Cruz Mountains. Wicklow Big Sur Land Trust</p>	<p>or Douglas-fir/Coast Live Oak forests</p> <p>Miramonte Ridge, Tunitas Creek, Thornwood, and Fremont Older OSPs</p>
Treat Sudden Oak Death	<ul style="list-style-type: none"> • Limit the spread of SOD • Mitigate detrimental forest effects of SOD • die-off 	<ul style="list-style-type: none"> • Treat heritage oaks with fungicide to protect them from the pathogen • Treat California bay (<i>Umbellularia californica</i>) with fungicide; remove infected trees to prevent spread • Clear infected or dead trees to reduce fire hazard 	<p>Preserves featuring heritage oaks</p> <p>Other areas with confirmed SOD infestation nearby or in specific trees on Preserves</p> <p>Heritage trees</p>	<p>Preliminary treatment currently occurs on various private properties.</p> <p>Fuels treatment of massive tanoak die-off currently being considered at Mitteldorf Preserve (Big Sur Land Trust)</p>	<p>Preserves with SOD Detections:</p> <p>Miramonte Ridge, Purisima Creek, El Corte de Madera Creek, Teague Hill, Thornwood, La Honda Creek, Windy Hill, Foothills, Russian Ridge, Skyline Ridge, Long Ridge, Monte Bello, Rancho San Antonio, Picchetti Ranch, and Fremont Older OSPs</p>

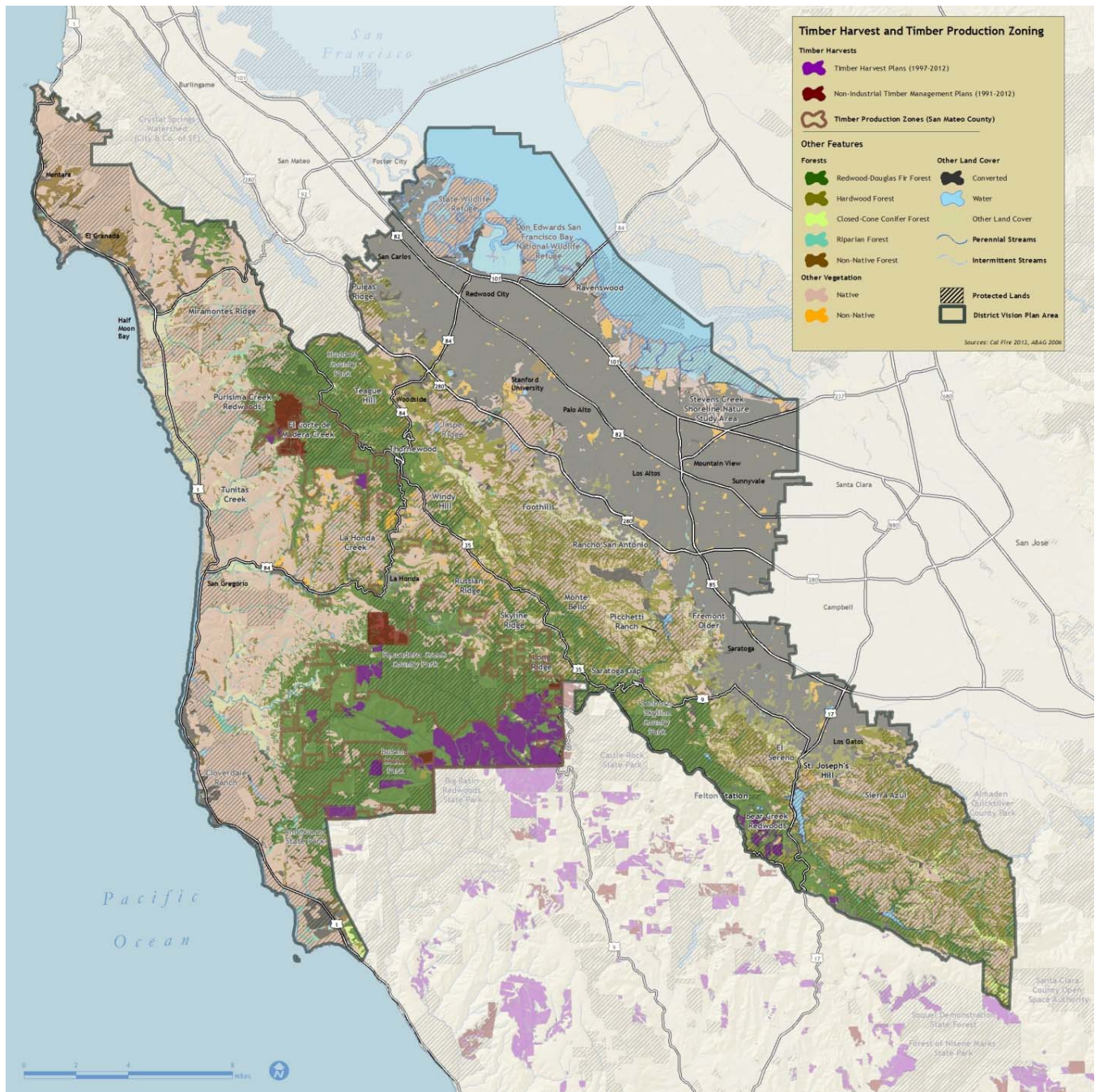


Figure 14: Forests and timber harvest

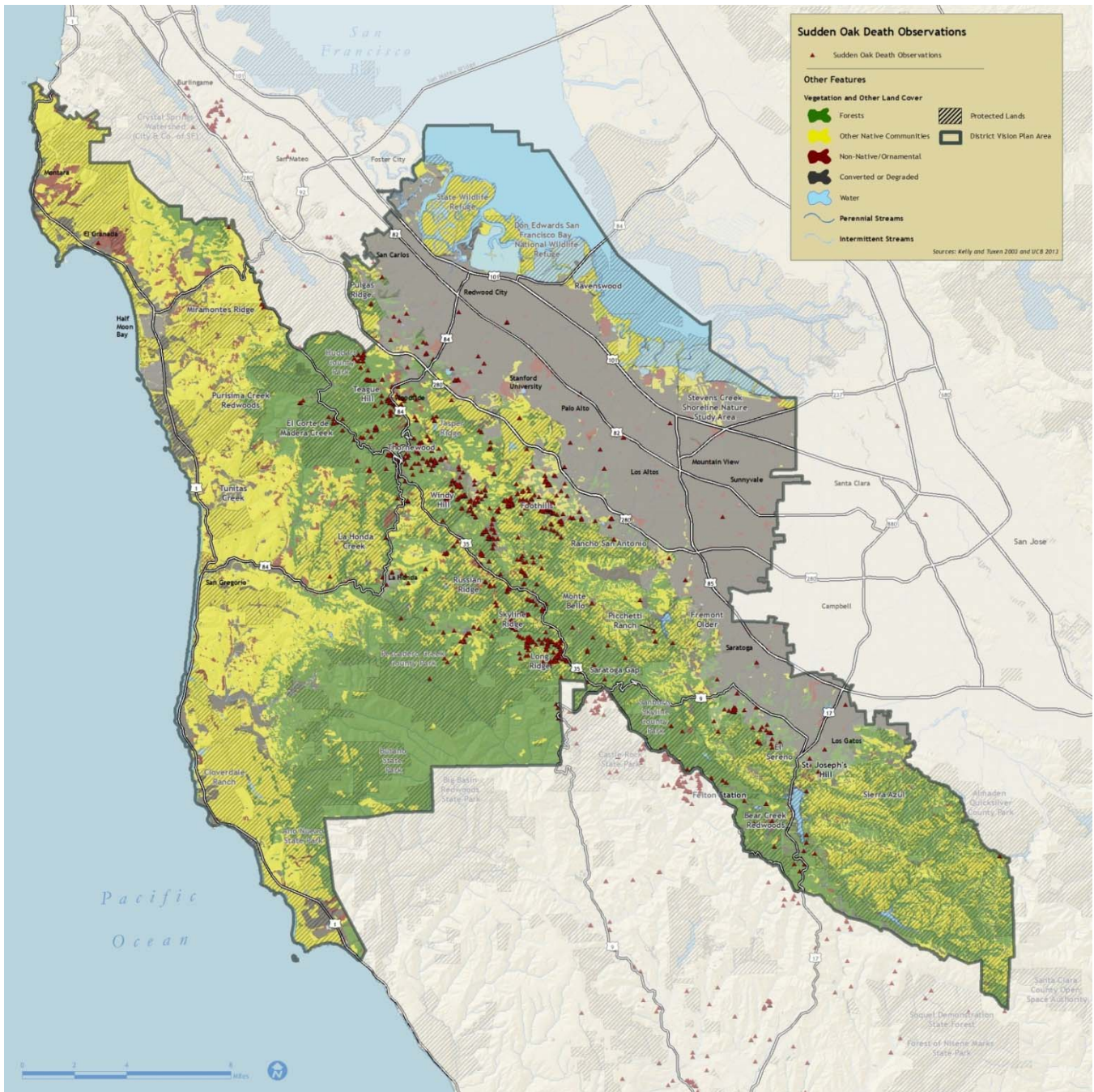


Figure 15: Sudden Oak Death observations

FIRE MANAGEMENT

The hot temperatures and seasonal drought that characterize the Mediterranean climate in the Vision Plan area are conducive to fire. Human inhabitants of the region historically used fire to modify the landscape; specifically, the native Ohlone used fire to promote native plants and animals used for food, ranchers burned grasslands to remove woody vegetation and thus increase forage including, loggers used fire to burn slash, and farmers used fire to remove crop stubble and prepare soils for planting (Stephens and Fry 2005).

Many of the vegetation communities on District lands evolved with the occurrence of periodic fire and have acquired unique adaptations to withstand and regenerate after a fire (Keeley and Keeley 1987). Without periodic fire, these plant communities build abnormally high and dangerous fuel levels and are susceptible to large scale destructive fire events.

In order to protect lives, property, and valuable timber, however, wildfires are actively suppressed within the Peninsula. This fire exclusion can alter ecosystem structure and functions, as well as lead to the accumulation of high fuel loads which exacerbate fire danger. The District's resource management policies address these and other aspects of fire management.

Ecosystem Needs

Fire plays an important role in the structure and function of the plant communities within the Vision Plan Area, including by promoting establishment of fire-adapted native plants, creating and maintaining early successional habitat conditions required by some animals, and cycling nutrients. By disrupting these processes, fire exclusion can have a host of cascading negative effects on biodiversity including causing declines in populations of fire-dependent plants and animals and impacting riverine species by reducing stream flows. Importantly, fire exclusion promotes build-up of fuel, which results in unnaturally intense and severe fires, which can negatively impact species even in fire-adapted systems.

Like other forms of disturbance, fire can promote the invasion and spread of non-native plants, many of which originate from other regions with a Mediterranean climate where fire is also an important part of the natural disturbance regime (Hobbs and Huenneke 1992, D'Antonio et al. 1999). At the same time, some invasive plants are sensitive to fire, which can be used as a technique to control their populations.

The native plant communities within the District were generally characterized based on their response of their dominant species to fire (Table 15, Figure 16):

- **Fire dependent:** These natural communities are dominated by plant species that cannot persist without recurring fire. The primary fire-dependent communities are:
 - closed cone conifer woodlands and forests, including Santa Cruz cypress, foothill pine, knobcone pine; and
 - chaparral, including that dominated by chamise, manzanita, and ceanothus (Keeley and Keeley 1987).

Kings Mountain Manzanita (*Arctostaphylos regismontana*)

This shrub, which is endemic to the northern Santa Cruz Mountains, likely requires fire to persist. As with other obligate-seeding manzanitas in maritime chaparral communities in the region, fires kill the adults, which lack a burl from which to resprout. Fires also create bare mineral soil and may scarify seeds, thus promoting germination. Importantly, fire removes trees including Douglas fir and oaks, which colonize chaparral in the absence of fire and shade out the shrubs.

- **Fire sensitive:** These natural communities are dominated by plant species that are killed by, and do not regenerate well following, fire, which is not an important component of the natural disturbance regime. Fire sensitive communities primarily include:
 - riparian communities, which feature dominant species adapted to recurring flood, but not fire which causes mortality and does not typically promote regeneration, including arroyo willow (*Salix lasiolepis*), box elder (*Acer negundo*), and California sycamore (*Platanus racemosa*)
 - wetland communities, including freshwater and saltwater/brackishwater marshes and wet meadows; and
 - dunes and other coastal strand communities.
- **Fire adapted:** These natural communities feature species adapted to fire within the natural range of variation of the disturbance regime (i.e. type, seasonality, intensity, and frequency). This category includes all terrestrial communities not characterized as fire dependent or fire sensitive.

Table 15: Vegetation according to its origin and fire relationship

Land Cover Type and Fire Relationship	Acres	Percent in District Preserves
Native Plant Communities		
Fire Dependent	21,048	40.2%
Fire Adapted	211,970	21.7%
Fire Sensitive	8,503	6.5%
Native Plant Communities Subtotal	241,521	22.8%
Non-Native Plant Communities		
Fire Promoted	4,137	6.7%
Fire Tolerant	5,189	8.0%
Fire Susceptible	6	71.1%
Non-Native Plant Communities Subtotal	9,332	1.3%
Other Land Cover	120,098	1.0%
Total	370,951	15.3%

Likewise, the non-native vegetation was generally classified into three categories (Table 15, Figure 16):

- **Fire promoted:** plant species featuring adaptations that facilitate its establishment and potentially spread following fire. Fire-promoted non-native communities include acacia, eucalyptus, pampas grass, Monterey cypress, and planted stands of pine; and
- **Fire susceptible:** non-native community dominated by plant species that are killed by, and do not regenerate well following, fire, which is not an important component of the natural disturbance regime. Poison hemlock (*Conium maculatum*) was classified as fire-sensitive.
- **Fire tolerant:** species adapted to fire, which is unlikely to promote spread, or present an effective control technique. This category includes Harding grass (*Phalaris aquatic*) as well as all vegetation for which dominant species were not available (i.e. those mapped generally as non-native/ornamental).

Site specific examination of vegetation conditions and other factors would be required to inform specific management strategies for open space within the District.

Fire Threat

Though a natural part of the upland ecosystems within the Vision Plan Area, fire poses a threat to lives and property. This threat is most acute at the wildland-urban interface, where development is adjacent to relatively undeveloped areas or ‘wildlands’, including open space (Figure 17). A state-wide analysis identified extensive areas of land within the Vision Plan Area as part of the wildland-urban interface; this includes areas of relatively dense development, including subdivisions, as well as sparse residential development that abut wildlands of all types, including protected areas such as parks and open space preserves, as well as private areas including timber lands (Figure 17; CalFire 2003). Areas designated as “communities at risk” feature at least one house per 20 acres and located within 1.5 miles of areas characterized as having high, very high or extreme fire threat, based on fuel rank and fire rotation (Figure 17). As part a more fine-scale mapping project, the District identified 8,749 acres of urban lands at the interface of District Open Space Preserves (Figure 17; MROSD 2013).

To address the threat posed by wildfire in the region, the state and local fire agencies, in partnership with other agencies and organizations, as well as private landowners and the broader public, have recently developed two Community Wildfire Protection Plans (CWPPs) within the Vision Plan Area:

1. Lexington Hills CWPP (2009), which covers just over 25,000-acre area in the eastern slope of the Santa Cruz Mountains in western Santa Clara County; and
2. San Mateo and Santa Cruz County CWPP (2010), which covers all of San Mateo and Santa Cruz counties.

These plans identify priority areas for fuel reduction and other fire safety measures, designed primarily to protect lives and property (Figure 17). Most are targeted in high-density rural communities, though they also include ‘areas of special interest’ featuring lower density development. The priority areas were identified through public participation in community meetings, and by integrating a variety of information and considerations, including fuel conditions, fire behavior, development patterns, and infrastructure. Communities with CWPPs receive priority for grants for hazardous fuel reduction projects through the California Fire Safe Council.

The District participated in development of the CWPPs, which include priority areas located in District open space preserves, including Pulgas Ridge, Bear Creek Redwoods, and Sierra Azul, and along Highway 35 within Saratoga Gap, Long Ridge, Skyline Ridge, Monte Bello, Russian Ridge, Coal Creek, and Windy Hill OSPs (Figure 17).

Management of District Open Space Preserves to Reduce Fire Threat

Fuel Management

- Disking, mowing, and brushing along roads and trails, and around parking areas and structures
- Invasive plant removal
- Conservation grazing
- Prescribed burning

Other Risk Reduction Measures

- Preserve closures during periods of high fire risk
- staff training and equipment to combat fire

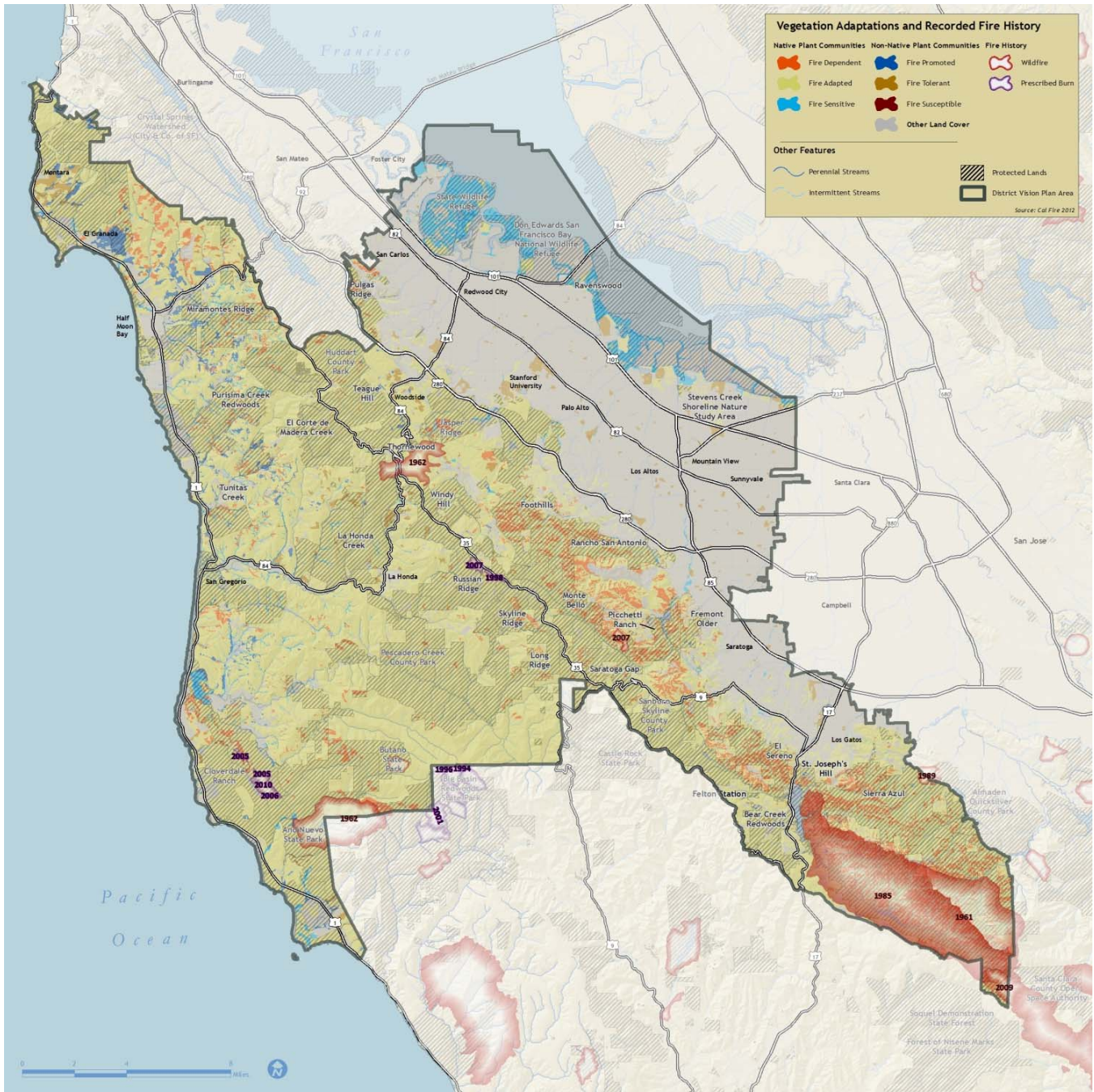


Figure 16: Vegetation adaptations and recorded fire history

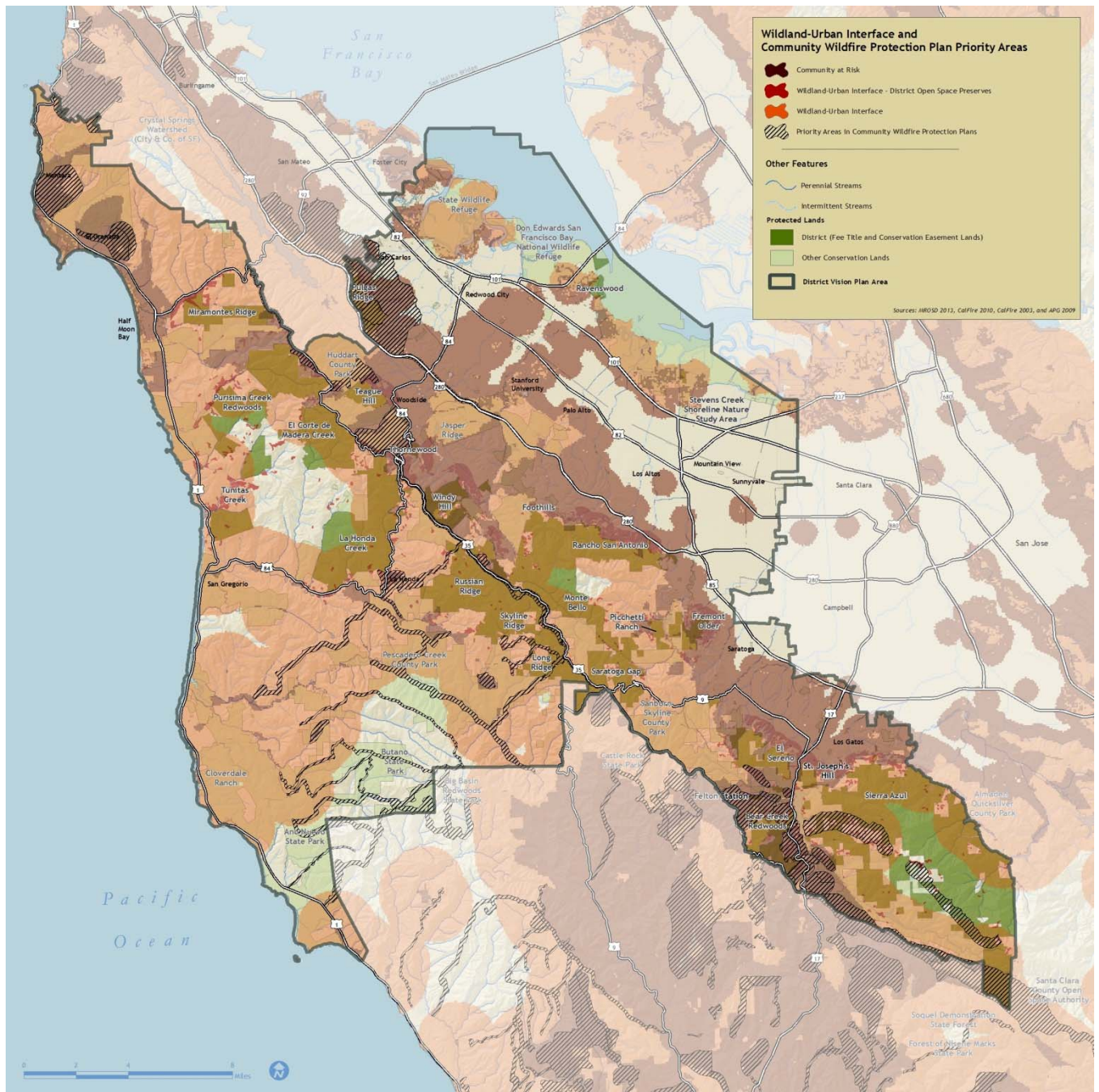


Figure 17: Wildland-Urban Interface and Community Wildfire Protection Plan Priority Areas

GLOBAL CHANGE

Species, communities, and entire ecosystems have the potential to be greatly altered by global change, including climate change and sea-level rise.

Climate Change

Potential Impacts

By the end of the century, the average annual temperature in California is predicted to increase by up to 8.1° F (Cayan et al. 2008). Though the change in California's precipitation is expected to be less than 10% (Cayan et al. 2008), the increase in temperature will promote water loss due to evaporation and transpiration, creating a climatic water deficit for plants (Flint and Flint, unpublished data). Moreover, a continuation of the trend of 33% reduction in the frequency of California summer fog (Johnstone and Dawson 2010) could exacerbate the drought stress caused by the predicted hotter and likely drier conditions.

The vulnerability of species and communities to climate change depends on their exposure, sensitivity, and capacity to adjust to change (Hanson and Hoffman 2011). Table 16 identifies types and examples of species and systems that could be most vulnerable based on five considerations (Hanson and Hoffman 2011). Notably, coast redwood and species that inhabit coast redwood-Douglas fir forest may be vulnerable to declines and ultimately extirpations in a future hotter and likely drier climate, particularly if the incidence of summer fog is reduced as has been observed over the past 50 years (Johnstone and Dawson 2010).

More frequent fire predicted to accompany the hotter, drier climate will likely alter dramatically the structure and species composition of the natural communities within the Santa Cruz Mountains (Fried et al. 2004). Across the Central Coast Ecoregion, the extent of shrublands and conifer forests are predicted to decline while the area of grassland increases (Lenihan et. al. 2008). These predictions suggest that coastal scrub, maritime chaparral, and coast redwood- Douglas fir forests could decline while grasslands will expand.

Potential for Area to Mitigate Climate Change Impacts

The Vision Plan Area features habitat that can promote resiliency of the species and communities within the Santa Cruz Mountains and broader Central Coast Ecoregion to climate change through a variety of mechanisms (Table 17, Figure 18). Wet areas, such as seeps, springs, streams, ponds, marshes, lakes and reservoirs, feature cooler microclimates, provide sources of free water, and may indicate areas of greater ground water that may be resilient in the face of climate change (Howard and Merrifield 2010). As a result of its mountainous terrain, the Vision Plan Area features topographic variability that creates a variety of microclimates. Importantly, narrow, deep canyons and north-facing slopes receive less insolation (solar radiation) and thus have cooler microclimates (Figure 18).

Sea Level Rise

In the past century, sea level has risen by eight inches, and is anticipated to rise by more than 4.5 feet (55 inches) by the end of this century (Heberger et al. 2009). The resulting inundation and attendant erosion and flooding could eliminate coastal and bay habitats, including:

- **rock outcroppings** and used for roosting and nesting by coastal seabirds, such as double-crested cormorants, brown pelicans, and pigeon guillemots, and as haul-out sites for marine mammals including harbor seals;

- **bluffs** utilized by nesting birds including Black Swifts, unique plant assemblages featuring succulents (*Dudleya* spp.); and
- **dunes** utilized by many plant and animal species including nesting Western Snowy Plovers, and globose dune beetles; and
- **wetlands** including salt marsh and brackish marsh, which support a diverse assemblage of shorebirds including California clapper rail, California black rail, salt-marsh harvest mouse, and salt-marsh wandering shrew (Section 3).

While new habitats could be created adjacent to the areas that will be inundated, this will not be possible where the adjacent land is already developed or is armored (e.g. by sea walls or levees). A state-wide analysis found that the anticipated sea level rise would result in the erosion of 525 acres of dunes, and 1,536 acres of cliffs in coastal San Mateo County (Heberger et al. 2009). In addition, of the estimated 9,600 acres of wetlands, only 1,856 acres (20%) would be able to migrate into adjacent natural land. An additional 4% (345 acres) could move into adjacent non-natural land (e.g. agricultural areas, parks etc.), while the remaining 76% of the county's wetlands, 7,040 acres, would be lost. Protecting land where wetland migration is feasible will be essential to conserving these sensitive communities and species as sea level rises.

Table 16:
Biological systems in the Vision Plan Area that could be most vulnerable to climate change

Criteria	Terrestrial	Aquatic
Specialized habitat or microhabitat	<ul style="list-style-type: none"> • Serpentine species • coastal prairie grassland species 	<ul style="list-style-type: none"> • Endangered salmonids including coho salmon and steelhead trout • Pond-breeding species, including California tiger salamander, California red-legged frog, San Francisco garter snake, and western pond turtle
Narrow environmental tolerances that are likely to be exceeded	<ul style="list-style-type: none"> • Coast redwood, which requires cool, foggy areas, and is near the southern end of its range • Maritime chaparral endemic species (e.g. <i>Arctostaphylos regismontana</i>), which require fog • Species at the southern end of their range, including white-flower rein orchid (<i>Piperia candida</i>) and <i>Geocalyx graveolens</i>, a liverwort • Black oak and other species at the edge of their elevational range atop Skyline 	<ul style="list-style-type: none"> • Coho salmon and steelhead trout, which are sensitive to changes in water temperature • Species at the southern end of their range including Pacific giant salamander and rough-skinned newt
Dependence on specific environmental triggers or cues that are likely to be disrupted	<ul style="list-style-type: none"> • Breeding birds • Migratory species (butterflies, birds, and bats) 	<ul style="list-style-type: none"> • Breeding amphibians, which require specific hydroperiods
Dependence on interspecific interactions that are likely to be disrupted	<ul style="list-style-type: none"> • Insect-pollinated plants, especially those with specialist pollinators • Insectivorous bats, especially specialist (e.g. pallid bats feed largely on Jerusalem crickets) 	<ul style="list-style-type: none"> • Increased stream biological productivity due to higher temperatures could alter competitive relationships in stream assemblages
Poor ability to colonize new, more suitable locations	<ul style="list-style-type: none"> • many plants • limited mobility animals, including flightless insects 	<ul style="list-style-type: none"> • Pond invertebrates, amphibians, and reptiles that cannot disperse through upland habitats, particularly developed areas

**Table 17:
Refugia and aspects of climate change resiliency conferred by the Vision Plan Area**

Refugia	Contribution to Climate Resiliency	Occurrence in Vision Plan Area
Areas of Reduced Solar Insolation	Areas or reduced solar radiation feature cooler microclimate and typically greater vegetation cover and thus evapotranspiration	Variable, mountainous topography results in north-facing slopes being well-distributed throughout the Vision Plan Area
Streams and riparian areas	<ul style="list-style-type: none"> • Source of perennial water for animals • Feature cooler microclimates due to evaporation and transpiration • Riparian corridors can facilitate animal movement in response to climate change 	<ul style="list-style-type: none"> • 1,100 miles of streams that provide water and cooler microclimates • Streams through developed areas (e.g. Santa Clara Valley) provide corridors that promote migration in response to a changing climate
Ponds, lakes, sloughs, and reservoirs	<ul style="list-style-type: none"> • Source of water for animals • Feature cooler microclimates due to evaporation and transpiration 	Numerous ponds, lakes, reservoirs, marshes, and other wetlands
Seeps and springs	Source of perennial water and indicators of where groundwater may be more plentiful and thus persist in a future hotter, drier climate (Howard and Merrifield 2010)	<ul style="list-style-type: none"> • Numerous mapped seeps and springs (additional unmapped springs likely occur in the landscape)
Steep elevational gradients	<ul style="list-style-type: none"> • Interconnected habitat reduces the distance species need to move along an elevation gradient • Precipitation and winter minimum temperature increase with elevation 	<ul style="list-style-type: none"> • Elevation ranges from sea level to over 3,000 feet in less than 10 miles from both east (bay) and west (Pacific Ocean). • Steep terrain occurs within contiguous habitat patches including the patch connecting Skyline to the Sea near Big Basin State Park facilitating migration inland and along an elevational gradient
Connectivity along a latitudinal gradient	Interconnected habitat enables movement along a latitudinal gradient, along which precipitation increases and mean annual temperature decreases	The Vision Plan Area is contiguous with habitat further north in the Santa Cruz Mountains, a northwest to southeast trending mountain range that spans nearly 80 miles.



Figure 18: Areas of potential climate resiliency

GEOGRAPHIC INFORMATION SYSTEMS DATA

The following table lists the GIS datasets used to prepare this report. Information about the datasets is provided in the References section.

Dataset	Sources
Biodiversity	
Coho Recovery Plan Priority Watersheds and Distribution	NMFS 2010
Ponds and Other Waterbodies	MROSD 2013 and USFWS 2011
Rare Species Occurrences	CCH 2013, DFG 2008, DFW 2013, MROSD 2013
Vegetation and Sensitive Habitat	BAOSC 2012 and MROSD 2013
Watershed Integrity	BAOSC 2012
Winter Steelhead Distribution and Range	DFG 2012
Connectivity	
Aquatic and Terrestrial Linkages	BAOSC 2013
Habitat Patches	BAOSC 2013 and Mackenzie et al. 2011
Erosion	
Landslide Potential	USGS 1997
Universal Soil Loss Equation and Gully Erosivity Potential	Hiatt 2013
Fire	
Communities at Risk and Wildland-Urban Interface	Cal Fire 2003
Community Wildfire Protection Plans Priority Areas	APG 2009 and Cal Fire 2010
Fire History	Cal Fire 2012
Wildland-Urban Interface - District Open Space Preserves	MROSD 2013
Forests	
Old Growth	SRL 2008 and Singer 2003
Older Second Growth	Singer 2012
Sudden Oak Death Occurrences	Kelly and Tuxen 2003 and UCB 2013
Timber Harvest Plans and Non-Industrial Timber Management Plans	Cal Fire 2013
Timber Production Zones	ABAG 2006
Land Use	
Protected Lands (Fee Title and Easement)	MROSD 2013
Physical	
Coastline	MROSD 2013
Hillshade	MROSD 2013
Major Roads	MROSD 2013

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Appendix C-2:

History of Timber Harvests

Within the Midpeninsula Regional Open Space District

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INTRODUCTION

Timber harvesting within the Midpeninsula Regional Open Space District’s jurisdiction (Figure 1) is primarily restricted to redwood and Douglas-fir dominated coniferous forest, with associated hardwood, primarily tanoak, madrone, California bay, black oak, and various live oaks. These conifer-dominated areas are located in the central and southern portions of the District’s boundary, with the greatest acreage occurring on the western slope of the Santa Cruz Mountains just north of Big Basin State Park (Figure 1). Of the 370,000 acres within the District boundary, only 1,698 acres (0.4%) is within Santa Cruz County. Santa Cruz County, outside of the District boundary, is the County area with the largest acreage of Timber Production Zone (TPZ) parcels, and includes the largest acreage harvested within the Santa Cruz Mountains.

Timber Harvest Planning Documents

Timber Harvest Plan (THP): Plan for each timber harvest or entry; THPs expire after 5-7 years

Non-Industrial Timber Management Plan (NTMP): Long-term plan that allows periodic harvests on ownerships of up to 2,500 acres of timberland, with updates on sustainability analysis and biological assessment prior to each harvest, when a notice of timber operations (NTO) is filed.

In the past 16 years, 9,425 acres have been approved for operational harvest within the District (Figure 2). Timber Harvest Plans (THPs) accounted for 8,781 acres and Non-Industrial Timber Management Plans (NTMPs) accounted for 644 acres. An additional 995 acres have been approved for harvest in the six NTMPs within the District boundary, though have not yet been harvested.

Harvests under THPs or NTMPs can occur at most, every 10 years; however, a longer rotation is common. Of the acres approved for harvest under THPs in the past 16 years, 1,346 acres (15%) have been harvested twice over that time period. The average annual harvest rate within the District has been approximately 618 acres over the past 15 years, with only approximately 5% coming from NTMPs, which are designed to provide for more sustainable management.

TIMBER HARVEST REGULATIONS

Timber harvesting in the District jurisdiction is conducted pursuant to the California Forest Practice Rules (FPRs) and may be further regulated by other state and federal statutes [Endangered Species Act (ESA), Clean Water Act (CWA), etc.]. Santa Cruz, San Mateo and Santa Clara counties all have additional Special County FPRs.

San Mateo County:

Timber harvesting under a THP or NTMP is conducted pursuant to the FPRs. Due to public concerns regarding timber harvests occurring in rural-residential areas, the County Board of Supervisors in 1992 Implemented an ordinance, restricting timber harvesting on non-Timberland Preserve Zone (TPZ) zoned parcels from occurring within 1,000 feet of any legal residence on an adjacent parcel unless that adjacent landowner owner grants written permission. Conversions are permitted for less than 3 acres, no more than once every 5 years per parcel. Exemptions are permitted for fire hazard reduction, removal of dead, dying or diseased trees, and fire salvage. Approximately three acres have been approved for conversion and approximately 229 acres have been approved under exemptions (principally fire hazard reduction) in the past two years.

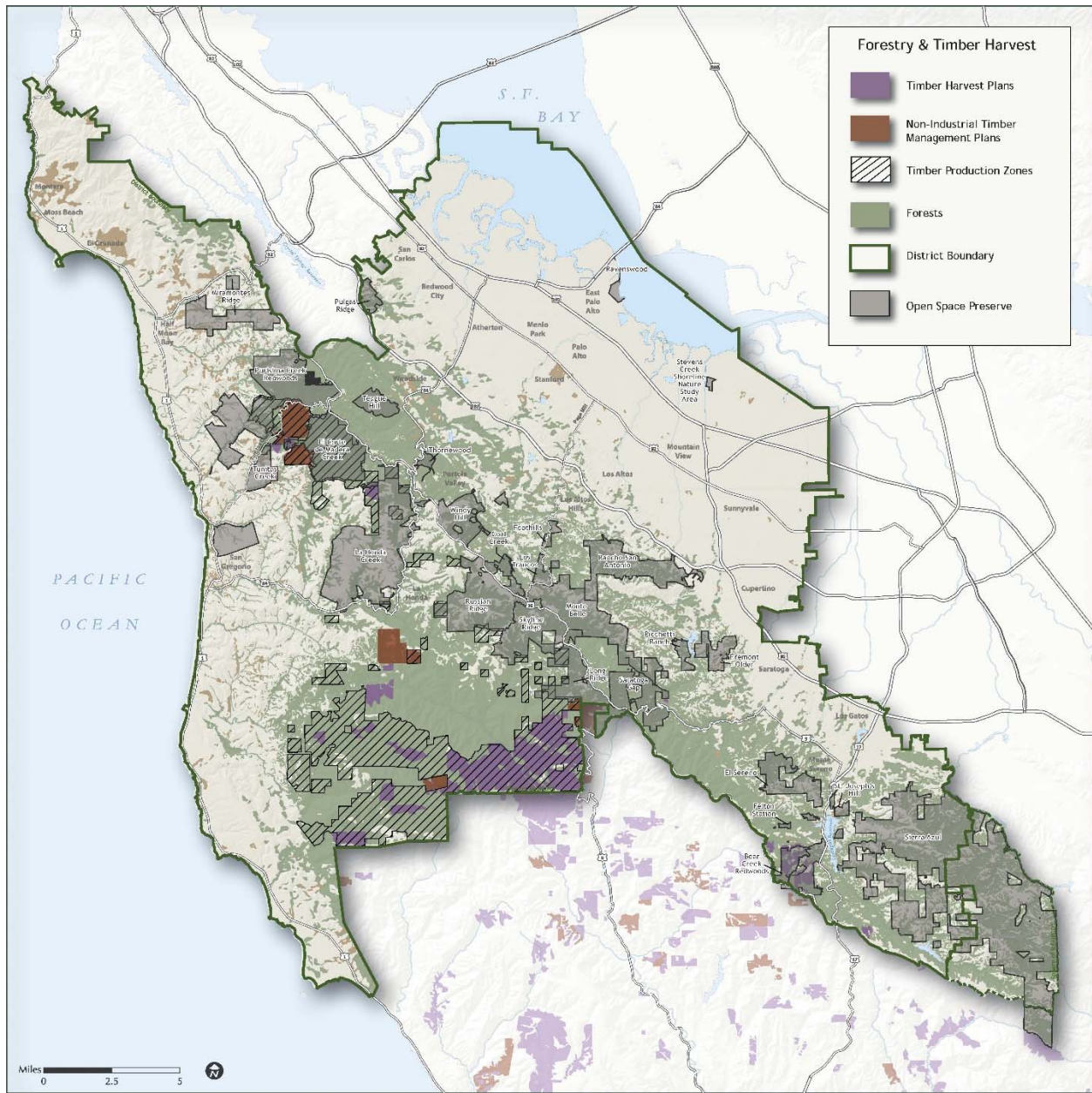


Figure 1: Timber harvests and timber production zoning within the District's boundary

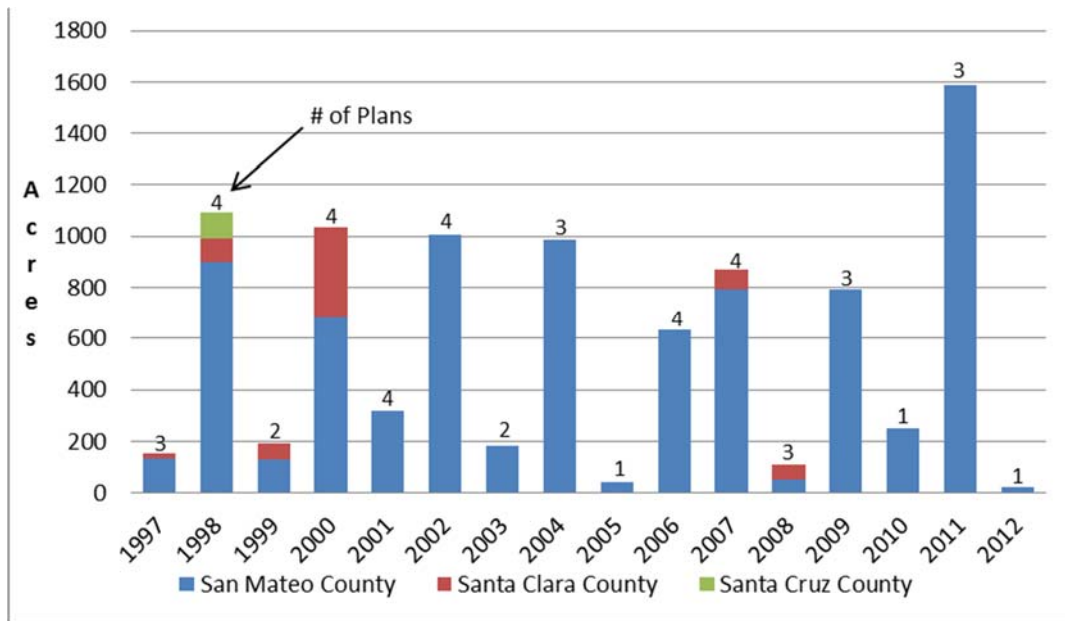


Figure 2: Timber harvests within the District’s boundary (1997-2012)

Santa Clara County:

Timber harvesting under a THP or NTMP is conducted pursuant to the FPRs and is not restricted by zoning. Santa Clara County did not designate and zone qualifying timberlands to TPZ as allowed by the California Timberland Productivity Act (1982). Santa Clara County has only one parcel zoned TPZ. Recent harvests have also occurred on land zoned “Ranchland” And “Hillsides” as well as “Other Public Open Lands”. The latter corresponds to a harvest in what is now Bear Creek Redwoods Open Space Preserve (OSP), which was approved prior to District acquisition. Approximately 17 acres were approved within the county for fire hazard removal exemptions, with no conversions, in the last past two years.

concerns for the environment and harvesting in rural-residential areas, the Board of Supervisors in 1999 ruled that timber harvesting on all other zoning designations was not allowed, except for three acre or less conversion or exemption permits (primarily for fire reduction) .

Within the District boundary, most timberland is eligible for timber harvesting per zoning, given applicable County, State, and Federal regulatory constraints. The TPZ zoning in San Mateo County (which is eligible for timber harvest without neighbor consent) covers approximately 2% of the county area, though roughly 43% of the county contains forests that include some redwood trees. Of the 28,201 acres zoned for timber production within the District’s boundary, 4,583 acres (16%) are within District open space preserves.

Santa Cruz County:

Timber harvesting is conducted pursuant to the FPRs on parcels zoned Timber Production (TP), Commercial Agriculture (CA - outside the Coastal Zone), Parks Recreation and Open Space (PROS) and Mining (M3). Given

TIMBER HARVEST HISTORY

The extraction of forest products in the Santa Cruz Mountains began around 1777, with arrival of European settlers. Mechanical sawmilling began around 1841. The first mechanical mills used water power to drive the saws. During this time, draft animals (oxen and horses) were primarily used to transport logs to the mills from the forest and lumber to the end user. By the 1850s, steam began to replace water flow as the power source in many sawmills. Steam-driven log yarders (steam donkeys) were used in woods operations starting in the latter 1880s. With the development of new technologies, the rate of harvest increased. Two seminal events contributed to increased forest resource extraction in the Santa Cruz Mountains:

1. California gold rush, which began in 1849, and resulted in high demand for wood in San Francisco, which had become the primary hub for materials and manpower destined for the gold fields; and
2. The 1906 San Francisco earthquake and fire, which destroyed many of the existing wood-frame structures (Standiford et al. 2012).

By the mid-1850s, many small sawmills were in existence throughout the portions of the District populated by redwood forest. These mills cut most of the accessible old-growth redwood trees of good form, leaving scattered residual old growth behind. There is no official definition of old growth; however, for the purposes of this discussion, old growth refers typically to large trees, with platy bark and deep fissures, large limbs, reiterated tops, basal hollows, and cavities (characteristics which also greatly enhance habitat complexity), that also generally had been growing before European settlement.

Clear-cutting of the old-growth redwood/Douglas-fir conifer forests of the Santa Cruz Mountains continued more or less unabated until the mid-1920s. By 1930, most of the contiguous stands of old-growth timber had been cut.

A proportionally small, yet biologically significant, portion of the total old-growth forest within the Santa Cruz Mountains was preserved and transferred to park land. In the mid-1880s, individuals, agencies, and organizations initiated efforts to safeguard old-growth redwood forests. In 1901, California Redwood Park—the first redwood forest park and second California State Park—was established in Big Basin, which is located in the southwestern portion of the District (Evarts and Popper 2011). Early California redwood conservation efforts within the Santa Cruz Mountains are recognized as pioneering and exemplary, and helped grow the greater conservation movement in California. Some instrumental conservation organizations such as the Save-the-Redwoods-League, and the Sempervirens Fund continue to conserve redwood, including old growth, within the Santa Cruz Mountains.

By 1940, forestland within the District’s boundary was comprised of predominantly robust stands of small second-growth redwood and Douglas-fir ranging from ten to eighty years old, with remnant stands of old growth located primarily in protected lands or inaccessible areas on private land. The next wave of harvesting focused on cutting scattered residual old-growth and was conducted on a smaller scale than the turn of the century operations. State regulations at the time required that four “seed trees” per acre, eighteen inches in diameter or larger, be retained. All other trees could legally be cut.

In July 1956, local timber operators voluntarily formed the Central Coast Timber Operators Association (Original Documents of the Central Coast Timber Operators Association). The purpose of this organization was to create a mutually agreeable set of logging standards beyond what State and County regulation required. The impetus for these self-imposed voluntary standards was the increasing public concern over logging operations and their potential effects on streams, roads, and particularly drinking water. Some careless logging

operators whose lack of consideration for these legitimate public concerns resulted in increasing conflict between neighbors and timber harvesting. On August 14, 1956, the Central Coast Timber Operators Association adopted self-imposed rules which included an assessment of surface water on every proposed timber harvest site to determine whether the water was being used for domestic purposes, rigorous confirmation of property lines and rights-of-way, strict attention to logging slash treatment and a prohibition of log hauling on weekends and legal holidays. Discussions also began regarding developing practices for improving stream crossings and road and landing construction as well as establishing buffer zones adjacent to creeks.

History of Timber Harvest Regulations

In 1967 the California Board of Forestry formed a sub-committee to discuss county-specific forest practice rules. It was during these discussions that the basic principles of selection silviculture began to take shape. Three operational standards were adopted at this time and formed the basis for single-tree selection silviculture in San Mateo, Santa Cruz and Santa Clara counties:

1. **The 60-40 Rule:** No more than 60 percent of trees 18 inches in diameter or larger could be cut during any harvest entry and no more than 40 percent of the trees 8 to 18 inches could be cut per entry;
2. **10-year Minimum Reentry Period:** A minimum harvest entry interval of 10 years was established, based upon the practice of several local foresters at that time; and
3. **Lopping Requirement:** All logging slash must be cut to within 30 inches of the ground. This operation was first tested for economic effectiveness by Big Creek Lumber Company on a harvest site in San Mateo County in the 1960s (Dale Holderman and Bud McCrary, pers. comm.).

Benefits of selective harvesting (the 60-40 Rule) can include: release of residual trees to improve growth rates and add volume to specific retained trees, management of specific tree species to shift species composition toward a desired composition and structure, and increase in separation of the horizontal and vertical continuity of fuels to reduce fire hazard.

Interestingly, it was lopping requirement that had the most immediate impact on timber operations in the Santa Cruz Mountains. Timber fallers and equipment operators could no longer knock down or damage smaller conifers and hardwoods, at least not without incurring prohibitive cleanup costs. As a result, the quality of timber operations improved significantly (Dale Holderman and Bud McCrary, pers. comm.).

Timber Harvest Regulations in the District
<ul style="list-style-type: none"> • 1956 Central Coast Timber Operators Association • 1960's: Santa Cruz County Rules • 1973: Professional Foresters Law • 1973: California Forest Practice Act • 1982: Timberland Productivity Act/SB856 • 1976 and 1999 Special County Rules

In 1973, the California State Legislature passed the Z'berg-Nejedly California Forest Practice Act, enabling legislation that charged the California Board of Forestry and Fire Protection with establishing the California Forest Practice Rules. The 60-40 cutting rule became the operational standard for the Southern Subdistrict of the Coast District, which includes the Santa Cruz Mountains. Many progressive landowners have historically harvested below this level.

The Z'berg-Nejedly California Forest Practice Act permitted individual counties to create their own separate logging regulations as long as those regulations were more protective than state

regulations. January 1, 1983 saw the passage of California Senate Bill 856, which removed county authority to regulate the conduct of timber operations, including Santa Cruz, San Mateo, and Santa Clara counties, which were actively regulating timber harvests at the time. This bill was enacted in response to timber industry outcry to a decision by the Santa Clara County Board of Supervisors in 1980 to not process County timber harvest permits, which was viewed as effectively creating a de-facto prohibition (Martin 1989). Local counties were also beginning to require Environmental Impact Reports (EIR's) under the Environmental Quality Act, and imposing environmental and operational requirements and mitigations for timber harvests within the Santa Cruz Mountains, to which the timber industry objected. Senate Bill 856 would have significantly diminished county roles in overseeing harvesting within their jurisdictions: counties would no longer had the ability to approve or deny timber harvests within their jurisdictions; instead, those decisions would be made by the State of California.

Recognizing the fact that counties might have specific needs, and that some had actively been regulating timber operations, SB 856 enabled individual counties to petition the Board of Forestry for Special County Rules. The Board of Forestry only allowed the six counties that previously had regulated timber harvests, and were politically most boisterous and impacted by SB 856, to propose such rules. These include San Mateo, Santa Clara and Santa Cruz counties, as well as Monterey, San Francisco, and Marin counties. These six counties were allowed to participate in the THP review process as members of the "Review Team" for THPs within their jurisdiction, and were given the ability to comment on and appeal THPs, though all final approval authority would remain with the State. The vast majority of counties with the vast majority of timber resources within the State were thus excluded from similar oversight. The Board of Forestry passed some of the requested Special

County Rules and rejected others. Interestingly, the enacted rules that were allowed were remarkably similar to the operational standards adopted by the Central Coast Timber Operators Association during the 1950s.

Under California Forest Practice rules specific to the Southern Subdistrict of the Coast District (located primarily within the Santa Cruz Mountains), clearcutting has been outlawed since 1970. Since that time, single tree selection has been the only silvicultural practice allowed in the Southern Subdistrict. While clearly environmentally superior to the clearcutting that the Board of Forestry allows throughout the rest of the State, substantial road and log-landing construction, and near-stream operations were often widely noted as substantial sources of sediment pollution within the Santa Cruz Mountains by the California Department of Fish and Wildlife in stream surveys between the 1960s and 1980s. During the mid to late 1990s, additional stream habitat and water quality regulations were incorporated into the Forest Practice Rules to better protect forested watersheds with anadromous fish runs, and/ or watersheds that had been designated as impaired (polluted) by sediment by the Regional Water Quality Control Board, during timber operations.

Increasing population and rural mountain residential development have created pressures on redwood forestlands in California, and particularly on the Central Coast. Tensions resulting from population increases and ongoing residential encroachment into forestlands in the District have increased over time. Environmental deficiencies of timber harvests were often encountered by the growing population of mountain residents, and conflicts between rural-residential uses and expectations, and timber uses and expectations, have ensued. Significant new conflicts were introduced with the addition of helicopter logging within rural residential areas, beginning in the mid-1990s. Additionally, demographics of Santa Cruz Mountain Counties have changed since the 1980s, with the influence of economic growth and

development in Silicon Valley. Residences within the forested mountains have become desirable as retreats from the urban areas within easy commute distance. These circumstances have created significant logistical and socio-political challenges that timber harvesting must now take into account.

In recent years, a couple of potential harvests, of the many submitted to Cal Fire, have sparked public controversy and were eventually either withdrawn or denied. These were Non-Industrial Timber Management Plans and included: San Jose Water Company and the San Francisco YMCA. Significant issues raised by those opposing the harvests included: the indefinite, forever approval of NTMPs, which once approved cannot be amended; protection of old-growth and late-seral forests, watersheds, streams, and municipal and domestic water supplies; impacts of helicopter logging; effects on residential and recreational uses on adjacent lands; loss of terrestrial habitat important for preservation; increased fire risk; and acreage limitations for NTMPs.

IMPLICATIONS OF TIMBER MANAGEMENT

Ecologically sustainable forestry can have numerous benefits. These benefits include: providing local, sustainable products for consumers; supporting working forestlands that provide a buffer against the pressures of land conversion and rural residential development; and, in some cases, maintaining and promoting biological diversity in redwood forest ecosystems. Restoration forestry, which focuses on utilizing timber harvest to restore forests degraded by previous logging, may utilize limited harvest entries to restore and promote increased biodiversity, including by accelerating growth and characteristics of older (late-seral) forests, and adding complexity to younger stands that have been biologically simplified by past harvest practices.

The cessation of harvesting may have environmental consequences which include effects

on forest structure and species composition, such as increasing density of trees leading to a stagnated condition when tree growth slows dramatically and stem exclusion or die off begins to take place. Shade-tolerant tree species that would otherwise be kept in check by forest management or historic fire intervals, such as Douglas-fir, can fill in the understory thereby increasing competition.

Lack of forest management can also have other environmental effects, including neglect of road maintenance, which may cause failed drainage structures and damage to road infrastructure, as well as increases in erosion and sediment delivery. Funds to maintain infrastructure (roads, erosion control, etc.) must be procured elsewhere; if funding is not available, adequate maintenance may not get done. The District has, and will continue to direct substantial funds, and staff resources to abandon/restore pre-existing problematic timber road infrastructure, and to upgrade and maintain existing timber infrastructure to maintain emergency and patrol access, access for restoration and environmental stewardship, and access for recreational activities.

When forest management is removed from the land, the presumed fire-surrogate effects of harvesting are also absent. These effects include lopping of slash to reduce the fire hazard, as well as reducing the horizontal and vertical continuity of fuels to alter fire behavior. The fire-surrogate effects of harvesting remain a topic of debate. Logging can generate substantial slash, creating the need for lopping, and increasing forest floor fuel loads. The typical harvest rotation grows trees to a harvestable size (often within the 18 to 30 inches in diameter), then removes them, creating a perpetually young, smaller diameter stand (within the context of the overall age/ size range possible for these forests). Younger forests are typically less resilient to fire than a larger older stand. Stand replacement fires in old-growth forests, for example, have been reported to have had recurrence intervals in the multiple hundreds of year time frame, a testament to the fire resiliency of such older, larger, less dense stands. (Agee

1993, Arno and Fiedler 2005, Noss 2000, Kohm and Franklin 1997, FEMAT, 1993).

Absent forest management, other aspects of stewardship may also be less likely to take place, including monitoring and controlling invasive species, and potentially enhancing stream health through restoration actions. Restoration forestry remains a tool to potentially balance revenue needs for forest-related stewardship, enhance the resiliency to fire, and to promote/ accelerate forest ecological recovery to restore forests to a more similar condition to the forests that preceded European settlement. The THP process, in addition to providing potential revenue for restoration/ management, also potentially provides an expedited, less-costly process to undertake forest restoration and stewardship activities, than other options, such as county development permit processes.

There are potential environmental consequences associated with limiting/reducing the amount of land available for forest management on the Central Coast. Conversely, there are environmental benefits to sourcing raw materials locally, which subsequently become finished products sold to local markets. Prior to the 2009 economic recession, the annual per capita consumption of forest products used by individual Californians was a little over 700 board feet. That is the equivalent of a tree 24 inches in diameter at the base and 100 feet tall. In order to supply California with its annual wood fiber needs, thirty-six million times that volume had to be harvested.

Curtailing the supply of locally available timber has no effect on the overall production of forest products, as demand for these products doesn't change. Eliminating the local supply simply exports the procurement process to other locations. The importation of forest products from outside of the region results in an increase in fossil fuel consumption. Sourcing, manufacturing, and selling products locally reduces this fuel consumption.

Another potential environmental consequence of exporting the procurement of forest products is the fact that few (if any) locations elsewhere have forest practice regulations that provide the environmental protections currently in place on the Central Coast, which may result in increased harvesting in a less protective manner somewhere else.

Curtailing the supply of locally-available timber also has a direct effect on forest products manufacturers. When the available supply of raw material (logs) drops too low, the manufacturing facilities are at risk. This not only affects local economies, it also may also place pressure on landowners to pursue other economic uses of their forestlands. This can include conversion of forests to other land uses, such as residential use. Well-managed forests can foster ecosystem integrity, while continuing to provide wood and non-wood values.

Agencies Involved in Timber Harvest Review in the District

California Department of Forestry and Fire Protection (CAL FIRE)

California Department of Fish & Wildlife

California Geological Survey

San Francisco/Central Coast Regional Water Quality Control Boards

Counties of Santa Cruz, San Mateo, and Santa Clara

FOREST PRACTICE RULES AND THEIR BENEFITS FOR FOREST ECOSYSTEMS

The California Forest Practice Rules (FPR) include provisions to protect the public trust resources and mitigate negative cumulative environmental effects. The rules have evolved since 1973 to incorporate specific rule sections addressing watercourse protection, erosion control, preservation of habitat values, sensitive species protection, long-term sustained yield, and

fire hazard reduction, among other things. Many of these revisions were made in response to public and reviewing agency concerns that public trust resources were not being adequately protected, and that significant cumulative environmental effects were occurring, despite the FPRs. The THP and NTMP have been determined through the courts to be functionally equivalent to an Environmental Impact Report. This includes the need to evaluate cumulative impacts, and also includes a public process as required by CEQA.

As regulatory documents, THPs and NTMPs are reviewed in the office and in the field by a suite of agencies (inset box). In addition, depending on location and circumstances, THP and NTMPs are reviewed by California State Parks, the National Marine Fisheries Service, the U.S. Fish and Wildlife Service, water districts, private road associations, or other resource professionals, archaeologists, geologists, wildlife biologists, and scientists, as well as the public.

Individual THPs and NTMPs require road and habitat assessments and provide the opportunity for proactive maintenance and restoration work to address problems often resulting from past harvesting, and to improve property conditions.

Forest Practice Rules addressing watercourse and lake protection provide for equipment exclusion buffer zones, legacy tree retention and recruitment, and canopy preservation. Many of these rules have been strengthened since the mid-1990s, in response to concerns statewide that the FPRs were not adequately protecting associated resources. The recent adoption of Anadromous Salmonid Protection Rules into the FPRs is a recent example of such revisions, aimed at preserving and enhancing watercourse health and riparian zone function to protect anadromous fish (salmonids) and their habitat from timber-harvest-related impacts.

Timber Harvest within Conservation Lands: Case Studies

Byrne Forest: Since 1984, the Land Trust of Santa Cruz County has owned the 322 acre Byrne Forest, the purchase of which was conditioned on ongoing management for educational and recreational uses, and as a sustainable working forest. Seven sustainable harvests over the last 25 years have generated \$3.9 million (in 2014 dollars) for ongoing stewardship of the forest and other conservation lands in Santa Cruz County.

San Vicente Redwoods: Non-profit conservation organizations in the Santa Cruz Mountains partnered to protect the 8,532-acre property, which features Conservation Areas, which will be preserved without timber harvest, Restoration Areas, where timber harvest can occur to promote the restoration objectives, and Working Forests which will be managed using sustainable timber harvest.

CHANGES WITHIN LOCAL FORESTS

The Santa Cruz Mountains have been subjected to rural-residential development pressure, including encroachment into forestlands for more than a century. This has often been preceded by timber harvesting and related road (including railroad) infrastructure. More recently, the transition of the Santa Clara Valley into a regional economic powerhouse has predictably placed extreme land-use pressures on adjacent rural lands including local forestlands. It also created some speculation on forested properties, using timber harvesting as a way to pay for and construct residential infrastructure (access roads and building sites) for future sale with the 'new' amenities. These operations occurred on non-IPZ parcels, which had not recently been logged, and were often in proximity to other rural residences, perpetuating conflict, and leading counties to resolve conflicts through zoning restrictions.

Properties that historically were owned and maintained with periodic selective harvesting as an

objective have now become desirable as upscale rural-residential areas for Silicon Valley. Continued harvesting may not meet the residential objectives of all of these new landowners, and these owners may have the financial resources to adequately manage and maintain their properties without the need for harvest income. This continues the trend of economic pressure on local forestlands, and has also resulted in a population of new residents who may not have substantial knowledge of local logging practices or the area's longtime history of sustainable forest management. Nonetheless, even well-informed new property owners may still choose not to harvest their property. Demographic and economic changes continue to further public discussion with elected representatives, various government regulatory agencies and the local forestry community.

One such area of discussion is the wildland-urban interface areas which can be a threat to timber, habitat and residential values as well. This interface may pose logistical problems for carrying out beneficial management practices, as well as social hurdles to implement successful forestry projects. These challenges can often be overcome

with a clear message and open communication, and wildland-urban interface projects continue to be successfully implemented within the District's boundary.

Forest preservation efforts in the Santa Cruz Mountains have removed viable timberlands from harvest going back to at least the preservation of Big Basin in the early 1900s, and has continued since. In the last thirty years, tens of thousands of acres of potentially harvestable forestland have been acquired for parks and open space. While many of these lands had been previously harvested, or could legally be harvested under current land use regulations, timber harvesting has generally not been undertaken by the entities now administering these lands. Two notable exceptions to this trend are the Byrne Forest and the San Vicente Redwoods property (inset box). Ongoing and future conservation efforts will continue to purchase forest land in the area. Several open space organizations, including the District, are now considering limited forest management, where appropriate, as a mechanism to achieve their conservation goals, which include forest restoration.

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Appendix C-3:

Conservation Value Analysis for the Healthy Nature Theme of the Vision Plan

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INTRODUCTION

Purpose

This report describes spatial analyses that were conducted to characterize the relative biodiversity conservation value of land within the Vision Plan Area—an approximately 370,000-acre area which includes the Midpeninsula Regional Open Space District jurisdiction, sphere of influence, and land holdings (Figure 1). The purpose of the analysis was to integrate multiple sources of spatial data, which were used to characterize existing conditions for biodiversity in the plan area (JMc 2013a), to create a single data layer that can be used to identify areas where land protection, restoration, and stewardship projects can best advance the goals of the Vision Plan’s *Healthy Nature* theme.

Overview

Spatial data developed by the District and its conservation partners, as well as other publicly available information depicting terrestrial and aquatic ecosystems, rare species habitat and occurrences, and areas important for landscape connectivity, were synthesized in a geographic information system (GIS). This GIS was used to assess the individual conservation values presented by these and other features, as outlined in detail in the report, *Biodiversity of the Midpeninsula Regional Open Space District* (JMc 2013).

The GIS was then used to conduct an overlay analysis in order to identify areas of co-occurring features where conservation actions could achieve multiple benefits for biodiversity conservation. Weights were applied to the features to indicate their accuracy and relevance for directing conservation work to achieve the *Healthy Nature* theme goals. The resulting layer depicting the relative value of land for conserving biological resources on District open space preserves, as well as adjacent lands, was used to inform priority actions designed to promote goals of the *Healthy Nature* theme of the Vision Plan.

METHODS

Data Inputs

Table 1 lists data layers synthesized as part of the *Healthy Nature* component of the Vision Plan which were integrated in the conservation value analysis (Table 1). More detailed information about the data used in each theme is provided in the existing conditions report (JMc 2013).

Additional data used in the existing conditions report (JMc 2013), such as erosion and gully potential layers, fire ecology and fire hazard, and insolation (solar radiation), were evaluated for inclusion in the analysis; however, these and other layers were excluded from the model because they were determined to be insufficiently accurate, precise, or complete, and/or they were deemed less relevant to locating land protection, restoration, and stewardship projects.

Model Weights and Scores

To depict the relative importance of the various data layers for determining conservation value, each layer was assigned a weight; the weights of all layers sum to 100, such that they represent the percent of the total conservation value comprised by each layer (Table 1).

The layer weights were multiplied by the normalized score assigned to each feature within each layer (Table 2). Like the weights, the feature scores were designed to reflect their relative value for conservation (Table 3).

Scores for features were normalized within each layer (divided by the maximum score) so that each had a maximum value of 1; as a result, the maximum feature score, when multiplied by the weight for the layer, equals the weight. The products of the weights and the normalized scores were summed as part of a simple, additive model to characterize conservation value:

$$\text{Relative Conservation Value} = 30 (\text{vegetation}) + 20 (\text{streams}) + 15 (\text{watershed value}) + 10 (\text{rare species}) + 10 (\text{patches}) + 7.5 (\text{terrestrial linkages}) + 7.5 (\text{aquatic linkages})$$

RESULTS

Within the Vision Plan Area, total conservation value scores ranged between 3.75 and 83.96 and averaged 36.0 (Table 4). District lands averaged 6% higher conservation value than unprotected lands, and were similar in conservation value to other conservation lands, such as state parks. Average conservation value scores for unprotected lands may reflect, in part, lack of available data for rare species occurrences on these lands.

Ecological Systems

Throughout the Vision Plan Area, areas of highest biodiversity conservation value are associated with the following systems and geographic areas (Figure 1).

1. **Salmonid Streams:** Coastal streams and watersheds that support endangered coho salmon and threatened steelhead, as well as streams and watersheds that drain to the San Francisco Bay and feature steelhead runs, are important not only for rare salmonids, but also because they provide important landscape linkages and are often lined with sensitive riparian communities.
2. **Old-growth redwood forests:** Located primarily in the southwestern portion of the Vision Plan area, these previously uncut stands of coast redwood and Douglas-fir forest support rare species including marbled murrelet, Vaux's swift, sharp-shinned hawk, Cooper's hawk, pileated woodpecker, and olive-sided flycatcher; they also often occur in watersheds supporting rare salmonids including the Pescadero Creek Watershed.
3. **Coastal terrace prairie grasslands:** Located on the rounded ridgetops on the coast side of the Santa Cruz Mountains, these grasslands support rare plants and animals, including diverse assemblages of rare birds including grasshopper sparrow, burrowing owl, white-tailed kite, golden eagle, Swainson's hawk, and northern harrier; they also often occur in

watersheds supporting salmonids including the San Gregorio Watershed.

4. **Serpentine communities:** Found primarily on the interior foothills, these communities feature high concentrations of endemic plants and insects, including Bay checkerspot butterfly, most-beautiful jewelflower, fragrant fritillary, and San Mateo Thorn-mint; they also occur in watersheds that support steelhead including the San Francisquito Creek Watershed.
5. **Bay wetlands:** Wetlands ringing the San Francisco Bay support saltwater and brackish water marshes—biologically highly-significant communities that provide habitat for numerous rare species including California seablite, northern harrier, California black rail, California clapper rail, salt-marsh harvest mouse, and salt-marsh wandering shrew.
6. **Ponds and Freshwater Wetlands:** Scattered throughout the intact habitat, these aquatic systems provide breeding habitat for many rare species including San Francisco garter snake, California red-legged frog, California tiger salamander, and western pond turtle, and tricolored blackbird, and provide a source of free water for terrestrial species.

Land conservation and stewardship projects in these and other high-value systems can maximize the biodiversity conservation benefits.

Watersheds

Land within the subwatersheds of the San Gregorio and Pescadero creek watersheds averaged the highest conservation value, along with land within the Gazos, Waterman Gap, and Soquel creek subwatersheds (Table 5, Figure 2). These watersheds feature coast redwood forest, coastal grasslands, and other intact terrestrial communities as well as rare species occurrences; they are also important for endangered salmonids. Moreover, land within the southwestern watersheds is part of the largest contiguous habitat patch in the Santa Cruz Mountains, which covers

more than 60,000 acres and extends from Big Basin to Highway 84. Maintaining habitat within large contiguous habitat patches can promote diversity in part by maintaining populations of species that have large home ranges, such as mountain lion (JMc 2013).

Generally speaking, land protection as well as stewardship projects in these watersheds have the potential to result in greater benefits for both terrestrial and aquatic species and communities. However, site-specific conditions should be evaluated in prioritizing conservation actions.

Lands under District Stewardship

Comparison of mean conservation value of land within 29 land holdings totaling more than 55,000 acres, for which the District is responsible for land stewardship, revealed that the Ravenswood, La Honda Creek, Russian Ridge, and Long Ridge open space preserves, and Stevens Creek Shoreline Nature Study Area, averaged the highest conservation value (Table 6, Figure 3). Other District-managed lands with above-average conservation value include: Skyline Ridge, El Corte de Madera Creek, St. Joseph's Hill, Sierra Azul, Tunitas Creek, and Monte Bello open space preserves (Table 6).

All else being equal, habitat restoration and management projects in these open space preserves and other lands can have a greater benefit for biodiversity than elsewhere. However, conditions of the site and aspects of the habitat management project will ultimately determine the benefits of stewardship, and should be used to prioritize projects.

SUMMARY

Within District-managed lands, as well as the Vision Plan Area more broadly, priority aquatic and terrestrial ecosystems, rare species populations, and habitat patches and landscape linkages, co-occur within the landscape, creating opportunities to achieve multiple benefits with conservation actions in high conservation value areas. Watersheds of high conservation value include the Gazos, Waterman Gap, and Soquel creek, as well as many subwatersheds within the San Gregorio and Pescadero creek watersheds (Table 5, Figure 2).

Stewardship of District-managed lands has the potential to most greatly promote biodiversity conservation goals within the Ravenswood, La Honda Creek, Russian Ridge, and Long Ridge open space preserves, and Stevens Creek Shoreline Nature Study Area; Skyline Ridge, El Corte Madera Creek, St. Joseph's Hill, Sierra Azul, Tunitas Creek, and Monte Bello open space preserves also contain land featuring multiple co-occurring biodiversity conservation values (Table 6, Figure 3).

Protecting, buffering, connecting, restoring, and stewarding lands within these high priority watersheds and land holdings, as well as other areas of high conservation value, can safeguard riparian and riverine habitat, old-growth redwood forests, coastal terrace prairie grasslands, serpentine communities, and ponds and wetlands. In so doing, such actions can promote populations of the diverse suites of rare species that they support, as well as help keep common species common. Prioritizing work in areas of high relative conservation value can help advance the goals of the *Healthy Nature* theme of the Vision Plan. Conservation in these areas can also protect working lands as well as scenic and cultural resources, and provide opportunities for compatible access and recreation.

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TABLES

**Table 1:
Weights applied to the scores of the main data
layers incorporated in the conservation value
analysis model**

Model Component ¹	Weight
Vegetation ²	30
Streams	20
Watersheds	15
Rare Species	10
Habitat Patches	10
Terrestrial Linkage	7.5
Aquatic Linkage	7.5
Total	100

¹Individual data sources are listed in JMc 2015.

²Also includes water bodies such as ponds.

Table 2: Weights and scores for revised model to calculate conservation value¹

		Base Score	Normalized Score ²	Weight	Final Score
Vegetation	Sensitive Communities	10	1.00	30	30.0
	Biologically Highly Significant Community	8	0.80	30	24.0
	Uncommon Natural Vegetation	6	0.60	30	18.0
	Fairly Common Natural Vegetation	5	0.50	30	15.0
	Common Natural Vegetation	4	0.40	30	12.0
	Non-native vegetation	2	0.20	30	6.0
	Cultivated Areas	1	0.10	30	3.0
	Urban	0	0.00	30	0.0
Streams	Coho Stream	4.5	1.00	20	20.0
	Steelhead Stream	4	0.89	20	17.8
	Perennial tributary to a salmonid stream	3.5	0.78	20	15.6
	Ephemeral tributary to a salmonid stream	3	0.67	20	13.3
	Other Perennial Stream	2	0.44	20	8.9
	Other Intermittent Stream	1	0.22	20	4.4
	Watersheds	Coho Core	4	1.00	15
Coho Phase I		3.5	0.88	15	13.1
Coho Phase II		3	0.75	15	11.3
Steelhead Non-Urban		2.5	0.63	15	9.4
Steelhead Urban		2	0.50	15	7.5
Other Non-Urban		1.5	0.38	15	5.6
Other Urban		1	0.25	15	3.8
Rare Species	3-4 mapped species	3	1.00	10	10.0
	2 mapped species	2	0.67	10	6.7
	1 mapped species	1	0.33	10	3.3
	no mapped species	0	0.00	10	0.0
Habitat Patch	76-100 percentile of patch size	4	1.00	10	10.0
	51-75 percentile of patch size	3	0.75	10	7.5
	26-50 percentile of patch size	2	0.50	10	5.0
	1-25 percentile of patch size	1	0.25	10	2.5

Table 2: Weights and scores for revised model to calculate conservation value¹

		Base Score	Normalized Score ²	Weight	Final Score
	Not in a Habitat Patch	0	0.00	10	0.0
Terrestrial Linkage	Within Choke Point	2	1.00	7.5	7.5
	Within Remainder of Linkage	1	0.50	7.5	3.8
	Not in terrestrial linkage	0	0.00	7.5	0.0
Aquatic Linkage	Within Stream Corridor	2	1.00	7.5	7.5
	Within Remainder of Stream Buffer	1	0.50	7.5	3.8
	Not in aquatic linkage	0	0.00	7.5	0.0

¹ Detailed information about these data layers and the features is provided in JMc 2015.

² Base score divided by the maximum value for the layer.

Table 3: Data layers and scores for weighted overlay analysis for biodiversity.

Layers	Description	Scores	Explanation
Vegetation ²	Land cover types with ratings reflecting relative conservation value	<ul style="list-style-type: none"> Sensitive Communities (10) Biologically Important Community (8) Uncommon Natural Vegetation (6) Fairly Common Natural Vegetation (5) Common Natural Vegetation (4) Non-native vegetation (2) Cultivated Areas (1) Urban (0) 	<p>Scores reflect biodiversity value of vegetation and other land cover types for biodiversity. Higher scores are assigned to sensitive communities (e.g. serpentine grassland), as well as those that provide important habitat, including those that promote persistence of endangered species (riparian areas). Other native communities are scored based on their occurrence in the Vision Plan Area. Non-native vegetation of greater value than cultivated areas, which in turn are more valuable for biodiversity conservation than urban areas as the former can be more readily restored and is more permeable.</p>
Streams	<p>Priority streams for aquatic biodiversity and the adjacent riparian areas. Streams will be buffered to protect riparian corridors, with the width of the buffer greater for high-rated streams:</p> <ul style="list-style-type: none"> Tier 1-3: 100 feet Tier 4: 50 feet 	<ul style="list-style-type: none"> Tier 1a: Coho Stream (4.5) Tier 1b: Steelhead Stream (4) Tier 2a: Perennial tributaries to a salmonid stream (3.5) Tier 2b: Ephemeral tributaries to a salmonid stream (3) Tier 3: Other Perennial Stream (2) Tier 4: Other Intermittent Stream (1) 	<p>Scores and buffer widths reflect stream values based on anadromous fish distribution and hydrology (perennial streams were assigned higher value than intermittent streams).</p>

Table 3: Data layers and scores for weighted overlay analysis for biodiversity.

Layers	Description	Scores	Explanation
Watersheds	Relative value of land within each watershed for protecting stream biodiversity	Tier 1a: Coho Core (4) Tier 1b: Coho Phase I (3.5) Tier 1c: Coho Phase II (3) Tier 2a: Steelhead Non-Urban (2.5) Tier 2b: Steelhead Urban (2) Tier 3a: Other Non-Urban (1.5) Tier 3b: Other Urban (1)	Coho watersheds are the highest priority, and scored based on the recovery plan designations. Other watersheds are scored based on whether they support steelhead and then their extent of development. In already urbanized watersheds, protecting land within the watershed is less likely to promote stream conditions, hence the reduced value.
Rare Species	Frequency of overlapping rare species occurrences	Score reflects the frequency of rare species occurrence areas: <ul style="list-style-type: none"> • >3-4 species (3) • 2 species (2) • 1 species (1) • No mapped rare species (0) 	Scores based on frequency in categories rather than raw numbers, to reduce their variability and in recognition that the data are not comprehensive, and certain areas (e.g. public lands, particularly District lands) have more records due to higher frequency of surveys and reports.
Habitat Patches	Intact habitat patches (contiguous, vegetated areas not separated by roads or development, scored according to their size) or aquatic habitat patches.	Normalized habitat patch sizes classified using natural breaks: <ul style="list-style-type: none"> • 36-100% of max. patch size (4) • 15-35% of max. patch size (3) • 5-14% of max. patch size (2) • 0-4% of max. patch size (1) • Outside of habitat patch (0) 	Larger areas of intact habitat can support more species, including populations of species with large home ranges, and can be more effectively managed to maintain viability.
Terrestrial Linkages	The terrestrial linkage from the Bay Area Critical Linkages project, with the area around Highway 17 being most critical to maintaining	Within choke point (2) Within remainder of linkage (1)	The choke point across Highway 17 is most critical for terrestrial.

Table 3: Data layers and scores for weighted overlay analysis for biodiversity.

Layers	Description	Scores	Explanation
	connectivity within the Santa Cruz Mountains		
Aquatic Linkages	Aquatic linkages are streams that support salmonids	Stream corridor (stream and 100 foot buffer) (2) Stream buffer (1 km buffer) (1)	The Bay Area Critical Linkages project identified streams and buffered them by 2 km (1 km on each side of the stream) to designate a linkage. This scoring system recognizes that the immediate stream corridor (stream and 100 feet buffer) is most crucial, with the other 1 km also important.

¹ Detailed information about these data layers and the features is provided in JMc 2015

² Also includes water bodies such as ponds

Table 4: Conservation value of land by protection status

Land Status	Conservation Value			
	Average	Minimum	Maximum	Standard Deviation
District Lands (Fee and Easement)	37.0	3.8	78.6	12.2
Other Protected Lands	37.0	3.8	84.0	15.0
Private, Unprotected Land	34.9	3.8	80.3	14.9
All Land	36.0	3.8	84.0	14.5

Table 5: Subwatersheds ranked according to their average conservation value

Rank	Subwatershed	Major Watershed	Acres	Conservation Value			Standard Deviation
				Average	Minimum	Maximum	
1	Tarwater Creek	Pescadero	1,194	45.9	19.9	78.4	9.8
2	Slate Creek	Pescadero	1,929	43.8	22.9	78.4	10.0
3	Langley Creek	San Gregorio	273	43.7	21.9	73.4	9.5
4	Gazos Creek		7,174	43.0	18.8	80.3	9.3
5	Little Butano Creek	Pescadero	2,607	42.6	27.0	74.3	10.0
6	Upper Pilarcitos Creek		89	42.0	16.9	55.8	8.5
7	Bogess Creek	San Gregorio	2,542	41.9	18.8	75.3	8.7
8	Harrington Creek	San Gregorio	3,092	41.2	18.3	78.6	7.8
9	Peters Creek	Pescadero	6,307	40.6	16.9	84.0	10.5
10	Alpine Creek	San Gregorio	3,548	40.6	15.0	75.3	10.1
11	Upper Pescadero Creek	Pescadero	3,817	40.3	16.9	84.0	8.5
12	South Fork Butano Creek	Pescadero	1,961	39.6	25.0	74.3	8.1
13	Oil Creek	Pescadero	2,819	39.6	22.9	78.4	6.3
14	Honsinger Creek	Pescadero	1,682	39.4	22.9	76.7	9.0
15	Waterman Creek		1,175	39.3	16.9	68.7	6.7
16	Mindego Creek	San Gregorio	2,464	39.3	15.0	75.3	8.0
17	Kingston Creek	San Gregorio	787	39.2	18.8	72.5	7.7
18	Upper Butano Creek	Pescadero	6,010	39.2	15.0	74.3	8.0
19	Soquel Creek	Soquel	710	39.2	15.0	69.0	5.5
20	Pescadero Creek	Pescadero	13,633	38.6	19.1	80.6	10.7
21	El Corte de Madera Creek	San Gregorio	4,742	38.4	16.9	74.5	9.7
22	San Gregorio Creek	San Gregorio	5,371	38.1	18.8	77.5	11.1
23	Woodruff Creek	San Gregorio	1,923	37.4	13.1	73.4	8.5
24	Woodhams Creek	San Gregorio	545	37.3	16.9	59.2	8.6
25	Waddell Creek		812	37.0	16.9	70.2	10.1
26	Coyote Creek	San Gregorio	1,126	36.6	19.1	70.6	8.5
27	Clear Creek	San Gregorio	956	36.0	16.9	70.6	10.2
28	Whitehouse Creek		1,836	35.8	13.1	72.0	8.1
29	Dry Creek (Pilarcitos)	Tunitas	1,495	35.2	13.1	67.4	9.2
30	Lower Butano Creek	Pescadero	3,205	35.1	14.3	72.4	10.8
31	Pomponio Creek		4,548	35.1	19.1	68.0	8.6
32	SF Bay and Estuary		33,374	34.7	7.5	71.9	9.1

Table 5: Subwatersheds ranked according to their average conservation value

Rank	Subwatershed	Major Watershed	Acres	Conservation Value			Standard Deviation
				Average	Minimum	Maximum	
33	Bradley Creek	Pescadero	3,918	34.1	17.3	71.3	9.1
34	East Fork Tunitas Creek	Tunitas	1,490	33.9	13.1	69.7	8.5
35	Uvas Creek		154	33.8	19.1	55.1	6.4
36	Mills Creek	Pilarcitos	2,419	33.8	13.1	69.7	9.6
37	Weeks Creek	San Gregorio	644	33.6	13.1	63.5	9.0
38	Alamitos Creek Watershed	Guadalupe	4,983	33.4	7.5	61.4	6.3
39	La Honda Creek	San Gregorio	3,940	33.4	16.5	68.4	9.6
40	Upper Guadalupe Creek	Guadalupe	3,059	33.4	9.4	64.1	6.8
41	Lawrence Creek	San Gregorio	1,557	33.3	16.9	56.5	4.9
42	Guadalupe Creek	Guadalupe	4,065	32.4	7.5	67.1	8.4
43	Frenchman's Creek		2,622	32.1	12.4	68.0	7.3
44	Lobitos Creek		2,580	31.9	16.0	67.8	9.7
45	Apanolio Creek	Pilarcitos	1,251	31.8	13.1	72.2	7.8
46	Arroyo Leon	Pilarcitos	3,020	31.2	13.1	69.7	10.0
47	Tunitas Creek	Tunitas	4,472	31.0	13.1	68.0	8.7
48	Bear Creek	San Francisquito	1,087	30.6	13.1	64.7	12.0
49	Denniston Creek		2,578	30.5	13.1	72.2	8.0
50	West Union Creek	San Francisquito	3,548	29.1	13.1	59.0	5.6
51	Arroyo de los Frijoles		2,251	29.0	5.6	56.6	7.1
52	Los Trancos Creek	San Francisquito	4,473	29.0	11.3	62.8	8.5
53	East Waddell Creek		11	28.5	18.3	40.3	7.3
54	Upper Stevens Creek	Stevens	10,837	28.2	8.6	60.8	6.9
55	Bear Gulch	San Francisquito	1,939	28.1	13.1	58.7	5.0
56	Cold Dip Creek		1,106	28.1	8.6	65.3	10.6
57	Upper Los Gatos Creek	Guadalupe	23,688	27.8	5.6	62.8	8.0
58	San Lorenzo River	San Lorenzo	213	27.6	13.1	46.9	6.7
59	Cascade Creek		1,334	27.2	5.6	58.3	9.3
60	San Pedro Creek		1,466	27.2	11.3	70.3	6.9
61	Pilarcitos Creek	Pilarcitos	3,829	27.0	7.5	66.1	10.0
62	Purisima Creek		5,649	26.7	5.6	57.0	6.7
63	Corte Madera Creek	San Francisquito	9,290	26.1	7.5	60.8	7.3
64	Albert Canyon	Pilarcitos	735	25.6	7.5	57.9	8.2

Table 5: Subwatersheds ranked according to their average conservation value

Rank	Subwatershed	Major Watershed	Acres	Conservation Value			Standard Deviation
				Average	Minimum	Maximum	
65	Upper San Mateo Creek		556	25.4	5.6	43.4	10.7
66	W. Branch Permanente Cr.	Permanente	2,263	25.1	7.5	54.2	6.6
67	Nuff Creek	Pilarcitos	683	25.0	5.6	49.8	5.9
68	Madonna Creek	Pilarcitos	1,073	24.9	11.6	57.2	7.9
69	San Vicente Creek (SMCO)		1,057	24.8	3.8	47.9	7.5
70	Pillar Point Marsh		763	24.0	3.8	48.9	10.2
71	Dry Creek	San Francisquito	1,012	23.8	9.4	60.9	12.4
72	Martini Creek		822	23.7	5.6	37.1	4.3
73	Unknown Coastal Creek		7,664	23.2	5.6	65.3	9.3
74	Soquel Creek		165	23.0	9.4	49.4	8.6
75	Saratoga Creek	San Tomas Aquino	7,763	21.3	3.8	50.7	8.1
76	Montara Creek		1,035	19.8	3.8	50.1	7.7
77	Green Oaks Creek		1,140	19.7	8.6	55.2	10.8
78	Arroyo de en Medio		1,621	19.7	3.8	53.0	9.2
79	Arroyo Canada Verde		2,025	18.2	9.8	41.5	8.2
80	Los Gatos Creek	Guadalupe	5,147	18.1	3.8	57.6	10.9
81	Corinda Los Trancos Cr.	Pilarcitos	561	18.1	7.5	56.8	8.3
82	San Francisquito Creek	San Francisquito	8,960	18.1	7.5	71.9	12.2
83	Kanoff Creek		400	16.3	3.8	38.6	9.7
84	Permanente Creek	Permanente	5,492	15.4	7.5	59.2	9.8
85	Adobe Creek		7,679	15.2	3.8	50.7	9.8
86	Deer Creek		961	15.1	3.8	48.5	6.9
87	Stevens Creek	Stevens	10,282	14.7	7.5	65.3	9.4
88	Matadero Creek	Matadero	5,705	13.6	3.8	38.2	10.9
89	San Tomas Aquino Cr.	San Tomas Aquino	6,283	13.2	3.8	48.2	10.9
90	Hale Creek	Permanente	2,292	12.8	7.5	50.8	7.8
91	Ross Creek	Guadalupe	2,943	12.7	3.8	42.6	8.9
92	Cordilleras Creek		4,169	8.7	3.8	40.4	8.5
93	Guadalupe River		286	8.5	7.5	11.3	1.7
94	Calabazas Creek		10,721	8.5	3.8	59.6	8.6
95	Barron Creek	Matadero	2,017	6.8	3.8	37.5	4.5
96	Atherton Channel		8,386	6.3	3.8	41.5	6.2

Table 5: Subwatersheds ranked according to their average conservation value

Rank	Subwatershed	Major Watershed	Acres	Conservation Value			Standard Deviation
				Average	Minimum	Maximum	
97	Redwood Creek		7,304	5.8	3.8	41.1	6.1
98	Sunnyvale Channel		9,403	5.1	3.8	55.8	5.1
99	Belmont Creek		760	3.9	3.8	19.3	1.4

Table 6:
Lands under District stewardship, ranked according to their average conservation value.

Rank	Unit Under District Stewardship	Acres	Conservation Value			Standard Deviation
			Average	Minimum	Maximum	
1	Ravenswood OSP	283.4	40.9	7.5	45.8	4.0
2	La Honda Creek OSP	5,712.5	40.6	16.5	78.6	8.5
3	Stevens Creek Shoreline Nature Study Area	59.8	39.1	11.3	62.4	4.1
4	Russian Ridge OSP	3,123.8	38.2	11.3	75.3	8.5
5	Long Ridge OSP	1,976.8	36.8	21.4	78.4	7.9
6	Skyline Ridge OSP	2,029.0	35.8	15.0	78.4	8.7
7	El Corte de Madera Creek OSP	2,772.7	34.9	13.1	74.5	6.2
8	St. Joseph's Hill OSP	181.4	34.4	11.3	53.9	8.9
9	Sierra Azul OSP	18,317.9	32.7	9.4	69.0	6.1
10	Tunitas Creek OSP	1,630.6	32.4	11.6	69.7	9.1
11	Monte Bello OSP	3,159.5	30.8	11.6	60.8	6.6
12	Purissima Creek Redwoods OSP	4,632.5	29.8	15.4	67.8	7.1
13	Felton Station	44.4	29.4	8.6	36.5	4.4
14	Teague Hill OSP	617.3	29.2	19.1	59.0	4.7
15	Windy Hill OSP	1,375.9	29.1	14.3	60.8	6.6
16	Miramontes Ridge OSP	1,619.1	29.1	11.6	69.7	9.2
17	Picchetti Ranch OSP	293.4	28.6	15.4	48.1	5.3
18	Los Trancos OSP	276.2	28.2	13.5	47.3	5.7
19	Fremont Older OSP	732.6	27.7	3.8	60.8	5.6
20	Rancho San Antonio Co. Pa	286.9	27.7	7.5	50.8	10.4
21	El Sereno OSP	1,417.6	27.2	15.8	49.4	3.6
22	Saratoga Gap OSP	1,578.7	26.6	15.4	55.8	4.8
23	Coal Creek OSP	489.8	25.8	9.4	54.6	5.3
24	Rancho San Antonio OSP	2,147.9	25.8	7.5	54.2	6.1
25	Foothills OSP	239.0	23.8	9.8	50.7	4.7
26	Thornewood OSP	153.7	22.9	13.5	44.8	6.2
27	Pulgas Ridge OSP	364.9	21.6	3.8	38.2	8.0
28	Bear Creek Redwoods OSP	1,377.1	20.1	5.6	51.3	6.1
All Lands under District Stewardship		56,895	30.3			

FIGURES

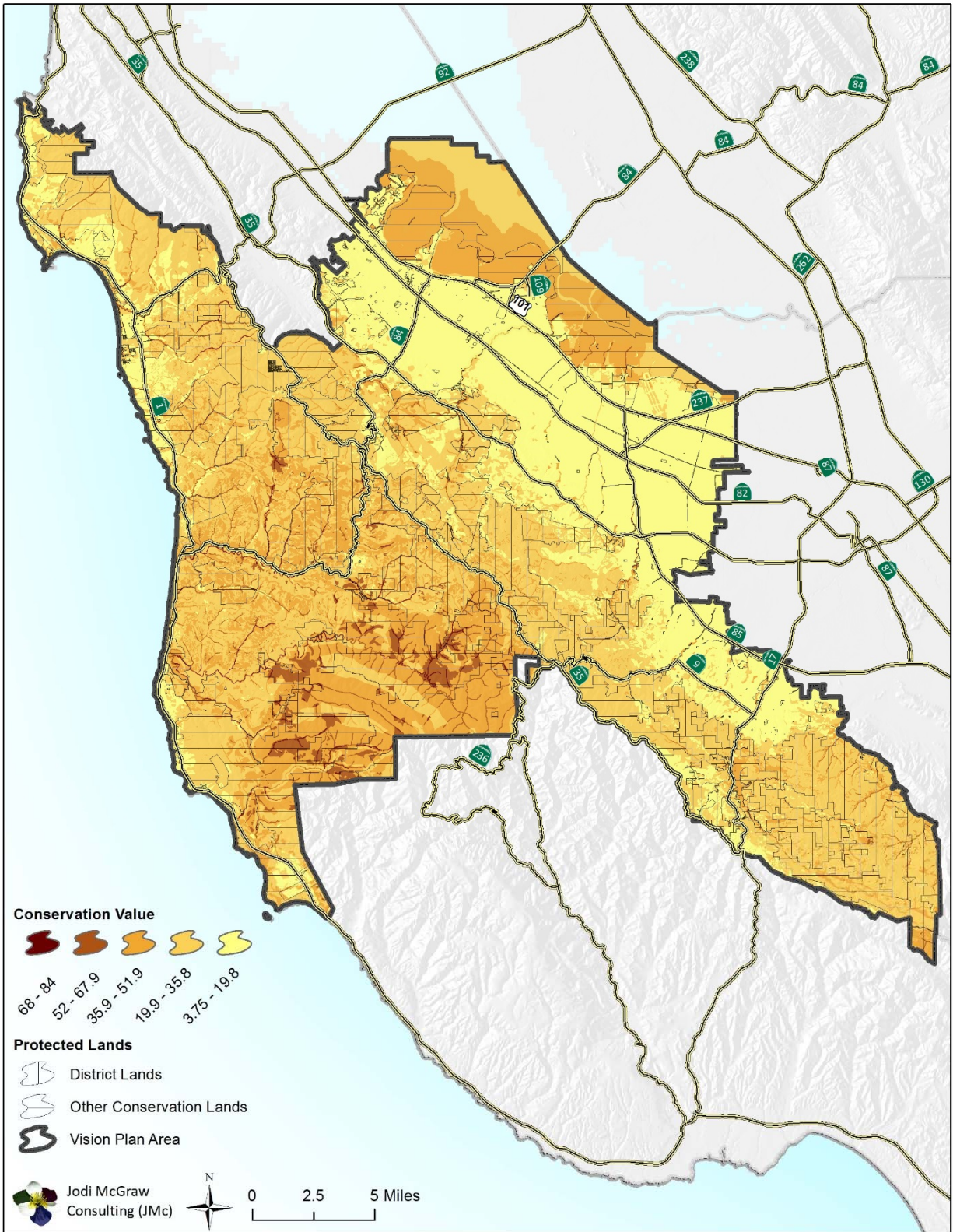


Figure 1: Conservation Value

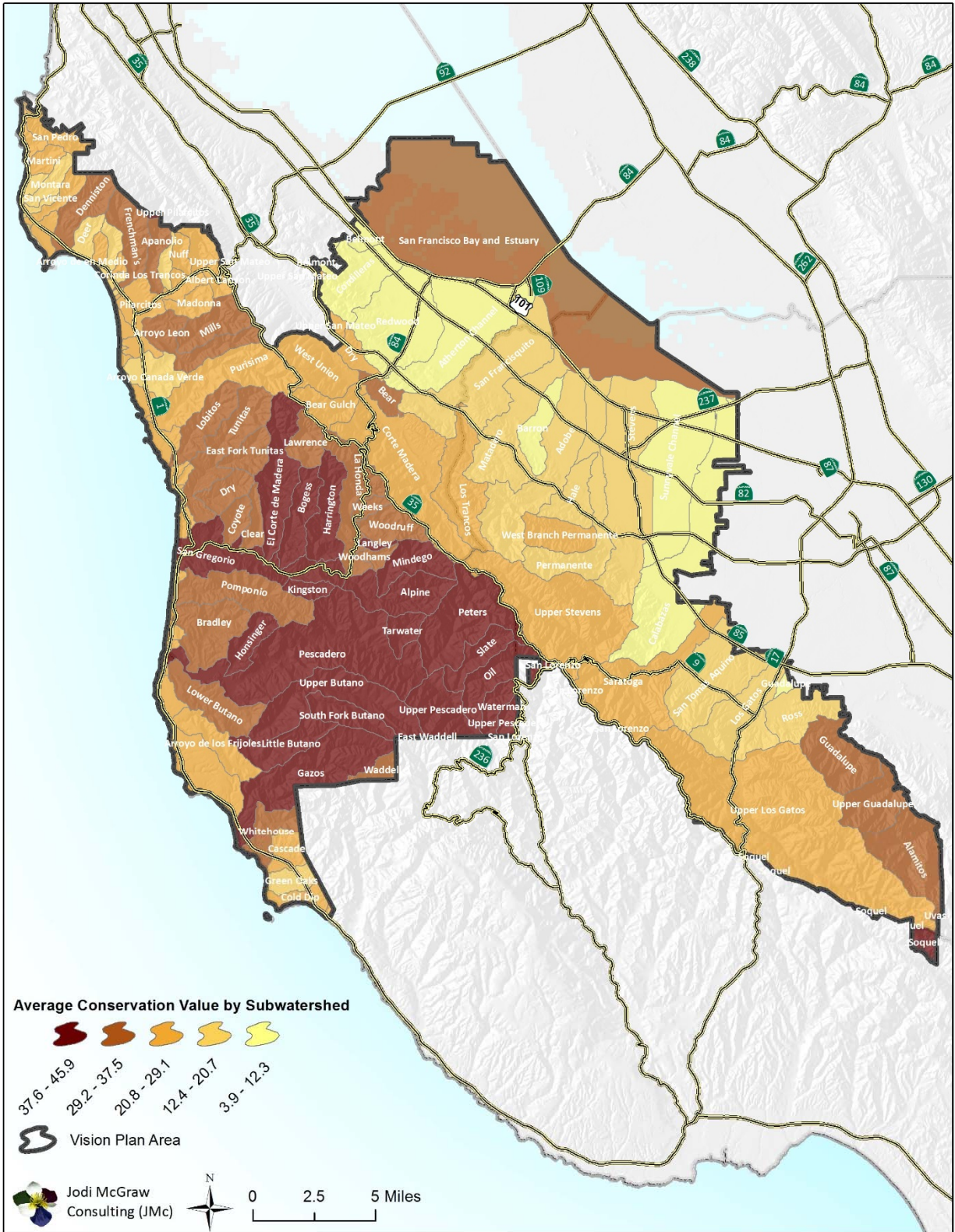


Figure 2: Average conservation value of land within each subwatershed

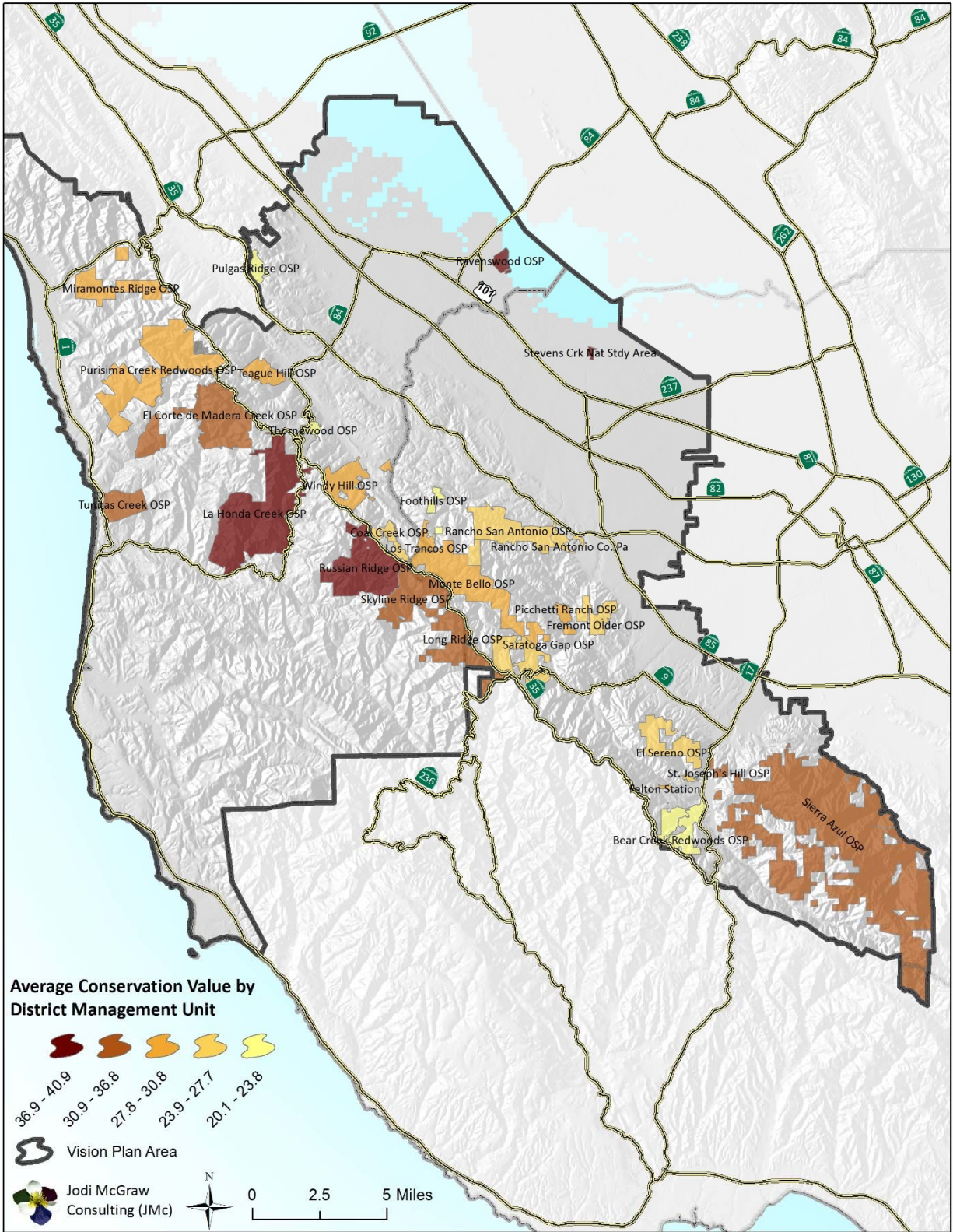


Figure 3: Average conservation value of lands for which the District conducts stewardship

Appendix D: Recreation and Education Report



Skyline Ridge Open Space Preserve

Liv Amos



Appendix D-1:

Vision Plan Existing Conditions for Access, Recreation and Environmental Education

Prepared for:

Midpeninsula Regional Open Space District
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October 2013

Prepared by:

Randy Anderson, Alta Planning + Design

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EXISTING ACCESS, RECREATION AND ENVIRONMENTAL EDUCATION OPPORTUNITIES BY SUBREGION

This section is intended to provide useful information for the public regarding existing access, recreation and environmental education opportunities in the overall region of the Midpeninsula Regional Open Space District's Vision Plan. It provides context for analysis and suggestions as to what the ideal future vision would be. The Vision Plan process will reference these descriptions and tables to define general, and where appropriate, more location-specific proposals for new access, recreation and educational opportunities.

About the Subregions

The overall Peninsula and South Bay Region can be considered as a series of subregions with unique geographic conditions – coast, ridgeline, summit, interior mountains, foothills, or bay shore. These subregions tend to have their own levels and routes of access for visitors. Organizing the Vision Planning Area into subregions helps clarify the lands, facilities and activities that are available, and helps participants to review and comment on them in more detail. The study area

for the Vision Plan has been divided into eight subregions (see **Figure 1**), as listed below. The boundaries and names are for study convenience and are not formally defined. The subregions are described in the following sub-sections with corresponding tables of park and open space lands, facilities and activities.

- North San Mateo County Coast
- South San Mateo County Coast
- Central Coastal Mountains
- Skyline Ridge
- Peninsula Foothills
- San Francisco Baylands
- Peninsula and South Bay Cities
- South Bay Foothills
- Sierra Azul

Peninsula and South Bay Cities comprises a very important subregion, but is not analyzed in this report because the District does not acquire land or manage facilities in these urbanized areas. Through the Vision Plan and other ongoing planning and implementation, the District is continually striving to best serve these urban constituents.

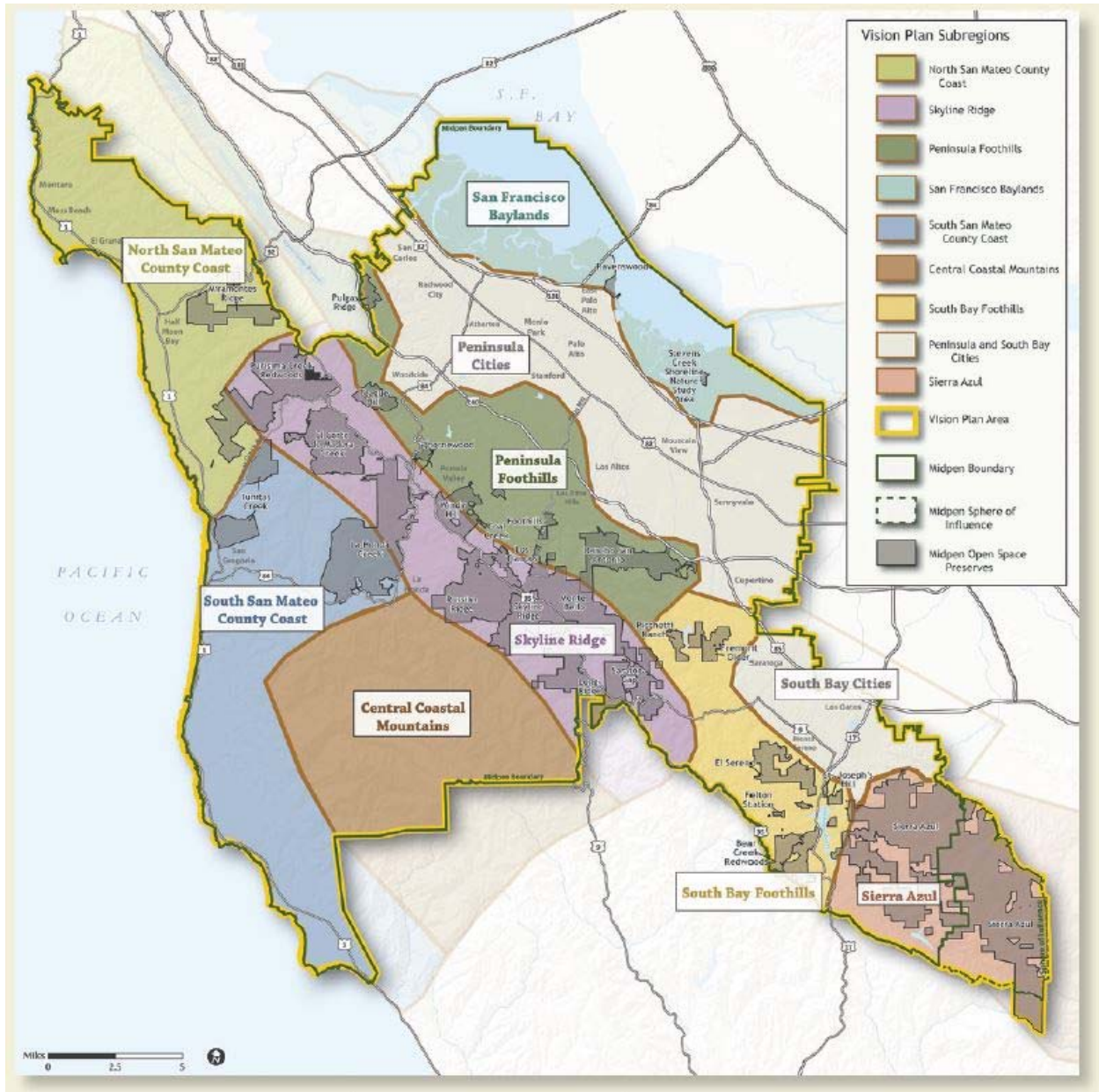


Figure 1: Subregions Map

Subregion: North San Mateo County Coast

The North San Mateo County Coast Subregion extends from the City of Pacifica south, including the small communities of Montara, Moss Beach, Princeton-by-the-Sea, and El Granada, and centered around the City of Half Moon Bay. Highway 1 provides access up and down the coast, and Highway 92 and the much longer and more winding Highway 84 provide access from the Peninsula. These routes often experience major traffic backups on weekends and holidays. Highway 1 also is a popular route for local and touring bicyclists, and Half Moon Bay has implemented a separate paved path paralleling most of its' length in the City. The small historic agricultural village of San Gregorio lies near Highway 84, and to the south, the similarly picturesque community of Pescadero occupies a scenic valley between the coast and redwoods at Pescadero Creek Road.

Starting in the north, significant open space and regional park areas include Pacifica State Beach and Sharp Park Golf Course. The relatively undeveloped coastal hills between Pacifica and Half Moon Bay are partially protected by the National Park Service as part of the Golden Gate National Recreation Area (GGNRA) at Sweeney Ridge, and in San Pedro Valley County Park, and the Sanchez Adobe County Park. Other significant areas include Montara State Beach and McNee Ranch State Park, and the Point Montara Lighthouse. To the south is San Mateo County's Fitzgerald Marine Reserve, including the POST-owned Pillar Point Bluff area, and adjacent Pillar Point Harbor lands that provide access to the famous Mavericks surf break and a popular short trail that also accommodates bikes and dog walking. In the hills, the GGNRA now manages the 4,000 acre Rancho Corral de Tierra property, with trails and a working farm and ranch.

Half Moon Bay State Beach and its' coastal trails, picnic and camping areas are very popular destinations. The City of Half Moon Bay's Frenchman's Creek Community Park and

Pilarcitos Creek Trail and adjacent parks provide a nearly-complete connection from the coast east into the historic downtown. Just south of downtown Half Moon Bay is the POST-owned historic Johnston farmhouse (operated by a non-profit foundation) and adjacent farm lands; the Elkus Youth Ranch in the coastal foothills; the Cowell State Beach coastal access, and adjacent Cowell-Purisima Coastal Trail, currently owned and operated by POST, on which a 3 mile trail follows the coastal bluff past working farmlands.

Open Space District Preserves

South of Highway 92, the lower portion of the District's Purisima Creek Redwoods Open Space Preserve extends into the Coastal Subregion, but is not yet open to the public. The District's Coastsides Protection Program became a reality on September 7, 2004, when the Certificate of Completion of Annexation extended the District's boundary to the Pacific Ocean from the City of Pacifica to the Santa Cruz County line. In response to overwhelming concern by San Mateo County residents, the Midpeninsula Regional Open Space District has partnered with coastsiders to share the important responsibility of protecting coastal land. The program is slated to protect 11,800 acres of the coastsides as open space and agricultural land over the next 15 years, though the District to date has not been able to take an active role in opening and managing lands in the subregion due to funding constraints.

Landscape Character













The North San Mateo County Coast Subregion features broad coastal terraces transitioning sharply to steep hills, with grasslands, agricultural fields, and coastal scrub and chaparral vegetation, especially at the north, transitioning on the upper slopes and canyons to redwood and Douglas fir forests. The highlights of the coastal environment are the dramatic views of the sea, the grassy lower slopes and forested mountains extending to the Skyline Subregion. Most of the access points have relatively short trails and loops – a long hike providing a sense of remoteness or allowing a

connection from the coast to the interior forests or Skyline Sub-Area are not yet developed. The California Coastal Conservancy's California Coastal Trail Project is a state-wide effort that has helped implement land projection and trail construction in many areas of San Mateo County and elsewhere in the state.

A major land protection and restoration focus in the coastal region has been habitat for steelhead

trout and coho salmon. Major land use and environmental policy goals of San Mateo County and the California Coastal Commission have been limiting the spread of urban development and supporting the continuation of agriculture. POST has been particularly active and successful in furthering these goals through acquisition of lands and easements.

Table 1: North San Mateo County Coast Amenities by Park or Open Space

Sub-Region, Regional Parks and Preserves	Hiking, Running 	Equestrian 	Bicycling 	Dogs on Leash 	Wheelchair/Disabled Access 	Parking 	Restrooms 	Historic Site 	Nature or Farm Center 	Camping (Car/RV or Hike-In) 	Picnic 	Play Structure/Fields 
Half Moon Bay												
District Preserves												
Miramontes Ridge (western part)	●											
Purisima Creek Redwoods (western part)	●	●	●		●	●	●					
Other Parks and Preserves												
Sweeny Ridge (GGNRA)	●					●		●				
Montara State Beach/McNee Ranch	●	●	●	●		●				●		
San Pedro Valley County Park	●	●	●		●	●	●		●		●	
Sanchez Adobe County Park					●	●	●	●				
Half Moon Bay Blufftop Coastal Park	●	●		●		●						
HMB Coast Side Dog Park				●		●						
Esplanade Beach	●			●								
Fitzgerald Marine Reserve/Pillar Point Bluff	●		●			●	●		●		●	
Half Moon Bay State Beach	●	●	●		●	●	●		●	●		
Pillar Point Harbor	●		●	●	●	●						
Point Montara Light House	●				●	●	●	●		hostel	●	
Quarry Park	●	●	●			●			●		●	●
Rancho Corral de Tierra	●	●	●	●								
Pacifica State Beach	●					●	●					
Cowell Coastal Access and Cowell-Purisima Coastal Trail	●		●		●	●	●	●				
Johnston House						●	●	●	●			

Subregion: South San Mateo County Coast

The southern portion of the San Mateo County Coast is much less populated and developed than the Half Moon Bay area, and features more rugged terrain extending to the sea, and less coastal terrace. Highway 1 provides the primary access to this subregion, with Highway 84 connecting at the northeast. This subregion features primarily agricultural grasslands, along with native coastal scrub and chaparral, with pockets of agricultural fields along coastal terrace and valley areas, and redwood, douglas fir and oak woodland forest extending along coastal streams.

Open Space District Preserves

District Preserves include the undeveloped Tunitas Creek Open Space Preserve consisting of two separate parcels, and the lower portion of the vast La Honda Creek Preserve – a former ranch occupying much of the area north of Highway 84 above the community of La Honda. Additional District preserves are envisioned in the subregion as a long-term objective of the District's Coastsides Protection Program, as discussed above.

Other Open Space













A series of State Beaches provide beach access parking and limited day use facilities at San Gregorio, Pomponio, Pescadero, Bean Hollow, Pebble Beach and Pigeon Point Light Station.

Major protected lands to the south include Cloverdale Ranch, Bolsa Point Ranch and other POST-owned areas, along with Año Nuevo State Park and Butano State Park. Together, these areas create 14 miles of contiguous open space just east of Highway 1, and 10 miles of unspoiled beachfront west of the highway. Ano Nuevo State Beach is a major destination for popular elephant seal tours. Nearby is the private Coastanoa Lodge, which affords a rustic setting with a high level of amenities for tent, RV, tent cabins, and lodge accommodations. To the south in Santa Cruz County is the West Waddell Creek State Wilderness, which features a nature center and a trail connecting east to the large Big Basin Redwoods State Park. The beach at Waddell Creek is a popular destination for kiteboarders, windsurfers, and surfers, and those who like to watch them.

Landscape Character

Overall, the San Mateo County Coast affords terrific views of the mountains, slopes, and sea, many beachfront sites to visit, and some for picnics, but as yet little in the way of continuous and connecting trails, or major public use facilities. This is due to the area's remoteness, the challenging weather conditions, with prevalent strong winds, and a deliberate objective to keep the area wild and scenic, and preserve agriculture, by keeping developed facilities minimal.

Table 2: San Mateo County Coast Amenities by Park or Open Space

Sub-Region, Regional Parks and Preserves	Hiking, Running Equestrian Bicycling			Dogs on Leash Wheelchair/Disabled Access		Parking Restrooms Historic Site			Nature or Farm Center Camping (Car/RV or Hike- In) Picnic Play Structure/Fields			
												
South San Mateo County Coast												
District Preserves												
Tunitas Creek												
La Honda Creek (western part)	●	●										
Other Parks and Preserves												
Pomponio State Beach	●					●						●
Bean Hollow State Beach	●		●	●		●	●					
San Gregorio State Beach	●					●	●					
Pescadero State Beach	●				●	●	●					
Pigeon Point Light Station	●				●	●	●	●		hostel		
Ano Nuevo State Park	●	●	●		●	●	●		●			●
Cloverdale Ranch (POST)												
West Waddell Creek State Wilderness	●	●				●						

Subregion: Central Coastal Mountains

This subregion features forested ridges and valleys between the main coastal ridge along Skyline Boulevard and the less mountainous and more agricultural lands along the coast. Once heavily logged, it is famous for redwood forests, steep hills and winding valleys sheltering beautiful coastal streams. Its parks are some of the most remote areas on the Peninsula, and thus afford a real opportunity to “get away from it all” and experience the quiet and grandeur of the redwoods while still being relatively close to urban areas.

District Open Space Preserves connect to, but generally do not extend into this subregion, which features large State Parks, County Parks, and lands

protected by POST, Save-the-Redwoods League, and Sempervirens Fund. San Mateo County’s vast Pescadero Creek County Park includes 8,020 acres and is comprised of Sam McDonald, Memorial, and Heritage Grove Parks. It features Pescadero Creek, a year-round stream that provides habitat for steelhead trout and silver salmon, and nesting for the endangered marbled murrelet seabird. These parks feature developed camping, picnic, hostel, and youth camp facilities. To the south Butano State Park provides picnic and camping facilities accessible from Highway 1. Further south in Santa Cruz County, abutting the District’s boundary, is Big Basin Redwoods, California’s oldest state park—covering more than 18,000 acres and providing excellent hiking, picnic, camping and nature and history learning opportunities.

Table 3: Central Coastal Mountains Amenities by Park or Open Space

Sub-Region, Regional Parks and Preserves	Hiking, Running	Equestrian	Bicycling	Dogs on Leash	Wheelchair/Disabled Access	Parking	Restrooms	Historic Site	Nature or Farm Center	Camping (Car/RV or Hike- In)	Picnic	Play Structure/Fields
Central Coastal Mountains												
Other Parks and Preserves												
Big Basin Redwoods State Park	●	●	●	●	●	●	●		●	●	●	
Butano State Park	●	●	●	●	●	●	●		●	●	●	
Cowell - Purisima Trail	●		●		●	●	●					
Cowell Ranch State Beach	●					●						
Elkus Ranch						●	●		●	●		
Memorial County Park	●				●	●	●		●	●	●	
Pescadero Creek County Park	●	●	●			●	●			●		
Portola Redwoods State Park	●	●	●	●	●	●	●	●	●	●	●	
Sam McDonald County Park	●	●				●	●	●	●	●	●	
Smith Field Little League Park				●		●					●	●
Heritage Grove	●										●	
Big Basin Redwoods State Park	●	●	●	●	●	●	●		●	●	●	
Butano State Park	●	●	●	●	●	●	●		●	●	●	
Cowell - Purisima Trail	●		●		●	●	●					
Cowell Ranch State Beach	●					●						
Elkus Ranch						●	●		●	●		
Memorial County Park	●				●	●	●		●	●	●	
Pescadero Creek County Park	●	●	●			●	●			●		
Portola Redwoods State Park	●	●	●	●	●	●	●	●	●	●	●	
Sam McDonald County Park	●	●				●	●	●	●	●	●	
Smith Field Little League Park				●		●					●	●
Heritage Grove	●										●	

Subregion: Skyline Ridge

This subregion consists of the backbone of the Santa Cruz Mountains on the Peninsula, starting near Pacifica on the San Francisco Watershed lands, and extending south through the ridge top communities of Kings Mountain and Skylonda, and the upper portions of the towns of Woodside and Portola Valley. The middle and southern portion of this subregion is centered on Skyline Boulevard/Highway 35 and is crossed by Highway 92 in the north, 84 in the center, and 9 in the south. Many parks and preserves extend from Skyline west into the North or South San Mateo County Coast subregions, or east into the Peninsula Foothills subregion.

At the north end, beyond the District's boundary, the Skyline Ridge subregion includes the upper reaches of the San Francisco Water Department's Crystal Springs Watershed Lands, over which a scenic easement is held by the National Park Service. The watershed lands are generally not publicly accessible, but the Fifield-Cahill Ridge Trail, a part of the Bay Area Ridge Trail, is open for guided hikes and rides by reservation. Within the ridge top watershed lands to the south is the upper extent of lands of the historic Filoli Estate, owned by the National Trust for Historic Preservation. The house and grounds are included in the Peninsula Foothills subregion. On the east side of Highway 35 farther south are the upper portions of the National Park Service's Phleger Estate, and San Mateo County's Huddart and Wunderlich Parks.

Open Space District Preserves

The Skyline Ridge Subregion contains many of the District's largest and most popular preserves, comprising a near-continuous band of open space and trail connections from the City of Pacifica in the north to south of Highway 9 above the City of Saratoga. The previously-described GGNRA lands, San Francisco Watershed lands, and San Mateo County parks comprise the greenbelt at the north end, and Santa Clara County's Skyline-Sanborn County Park and Castle Rock State Park

comprise the southeast and southwest ends, respectively. However, the bulk of the Skyline Ridge greenbelt is comprised of District preserves in a chain up and down both sides of Highway 35, creating a near-continuous band of protected lands and trails. On the north, to the west of the S. F. Watershed Lands, are the District's undeveloped **Miramontes Ridge Open Space Preserve**, and Burleigh-Murray State Park, followed by the District's **Purisima Creek Redwoods Preserve**, featuring loops through the redwoods and a popular trail from Skyline nearly to the sea along Purisima Creek. **El Corte de Madera Creek Open Space Preserve** has similar rugged redwood forest terrain and a well-developed trail system that is very popular with mountain bikers. To the south on the west side of the ridge is the upper portion of **La Honda Creek Open Space Preserve** and on the east **Windy Hill Open Space Preserve**, with a well-developed trail system from the valley to the ridge, and it's prominent grassy ridge tops offering dramatic view to the sea and Peninsula. Windy Hill is adjacent to POST-owned lands of the Driscoll Ranch on the west side of 35, extending south to a complex of open space lands including all of **Russian Ridge Open Space Preserve**, **Skyline Ridge Open Space Preserve** and **Long Ridge Open Space Preserve** west of 35, and all of **Coal Creek, Montebello and Saratoga Gap Open Space Preserves** east of 35.

Landscape Character

The Skyline Ridge Subregion is appreciated for its redwood and Douglas fir forests, which tend to be more extensive to the north and west sides; its grasslands and chaparral, generally in the central and southern reaches, and its' oak woodlands scattered throughout. View of the Bay and the Pacific Ocean, forests, wildflowers, strenuous and technical trails and a true sense of wildness and remoteness are some of the hallmarks of this subregion. Many, if not most visitors, experience the Skyline area from vehicles, with short ventures into the parks and viewpoints. The annual grasslands, maintained by traditional grazing, are

appreciated for their open vistas of the Bay and ocean, and for their annual wildflower displays; at Russian Ridge Open Space Preserve in particular. Ponds and streams are a highlight of the Skyline Region. Daniels Nature Center at Alpine Pond at Skyline Ridge Open Space Preserve is a major center for educational and interpretive programs.

Trails

The Bay Area Ridge Trail is the primary north-south connection, and is mostly complete in this area, while east-west connections include trails through Huddart or Wunderlich County Parks (open to hikers and equestrians, but not mountain bicyclists or dogs) to Purisima or El Corte de Madera Preserves Alpine Road – a closed

portion of a County public road, connects from the foothills in Portola Valley southwest to open space preserves around the intersection of Highway 35 and upper Page Mill Road. The Skyline-to-the-Sea Trail parallels Highway 9 at the southern end. Consistent with the mountainous terrain, Skyline Ridge Subregion trails tend to be more strenuous – winding, steep, and sometimes narrow – the Skyline Subregion is noted for its “single track” trails, constructed by the District and other agencies specifically for, hiking, mountain biking and equestrian use, along with the “road width” former ranch and logging roads that are incorporated into the trail system of these and most other parks and preserves.

Table 4: Skyline Ridge Amenities by Park or Open Space

Sub-Region, Regional Parks and Preserves	Hiking, Running	Equestrian	Bicycling	Dogs on Leash	Wheelchair/Disabled Access	Parking	Restrooms	Historic Site	Nature or Farm Center	Camping (Car/RV or Hike- In)	Picnic	Play Structure/Fields
Skyline Ridge												
District Preserves												
Miramontes Ridge (eastern part)	●											
Purissima Creek	●	●	●		●	●	●					
Redwoods (eastern part)												
El Corte de Madera Creek	●	●	●			●						
La Honda Creek (eastern part)	●	●										
Thornewood (western part)	●	●		●		●						
Windy Hill (western part)	●	●	●	●	●	●	●					
Russian Ridge	●	●	●			●	●					
Coal Creek	●	●	●	●		●						
Los Trancos	●	●				●						
Skyline Ridge	●	●	●		●	●	●					
Monte Bello	●	●	●			●	●					
Long Ridge	●	●	●	●		●						
Saratoga Gap	●	●	●			●						
Other Parks and Preserves												
Sweeney Ridge GGNRA	●		●									
Burleigh Murray Ranch State Park	●					●	●	●				
Castle Rock State Park	●	●			●	●	●	●		●	●	
Sanborn Skyline County Park		●	●	●	●	●	●			●	●	
Upper Stevens Creek County Park	●	●	●									
Sweeney Ridge GGNRA	●		●									
Castle Rock State Park	●	●			●	●	●	●		●	●	
Sanborn Skyline County Park		●	●	●	●	●	●			●	●	
Upper Stevens Creek County Park	●	●	●									

Subregion: Peninsula Foothills

This subregion consists of the lower eastern slopes of the Santa Cruz Mountains on the San Francisco Peninsula, including the lower portions of the towns of Woodside and Portola Valley and upper portions of the Cities of San Carlos and Redwood City in San Mateo County; as well as the upper portions of the cities of Palo Alto and Los Altos Hills in Santa Clara County. The Peninsula Foothills subregion is centered on the rift valley of the San Andreas Fault, which reflects its' unique topography and geology.

These areas are typically easily accessible from local roads, and I-280 provides a north-south corridor for access and sweeping views of the hills and valleys. The San Francisco Water Department's Crystal Springs Watershed Lands protect over 20,000 acres of habitat, primarily to the west of 280 and to the east of the coastal mountain ridge. In addition to I-280, some county and local roads, and the Crystal Springs golf course, the watershed lands accommodate San Mateo County's popular Crystal Springs Trail – a paved recreational trail for biking and walking; and the Bay Area Ridge Trail along the ridge. The Historic Filioi Estate, owned by the National Trust for Historic Preservation, is located at the southern end of the watershed accessible from Canada Road off I-280. The GGNRA's Phleger Estate preserves the area at the south end of the watershed, along with San Mateo County's Huddart and Wunderlich County Parks, which offer improved facilities for group and family picnics and associated recreational activities, as well as camping.

Open Space District Preserves

To the east of 280 at the south end of the S.F. watershed lands off Edgewood Road are the District's **Pulgas Ridge Open Space Preserve** and San Mateo County's Edgewood County Park. The District's **Teague Hill Open Space Preserve** lies in on the upper slopes of the Town of Woodside, between Huddart County Park and Wunderlich County Park. West of I-280 and south

of Highway 84 are the District's **Thornewood Open Space Preserve**, with its' historic house and quiet Schilling Lake, and lower portions of **Windy Hill Open Space Preserve** in Portola Valley, where trails and views extend to the ridge at Skyline Boulevard. To the south are the smaller **Foothills and Los Trancos Open Space Preserves**, which both abut Palo Alto Foothills Park (open only to Palo Alto residents) and the private Hidden Villa environmental center. Palo Alto's Arastradero Preserve lies to the north of Foothills Park. **Rancho San Antonio Open Space Preserve** abuts and is accessed from Cupertino via Rancho San Antonio County Park, which is managed by the Open Space District. Rancho San Antonio Preserve features the popular Deer Hollow Farm demonstration farm and garden, and a popular wide trail that extends from the County Park to the Farm. From Rancho San Antonio Preserve trails continue into the hills to Monte Bello Open Space Preserve and the Skyline Ridge Subregion.

Other Open Space

Other protected open space lands in the Peninsula Foothills Subregion that are not publicly accessible include the Jasper Ridge Ecological Reserve – a research site owned by Stanford University, and Stanford campus open space lands on both sides of I-280 that provide important environmental and visual protection. The Hidden Villa private youth camp, hostel and environmental education/demonstration center provides an important opportunity for local youth to learn about and experience nature.














Landscape Character

The Peninsula Foothills environment transitions from rolling hills near the urbanized areas to steeper slopes toward the ridges to the west. Variety of vegetation types is one of the attractions, with a patchwork of grasslands, chaparral, and oak woodlands to the east and to the south, and tending to mixed coniferous redwood and Douglas fir forests to the northwest. Trail opportunities abound in the Peninsula

Foothills area, and many trails interconnect. They include both easy corridors and loops, and strenuous routes that connect to the Skyline area.

These parks and preserves are very popular due to their close proximity to suburban neighborhoods and easy vehicular and bicycle access.

Table 5: Peninsula Foothills Amenities by Park or Open Space

Sub-Region, Regional Parks and Preserves	Hiking, Running 	Equestrian 	Bicycling 	Dogs on Leash 	Wheelchair/Disabled Access 	Parking 	Restrooms 	Historic Site 	Nature or Farm Center 	Camping (Car/RV or Hike-In)  	Picnic 	Play Structure/Fields 
Peninsula Foothills												
District Preserves												
Pulgas Ridge	●			●	●	●	●					
Teague Hill	●	●										
Thornewood (eastern part)	●	●		●		●						
Windy Hill (eastern part)	●	●	●	●	●	●	●					
Foothills	●	●		●								
Rancho San Antonio	●	●	●		●	●	●					
Other Parks and Preserves												
Junipero Serra Park	●					●					●	●
Crystal Springs Regional Trail	●	●	●		●	●	●				●	
Edgewood County Park	●	●				●	●					
Filoli Estate (Nat. Trust for Hist. Pres.)		●										
Pheleger Estate (GGNRA)	●	●										
Huddart County Park	●	●	●		●	●	●			●	●	
Wunderlich County Park	●	●	●			●	●	●				
Enid W Pearson Arastradero Preserve	●	●	●	●	●	●	●					
Palo Alto Foothills Park	●			●	●	●				●	●	
Hidden Villa (private)	●	●		●		●	●		●	Hostel		

Subregion: San Francisco Baylands

The Baylands include the protected lands and parks along the San Francisco Bay shoreline, starting in San Mateo with the County's Coyote Point Recreation Area and its prominent eucalyptus-forested hill, unique to the Baylands Subregion, which is otherwise flat except for landfill sites. Coyote Point features many active picnic, play and recreation opportunities, including a golf course and marina, as well as a popular nature center and natural history museum. To the south, the City of San Mateo manages Seal Point Park, a former landfill site, now a great opportunity for Bay vistas. The next major bayfront open space is in Redwood City at POST's Bair Island Preserve. Other public open space and protected wetlands extend south through shoreline, tidal wetland, and water areas of the Don Edwards San Francisco Bay National Wildlife Refuge, managed by the US Fish and Wildlife Service, and the City of Menlo Park Baylands Park.

Open Space District Preserves

Baylands areas owned and managed by the District include the 376 acre **Ravenswood Open Space Preserve in East Palo Alto**, with its' restored tidal wetlands, and the 55-acre **Stevens Creek Shoreline Nature Study Area**, located adjacent to Mountain View's Shoreline Park.

Other Open Space

The City of East Palo Alto Cooley Landing Park is currently being planned and would provide 9 acres of park space to the City at this prominent point south of the Dumbarton Bridge. It would be the City's first nature park and first bayfront park.

To the south is the City of Palo Alto's 1,940-acre Baylands Preserve, which features the Lucy Evan interpretive and nature center and hand-launched boat access, as well as an art park at Byxbee Park, a former landfill site. Palo Alto Golf Course is located nearby, to the west of the Palo Alto Airport. The City of Mountain View's 750-acre Shoreline Park features wildlife areas, active

recreation facilities, a golf course, a 50 acre boating/windsurfing lake, and the historic Rengstorff House and the famous amphitheater.

East of Mountain View Shoreline Park is Sunnyvale Baylands Park, which provides over 70 acres of developed parkland offering active recreation, pathways and picnic areas for families and large groups. An additional 105 acres of seasonal wetlands is protected as a Wetlands Preserve providing habitat for plants and wildlife. Baylands Park is a joint venture between Santa Clara County, which owns the property, and the City of Sunnyvale which manages and maintains the Park.

Trails

The Baylands are very accessible from Peninsula and South Bay cities, including connecting bike routes and trails from developed areas to the shoreline, most notably the partially completed Stevens Creek Trail, which is intended to connect from Stevens Creek Reservoir in the Foothills, through Cupertino, Los Altos, Sunnyvale and Mountain View to the Bay Trail near Stevens Creek Shoreline Nature Study Area. The San Francisco Bay Trail, a paved multi-use trail planned to circle the entire Bay, is nearly complete in this portion of the Baylands, connecting to trails and paths in individual preserves and parks along the shore or wetlands edge. Bird watching is a prime activity along the Baylands, along with bicycle riding, walking and running on primarily flat, paved levee trails.













Landscape Character

Much of the Peninsula and South Bay baylands have been filled for development, or converted to salt ponds for commercial production. A major effort to restore formal tidal wetlands is the South Bay Salt Pond Restoration Project, a federal/state multi-agency effort (Fish and Wildlife Service, California State Coastal Conservancy, California Department of Fish and Wildlife, U.S. Army Corps of Engineers, and local water districts) aimed at restoring 15,100 acres of commercial salt ponds at the south end of San Francisco Bay to a

mix of tidal marsh, mudflat, and other wetland habitats. Other restoration projects have been completed at Bair Island, in Menlo Park, at Ravenswood Open Space Preserve, and at Palo Alto Baylands Preserve. The environment of the Baylands is generally flat topography, with broad vistas and persistent wind. Levees or fill areas, or in some cases natural uplands, protect the urban

development on the inner side. Combinations of upland non-native grassland vegetation transition to native wetland vegetation throughout the subregion, depending on original disturbance and more recent restoration.

Table 6: San Francisco Baylands Amenities by Park or Open Space

Sub-Region, Regional Parks and Preserves	Hiking, Running	Equestrian	Bicycling	Dogs on Leash	Wheelchair/Disabled Access	Parking	Restrooms	Historic Site	Nature or Farm Center	Camping (Car/RV or Hike- In)	Picnic	Play Structure/Fields
												
San Francisco Baylands												
District Preserves												
Ravenswood	●		●		●	●						
Stevens Creek	●		●		●	●						
Shoreline Nature	●											
Other Parks and Preserves												
Coyote Point Recreation	●		●	●	●	●	●	●	●		●	●
Seal Point Park, City of San Mateo	●		●	●	●	●	●		●		●	●
Bair Island Preserve	●		●		●	●						
Don Edwards SF Bay NWR	●					●	●				●	
Don Edwards SF Bay NWR Visitor center	●		●	●	●	●	●				●	
Bedwell Bayfront Park - Menlo Park	●		●	●		●	●				●	
Palo Alto Baylands	●		●	●		●	●				●	
City of Mtn View Shoreline Park	●		●			●	●					
Sunnyvale Baylands Park	●					●	●					

Subregion: South Bay Foothills

The foothills of the Santa Clara Valley provide a dramatic backdrop for Silicon Valley. Protected lands are sparser than along the Peninsula Foothills, in part because of earlier, heavier development pressures and patterns consumed much of the agricultural and natural land. Parks and open space in this subregion can be accessed via Highways 85, 9, and 17 and connecting local roads, but access to some parks and open space is constrained due to winding and steep local roads that also serve many residents.

Open Space District Preserve

Protected areas occupying the slopes above Cupertino and Saratoga include the **Picchetti Ranch Open Space Preserve** with its' working historic winery, and **Fremont Older Open Space Preserve** with its' historic home. Above the City of Monte Sereno is the District's El Sereno Open Space Preserve, which contains portions of the Bay Area Ridge Trail, and above Los Gatos is **St. Josephs Hill Open Space Preserve**, which abuts both Lexington County Park, and to the south and on the higher slopes, the lower portions of Sierra Azul Open Space Preserve. To the west of Highway 17 near Lexington Reservoir is the District's **Bear Creek Redwoods Open Space Preserve**, which is open on a reservation basis, and contains the closest major redwood forest to the Santa Clara Valley, the former Alma College seminary complex, and the private Bear Creek Stables.

Other Open Space













Santa Clara County's Stevens Creek County Park provides trails, picnic and fishing opportunities

around the reservoir and along the creek between Picchetti Ranch and Fremont Older Open Space Preserves, and at the Upper Park area provides a trail connection through Monte Bello Open Space Preserve all the way to Skyline. Above Saratoga is the County's Villa Montalvo County Park, with a historic estate, now a popular center for art and music, along with popular trails. In Los Gatos, Santa Clara County's Vasona County Park with its' reservoir, paths, picnic, and active recreation facilities is a major draw for residents across the region and a major destination on the County's Los Gatos Creek Trail, which extends as a multi-use path from downtown San Jose to Lexington Reservoir. The County's Lexington Reservoir and Park is a popular fishing and non-motorized boating spot, and connects to St. Josephs Hill and Sierra Azul Preserves.

Landscape Character

The environment of the Los Gatos Foothills is generally dryer and the topography more abruptly steep than the Peninsula Foothills. The vegetation includes grassland and chaparral, with oak woodlands on the more northerly slopes and in valleys, and mixed coniferous forest on the upper reaches in the southwestern portion. Because protected lands are less continuous there are fewer long connecting trail opportunities, but there are excellent local loops of generally easy trails. Compared to the Skyline Ridge or Peninsula Foothills subregions, a greater percentage of the trails tend to be former ranch roads rather than "single track" built specifically for recreational trail use.

Table 7: South Bay Foothills Amenities by Park or Open Space

Sub-Region, Regional Parks and Preserves	Hiking, Running 	Equestrian 	Bicycling 	Dogs on Leash 	Wheelchair/Disabled Access 	Parking 	Restrooms 	Historic Site 	Nature or Farm Center 	Camping (Car/RV or Hike- In) 	Picnic 	Play Structure/Fields 
Los Gatos Foothills												
District Preserves												
Picchetti Ranch	●	●			●	●	●					
Fremont Older	●	●	●	●		●	●					
El Sereno	●	●	●			●						
St. Joseph's Hill	●	●	●	●		●	●					
Bear Creek Redwoods	●	●										
Other Parks and Preserves												
Stevens Creek County Park	●	●	●	●	●	●	●				●	
City of Saratoga Trails	●	●		●								
Los Gatos Creek Trail	●		●	●	●	●	●				●	
Vasona Lake County Park	●		●	●	●	●	●				●	
Villa Montalvo	●					●	●	●				
Lexington Reservoir County park	●	●	●	●	●	●	●				●	
Santa Teresa County Park	●	●	●	●	●	●	●	●			●	
Penitencia Creek County Park	●	●	●	●		●	●					

Subregion: Sierra Azul













Sierra Azul Open Space Preserve is a vast complex of protected lands assembled by the District and POST around the centerpiece of Mt. Umunhum – the highest point to the south above Santa Clara Valley, with views as far as Monterey Bay.

Although known for its chaparral-covered slopes, Sierra Azul has pockets of serpentine grasslands, bay and blue oak woodlands, and lush riparian corridors, including the headwaters of Guadalupe Creek. Home to deer, bobcat, coyote, and the federally listed-as-threatened red-legged frog, the preserve also provides exceptional habitat for mountain lions. It has the beauty and ruggedness of an unspoiled wilderness and attracts visitors seeking a more vigorous hiking, biking, or equestrian experience. Sierra Azul is less accessible than other areas due to very steep slopes and steep and winding local roads that provide access.

The former Almaden Air Force Station at Mount Umunhum was acquired by the District in 1986. This 1950s era site is special to the military personnel and their families who were stationed there, and important to the Ohlone people as part of their creation belief. The huge concrete radar tower is a landmark to many Santa Clara Valley residents. Federal funding will allow the District to continue cleaning up unsafe structures and contamination on the site so that planning for restoration and public access can proceed.

To the east of the Sierra Azul Preserve is the County’s Almaden Quicksilver County Park, and the protected lands of the South Santa Clara County Open Space Authority. To the south, the Preserve includes a portion of land in Santa Cruz County extending south to the Soquel Demonstration State Forest and Forest of Nisene Marks State Park, the location of popular mountain biking, hiking, and equestrian trails.

Table 8: Sierra Azul Amenities by Park or Open Space

Sub-Region, Regional Parks and Preserves	Hiking, Running 	Equestrian 	Bicycling 	Dogs on Leash 	Wheelchair/Disabled Access 	Parking 	Restrooms 	Historic Site 	Nature or Farm Center 	Camping (Car/RV or Hike-In) 	Picnic 	Play Structure/Fields 
Sierra Azul												
District Preserves												
Sierra Azul	●	●	●	●		●	●					
Other Parks and Preserves												
Almaden Quicksilver County Park	●	●	●	●	●	●	●	●			●	
Rancho Canada del Oro	●	●	●	●	●	●	●				●	
Soquel Demonstration Forest	●	●	●	●		●					●	

EXISTING ACCESS, RECREATION AND ENVIRONMENTAL EDUCATION OPPORTUNITIES BY ACTIVITY

The subregion descriptions above provide an overview of regional park and open space lands and opportunities. The associated subregion Activity and Facility Tables provide more detail on area-specific opportunities. The following section describes the activity-specific opportunities within the Vision Planning Area.

Mountain Biking

Most of the District's 220 miles of designated trails are unpaved "wildland" trails in steep, rugged terrain. Approximately 65% of these trails are "multiple use" trails and are open to bicyclists, which is the highest ratio of trails open to bikes among parks and open space in the Bay Area. Many of these trails are also single-track trails, providing bicyclists with a more technical experience. Sixteen open space preserves are open to mountain biking, and the following four preserves are among the most popular and well-developed for this activity:

- **El Corte de Madera Creek Open Space Preserve**
Features 34 miles of multi-use trails, including some steep, technical single-track trails; rugged, heavily forested terrain; redwoods; occasional views to the coast.
- **Fremont Older Open Space Preserve**
Nearby urban areas affording a quick trip after work; features 11 miles of multi-use trails; woodland, chaparral, rolling hayfields, and former orchard; 900-foot Hunters Point; Maisie's Peak.
- **Long Ridge, Monte Bello, Russian Ridge, Saratoga Gap, and Skyline Ridge**
These South Skyline Area preserves are interconnected affording bicyclists with miles of multi-use trails to explore; grasslands; oak, madrone, and Douglas-fir forests; views of Big Basin Redwoods, Butano Ridge, and the Monterey Peninsula.

- **Sierra Azul Open Space Preserve**
Features approximately twenty-six miles of multi-use trails; rugged, steep terrain; chaparral-covered slopes; dense stands of bay trees; outstanding views of Santa Clara Valley; 2,999-foot Mt. El Sombroso.

Dog Access

Access for dogs is relatively limited on the Peninsula and in the South Bay compared to the North and East Bay Areas. San Mateo County Parks do not allow dogs, leashed or otherwise.

District Preserves: Several District preserves offer access for dogs on leash, and one off-leash area:

- Coal Creek Open Space Preserve— all trails
- Foothills Open Space Preserve— all trails
- Fremont Older Open Space Preserve— all trails
- Pulgas Ridge Open Space Preserve— all trails + marked off-leash area
- St. Joseph's Hill Open Space Preserve— all trails
- Thornewood Open Space Preserve— all trails
- Long Ridge Open Space Preserve— designated trails only
- Sierra Azul Open Space Preserve- Kennedy-Limekiln Area only
- Windy Hill Open Space Preserve – designated trails only

Other Dog Access Areas:

- Sweeney Ridge
- McNee Ranch State Park
- Quarry Park
- Menlo Park Bayfront Park
- Palo Alto Baylands Preserve
- Palo Alto Arastradero Preserve
- Stevens Creek County Park (only below the dam on Stevens Creek Trail)
- Vasona County Park
- Almaden Quicksilver County Park

Horseback Riding

Twenty-one open space preserves are open to horseback riders. The District's trails provide the long distance opportunities for riding that are valued by equestrians, especially when trails allow connections between adjacent preserves or other public lands, such as the Bay Area Ridge Trail. These preserves are among those favored by equestrians:

- **Long Ridge, Monte Bello, Russian Ridge, Saratoga Gap, and Skyline Ridge Open Space Preserves.** These South Skyline Area preserves are adjacent to one another and provide corridors for equestrians with access to miles and miles of multi-use trails. Skyline Ridge Open Space Preserve has an equestrian parking lot to accommodate rigs of all sizes. From these preserves, equestrians can ride through a variety of ecosystems, including mixed evergreen forests, oak woodlands, chaparral, and grasslands. Great views to the coast are prevalent along the ridges.
- **Purisima Creek Redwoods Open Space Preserve.** Towering redwoods, ferns, and creeks will provide a cool respite for afternoon riders that choose to explore this preserve on horseback. This area provides a look at the unique history of logging on the midpeninsula – along Purisima Creek Trail riders may catch a glimpse of areas that were once the site of sawmills. Twenty-one miles of trails await you.
- **Windy Hill Open Space Preserve** features 13 miles of trails, including forested terrain, creek crossings, open grasslands, and beautiful views of San Francisco Bay and the midpeninsula.

Accessible Trails

The District's lands are typically rugged, and deliberately left in a relatively natural condition, there are several good options for visitors with wheelchairs, strollers, walkers, small children... and

for anyone desiring a less strenuous open space experience:

- **Monte Bello Open Space Preserve:** The first 500 feet of the Stevens Creek Nature Trail from the main parking area can accommodate a wide array of physical abilities (although it is not officially designated an accessible trail).
- **Picchetti Ranch Open Space Preserve:** This preserve features the historic Picchetti Winery. The winery complex is located just next to the preserve parking lot, and has wide dirt roads that can be navigated by most wheelchairs. There is an accessible restroom and a wheelchair lift into the winery tasting room.
- **Pulgas Ridge Open Space Preserve:** The Cordilleras Trail extends 0.8 miles at a very slight grade parallel to a paved road and along Cordilleras Creek into a quiet wooded valley with a clearing and bench next to the creek.
- **Purisima Creek Redwoods Open Space Preserve:** the ¼ mile Redwood Trail features two picnic tables and an accessible restroom. The western side of the preserve provides a moderately accessible trail on the Purisima Creek Trail, an old logging road an accessible restroom and a gentle uphill grade with a few short sections of 10%-15% grade. The trail follows along Purisima Creek, crossing the water over several bridges.
- **Rancho San Antonio Open Space Preserve:** adjoins Rancho San Antonio County Park, where accessible parking and restrooms are available. From the county park, a wide, level dirt path leads approximately one mile to historic working Deer Hollow Farm this preserve. Approximately 0.8 miles of the Rogue Valley Trail beyond the farm is also relatively level and wide.
- **Ravenswood Open Space Preserve:** provides approximately 1.5 miles of wheelchair accessible trail on levees leading to Bay wetlands overlook platforms and benches.

- **Skyline Ridge Open Space Preserve:** Features two ponds with trails designed for wheelchair access. Alpine Pond trails access the Daniels Nature Center and a floating pier, and accessible restroom. Horseshoe Lake provides a more rustic trail extending approximately a quarter of a mile from the parking area along the shoreline.
- **Stevens Creek Shoreline Nature Study Area:** This bayfront preserve offers an aggregate surface levee trail extending approximately 1/4 mile to an overlook that offers good bird watching. Accessible restrooms are available in nearby Mountain View Shoreline Park.
- **Windy Hill Open Space Preserve:** The picnic area at the upper end along Skyline Boulevard/Highway 35 is wheelchair accessible, including a restroom. Three tables are located in a grassy area with views overlooking Portola Valley.

ENVIRONMENTAL EDUCATION, INTERPRETATION, AND STEWARDSHIP

The Open Space District and other agencies and organizations on the Peninsula and in the South Bay offer environmental interpretive, educational and volunteer stewardship programs that occur on various sites and settings. The District's recently-prepared *Interpretive Planning Guide*¹ provides an overview of these opportunities, which is summarized and augmented below:

District Web-Based Interpretation

Visitors can learn about the District and its activities, programs, and preserves through the District's web site (www.openspace.org). District staff maintain a Twitter feed and a Facebook page, as well as Flickr and SmugMug accounts of digital images contributed by photo contestants and volunteers. As a pilot project, a multi-media nature tour is currently under development for the area around Alpine Pond, adjacent to the Daniels

Nature Center. Associated with EveryTrail, (a mobile travel guide application), this digital audio guide will be available on the EveryTrail Web site (www.everytrail.com) and from the District's web site as well as at the site.

District Public Information

The District gets the word out about nature-oriented events and activities through press releases, volunteer recruitment flyers, and information tables at community events such as art and wine festivals. The District's quarterly newsletter "Open Space Views" and schedule of docent-led activities is also available. The "Spaces & Species: Exploring Natural Communities" field trip program brochure and solicitation letter is sent to all schools within the District boundary and surrounding area each spring and fall. Listings for docent-led activities are featured in local newspaper and family magazine calendars.

District Volunteer and Docent Programs

The District staff manages volunteer and docent programs to which over 500 volunteers commit thousands of hours each year preserving and protecting open space lands by educating and inspiring visitors, constructing and maintaining trails, and removing invasive, non-native vegetation. Nature Center Hosts staff the David C. Daniels Nature Center. Outdoor Activity Docents introduce preserve users to the natural and cultural history, and ecology of the mid-peninsula region and Santa Cruz Mountains. An Outdoor Education Leader works as part of a team with small groups of 3rd-5th graders on a field trip to the Skyline Ridge Open Space Preserve and the David C. Daniels Nature Center. Preserve Partners get involved in restoring and maintaining District trails and preserves. Each year the District hosts over 65 fun, educational, and productive outdoor service projects, and Preserve Partners can sign up for as many of them

¹ Midpeninsula Regional Open Space District Interpretive Planning Guide, December, 2011

as they wish. Trail Patrol Volunteers provide a valuable resource to open space preserves visitors while hiking, or riding their bike or their horse. They talk with visitors about trail safety and etiquette, provide general information, and monitor trail conditions.

On-Site Interpretation

MROSD currently has a wide range of ongoing interpretive programs and services that are conducted at the preserves and Daniels Nature Center.

Daniels Nature Center

The David C. Daniels Nature Center, located at Skyline Ridge Open Space Preserve on scenic Alpine Pond, features a small visitor center with exhibits on pond life, a live gopher snake, and an interactive display of local wildlife skulls and skins. The center is staffed by volunteer hosts.

Deer Hollow Farm

The 150 year-old Farm is an educational center where the public, school classes, and community groups can observe and participate in a historic working farm. Located within Rancho San Antonio Open Space Preserve, the Farm is operated by the City of Mountain View and the non-profit Friends of Deer Hollow Farm. In the tradition of a working homestead, the Farm produces food on-site, such as fresh eggs and seasonal orchard produce. Nearly 5,500 elementary students (K-5th grade) participate in the Farm's environmental education program each year. Volunteer teaching docents lead small groups of students through the farm and garden, the surrounding preserve. Visitors are welcome to take a self-guided tour and learn about the history of the Farm, meet the friendly farm animals, and tour the gardens and orchard and a replica Ohlone Village. Picnic tables in an old barn structure are available at the north end of the

Farm for groups of 20+ people based on reservations from the District.

Partnerships

Area Schools. MROSD partners with schools within and around the District's boundaries to expose students to its award-winning environmental education program, Spaces & Species.

Higher Education Relationships with universities and other area colleges are cultivated to generate interest in research on the District's natural and cultural resources. The District administers a Resource Management Small Grant program that solicits and funds applicable research project work from local institutions.

Local Retailers. Some area retailers that offer outdoor recreation gear and supplies provide customers with information about opportunities available on MROSD and other lands.

Special Interest Organizations. Conservation-minded organizations, like Sierra Club and Acterra provide District maps and brochures as a service to members.

Professional Networks. Continued connections (formal and informal) with professional networking groups like Midpeninsula Environmental Educators Alliance (MEEA), National Association for Interpretation (NAI) Region 9, and Volunteer Best Management Roundtable will keep the District current on opportunities and events for partnerships.

Other Interpretive Opportunities

Many other agencies and organizations offer interpretive environmental education and other "hands on" opportunities to learn about and interact with nature:

Peninsula Open Space Trust (POST).

This private nonprofit land trust works to give permanent protection to the beauty, character and diversity of the San Francisco Peninsula and Santa Cruz Mountain range. POST encourages the use

of these lands for natural resource protection, wildlife habitat, public recreation, and agriculture. POST manages a volunteer program that trains and places volunteers in the roles of Conservation Easement Monitors, Open Space Guardians, and Stewardship Volunteers.

San Mateo County Parks (CP)

- **Fitzgerald Marine Reserve** This coastal site offers education and interpretation activities related to intertidal reefs; the beach, uplands, and marsh/wetlands; as well as recreational activities (walking, nature-study, and picnicking) that are compatible with natural resource protection. Programs include staff-led tours, docent naturalists, and trained volunteers; workshops, seminars, and classes; and training for staff and volunteers.
- **San Pedro Valley CP** This 1,150-acre park has three fresh-water creeks, which flow year round through lush valleys, the south and middle forks of the San Pedro Creek and Brooks Creek. They are of particular significance because they provide some of the few remaining spawning areas for migratory steelhead in the county. A friend's group staffs the park's visitor center and provides various programs and activities that help park rangers maintain the facilities.
- **Coyote Point Recreation Area** This site has the Peninsula's only environmental science museum, CuriOdyssey (formerly the Coyote Point Museum). It has exhibits featuring the six major ecosystems found in the Bay Area. One can also experience games and short films, as well as changing exhibits. The Wildlife Habitats Center, adjacent to the museum, houses live reptiles, amphibians, mammals, and birds.
- **Edgewood Natural Preserve** This 467-acre park and preserve has significant wildflower displays in the spring, and provides easy access to the population centers of the San Francisco Peninsula. A friend's group organizes restoration activities as well as providing visitor education and docent-led tours. A new Edgewood Education Center opened to the public in April 2011.
- **Huddart CP** This 900-acre park provides many miles of trail through a coastal mountain environment, and is a favorite among equestrians. The Sequoia Day Camp is visited by thousands of area youth during the summer. An active friend's group provides tours.
- **Wunderlich CP** With a similar environment to the nearby Huddart CP, this park includes the Folger Stable, transformed into a museum that showcases local history, including farming and the horse and buggy eras. An active friend's group provides tours.
- **Pescadero CP Complex** This group of parks comprises 8,020 acres and a significant amount of forest and watershed-related resources, including a major steelhead spawning stream.

California State Parks (SP)

Interpretive programs at state parks in San Mateo and San Francisco counties are supported by the San Mateo Coast Natural History Association. This includes the many beaches owned by CA State Parks (often managed by municipalities).

- **Portola Redwoods SP** This state park features a short nature trail, and a visitor center with natural and cultural history exhibits. Interpretive programs are conducted during the summer and on some weekends.
- **Butano SP** This 4,600-acre park features guided nature walks and weekend campfire programs.
- **Castle Rock SP** This park features 32 miles of hiking and equestrian trails, linking with trails that traverse the Santa Clara and San Lorenzo valleys and connect to the Big Basin Redwoods SP and the Pacific Coast.
- **Big Basin Redwoods SP** California's oldest SP, Big Basin consists of more than 18,000

acres of old growth and recovering redwood forest. A museum offers historic photos and redwood ecology exhibits, and docent-led activities are offered during the summer and on weekend during fall and spring.

Santa Clara County Parks (CP)

- **Rancho San Antonio CP** This park is managed by MROSD. Interpretive offerings are included on the adjacent Rancho San Antonio Preserve.
- **Almaden Quicksilver CP** Broad natural diversity and a landmark of California history - the park is the site of over 135 years of mining activities and former home to more than 1,800 miners and their families. The park encompasses 4,152 acres, occupying a majority of Capitancillos Ridge. During early spring, the park offers one of the most spectacular wildflower displays in the region. Remnants of the mining era also offer an exciting look into the mining operations of the latter part of the 19th century.
- **Lexington Reservoir CP** A 941-acre park and reservoir near urban centers of Santa Clara County; includes a 475-acre man made reservoir available for shore-line fishing. Part of a chain of parks and open spaces connected by the Bay Area Ridge Trail, which, when completed, will connect Sanborn with Almaden Quicksilver County Parks as well as Sierra Azul Open Space Preserve and other parks in the greater San Francisco Bay region. An interpretive panel about mountain lions is located at the boundary of this County Park and St. Joseph's Hill Preserve (MROSD).
- **Sanborn County Park** A heavily wooded park of over 3,688 acres nestled in the Santa Cruz Mountains between Saratoga and Skyline Boulevard. This mountain park of redwoods and tan oaks offers hiking, camping, RV camping and picnicking opportunities year round.
- **Villa Montalvo Art Center** Once the grand estate of Senator James Phelan, this 137-acre

park offers formal gardens. The expansive lawn area is a favorite site for outdoor weddings. There are also miles of hiking trails within the park grounds. The Villa Montalvo Association manages all areas except the hiking trails above the Villa, managed by County Parks, and hosts a summer concert series.

Appendix E: Natural, Cultural, and Scenic Resources Planning and Analysis Reports



Fremont Older Open Space Preserve

Sue Copeland



Appendix E-1:

Cultural Resources Existing Conditions Report

for the Midpeninsula Regional Open Space District
Vision Plan

Prepared for:

Midpeninsula Regional Open Space District
330 Distel Circle, Los Altos, CA 94022

August 2013

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1.0 INTRODUCTION

1.1 Introduction

The Midpeninsula Regional Open Space District (District) is conducting a District wide vision planning process called *Imagine the Future of Open Space*. *Imagine the Future of Open Space* will integrate technical scientific studies and public input to guide the District's work for at least the next 15 to 20 years. The District is a regional greenbelt system in the San Francisco Bay Area that includes San Mateo, Santa Clara, and a small portion of Santa Cruz counties. The District lands (herein District Lands) consist of property owned by the District- including 26 Open Space Preserves (OSPs) and lands managed by the District but owned by Land Trust and private landowners. The District includes 60,000 acres, which serves over 700,000 residents. *Imagine the Future of Open Space* is focused on the District's mission of preserving open space with a balanced approach to restoring the natural environment and increasing public access and education (Midpeninsula Regional Open Space District 2013).

Jodi McGraw Consulting contracted with Pacific Legacy and Mark Hylkema of Past Lifeways Archaeological Studies (Past Lifeways) to conduct cultural resource investigations for *Imagine the Future of Open Space*. Pacific Legacy and Past Lifeways were tasked with identifying known cultural resources within the Districts Lands (Figure 1-1), placing these lands and resources in a regional archaeological and historical context, and providing guidance on stewardship, protection, preservation, and interpretation of these resources.

The District maintains stewardship responsibilities over a mosaic of natural and cultural resources within their many land holdings (Figure 1-1). The diversity of ecological zones within the various OSP's is similarly expressed in the complex culture history of the region. The lands within OSPs are known to have supported several different Native American tribes for many millennia and continued to be used by them during the early historic period, and then by other peoples of various cultural backgrounds. The presence and actions of these various episodes of land use are evident as archaeological sites, cultural landscapes, historic structures, features, historic records, and individual artifacts. All of these aspects

of cultural resources are present both within and adjacent to District Lands and in archives containing important data relevant to the District's landholdings.

Physical aspects of human prehistory and history are manifest on landscapes in the form of past land management practices, archaeological sites, structures, features and artifacts that are collectively referred to as "Cultural Resources." Public Resources Code 5024 requires that public landholding agencies maintain an inventory of cultural resources and evaluate their potential eligibility for listing on the National Register of Historic Places (NRHP) or the California Register of Historic Places (CRHR). Furthermore, such agencies, like MROSD must actively preserve and protect these resources from impacts resulting from project development, public access, looting or other forces that would otherwise diminish their integrity.

Planning for stewardship of cultural resources in the District requires a grounded understanding of their existing condition, their nature, and the associated historic contexts. To this end, this report details the research on cultural resources conducted for the Vision Plan and forms the foundation for the Stewardship Guide (Ballard and Hylkema 2013). The following report includes a discussion of the regional prehistoric and historic background; community consultation; a Baseline Cultural Resources Inventory for the District; an analysis of the representative resources within the District by environmental zone and historic period land use themes; and a discussion of preservation, protection and interpretation opportunities on District Lands.

The highlighted resources are not intended to offer a specific order or direction for work to be completed, rather to provide an enhanced understanding of the cultural resources located within the District. This information is intended to be used in conjunction with the Stewardship Guide to provide aid the District in achieving their cultural resource goals identified through the *Imagine the Future of Open Space* vision planning process.

1.2 Goals of this Study

This existing conditions study will provide a summary of the known distribution of prehistoric

and historic period cultural resources within MROSD lands and discuss aspects of the human experience from prehistory through the historic period. This discussion focuses on native lifeways, through time up to the advent of early European colonization, and historic period land use themes. The goal is to provide a context to understand the relationship of the cultural resource to the people and the activities that created them.

As a descriptive tool for the Vision Plan, the District has subdivided the landscape into eight general “Environmental Zones” (see Figure 1-2). However, in regards to prehistoric archaeology and Native American geographic relationships to the land, we can aggregate these eight zones into two culturally relevant zones: 1) the Peninsular Coast and Santa Cruz Mountains, which includes the Coast, Coastal Mountains and Skyline zones; and 2) the southern San Francisco Bay and valley foothills, which includes the Baylands, Peninsula Cities, Foothills, South Bay Cities and Summit zones.

Another fundamental goal of this study is to provide useful information about the human cultures and histories within OSPs that managers and interpreters can reference for planning and public outreach purposes. Of course, it should be emphasized that sensitive cultural resources and most site locations must not be disclosed to the public in order to protect them from looting, vandalism or other types of damaging activities. With this in mind, this document will propose areas of interpretive opportunity suitable for the public.

In presenting this study, it must also be noted that the baseline cultural resources data base under-represents the number of resources within District OSPs. The number of formally recorded and known resources is likely significantly fewer than those present in the OSPs because much of the District has not been subject to systematic cultural resource survey, and many of the District Lands have been,

until recently, private properties. Therefore, much remains to be discovered and a document like this will need to be updated from time to time as new finds are made.

1.3 Project Area

While the vision plan study area as a whole encompasses the entire District, the cultural resources study area was restricted to lands District Lands (Figure 1-1). This cultural resource project area encompasses over 60,000 acres in San Mateo, Santa Cruz and Santa Clara County and includes areas along the San Francisco Bay, the San Francisco Peninsula, the San Mateo Coastline, Santa Cruz Mountain and The Santa Clara Valley.

1.4 Cultural Resource Team

The Vision Plan technical team for cultural resources investigation included archaeologists from Pacific Legacy and Past Lifeways. The following personnel contributed to this investigation:

Hannah Ballard, M.A., Project Supervisor and Senior Archaeologist (Pacific Legacy), 18 years experience in California Archaeology;

Mark Hylkema, Senior Archaeologist (Past Lifeways), M.A., 33 years experience in California Archaeology.

Elena Reese, M.A., Senior Historian and Historical Archaeologist (Pacific Legacy), 20 years experience in California Archaeology;

Starla Lane, M.A., Archaeologist and GIS specialist (Pacific Legacy), 13 years experience in California Archaeology;

Katherine Chao, Archaeologist (Pacific Legacy), 6 years experience in California Archaeology;

Sandra Ledebuhr, B.A., Archaeologist, 4 years experience in California Archaeology.



Figure 1-1: Midpeninsula Regional Open Space District Lands.

Source: Midpeninsula Regional Open Space District, www.openspace.org



Figure 1-2: Generalized Geographic Divisions within the MROSD District
(Courtesy of MROSD).

2.0 REGIONAL PREHISTORIC AND HISTORIC BACKGROUND

This background section presents an overview of the history of human occupation in the region through ethnographic, historical, and archaeological information. Section 2.1, Native American Prehistory and History, focuses on native lifeways, through time up to the advent of early European colonization. A subsequent section, Historical Overview, presents the history of the region from the Spanish through the American Periods and is organized by general land use themes such as agriculture/ranching, settlement, and mining. This background section provides a context for understanding the relationship of the District's cultural resources to the people and the activities that created them. It is also intended to provide a source of interpretive information for the District's educational programs.

2.1 Native American Prehistory and History

2.1.1 Conceptualizing the Native American Cultural Landscape

In order to understand the culture history of the region and the nature of archaeological sites, it is first necessary to understand something of the native view of their surroundings. The Native American Cultural Landscape was both secular and spiritual; being composed of sacred places, hunting grounds, plant gathering places, stone tool material quarries, fishing spots, travel routes, residential sites, campsites, trade centers, ancestral burial grounds, and much more.

At the time of first European contact in the 1770s, there were at least 12 politically discrete tribal polities whose territory or resource catchment areas reached into any one of the many MROSD landholdings. The distribution of these tribes and their archaeological genesis will be described in more detail below; however, the key point is to realize that a large number of native people surrounded the study area and could do so because of their ability to manipulate the productivity of their natural environment (Cuthrell et al. 2011; Lightfoot et al. 2013). In effect, they created anthropogenic landscapes through their hunting, gathering and gardening techniques (Anderson 2005).

Further in the uplands, burning the oak woodlands had the added benefit of clearing the ground of pests and making fallen acorns easier to find during fall harvest time. It also reduced excessive dead wood that could otherwise fuel overly hot fires, and kept the understory uncluttered. Game animals like deer, pronghorn and Tule elk prospered on fresh shoots and grasses that sprouted in previously burned areas. Studies of burned grasslands have shown that greater numbers of pigeons, doves and quails become attracted to the improved seed yield (Lewis 1973).

Women tilled the meadows with stout wooden digging rods as they sought out edible bulbs like soap root, iris and blue dicks. Aerating the soil in the process and carefully replacing the disturbed immature bulbs, allowed for reliable crop yields each year. Also, systematic pruning and coppicing of useful shrubs and other vegetation resulted in improved cordage and basketry materials derived from them (Anderson 2005).

We can also presume that the landscape was an integral part of the ideological world of the societies living within them. For tribes that used the study area as home and resource procurement lands, the ridges, valleys, streams and other features played crucial roles in establishing boundaries between communities, and were also features of the mind. Landforms and the flora and fauna fit within the context of native views of creation and the forces of the spiritual world. Thus, even though a given area may have served routine functional uses, it still could be seen as a special place where its attributes might trigger recollections of traditional lore and be read like a book. The landscape was text, and through oral traditions including songs, stories and legends-or inheritance of gathering or hunting rights, it could be read symbolically by the various communities interfacing within it. Some Ohlone stories have been documented, and they often involve spirit beings in a specific landscape setting (Yamane 1998). Thus, the silhouette of a ridge or placement of rock outcrops, or springs can take on significance through such associations.

Symbolism in landscapes is a common feature among many California tribes, particularly within context of stories about their first creation. Many tribes believe that it occurred in the distant past, and took place on a mountain top. One such location of significance to

the Amah Mutsun and Muwekma Ohlone Tribes- and support for the concept of cognitive landscapes, is Mount Umunhum, located within the Sierra Azul OSP. The mountains name, Umunhum is of native origin and contains the name for hummingbird- a creature that is a component of a creation story recorded at Mission San Carlos in Monterey and at Santa Cruz. An abridged version of the Monterey story was published by anthropologist C. Hart Merriam and G. W. Block:

When this world was finished (by creator), the Eagle, Hummingbird, and Coyote were standing on top of a high mountain in Monterey county. The world was being flooded and when the water rose to their feet Eagle carried Hummingbird and Coyote and flew away to a still higher mountain. There the three stood until the water went down. Then Eagle sent Coyote down the mountain to see if the world was dry. Coyote came back and said: "The whole world is dry." Eagle said, "Go and look in the river. See what there is there." Coyote did so and came back saying, "There is a beautiful girl." Eagle then said, "She will be your wife, in order that people may be raised again." Eagle gave Coyote a trowel of abalone shell and a stick to dig with. Coyote married the girl. Coyote's children went out over the world and became the forefathers of the different tribes. (Merriam and Block 1990:100-102)

Other versions come from the Mount Diablo area to the north (see Heizer 1974:71-75; Kroeber 1904: 200-202). All three of the principal animal beings in the story form the basis of many other tales throughout central California, and it is the character of the creatures as "spirit people" that is considered in the interpretations of the folklore.

The Native American Cultural Landscape also includes places of spiritual power, accessible only to specialists within the community (Shamans, priests and sorcerers). Places of power are sometimes ascribed to rock outcrops, springs or caves. In the study area, cupule rock features, like those found at Monte Bello Ridge OSP and petroglyphs near Chitactac County Park reflect shamanic activities.

Studies of altered states of consciousness, shamanism, and the link to rock art and other concepts of sacred places all revolve around epicenters in the landscape where spiritual contacts are made. Ethnographic research on the subject, on a global scale, has shown that shamans and vision questing was a fundamental part of most peoples' lives in the past. This was particularly true for Native Americans in California, and has implications in our analysis of the study area. As has been noted by archaeologist David Lewis-Williams:

Vision quests were not one-off affairs. Shamans usually repeated vision quests throughout their lives. They believed that their power could be increased in this way. When a shaman had received a vision in a dream, he awoke and concentrated on it so that he would not forget it. At dawn he went into the hill to experience more dreams. When he had received sufficient revelations, he entered his '*shaman's cache*' to converse with his spirit helper. (Lewis-Williams 2002:169)

The term shaman's cache was coined by Anna Gayton to denote Yokuts rock art sites. The Yokuts were (and in some areas still are) the aggregated tribes of the San Joaquin Valley, and they intermarried and exchanged resources with the neighboring Ohlonean people. Consequently, they shared many beliefs. Other California groups used the terms 'doctors cave,' 'spirit helpers cave,' and 'shaman's medicine house.' These caches were located in rock shelters or, where there were no shelters, on low ridges (Gayton 1930: 361-420). The word 'cache' was suggested by the presence at these places of a shamans ritual paraphernalia- like his costumes, talisman bundles, feathers and other accoutrements. In California, it seems that cache sites were individually owned and could be passed down from generation to generation. The actual cache was believed to be *inside* the rock, which would open to admit the shaman. Yokuts people said that the openings were invisible to non-shamans, no matter how carefully you searched for them (Gayton 1930: 361-420).

Whitely (1992: 89-113) has observed that the phrase "Entering a cave" or rock was a metaphor for a shamans altered state of consciousness; therefore,

caves (and rocks more generally) were considered entrances or portals to the supernatural world.

In 1860, during an interview with Lorenzo Asisara at Mission Santa Cruz, A.S. Taylor was told that the villagers of Mission Santa Cruz would occasionally evade the mission padres and gather secretly in the woods and:

“...in the midst of them they erect a high pole, crowned with a wreath of tobacco leaves, or branches of some tree or plants; at the foot of same they set their eatables, and even their beads; they prepare for the dance, painting their faces and limbs, and when all is ready, the old one whom they respect as their master or divine, goes out to hear and receive orders of the spirits... (in Heizer 1974:55).”

In summary then, the Native American Cultural Landscape encompassed the entirety of the study area, but today we can only recognize archaeological deposits which serve as markers of places where people once interacted with the landscape. It is from the archaeological deposits that we gain some insight into cultural phases within the long span of time of human presence in the region, and the next section addresses the theme of cultural taxonomy as created by archaeologists.

2.1.2 Cultural Prehistory

Archaeologists have worked for many decades to organize archaeological assemblages of artifacts and other data into a temporal order to separate periods of time into cultural phases that reflect changes in technology, group mobility, diet, and social complexity. The central California coast and especially the San Francisco Bay area gave rise to very complex early chiefdom level societies and its archaeological prehistory can be difficult to unravel given the propensity of archaeologists to create a bewildering array of cultural traditions (Milliken et al. 2007). But several general diachronic trends can be defined for this study, with a sequence that begins at the end of the Great Ice Age, the upper Pleistocene epipaleolithic period (see Table 2-1).

Although there is very little archaeological data about Early Archaic societies of the San Francisco Bay area, subsequent phases reflect responses to changing environments, and increased social circumscription. We know that by the time of first European contact in the 1770s, the area was one of the more densely populated regions of North America. Furthermore, a mosaic of independently governed tribal polities emerged to control defined territories, and ultimately two general economic spheres of influence developed: that of the coastal tribes who ranged from the ocean shore up into the crest of the Santa Cruz Mountains, and the valley/bay shore tribes who interacted with the coastal people (Hylkema 2002).

Geologic Period	Early Holocene						Middle Holocene			Late Holocene										
Economic Period	Paleo		Lower Archaic				Middle Archaic			Upper Archaic			Emergent							
Shell Bead Period (Scheme D)	Early Holocene						Early Period			Middle Period			Late Period							
Time Line B.P.	11,000	10,000	9,000	8,000	7,000	6,000	5,000	4,000	3,000	2,000	1,000	500	EMT	M1	M2	M3	M4	MLT	L1	L2
South Bay Patterns	Unknown		Millingstone Pattern				Hunting Pattern/Lower Berkeley Pattern			Hunting/Upper Berkeley Pattern			Augustine							
S. Clara Valley			Metcalf Creek Aspect				Sandhill Bluff Aspect			Early Bay Complex		Ellis Landing	Mega nos	(Needs study)						
S. Mateo Coast			Metcalf Creek Aspect				Sandhill Bluff Aspect			(Needs study)			Ano Nuevo Aspect			Bonny Doon				
Time Line B.P.	11,000	10,000	9,000	8,000	7,000	6,000	5,000	4,000	3,000	2,000	1,000	500								

Table 2-1. Culture Chronology of the Southern San Francisco Bay Region
(Modified after Milliken et al. 2007:104).

Pleistocene to Early Holocene Beginnings

The prehistory of the region overlays a larger fabric of dynamic cultural transformations that began sometime over 12,000 years ago, during the late Pleistocene (the end of the Great Ice Age). Episodes of dramatic (even cataclysmic) environmental changes have led to the recognition of four major climatic shifts that have transpired during the time of human occupation. These changes define the Late Pleistocene, Early, Middle and Late Holocene epochs (we are presently in the Late Holocene).

People have been active agents of change to the landscape ever since their first arrivals. The early presence of humans is evidenced through the antiquity of the multiple prehistoric archaeological sites that have been found distributed throughout the region as well as across the rest of western North America. It is known that the Americas were populated through more than one migration event by people coming across Beringia (the formerly dry land mass that once connected Siberia to Alaska) from Asia by following the migratory habits of the game animals they hunted (Haynes 2002).

At least one early migration event occurred along the coasts, which lead to the rapid arrival of people into the southernmost tip of South America. Genetic studies have discovered that sometimes populations migrated back into Siberia from Beringia. Clearly substantial cultural diversity existed even in the distant past. Although evidence of Pleistocene archaeological sites are as yet lacking in our study area, this can be attributed to the massive changes to the landscape that transpired at the end of the Pleistocene, continuing until rising sea level reached relative equilibrium some 6,000 years ago (Masters and Aiello 2007:35-51).

Geologic interpretation of sediment profiles from deep borings in the south Bay indicate that between 17,000 and 7,000 years ago, post Pleistocene warming trends in the global environment caused a rapid rise in sea level as glacial ice melted (Atwater, Helley and Hedel 1977; Atwater et al. 1979). Sometime around 10,000 years ago, during the Early Holocene period (which spanned the years between 8000 and 4650 BC), the progressively rising sea began to encroach up through the deeper stream channels that meandered through the wide oak woodland and grassland valley plains of what was to become San

Francisco Bay. The level coastal terrace terrain that once extended considerably farther offshore facilitated submerging of the landscape until sea level reached its present height by Middle Holocene times, some 6,000 years ago (Bickel 1978; Brown 1978).

With the stabilization of sea level, marine and terrestrial plants and animals developed distinctive behaviors and territorial distributions that allowed for predictable, patterned resources important to human societies. Cyclical patterns of seasonal food availability, and repetitive use of these resources by the early people has resulted in the distribution of extensive archaeological deposits at locations where residential and or task specific activities became established.

Archaeological sites become more visible from Middle Holocene times forward, possibly in response to population increase and more optimal environmental conditions. A general discussion of key transition phases for the Southern San Francisco Bay region, based on radiocarbon dates and artifact assemblages, follows below.

Middle Holocene Trends (circa 6650 to 3350 Radiocarbon Years before Present [RYBP])

During the Middle Holocene, stone mortars and pestles appear in the archaeological record of the San Francisco peninsula and coast, which indicates that acorns had increased in importance as a dietary staple. This addition augmented an earlier, archaic reliance on hard seeds (tarweeds, clarkia seeds, fescues, and others) that were milled through the use of hand stones and milling slabs.

With the increasing reliance on acorns as a food staple that took place during the Middle Holocene, access to productive oak woodlands necessarily became a crucial factor in the subsistence economy. Evidence of an earlier milling stone tradition and the transition to an acorn dependent economy has been noted at sites along the peninsula coast and within the Santa Clara Valley (Fitzgerald 1993; Hildebrandt 1983; Hylkema 2002).

Within the valley, greater numbers of milling tools relative to projectile points suggest that during this time there was a greater reliance on vegetal resources than on hunting. In contrast, coeval coastal sites contain a greater frequency and diversity of large

side-notched, square-stemmed and contracting-stemmed chert projectile points and knives that are morphologically identical to early period south coast forms (Hildebrandt and Mikkelsen 1991; Hylkema 1993:99-119; Hylkema 2002; Jones 1993; Jones and Hylkema 1988; Olson and Payen 1969). These robust point forms suggest that there was an emphasis on hunting large game, most probably Tule elk. Similar point forms from coastal sites of the Monterey Bay and Big Sur region are also attributed to a hunting focus on large game (Jones 1993:44-46). In both regions, these points co-occur with mixed milling tool assemblages that included hand stones, milling slabs, mortars and pestles.

On the peninsular coast of Santa Cruz County, the Sand Hill Bluff shell mound, CA-SCR-7 is one of the larger archaeological deposits dating to this period (key archaeological sites mentioned in this study are depicted in Figure 2-1). Several researchers have sampled portions of the site and derived multiple radiocarbon dates which range in age from 5970 ± 120 to 3790 ± 90 RYBP (Hylkema and Cuthrell 2013). Cobble choppers, bi-pitted stones, hand stones, and large points of various forms have been observed at this site. Hylkema (1991:123-140) examined a collection from CA-SCR-7 that included 108 projectile points and found an unusually high number of corner and side notched points ($n=65$). Of these, 33 percent were made from Franciscan chert, which is not native to the vicinity of the site. Multicolored Franciscan chert is abundant throughout Santa Clara Valley East of the San Andreas Fault line (Hylkema 1991:123-140).

On the other side of the mountains, at CA-SCL-65 in Saratoga, which is coeval with CA-SCR-7, a parallel pattern of lithics is seen (Fitzgerald 1993). This suggests that there was a greater range of population movement between these two areas than occurred later. During the ensuing Late Holocene, chipped stone tools made from Franciscan chert are nearly absent at open coastal peninsula sites of Santa Cruz and San Mateo Counties but continue to be used in the Santa Clara Valley and South Bay. Also, notched points like those from CA-SCR-7 became less common, having been superseded by other point types. This in turn implies a change in projectile point technology and less population movement with a greater emphasis on localized resources.

For the coastal people, the availability of marine mammals expanded the range of prey species. Stone sinkers and weights for fishing, pitted stones for tenderizing shellfish, and fishhooks made from shell and bone add to the picture of subsistence diversification on the south/central coast of California (Gobalet and Jones 1995:813-823; Jones 1993).

On the other side of the Santa Cruz Mountains, along the bay shore/valley zone of the peninsula, three finds stand out as intriguing clues to a Middle Holocene presence. The first find, from the City of Sunnyvale, consisted of the skeletal remains of a woman dated to 4460 ± 95 BP (Bickel 1978). The second and third finds consist of two burials from CA-SCL-33 recovered from the banks of San Francisquito Creek in the City of Palo Alto (Garaventa and Anastasio 1983). These burials are popularly known as Stanford Man II and I. The Stanford Man II burial, dated to 4400 ± 270 and 4350 ± 125 BP (Gerow 1974a: 241), had in association three large side-notched points with distinctive apiculate tips and diamond-shaped bases; all were made from Monterey chert. These point forms probably represent the earlier Sand Hill Bluff Phase manifest in coastal sites (see discussion below).

At the closure of the Middle Holocene a new age of relative environmental stability had been achieved throughout much of northern San Francisco Bay. The tidal marshlands of the southern San Francisco Bay developed later into a distinctive delta habitat around 2000 RYBP after accumulations of sediment transported by drainages of the Santa Clara Valley lost velocity before mingling with the waters of the south Bay (Atwater et al. 1979:349). Multiple site locations became established along the Bay Shore, many of which would develop into large shell mounds after long years of repetitive use during the Late Holocene. The percentage of shell mounds that began to form during the Middle Holocene is not yet known, but existing data suggest a correlation between tidal marsh development and increasing reliance on this habitat (Lightfoot 1997).

By the end of the Middle Holocene the overall artifact assemblage along with a combined dietary focus on ocean mussels, sea mammals and terrestrial ungulates (deer, pronghorn and elk), became the precursors to a consistent reliance on coastal

resources that persisted on through most of the Late Holocene.

Trends in Late Holocene Prehistory

The landscape of Central California achieved relative environmental equilibrium shortly after the advent of the Late Holocene some 3,200 years before present,

although evidence of several serious environmental perturbations within this age has been documented. Nonetheless, relative environmental stability promoted dramatic cultural developments among the ancestral Ohlone people; however, after AD 700, a trend toward more complex social organization can be attributed to cultural rather than environmental factors (Hylkema 2002).

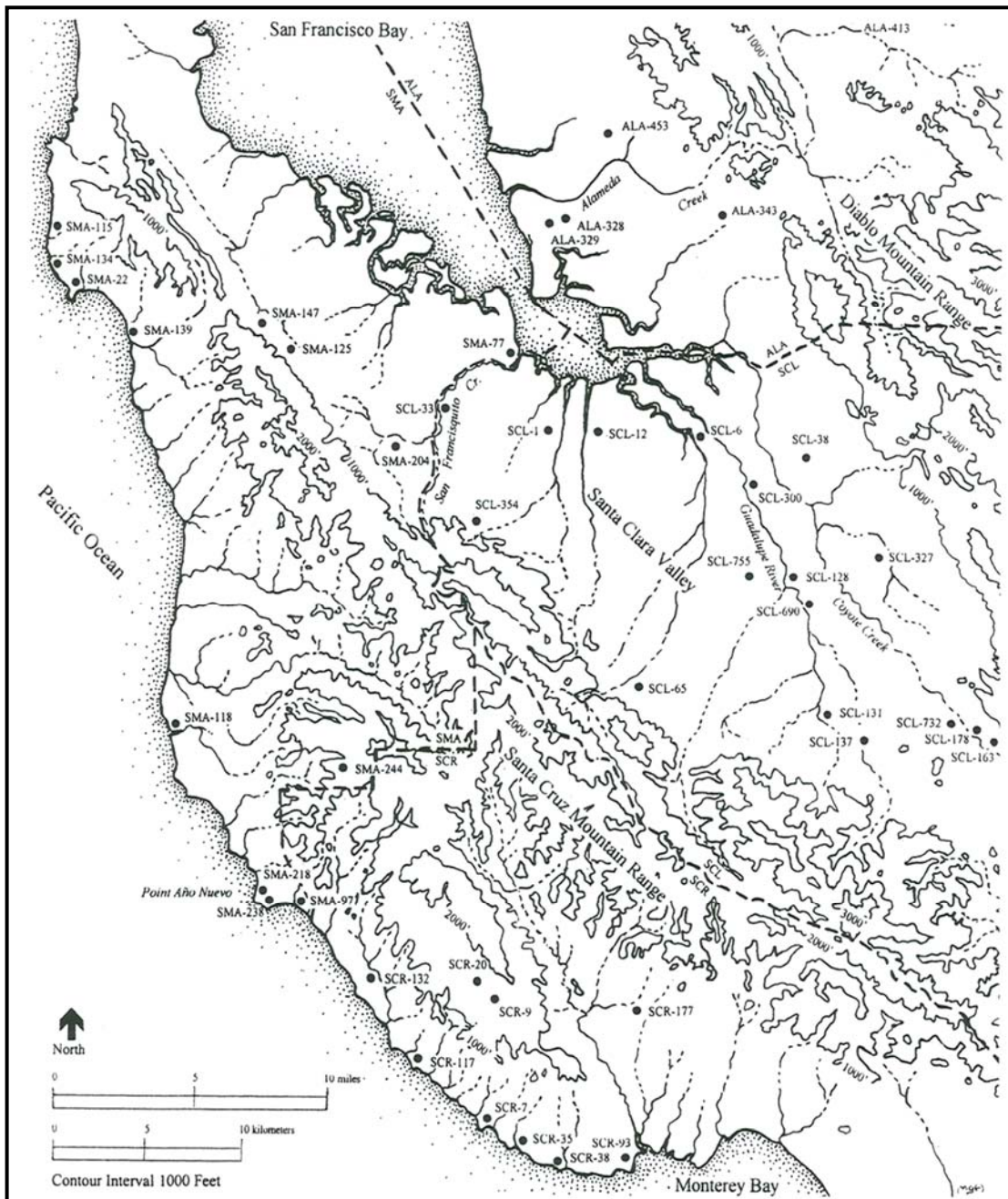


Figure 2-1. Distribution of selected archaeological sites
(Hylkema 2002)

The latter date heralds a period of cultural transition that involved the replacement of earlier artifact assemblages with new types, many of which served as markers of wealth and specialized societal membership. Archaeological findings from throughout the larger San Francisco peninsula indicate that after AD 1100 a cultural florescence transpired among the ancestral Ohlone people when interior and coastal people merged into a highly integrated socioeconomic interaction system (Hylkema 2002:233-262).

The ancestral Ohlone Indian people lived in a landscape of great ecological diversity. Their environment brought them in close proximity to marine, sandy beach, rocky shore, tidal and freshwater marsh, grassland prairie, oak grassland savanna, riparian, chaparral, mixed hardwood, and evergreen forest habitats. These habitats frequently converged in geographically narrow areas, and the mosaic distribution of productive biological communities gave a significant advantage to the ancestral Ohlone by enabling them to formulate alternative subsistence strategies such as co-harvesting, long term storage, and exchange systems. Enhancing vegetal productivity through the application of fire, along with institutionalized leadership roles and kinship/alliance systems, served to ameliorate episodes of scarcity and the effects of resource over-exploitation (as described by Basgall 1987:21-52; Bean and Lawton 1973:v-xlvi; Bean and King 1974; Blackburn and Anderson 1993; Chagnon 1970; Fages 1937; Lewis 1973; Milliken 1983; Simons 1992:73-103).

Archaeological evidence from sites in the area shows that productive ecological zones for the coastal communities, in terms of native subsistence needs, involved littoral and grassland habitats concentrated along the narrow coastal terraces and upland meadows in the Santa Cruz Mountains. A survey of nearly 200 sites on the peninsula between Montara Point and the San Lorenzo River (42 at Año Nuevo State Reserve) west of the crest of the Santa Cruz Mountain range, found that 70 percent occur within the terrace zone, 20 percent have been found in the adjacent mountain uplands, and the remaining 10 percent are spread along riparian corridors that cut into the mountains (Hylkema 1991:23). In contrast, the Santa Clara Valley supported much larger

populations of people, who focused on the storage of nut crops and other resources, with residential sites along the valley floor and Bay Shore (Hylkema 2002).

Peninsular Coast

Very narrow, moderately level sections of coastal terrace parallel the length of the peninsula coast. Intermittent extensions of flat terrace penetrate inland between the coniferous forest slopes of the Santa Cruz Mountains at places such as the plain of Half Moon Bay, Point Año Nuevo, San Gregorio and Pescadero valleys, and the mouth of the San Lorenzo River in Santa Cruz. Grasses and shrubs dominate the terrace habitat (Kuchler 1977), and this community supported a range of terrestrial mammals that were trapped, snared or felled by projectiles

(Harrington 1942). A variety of sea birds, migratory ducks and geese were available and historic accounts state that large numbers of waterfowl would congregate in seasonal wetland basins on the coastal terrace (Stanger and Brown 1969). The mountains rise directly above the terrace and are dominated by unproductive evergreen forest with sporadic patches of economically important grassy meadows and oak trees dispersed within mixed hardwood forest.

Archaeological deposits within the upland meadows interspersed along Butano and Ben Lomond ridges do not reveal any reliance on interior San Francisco Bay resources, but do indicate a close dependence on coastal resources. Two large residential sites near Bonny Doon (Hylkema 1991; Roop 1976) yielded substantial volumes of deer and elk bone, dense shell lenses (predominantly Ocean mussel [*Mytilus californianus*]) together with artifacts, and human burials in deeply stratified deposits. Evidently upland meadow habitats were important to the coastal subsistence economy throughout the Middle and Late periods. It is likely that the meadows concentrated terrestrial game into narrow resource patches and repetitive seasonal use of the uplands accounts for the substantial midden depths of these sites.

Throughout the Early, Middle, and Late periods of the Late Holocene, coastal milling tool assemblages include mixed milling tool sets of hand stones and milling slabs along with mortars and pestles. Evidently the rugged terrain and dispersal of oak forest within the coastal zone effectively constrained

access to acorns (Hylkema 1991:40-46). Sporadic distributions of bedrock mortar milling stations along the upper ridgelines and slopes of the interior Santa Cruz Mountains, including El Corte de Madera Creek, La Honda Creek, Russian Ridge, Montebello Ridge, Skyline Ridge, Long Ridge, and Saratoga Gap OSPs suggest that coastal people underwent a great deal of labor to add acorns to their diet.

Although the ancestral Ohlone did not develop a maritime tradition, offshore marine resources were actively pursued. Most open coastal sites tested with State Parks lands contain the remains of mollusks, fish, a variety of sea mammals and ocean going sea birds such as cormorant, pelican, tufted puffin, marbled murrelet, and others (Hylkema 1991; Hylkema with Hall 1985).

Identification of marine fish remains has been noted at some sites along the coast, but most collections have not had the bone identified to species. Ocean species have also been reported at inland sites around southern San Francisco Bay, indicating that they were an item of exchange (Gobalet 1992:72-84). Combinations of at least eighteen different species of marine fishes have been reported for coastal sites CA-SMA-139 at Half Moon Bay, CA-SCR-38/123 at Wilder Ranch State Park (Gobalet and Jones 1995:813-823), and CA-SCR-117 near Davenport (Fitzgerald and Ruby 1997:41). The most frequently noted fish families included herring (*Clupeidae*), silversides (*Atherinidae*), rockfishes (*Sebastes spp.*), and surfperches (*Embiotocidae*).

Shellfish were obtained from both sandy beach and rocky shore habitats. Of principal interest to the native diet were abalone (*Haliotis rufescens* and *cracherodii*), ocean mussel (*Mytilus californianus*), turban snails (*Tegula funebris*), urchins (*Strongylocentrotus purpuratus*), barnacles (*Balanus sp.*), gumboot chiton (*Cryptochiton stelleri*), limpets (*Collisella sp.* and *Notoacmea sp.*), turban snails (*Tegula sp.*), and clams (*Protothaca staminea*, *Macoma nasuta*, *Saxidomus nuttalli* and *Tresus nuttalli*). Olive snail shells (*Olivella biplicata*) and abalone shells were important to Native cultures throughout central California, and beyond, where they served as the raw material from which beads and ornaments were made (see Bennyhoff and Hughes 1987). Coastal sites frequently yield fragments of abalone pry bars made from polished split whale ribs with fire hardened, pointed tips. Divers swimming

down to submerged rocks may have used them to obtain larger mollusks. Examples of auditory exostosis or diver's ear have been confirmed from burials at CA-SCR-35 along Majors Creek and also at CA-SCR-7 the Sand Hill Bluff site (Gifford and Marshall 1984). Both sets of remains were adult females.

In tandem with temporal changes in late Holocene artifact types, peninsular coastal hunting patterns likewise reflect changes, particularly in regards to species acquisition. Volumetrically controlled faunal assemblages from several sites along the peninsula coast reveal a generalized hunting focus that included both terrestrial and marine mammals. However, a significant decrease in the contribution of terrestrial game transpired during the years after AD 1100, although the number of marine mammal remains in the sites is roughly the same.

The littoral zone supported large rookeries of marine mammals, which were hunted with clubs, harpoons, spears and darts. A large volume of northern fur seal remains (*Calorhinus ursinus*) was recovered from CA-SMA-218, a site at Año Nuevo dating to circa 900 BC (Hylkema 1991), and at CA-SMA-18, which dated to AD 300-600 (Hildebrandt et al. 2006). These bones are of particular interest given their limited seasonal presence during winter months and their pelagic nature (Hylkema 1991:291-292). During their migrations, the females and pups remain ten to fifty miles off the central California coast (Ingles 1979: 401); therefore, either the ancestral Ohlone had a more sophisticated maritime technology to facilitate hunting them at sea or it is possible that human predation affected northern fur seal behavior such that they no longer haul out as they might have done in the past. Traditionally, the northern fur seal gives birth and breeds on islands within the Bering Sea of Alaska. During fall and winter, females and juveniles are known to migrate as far south as central California, but stay out at sea for the duration of their trip. Analyses of prehistoric archaeological collections from the central and northern California coast, however, indicate that these behavioral patterns have not remained constant (Hildebrandt 1981, 1984a, 1984b; Hildebrandt and Jones 1992). Their populations are strong until around AD 500-1000 when they disappear (including at Año Nuevo), and the reasons for their demise have sparked a great

deal of debate among archaeologists and marine biologists (Hildebrandt et al., 2007).

In addition to fur seals, Stellar sea lions and California Sea lions were abundant. However, Elephant seals (*Mirounga angustirostris*), currently breeding at Point Año Nuevo and present in southern California middens, are *totally absent* from prehistoric sites along the Monterey Bay and San Francisco Peninsula region (Hylkema 2002). This species has established itself at Año Nuevo in recent times.

Sea otter remains at late Holocene coastal sites increase in frequency, and at site CA-SMA-115 at Montara State Beach, sea otters dominated the faunal assemblage. The range of bone elements indicated relative skeletal completeness, which implies that they were hunted more for their furs than their meat (Hylkema with Hall 1985). At nearby Fitzgerald Marine Reserve site CA-SMA-134, sea otter constituted 38 percent of the identified bone elements and 30 percent of the weight excluding *cetacea*). It is likely that they were harpooned among the kelp beds from Tule rush boats. Although this watercraft was unsuitable for open sea, at least one historic account mentions that they were used offshore below the sheltered reach of Point Año Nuevo (Fages 1937:70).

During the Late Holocene, the vast majority of chipped stone artifacts at open coastal sites of the San Francisco Peninsula- nearly to the exclusion of all other materials were made from Monterey chert coming from the Año Nuevo source. Site CA-SMA-218, located just a few hundred yards from a partially submerged Monterey chert outcrop at Año Nuevo State Reserve, produced numerous examples of staged core reduction sequences. These sequences ranged from cobble acquisition, application of heat to facilitate reduction (Parsons 1987) to the manufacturing of points and knives (principally the Año Nuevo Long-stemmed type [Jones and Hylkema 1988]). The abundant volume of chipping waste and broken tools that failed during their reduction characterizes many of the coastal edge sites (Hylkema 1991).

Increasing Social Complexity

Many cultural attributes that characterized the local coastal economy remained constant between the

years of 1000 BC and AD 1100. But shortly after that date the coastal lifeway began to change. This change coincides with greater interior demand for coastal products such as *Olivella* and *Haliotis* (abalone) shells that were used as markers of wealth and status among interior people. The increasing frequency of these non-dietary shells at coastal sites corresponds to their greatly increased presence in mortuary contexts at interior sites throughout central California after AD 700.

Prior to AD 1100, relatively small, mobile communities perpetuated an older generalized subsistence economy along the coast that emphasized a meat diet supplemented with processed hard seeds, acorns, fish and mollusks. Storage of food resources was not a critical aspect of the coastal lifeway, and a foraging economy was the optimal strategy (Hylkema 1991). However, after a period of prolonged drought between the years of AD 800 to 1100 (Jones and Kennett 1999), a transformation in the regional sociopolitical structure occurred and hierarchically ranked societies emerged. Logistically organized labor groups radiated out from residential bases and returned with resources that were frequently stored for longer periods of time, forming what has come to be known as a collector economy. An elaboration in the use of ideological artifacts and an increasing emphasis on wealth resulted in greater demand for *Haliotis* and *Olivella* shells. These materials were used as markers of wealth and status by people throughout the interior of central California, and this put the coastal people in a unique position as providers (Hylkema 2002).

Between the years of AD 1100 to the 1770s an elaborate social hierarchy had emerged, consistent with the ethnographic record. In addition to social changes, other new and significant cultural attributes begin to show up among the ancestral Ohlone shortly after AD 1100. Beautifully sculpted, tubular-shaped stone tobacco pipes appear, and the native tobacco smoked in them was deliberately cultivated for ceremonial functions. Also at this time, the introduction of the bow and arrow occurred. The archaeological evidence of this breakthrough is seen through the presence of two different types of small, distinctively shaped chipped stone points. One is known as the Stockton serrated type (named after its first identification at sites near the City of Stockton)

and the other is called the Desert Side-notched type. This latter type has a wide distribution throughout the Great Basin, Southern and Central California. The former is always made from obsidian from the Napa Valley/Clear Lake sources, and is common throughout the San Francisco Bay and Delta region as well as the Coast Ranges above the bay. The bow and arrow changed the way hunting groups organized themselves and allowed for more distant and accurate shots. Hunters wore deer skin cover and antlers to blend in with the animals, and selected their targets. Making a bow involved several months of labor and not everyone had equal access to bow woods (like wild plum, juniper and yew). Many Ohlone bows were reinforced with deer sinew that was adhered to their backs, which made them quite powerful (Bates 1978; Harrington 1942).

South San Francisco Bay and Santa Clara Valley

The landscape of the south Bay and northern Santa Clara Valley region supported large populations that established residential communities among three principal environmental zones that separated with increasing distance from the Bay Shore. These zones included tidal marshland along the perimeter of San Francisco Bay, with grassland prairie, and oak woodland savannah habitats ranging upwards to the foothills of the Santa Cruz Mountains. Riparian corridors meandered through these various ecological communities and enhanced what was an exceptionally productive environment.

The protected waters of the San Francisco Bay estuary provided habitat for a variety of fish, birds and sea mammals and the ancestral Ohlone procured them through the use of tule balsa boats (Harrington 1942; Heizer and Massey 1953:285-312; Santa Maria [1775] 1971; Vancouver 1798:Vol. 2:23; and others). An extensive network of sloughs and tidal mudflats characterized the southern San Francisco Bay where it intruded into the northern Santa Clara Valley.

Freshwater from a multitude of rivers, streams, and rivulets met with saltwater creating a vast, brackish water tidal marshland. The marshland provided resources such as salt, waterfowl, eggs, meats, and tule reeds. Elk waded among the vast thickets of reeds that ringed the marshlands and interior fresh water marshes, while the reeds themselves were used for building structures, boats, rope, duck decoys,

basketry, clothing, and matting (Harrington 1942). Pollen and roots from tule reeds were converted into food (Bocek 1984:240-245). The Ohlone instructed the priests at Mission San Jose how to gather salt from the south Bay marshlands (Sandoval 1988:4-5). Shore birds including gulls, pelicans, cormorants, rails, egrets, great blue herons, and many others populated the Bay marshlands along with great numbers of migratory ducks and geese (Beechey 1941:36; Schoenherr 1992). Waterfowl were obtained through the use of decoys and nets (Crespi in Brown 1994:15).

At low tide the mud flats were teaming with shorebirds dining on snails, crabs, and other invertebrates. Within the sloughs, leopard sharks (*Triakis semifasciata*), Pacific herring (*Clupea harengus*), Pacific sardine (*Sardinops sagax*), sturgeon (*Acipenser sp.*) bat rays (*Myliobatus californica*), and a host of other estuarine fish formed a productive biological zone. Sea otters, sea lions, and harbor seals subsisted on the abundant fish and in turn became prey to the ancestral Ohlone. The California horn snail (*Cerithidea californica*) was particularly abundant and its presence along with bay mussel (*Mytilus edulis*), oyster (*Ostra lurida*), and clams (*Macoma nasuta* and *Tivela stultorum*) at local prehistoric sites attests to the importance of this habitat for food (Cartier, Bass and Ortman 1993:168-171; Gerow 1968).

Numerous archaeological sites cluster along the south Bay tidal marsh. Residential use over time has resulted in great accumulations of soil and dietary shell, which created topographic high points, or mounds. One of the earlier dated south bay tidal marsh sites, CA-SMA-77 (University Village), contained mortars and pestles in addition to handstones, which shows that an acorn economy was established on the southern Bay shore by 3000 BP (Gerow 1968). Site CA-SMA-77 did not develop into a structured mound like other nearby sites such as the Hiller Mound, CA-SMA-160 (near the Ravenswood OSP), Tarlton Mound, CA-SMA-248, or the Castro Mound, CA-SCL-1.

Mounded sites in the South Bay appear to have developed after the transitional phase between the Early/Middle periods to Phase 2 of the Late Period. At the Inigo Mound, CA-SCL-12 (near the Steven's Creek OSP), temporally diagnostic artifacts, radiocarbon dates, and obsidian hydration results

indicate that it was intermittently occupied over a period of 2,000 years (Samuelson and Self 1995). Similarly, the very large Patterson Mound, CA-ALA-328, situated on the east side of the South Bay opposite CA-SCL-1, dated from the Middle Period and shared an overlapping Middle/Late transition period and Late Period Phase 1 temporal component with the nearby Ryan Mound, CA-ALA-329 (Bickel 1981; Coberly 1973; Leventhal 1993; Wilson 1993). The latter site was intensively used during the Late Period, and both of these mounds contained vast artifact assemblages in association with several hundred human burials.

Grassland prairie formerly surrounded the perimeter of the Bay marshland. A range of plant species within this zone provided food for the local inhabitants and browse for the game that they hunted. Large earthen mounds, both natural and anthropogenic (see Leventhal 1993; Lightfoot 1997:129-141; Meighan 1987:28-36), provided dry ground during the winter when high tides, stream overflow, and ground saturation created a network of mires and vernal pools (Bolton 1933:353; Roop, Gerike and Flynn 1981). Dense thickets of willows grew along the margin between the tidal marsh and grasslands where fresh water streams became lost in a maze of sloughs (Brown, 1994:35; Mayfield 1978:32).

Spanish explorers frequently commented on the seasonal wetlands of Santa Clara Valley and the difficulty they had crossing them (Bolton 1926:3:263; Bolton 1933:353-355; Stanger and Brown 1969:106). The soil was black in color, and grasses were burned in late summer to increase seed productivity (Fages 1937; Mayfield 1978:84-94). Lewis (1973) has noted that aboriginal landscape management techniques utilizing fire enhanced grass seed harvests and improved the browse available for elk, deer, and pronghorn. Large herds of elk and pronghorn once existed on the Santa Clara Valley plains (Dane 1935:103-104; Fages 1937) and wolves and coyotes were also present (Mayfield 1978:66; Pinart 1952).

The elevation of the grassland prairie zone rises progressively at greater distances from the Bay and vegetation communities graded into a wooded savanna setting that consisted of widely spaced, tall broad-leafed deciduous oak, laurel, and madrone trees, with an understory of bunch grasses, forbs and shrubs (Kuchler 1977). This community gave way to

an extensive thicket of mixed hardwood, greasewood, toyon, chemise, and coyote brush that formed a belt along the lower foothills of Santa Clara Valley (Bolton 1926:3:263; 1930:1:410).

The valley oak woodland zone was particularly suitable for the development of an acorn dependent economy and the majority of sites recorded in the south Bay region occur here. The use of acorns as a dietary staple and various archaeological implications has been extensively described in the ethnographic literature (Basgall 1987:21-52; Gifford in Heizer and Whipple, 1971:301-305). The valley oak savanna was burned annually after the acorn harvest to prevent the accumulation of excessive wood fuel that would otherwise burn too hot and destroy the acorn producing oaks. Burning had the added benefit of removing the lower shoots from the oaks thereby encouraging the tree to produce more acorns and reducing insect pests (Anderson 2005; Lewis 1973:19). European visitors commented on the "park like" appearance of the Santa Clara Valley and the presence of many extraordinarily large oak trees (Bolton 1926:423; Vancouver in Mayfield 1978:132).

In the south Bay, numerous creeks and rivers cross through various ecological zones and have developed distinctive corridors of riparian habitat. Silt deposits from episodic stream overflow along the banks of the meandering streams of Santa Clara Valley created topographic high points that were attractive to prehistoric settlement (Roop, Gerike and Flynn 1981). Schoenherr (1992:153) has summarized the biological qualities of riparian corridors and noted that they create an ecotonal edge effect in which the density and diversity of species are greater than in any other community in California. The characteristics of a given ecotonal edge changed as drainages cut across various environmental zones.

Larger creeks and rivers supported populations of Pacific pond turtles (*Clemmys marmorata*), brackish water crabs (*Rhithropanopeus harrisi*), fresh water clams and mussels (*Anodonta nuttalliana* and *Margaritifera margaritifera*) and, during the first seasonal rains, spawning runs of anadromous steelhead, or rainbow trout (*Salmo gairdneri*) (Baumhoff 1978; Bolton 1933:355). The remains of steelhead and other freshwater fish such as Sacramento sucker (*Catostomus occidentalis*), splittail, hitch, thicketail chub and other carps and minnows (*Cyprinidae*) have been identified

in archaeological contexts, along with marine fishes from the saltwater estuaries at the Bay Shore end of riparian corridors (Gobalet 1992:72-84).

A cursory examination of site distributions in Santa Clara Valley reveals a pattern of dense clusters along the lengths of major drainages, particularly the Guadalupe River, Coyote Creek, Stevens Creek and San Francisquito Creek. Bocek (1987) has reviewed site distributions and contents along the San Francisquito Creek drainage, which flows from the east slope of the Santa Cruz Mountains across the peninsular plain and into the south Bay estuary. Bocek identified 58 sites along this drainage, ranging in age from the Early, Middle and Late periods, and found that the majority occurred in the oak woodland zone. Others clustered at the mouth of San Francisquito Creek, and just a few were found along creek forks within the foothills.

A decreasing frequency of hand stones and milling slabs used to process hard seeds during the Early, Middle and Late periods suggest that an earlier, archaic reliance on hard seeds eventually gave way to an increased use of acorns after the Middle period (Hildebrandt 1983). Nonetheless, Milliken (1991:132-134) noted that at the time of early Spanish colonization the "meadow lands" between Coyote Creek and the Guadalupe River was an area from which the valley people collected herbs and grass seeds. During the colonization of Santa Clara Valley in the 1770s Spanish explorers frequently noted that they had been provided with gifts of "black-colored tamales" made from grass seeds (Stanger and Brown 1969).

Acorns were an abundant resource within the oak woodland habitats of the south Bay, but their seasonal cycles of availability and capacity for storage constrained group mobility during winter months. Basgall (1987) has described the nutritional value of acorns and their relationship to aboriginal societies, and observed that: "Accordingly, once established, such an adaptation would have had important effects on demographic patterns, on mobility strategies, and on the organization of intra-group relations" (1987:41). In locations like the Santa Clara Valley, where oak groves were well established, acorns were readily gathered during the fall season and stored in granaries (Harrington 1942). Communal acorn storage and redistribution probably involved the

organization of social institutions with ranked membership and the delineation of leadership roles (Bean and Lawton 1973:v-xlvi; Bean and Blackburn 1976). The presence of numerous mortars and pestles in Middle and Late period Bay shore/valley sites, often in association with burials, attests to the value of acorns to the people of this region.

Bulbs like soaproot (*Chlorogalum pomeridianum*) were dietary staples requiring roasting in an earth oven for over thirty-six hours to render them edible (Barrett and Gifford 1933:139; Bolton 1926:423; Harrington 1942; Heizer 1941:43-44). Such ovens used large numbers of fist-sized cobbles to distribute heat within them. Extensive layers of burned rocks have been reported for many Bay area sites, including CA-SCL-178, CA-SCL-690 and CA-SCL-732, and are often in close proximity to cemeteries (Cambra et al. 1996; Hall, Hylkema and Leach-Palm 1988:45-47).

Residential sites along the south Bay Shore are characterized by their accumulations of large volumes of shell. Typically, single mollusk species dominated over others in temporally stratified contexts at variable locations around the bay. However, the dominant species differs from one site to the next, or within the strata of an individual site. This has been the subject of considerable academic debate since the early 1900s (Cartier 1993; Bickel 1981; Gifford 1916; Greengo 1975; Nelson 1909; Ringer 1972, and others). Gerow (1968:29-32) reviewed the data from a number of shell mounds and summarized observations made about variations in dietary contributions of individual species, concluding that variability was either the result of changing sea level or over exploitation of target species.

Gifford (1916:24) studied the relationship of shell species in bay shore mounds and identified the horn snail, oyster, and bay mussel as the principal dietary shellfish found at south Bay sites of Santa Clara County. Sites along the west Bay shore of San Mateo County and east Bay shore of Alameda County record a greater emphasis on bay mussels, oyster and mud clams (*Macoma nasuta*, *Tivela stultorum*). Several of the large shell mounds from both the west and east bay shore margins reveal temporally related changes in target species within the same site (Gerow 1968; Gifford 1916; Greengo 1951, 1975; Nelson 1909; Schenk 1926; Uhle 1907; and others).

East Bay sites with stratified components ranging from the Middle period to Middle/Late transitional period typically contain a deeper deposit of oysters that are overlain by layers of clams. In contrast, Early and Middle period sites along the west bay shore contain deeper deposits with oysters which are replaced in upper levels dating from the Middle/Late transition to Late period by horn snails (*Cerithidea californica*). Greengo (1975:68) noted that within three shell mounds along the east Bay (CA-ALA-307 West Berkeley, CA-CCO-295 Ellis Landing, and CA-ALA-309 Emeryville) variations of the molluscan fauna "seem to reflect a shift from gravel-bottom species to a mud clam during the accumulation of refuse." Greengo attributes this to progressive silting of the bay shore margin.

Strictly from a presence/absence point of view, Cartier, Bass and Ortman (1993:168-171) reviewed the range of shellfish species and volumes from seven south Bay sites (CA-SCL-6W, -6E/447, -68, -128, -137, -300/302, and -690). They found that sites predating the Middle/Late transition period contained greater volumes of bay and ocean mussel. Shortly thereafter, the focus was on horn snails. This is consistent with observations made about the Middle period presence of bay mussel at other regional sites such as CA-SCL-732, a little further south. Sites within the Gilroy area dating from Early to Middle period times are reported to have contained mussel shells, and these shells are also absent in Late period contexts (Hildebrandt 1983:123-131). Despite problems with comparable quantification methods, Cartier, Bass and Ortman (1993) suggested that the distribution of estuarine and marine shells at interior sites of the southern Santa Clara Valley implied a greater reliance on exchange rather than direct procurement. However, the occurrence of mussels at sites distant from their primary habitats may have also been a result of greater group mobility during the Early and Middle periods.

Horn snails do not exhibit the same distribution pattern as mussels. They are not present at sites farther south than the Santa Teresa Hills but have been reported in upland sites of the easterly Diablo Range (Edwards and Simpson-Smith, 1988). On the other hand, horn snails are not present at upland sites

of the Santa Cruz Mountains, where ocean mussels points to an affinity with open coastal shellfish assemblages throughout the Middle and Late periods. Variation in horn snail distributions within Santa Clara Valley may be related to seasonal factors that affected shellfish availability (Schoenherr 1992:678). Horn snails are at their optimum availability during summer months when mussels are not safe to eat.

Simons (1992:73-103) has demonstrated that during the Early and Middle periods, faunal assemblages from Bay shore sites contain a high frequency of *canid* bones (dog, wolf and coyote), elk and deer, mixed with lesser numbers of marine mammal remains (principally harbor seal and sea otter). Conversely, during the Late Period, there is a substantial decline in *canid* and elk bones at bay shore sites, which were replaced by a major increase in sea otter bones.

The contribution of deer relative to elk is high during the Early period, declining during the Middle period and rising again during the Late period. This suggested to Simons (1992:88) that shifting of target species was likely caused by "interannual unpredictability due to short-term climatic events, and resource depression was resulting from over hunting of other marine (i.e. pinnipeds) and terrestrial (i.e. artiodactyls) mammal game species." He further proposed that increased human population pressure during the Late Period may account for a greater focus on estuarine habitats around the Bay that necessitated a co-harvesting strategy emphasizing predation of sea otters and deer along with waterfowl and fish. Simons concluded that deer served as a secondary "backup" alternative to sea otters when the latter species became less available during brief episodes of depletion. However, examinations of the faunal assemblage from Late period site CA-SCL-38 show that elk and deer continued to dominate the assemblage (see Table 2-2). Perhaps the bay shore communities succumbed to population pressure and suppression of *artiodactyl* availability, which accords with Simon's conclusions, while residents of Santa Clara Valley did not. A comparative summary of selected species contributions from sites CA-ALA-328, CA-ALA-329, CA-SCL-690, and CA-SCL-38 is presented in Table 2-3.

Table 2-2. Key Game Species

An example of key game species as seen from the faunal assemblage from CA-SCL-38 (number of identified specimens, percentage and weight

[Bellifemine 1997]).

Common name	Taxon	NISP	%	Weight
Grizzly bear*	<i>Ursus arctos</i>	4	0.5	222.0
Black bear	<i>Ursus americanus</i>	2	0.5	45.4
Tule elk*	<i>Cervus nanoides</i>	105	20.5	3735.7
Black-tailed deer	<i>Odocoileus hemionus</i>	62	12.0	1941.3
Pronghorn	<i>Antilocapra americana</i>	7	1.0	201.1
Large herbivore	<i>Artiodactyla</i>	105	20.5	1781.3
Mountain Lion	<i>Felis concolor</i>	1	0.5	2.1
Raccoon	<i>Procyon lotor</i>	2	0.5	9.6
Gray Fox	<i>Urocyon cinereoargenteus</i>	2	0.5	10.1
Coyote	<i>Canis latrans</i>	6	1.0	42.7
Dog/wolf/coyote	<i>Canis sp</i>	18	3.5	108.6
Rabbit	<i>Sylvilagus sp.</i>	6	1.0	7.2
Jackrabbit	<i>Lepus californicus</i>	37	7.0	79.2
Bobcat	<i>Lynx rufus</i>	1	0.5	11.3
Skunk	<i>Mephitis</i>	2	0.5	7.6
California sea lion	<i>Zalophus californianus</i>	1	0.5	7.5
Sea otter	<i>Enhydra lutris</i>	40	7.5	571.2
Goose	<i>Chen sp.</i>	50	9.5	112.0
Duck	<i>Anas sp.</i>	9	1.5	19.5
Geese/Ducks	<i>Anseriformes</i>	1	0.5	5.0
Crane	<i>Grus sp.</i>	20	4.0	272.4
Hawk	<i>Buteo sp.</i>	23	4.5	63.0
Eagle	<i>Aquila sp.</i>	1	0.5	2.2
Loon	<i>Gavia sp.</i>	3	0.5	5.0
Pelican	<i>Pelicanus sp.</i>	2	0.5	4.8
Western Grebe	<i>Aechmorphus occidentalis</i>	1	0.5	0.1
Cormorant	<i>Phalacrocorax</i>	1	0.5	2.2
Total		512	100.0	9,222.8

* Other elements from articulated grizzly bear and elk burial features were not included in this summary to avoid bias of the comparative effort. (Bellifemine 1997)

Table 2-3. Economically Significant Species

Comparative percentages of economically significant species from several south bay/valley sites:

Site and Temporal Affiliation:		CA- ALA- 328	CA- ALA- 328	CA-SCL- 690	CA- ALA- 329	CA-SCL- 38
Common Name	Taxon	Middle	Late	Middle/ Late	Late	Late
Dog/Wolf/Coyote	Canis sp.	31.6	11.8	4.2	7.8	4.6
Elk	Cervus canadensis	19.8	4.9	3.1	3.0	20.5
Deer	Odocoileus hemionus	19.8	10.6	19.5	24.7	12.1
Pronghorn	Antilocapra americana	1.8	0.7	5.5	2.5	1.3
Rabbits	Lagomorphs			43.0		7.0
Sea Otter	Enhydra lutris	16.7	58.8		50.1	7.8
Harbor Seal	Phoca vitulina	3.7	5.6		3.0	
Misc. other		6.6	7.6	24.7	17.9	46.7*
Total		100.0	100.0	100.0	100.0	100.0

* Includes 21.6% avian and 19.9% unidentified "large herbivore" remains. (Bellifemine 1997; Simons 1992; Hylkema 2007).

2.1.3 Outline of Tribal Lifeways at European Contact

Before the arrival of European colonists Central California tribal cultures had become engaged in wide ranging economic networks that transported coastal products to the interior and brought exotic materials to the coast. Despite linguistic variations and localized customs there was a shared ideological framework and wealth system which grew exponentially up until historic developments heralded by the abrupt arrival of Spanish explorers in the Fall of 1769 disrupted the tribal world. Much of what we know about the indigenous people of coastal California comes from notations about their early contacts with the colonists.

At the time of first contact, populations were organized into extended families, or clans that formed villages. Within the villages, clan members ascribed to different clubs or societies. Membership usually involved initiation where novices learned the customs of the organization, and used shell beads to pay dues. Different membership driven organizations sponsored ceremonial events, each having their own distinctive costumes and regalia. Abalone (*Haliotis*) shell pendants were frequently used as badges of membership and rank. Together

the various organizations formed the fabric of society and directed the storage and redistribution of surplus food resources, construction of village buildings, planned hunting strategies and followed the seasonal cycles of nature that would determine where and when they should relocate themselves.

Both men and women could be members of various societies and among the Muwekma Ohlone an elite group of women, called *Mayen* (Collier and Thalman 1996), directed the construction of large circular dance houses that were excavated several feet below the surrounding ground level. The *Mayen* selected the most virtuous individuals to represent various spiritual forces that were personified in dances and ceremonies. Among the many dances and ceremonials was the *Kuksu* tradition (referred to as a cult among anthropologists). *Kuksu* involved a ceremonial cycle and initiation of exclusive members. The key figure was the *Kuksu* personification, and this dancer wore a headdress of bundled feathers with many willow rods radiating away from his head, tipped with white goose down feathers. He resembled a dandelion in silhouette. Other male dancers wore woven feather bandoleers made from flicker feather quills placed edge to edge draped over their foreheads and down their shoulders. Dancers

usually stomped on the ground in regular intervals timed to the beat of a man on a hollow log drum who thumped on it with a long stave, and in time with a lead singer. Young children were initiated into the various societies and were taught proper manners and customs acceptable to their community by their elders. Once membership was invoked, they earned status and rank over the term of their lives.

Women had elaborate geometric lines and patterns tattooed over their chins, neck and shoulders to identify their clan affiliation, and to prevent improper attention from a suitor who otherwise might not be aware of her social standing. Men wore their hair long, and often had long beards and moustaches. Both men and women used sharpened and polished deer bone pins to hold their hair into various fashionable styles. Both occasionally adorned themselves with polished circular stone disks that were inserted in their ear lobes or nasal septum. Most had their ears pierced and wore decorations of brightly colored feathers and bird bone tubes. Finely woven fibers of milkweed were used to make hairnets that sometimes were covered with feathers or shell beads.

Men typically governed the political structure of the village and did the hunting while women handled the gathering and processing of vegetal foods. Each village had a “head man” and the many villages throughout the Santa Cruz Mountains and coast each had its head man. Capitancillos Creek below the Sierra Azul OSP derived its name from the many sub chiefs (little Captains) who were said to be spread among the villagers of New Almaden Valley. Feuds and violence between members of some villages was not uncommon, but relatives typically sought to avoid conflicts through payments made in shell beads. Men wore little or no clothing, a trait common among hunting people living in close proximity to the animals they depended on where they must avoid retaining the human scent in order to better blend in with their natural surroundings. Women wore a braided Tule reed skirt with a rear apron made from finely tanned deerskin.

Houses called *rūk* and/or *tac* were constructed of Tule reeds that were tightly thatched and woven over a framework of willow poles. Every house had an indoor and outdoor hearth and underground oven. Many fist-sized river cobbles were used to distribute

heat in the ovens where plant bulbs, shellfish and animal meats could be roasted. Long poles with painted rings of black, red and white and brightly colored feathers attached were erected in the cemeteries adjacent to the villages. Each village also had a partially underground, roofed sweathouse where interior fires steamed the occupants like a sauna. This was where the men spent a lot of their time telling stories and repairing their hunting tools. Bows were kept in the sweathouse where the smoke kept the human scent off them. When women had just given birth, both she and the newborn spent their first few days together resting on a bed of herbs within a special sweathouse, where they could keep warm together.

With the advent of Spanish colonial expansion and the coming of the historic period, the subjugation of the native coastal people resulted in dramatic environmental changes, while poor nutrition and repeated exposure to introduced diseases decimated their population. Nonetheless many survived and their descendants continue to live in the region (Cambra et al. 2007; Milliken et al 1993).

Ethnographers such as J. P Harrington (1942) interviewed many post Mission Period descendants in the Monterey, Gilroy and Morgan Hill areas, and his notes are still providing insights into the lifeways of the people who are today called the Amah Mutsun and Muwekma Tribes (Bocek 1983; Cambra et al. 2007; Yamane 1994; 1998; Ortiz 1994).

Tribelet Territories within the MROSD OSPs

Kinship data derived from Spanish Mission records show that coastal communities intermarried with the valley/Bay shore people to establish kinship and alliance networks (King 1994:203-228; Milliken 1983; 1991; 1993; 1995). However, tribal territories were highly circumscribed. Ethnohistoric observations noted that several different tribal communities (referred to as tribelets by contemporary anthropologists) controlled territory throughout the region (see Figure 2-2). The populations composing these polities seasonally relocated within their territories, each controlling sufficient areas to meet their hunting and gathering needs, and manipulated the land to increase productivity (Cuthrell et al. 2012; Palou, Vol. 3 in Bolton 1926:3:293-303; Crespi in Stanger and Brown 1969:88).

In regards to the Vision Plan study area, the largest and most powerful of the regional tribes were the *Quiroste* of Año Nuevo and Pescadero. Their reach extended from the coast up into Mindego Hill and Skyline Ridge where they interacted with another little known clan called the *Olpen*. The *Olpen* ranged around the uplands of Skyline Ridge, Montebello Ridge and Kings Mountain down into the upper hills of Woodside. Although the *Olpen* are depicted as a tribelet in Milliken's analysis (1991), they are hardly mentioned in the Spanish records and did not contribute many neophytes to the missions. These folks were probably a clan rather than a tribe.

To the north of the *Quiroste* were the *Oljon* villagers who controlled the coast, marsh and upper drainage of San Gregorio Creek. The *Oljon* ranged up to La Honda Creek OSP, Mindego Hill and up to Skyline Ridge. In turn, the northern neighbors of the *Oljon*, the *Cotegen*, were a small community centered along Tunitas Creek. Their northern neighbors, the *Chiguan* controlled the area of Half Moon Bay and Pilarcitos Creek drainage.

To the south of the *Quiroste* were the *Cotoni*, and their territory included the coast between Davenport and the Scott Creek drainage, on over Ben Lomond Ridge and down into the mid San Lorenzo River Drainage. Their neighbors to the south were the *Uypi* of Wilder Ranch and they also controlled lower Ben Lomond Ridge, on over to the plains of Santa Cruz. Further up the drainage of the San Lorenzo River, near Felton and Scotts Valley were the *Sayant* Tribe, and today's Zayante Road derives its name from them. Even more vaguely located was the village of *Achistaca*, described as being up the headwaters of the San Lorenzo River, perhaps towards the junction of Skyline Ridge and Highway 9. This group was probably a clan, much like the *Olpen* to the north along Skyline Ridge.

The *Chalotaca* controlled the area from Nisene Marks up to the lower slopes of the southwestern flank of Mount Umunhum. This group may also have controlled the Lexington Reservoir area, and Bear Creek Redwoods OSP. On the eastern side of Mount Umunhum, ranging along the upper drainages in the foothills from Los Gatos to Steven's Creek were the *Partacsi*.

The Santa Clara Valley floor and estuary was where the large multi-village populations of *Tamien* dwelled.

Collectively, this area included the lower Coyote Creek and Guadalupe River lands and adjacent valley floor from San Jose to Mountain View. In Mountain View, the *Puichon* held the peninsula bay shore and valley from Steven's Creek to San Francisquito Creek, and they controlled the San Antonio Ranch OSP foothills. This zone supported very large populations of villages. The northern neighbors of the *Puichon* also managed bay shore and valley floor habitats and were known as the Lamchin. The Lamchin ranged up to Edgewood County Park and Redwood City.

Historic Period Developments

The protohistoric period for the study area begins in the year 1542 with the first sea explorations conducted by imperial Spain; however, the Historic Period did not truly begin until the Spanish Government sponsored the colonization of the area. This did not occur until as late as 1769 when the first overland expedition reached Upper California and inadvertently encountered San Francisco Bay. With the establishment of military Presidios in both Monterey (1770) and San Francisco (1776), several Franciscan Missions were regionally distributed to subjugate the Native populations (Milliken 1995).

Spanish Explorations and Encounters with Ohlone Tribes

With the Spanish conquest of Mexico during the 1520s, and a new awareness of the Pacific Ocean, the empire began to build ships at its port of Acapulco in order to explore the surrounding seas. Eventually they learned how to circumnavigate the Pacific and return from voyages to distant China. During the 1540s, Portuguese explorer Juan Rodriguez Cabrillo, acting on behalf of the Spanish Crown led the first naval expedition to explore the coast of California, and claim the land for Spain. Cabrillo was in fact searching for a hypothetical passage between the Atlantic and Pacific, referred to as the Strait of Anian. His command consisted of two ships (or three depending upon the source), and 250 men. Only a few years earlier, California was thought to be an island, illustrating how limited the knowledge of this area was.

Cabrillo reached the Santa Barbara Channel, but after disembarking to visit with the Chumash Indians he

broke his arm (or leg) on San Miguel Island and the wound never completely healed.

The flotilla continued its explorations of the California coast, ranging as far north as the Russian River, but bad weather forced them back to the well-known safety of the Santa Barbara Channel. The broken arm (or leg), however, eventually got the better of him, and Cabrillo died as a result of the unhealed injury in January 1543 (Schoenherr et al. 1999:266).

Cabrillo's expedition failed to find the riches that had characterized discoveries in Mexico, and interest in California soon waned; however, mariners continued to pass by the coast, particularly the huge treasure ships that sailed annually from the Philippines after the 1560s. By the time these extremely valuable vessels passed the California coast on their return from long trans-oceanic voyages they were frequently in need of fresh water, firewood and vegetables. In consequence of this, the Spanish government desired to find a port somewhere suitable to meet this need.

In 1602, Captain Sebastian Vizcaino was sent to explore the coast of California in the hope of locating a good harbor to protect Spain's highly prized Philippine shipping routes. In November 1602, his fleet of three ships departed Acapulco, and by December, the party reached the Santa Barbara

Channel. Pressing northwards, the fleet eventually came to Monterey Bay. Vizcaino was the first to anchor and set foot in Ohlone territory, and soon interacted with the people who he described as well-mannered and curious about the new visitors (one wonders if the people of the peninsula found the Spaniards to be equally well mannered). Vizcaino described the harbor as being big enough to hold the Imperial fleet and named it for the Viceroy of Mexico. Despite his positive accounts, no other recorded Spanish explorations of Upper California took place for over a century and a half.

After a long hiatus, renewed interest in upper California began again when the Spanish crown learned of Russian interests in the Alaska fur trade and their intent to settle somewhere on the coast. The Russian American Fur Company needed an outpost where they could grow vegetables to support their fur hunters in the far north. In response, the Spanish government organized an expedition with express orders to locate the harbor of Monterey and establish a base at Point Reyes, which they called "San Francisco." This expedition, under the command of Don Gaspar de Portola set out in the summer of 1769 from the Royal Presidio of Loreto in Baja California and was the first inland exploration to encounter the many indigenous cultures of coastal California.

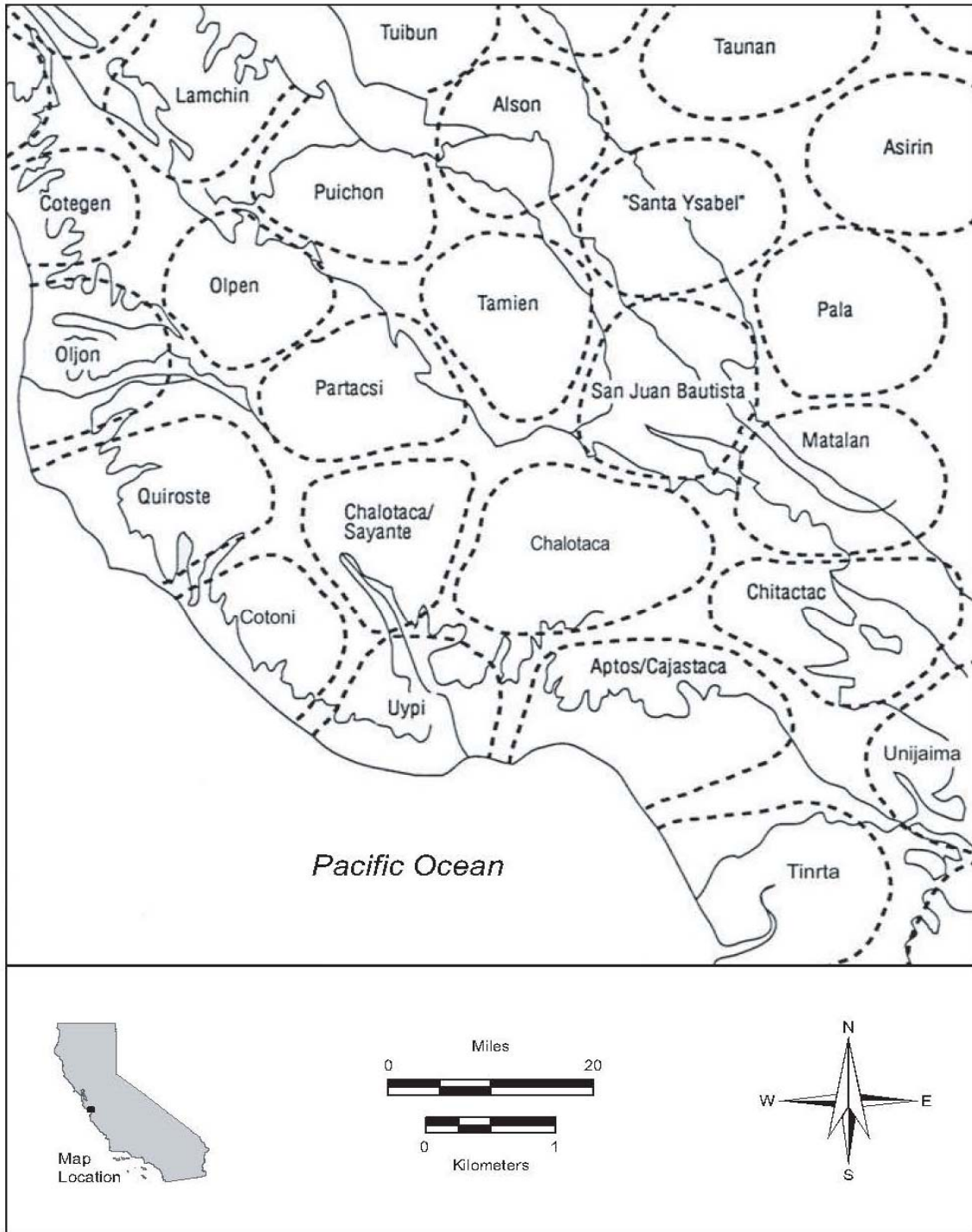


Figure 2-2: Distribution of Tribes at the time of European contact
(After Milliken 1995).

Spanish colonization followed immediately after the Portola expedition reached Monterey Bay and also inadvertently found San Francisco Bay. The diaries and accounts of Portola, engineer Miguel Costanso and Padre Juan Crespi provide a rich description of the landscape and various aspects of indigenous lifeways- albeit through the lens of missionaries and soldiers. Along the way they were nearly continuously involved with tribal people and they were acutely aware of the large numbers of villages and diversity of dialects, customs and even different physical appearances of the people they encountered. Aspects of their coastal explorations within the region are highlighted below and their route has been illustrated in Figures 2-3 and 2-4.

Spanish encounters with coastal tribes demonstrated that they were well organized polities that actively manipulated the landscape to increase biotic resource productivity. Extensive burned grasslands were frequently mentioned by the members of the Portola expedition in the fall of 1769; Father Juan Crespi pointedly observed that the Indians burned the meadows “for a better yield of the grass seeds that they eat (Brown 2001:565).” On the journey, Crespi also observed frequent stands of California hazel (*Corylus cornuta* var. *californica*), including burnt hazel south of Santa Cruz (Cuthrell 2013; Stanger and Brown 1969:79).

While traveling along the coast near Año Nuevo in October 1769, members of the Portola expedition were guided to a Quiroste village that is today site CA-SMA-113 along Whitehouse Creek, where they were hosted and made several insightful observations. Crespi wrote:

Here we stopped close to a large village of very well-behaved good heathens, who greeted us with loud cheers and rejoiced greatly at our coming. At this village there was a very large grass-roofed house, round like a half-orange, which, by what we saw of it inside, could hold everyone in the whole village. Around the big house they had many little houses of split sticks set upright... These heathens presented us with a great many large black and white-colored tamales: the white tamales were made of acorns, and they said that the black-colored

ones were very good too. They brought two or three bags of the wild tobacco they use, and our people took all they wanted of it. One old heathen man came up smoking upon a very large and well-carven Indian pipe made of hard stone. The Indians almost all carry tall red-colored staffs, some with feathers; they presented four of these staffs to Sergeant Don Francisco Ortega. (Stanger and Brown 1969:88)

The ceremonial use of tobacco in the region was also noted by Father Palou in 1774. Near San Bruno, he presented the native people with glass beads and tobacco and wrote:

...upon seeing [the tobacco] they named it with the same term as at Monterey, sauans; they set to smoking, and I noticed used the same ceremony of blowing the smoke upwards, saying some words with each puff: I could understand only one of them, which was Esmen, meaning Sun. I saw they had the same custom of the headman’s smoking first and then giving the pipe to another, when it goes around among all of them. (Stanger and Brown 1969:141-142)

At Casa Grande, Portola noted that the village was composed of some 200 people (Companys 1983: 384). Although the Quiroste clearly held a numerical advantage over the small group of explorers, they displayed great hospitality, as noted by engineer Miguel Costanso:

The Indians, advised by the scouts of our coming to their lands, received us with great affability and kindness, and, furthermore, presented us with seeds kneaded into thick pats. They also offered us some cakes of a certain sweet paste, which some of our men said was the honey of wasps; they brought it carefully wrapped in the leaves of the Carrizo cane, and its taste was not all bad. In the middle of the village there was a large house, spherical in form and very roomy; the other small houses, built in the form of a pyramid, had very little room, and were built of split pine wood. Because the large house so surpassed the others, the village was named after it. (Browning 1992:107)

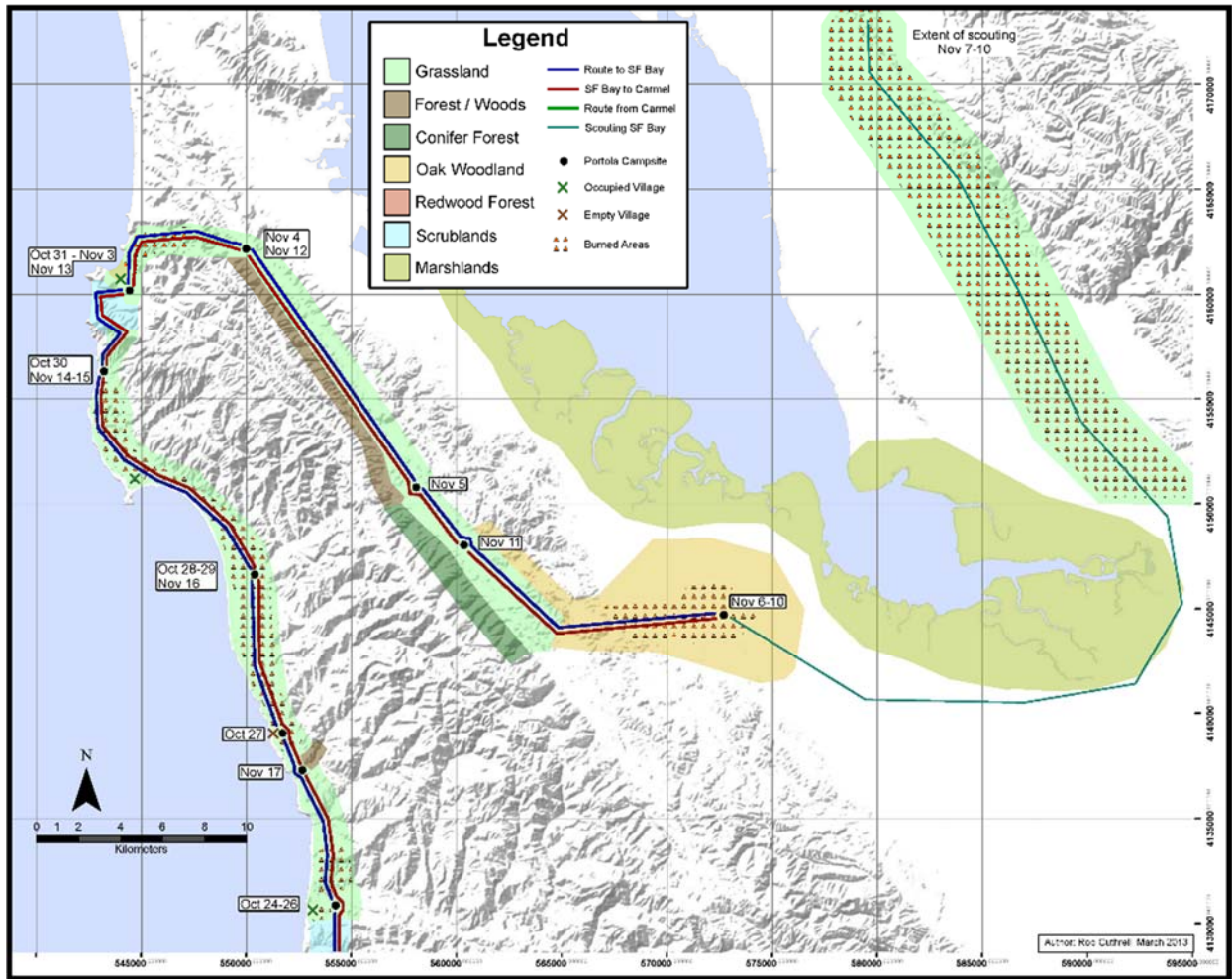


Figure 2-3: Route of the Portola expedition of 1769 (North)

(Courtesy of R. Cuthrell)

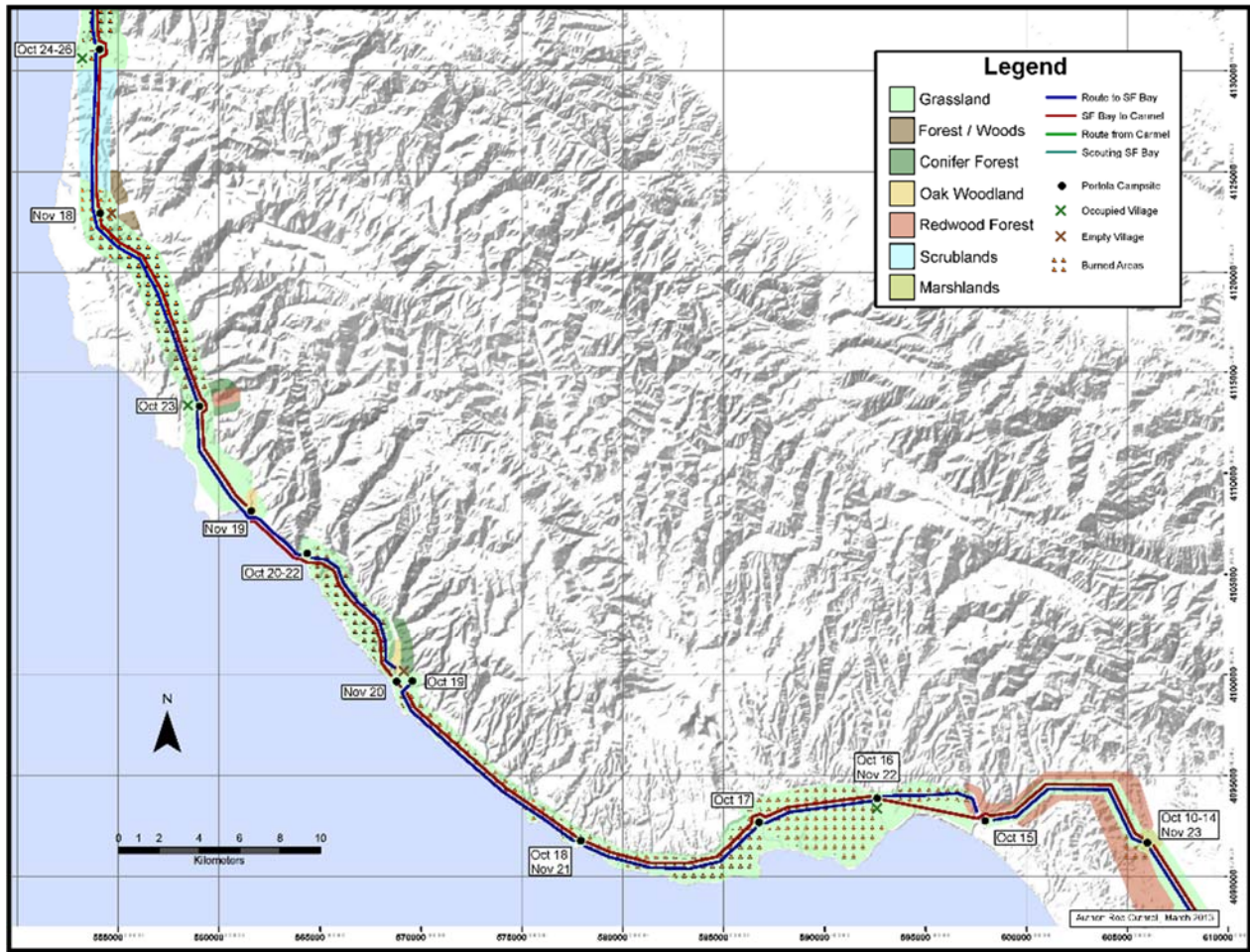


Figure 2-4: Route of the Portola expedition of 1769 (South)

(Courtesy of R. Cuthrell)

Costanso also wrote that they were furnished with four guides from the village of Casa Grande who showed them the way to Pescadero after they left Whitehouse Creek. He gives a positive impression of the landscape and mentioned that they met several Indians along the way who were actively engaged in harvesting seeds from the meadowlands: “To us, the land seemed rich and of good quality; the watering places were frequent; and the natives the best disposition and temper that we had yet seen” (Browning 1992:109).

Later expeditions sought out the Quiroste at the village that came to be called the Rancheria de la Casa Grande. In December 1774, Father Francisco Palou observed that near the big house was a cemetery, “in which was planted a high pole, this being the monument used by the heathen for the sepulchers of the chief men of the village (Bolton 1926:295).”

While camped along San Francisquito Creek in the City of Palo Alto, Father Juan Crespí described the terrain as being somewhat flat with very rich black soil: “...though most of the tall grasses had been burned; and the whole grown over with a great many white and live oaks” (Stanger and Brown 1969). While the expedition was awaiting the return of eight scouts under the direction of Sergeant Ortega, who had set out to explore the other side of the estuary (*el contra costa*), Crespí further wrote:

This is the furthest point reached by this expedition in search of the harbor of Monte Rey, having got almost to the end of the large estuary here, which all of us hold to be that of the San Francisco harbor; a grand place this for a very large and plenteous mission, with great amounts of good soil, and trees of the sorts mentioned, and great numbers of heathens, the finest and best-mannered that have been met in the whole journey; and this, one of the most excellent places for a large mission. At once upon our reaching here, several very well behaved heathens, most of them well bearded, came to the camp, giving us to understand they were from three different villages, and I do not doubt there must be many of these,

from the many smokes seen in different directions. Very large bears have been seen, and here where the camp was set up I saw two fresh droppings of these beasts, full of acorns; they must eat plentifully of the great quantities of large ones yielded by the white-oak trees here. (Stanger and Brown, 1969:104-105)

Crespí’s description of acorn abundance is significant because availability allowed the ancestral Ohlone to develop large, semi-sedentary village communities where surplus acorns could be stored and distributed. Acorn bread and mush are highly nutritious foods when properly prepared, and the explorers frequently mentioned that they were invited by the villagers to dine on them. Indeed, once the explorers had depleted their food rations they became dependent on such gifts from the Indians. In regards to the burned grasslands mentioned in the explorer’s journals, this was a result of vegetation management procedures developed by the Indians to enhance both grass seed and acorn production. The application of fire had the additional benefit of improving vegetation attractive to browsing and seed eating game animals like antelope, deer, elk, rabbits, doves, quail and many more species (Lewis 1973). Crespí noted that the Palo Alto region had so many acorns around the trees that the ground was nearly covered.

Portolá retreated back to San Diego after it was found that they could not reach their destination of Point Reyes. But having successfully rendezvoused with a supply ship, they decided to once again return to Monterey. Soon thereafter Portola established the royal presidio of Monterey and Mission San Carlos de Borromeo (June 3, 1770). Within a short time several expeditions were sent from Monterey to sort out the confusion about the bays, ports and estuaries to the north.

In November, 1770, a route to the head of the San Francisco peninsula via the Santa Clara Valley was found by Captain Commander Don Pedro Fages. Fages succeeded Portola as governor in Monterey and in 1772 he again traveled through the Santa Clara Valley, along with the experienced Father Juan Crespí. His diary of this expedition describes many encounters with the native people as the group

explored the east Bay hills. Two and a half years later, another expedition was organized with the intent of selecting suitable locations for a mission and presidio at the end of the peninsula, which by then gradually came to be known as San Francisco (Treutlein 1968). This expedition was commanded by Don Fernando Rivera y Moncada. Father Francisco Palóu's diary of the journey described how they followed the route that Fages and Crespi took in 1772; however, this time they turned westward to head up the peninsula, traversing through the region of Mountain View and Palo Alto. On November 27, 1774, Palóu described the vicinity as follows:

We followed the spacious plain west by northwest, and we found that the valley continues with good pastures and well grown with oaks. In a little grove of these trees, about one in the afternoon, we came to three heathen with bows and arrows. Apparently they had been hunting, for we did not see in all that vicinity either villages or smokes, although on the plain we came across many well beaten paths. When they saw us they made no attempt to run away or hide themselves. We passed not far from them and I called to them, but they did not wish to come near, even though I showed them some beads, but they made signs that I should throw them, which I did, but not even then did they approach. Seeing this, the commander alighted, took the beads, and gave them to them; we then went on our way, leaving them at their work. (Bolton 1926:262).

The expedition met several village communities and they were invited to visit. Palóu remarks on their friendliness, but Rivera mentions that the Indians that followed them along the way remained cautious of the Spaniards:

So natural in men is the desire to have the advantage, that, as I have just now been observing of these savages accompanying us, they keep us always on their left-hand, or bow side. (Rivera y Moncada 1969:138)

After the successful development of Missions San Diego and San Carlos and their attendant presidios, the Spanish government in Mexico ordered the construction of five more missions in Alta California.

These were in addition to San Buenaventura which had already been proposed. Earlier, in 1771, the president of the Franciscan Missionary College, Junipero Serra, arrived in Monterey with ten missionary priests for the new missions. The five proposed missions included San Gabriel, San Luis Obispo, San Antonio, San Francisco and Santa Clara (Bancroft 1886:1:175-176).

With the arrival of Colonel Juan Bautista de Anza at Monterey in 1775, an expedition was organized with the intent of founding the presidio and mission at San Francisco. Anza was an accomplished explorer and had previously conducted expeditions through the American Southwest. In the spring of 1776, he and Father Pedro Font, along with a group of soldiers, set out from Monterey following the now well-known inland route. This was the fifth expedition to travel through the Santa Clara Valley, which was referred to as the *llano de los robles*, or way of the trees. This name was given because of the extensive oak grassland savannah that began south of San Jose and continued along the western side of the valley and up through the San Francisco peninsula. The trees gave way to open grassland flood plains the closer one got to the bay shore tidal marshlands. Font's diary provides detailed accounts of the terrain and people near the future site of Mission Santa Clara.

Along the way many Indians came out to us. On seeing us they shouted amongst the oaks and then came out naked like fawns, running and shouting and making many gestures, as if they wished to stop us, and signaling to us that we must not go forward. Although they came armed with bows and arrows, they committed no hostility toward us. They did not seem so lean and miserable as those of yesterday. I saw some with beards, one or two with long mustaches, and several with medium mustaches and long beards. Many had their hair tied, wearing a branch tied around their head, perhaps to fasten it with, and others had their hair cut short. They had their ears pierced like those of the channel and wore little reeds in them. I think that I must have seen today more than a hundred Indians. About thirty of them came out to us, and seeing that we paid no

attention to them and continued on our way, or perhaps because of the novelty, they followed us for a good distance. Their method was to run, one behind the other in single file, until they got ahead of us, and then, halting, they began to shout and even to shriek, making many gestures and signs as if they were angry and did not wish us to go forward. Then seeing that we continued on our way, without paying any attention to them, they again started to run to get ahead of us. Then they went through the same performance of shouting and talking very loud and fast, although we understood nothing of what they said. (Bolton 1933:323-324)

Font's account is interesting in that the Santa Clara people had taken a more defiant stance about having strangers freely traveling through their lands. Milliken (1991:98) suggests that the villagers were annoyed by the increasingly frequent contacts with the Spaniards who never stopped long enough to acknowledge them. Ethnographic literature on Native Californians document the detailed procedures many tribal communities developed for receiving company and also the very refined boundaries of land holding political units. The Spanish explorers, of course, were unaware of the etiquette observed by the indigenous people.

The Anza expedition went on to reconnoiter the rest of the San Francisco peninsula, then returned to the Santa Clara Valley on their way around the southern extent of the Bay to the east side. This time they followed the bay shore along the grassland plains. Father Pedro Font's diary provides an interesting account of meeting the Santa Clara Valley people at a village near Mountain View. As the expedition approached the village they surprised the residents and encountered a woman who may have been a shaman:

On beginning to go around the head of the estuary we found another village whose Indians showed great fear as soon as they saw us, but it was greatly lessened by giving them glass beads. One of the women, from the time when she first saw us until we departed, stood at the door of her hut making gestures like crosses and drawing

lines on the ground, at the same time talking to herself as though praying, and during her prayer she was immobile, paying no attention to the glass beads which the commander offered her. (Bolton 1933:354).

Spanish Colonial Period

With the establishment of the Royal Presidio at Monterey in 1770 and Upper California's first Mission, *San Carlos de Borromeo*, Imperial Spain began its efforts to take control of coastal California. Soon a number of other missions were to follow, and the Royal Presidio of San Francisco was founded in 1776, along with Mission Dolores, soon to be succeeded by Mission Santa Clara and California's first civilian town, el pueblo de San Jose de Guadalupe, in 1777.

The success of Spanish colonial settlement depended on centering its institutions in areas with large populations of native people. Spain had conquered and subjugated the native populations of Central America and the Southwest of North America through a tripartite economic system composed of three primary institutions: the presidio, the pueblo and the mission. Spanish settlers were at a premium as incentives to attract them to colonize unknown territories were few. Therefore, the philosophic objective was to reorganize the indigenous people along the coast into religious-based agricultural communities, bestow Spanish citizenship on the educated/Christianized neophytes, and use them to colonize the interior of California. The missions were to hold land in trust for the Indians, train them to perform various skills, and to become "*gente de razon*" or "men of reason," thus revealing the true tenor of the relationship.

The type of mission developed for California was called the *reducción* or *congregación*. Its purpose was to induce the Indians to volunteer for conversion; however, once in the mission program they could not leave, and frequently severe punishments were imposed in accordance with European standards of discipline of the time to discourage desertion. The neophytes were to be trained in 10 years as prescribed by law, after which the missions were to be transferred to the secular clergy, and the missionaries transferred to another frontier to continue the expansion (Hornbeck 1983).

The presidio was the military and legal authority responsible for defending the coast, subduing hostile Indians, and maintaining peace with allied and subjugated tribes. The presidio was a defensive fortification manned by infantry and cavalry, with detachments of soldiers assigned to the missions to protect the priests and enforce mission rules. Pueblos were civil communities established for the purpose of supplying the military with food. This reduced the cost of maintaining the presidios by sea. Pueblo citizens were also to function as a reserve militia in times of emergency. The presidio-mission-pueblo system was Spain's method of settling California. Therefore the selection of strategic sites was of primary importance.

Adverse changes to the native landscape began soon after the establishment of the regional missions, presidios and pueblos. Timber harvesting activities began almost immediately upon colonization. As early as 1777, with the establishment of Mission Santa Clara Father Tomas de la Pena wrote that, "...four leagues to the west there is much red wood, so-called, from which we have already obtained some boards" (Spearman 1963:15). By 1787, soldiers from the San Francisco Presidio were also harvesting redwood within the Santa Cruz Mountains, specifically around today's town of Woodside and up over Russian Ridge. Mission records note that a village called *Oromstac* (which translates to something like "Grizzly Bear House") was located "at the *Corte de Madera* (wood cutting place)" and local villagers were evidently tasked to assist with the work (Brown 1966).

Colonization and the introduction of the Hispanic mission system in Santa Clara Valley resulted in catastrophic mortality rates among the native people. Mission Santa Clara, established in 1777 brought in most of the native Ohlone people of the Valley by 1805. Mission Santa Cruz, established in 1791 brought in the remaining villages from the San Lorenzo River drainage and Watsonville areas. Unfortunately, poor nutrition, violence and repeated exposure to introduced European diseases decimated the Ohlone.

From the 1770s through the end of the first decade of the 1800s forty-five tiny independent tribal groups left their homelands surrounding the San Francisco

Bay on the west coast of North America and moved to the Christian missions of San Francisco, San Jose, and Santa Clara. The combined population of these groups dropped from approximately twelve thousand to three thousand over that forty year period, reduced by stress and disease related impacts on mortality. Tribal identity eroded at the missions, where people shared the experience of "Mission Indians," the lowest caste in the stratified society of the Spanish empire. The death rates at the missions were so high, the hierarchical control of work schedules and sexual practices so contrary to native values, that people today often conclude that the tribal people must have been taken forcibly to the missions by Spanish military expeditions. (Milliken 1991:1)

But some tribes resisted colonization, and one of the most dramatic examples of this can be seen among the Quiroste, a powerful tribe that controlled Año Nuevo, Pescadero, and the uplands up to Russian Ridge OSP. The Quiroste people are credited with leading the first active resistance to Spanish colonialism in the bay area. In 1791, a 60 year old Quiroste headman named Charquin was baptized at the Mission San Francisco outstation in San Pedro Valley. He left eight days later, possibly disenchanted that a neighboring chief, Lachi of the Oljon tribe of San Gregorio Creek, was given special status by the Spanish authorities (Milliken 1991:186). Milliken noted that at the time of his baptism Charquin did not have any relatives at Mission San Francisco, but Lachi did:

[Lachi] was part of a family already intermarried with one of the most important Christian families of Mission San Francisco, that of Pruristac captain Luciano Tiburcio Mossues. The Quiroste had been the largest, most powerful group on the Pacific Coast between the Golden Gate and Monterey Bay. Yet in 1791 they found themselves outsiders in the mission network of status and power. (Milliken 1991:186)

In 1793, missionaries visiting the Quiroste villages learned they were providing sanctuary to several fugitive neophytes. By late April or May 1793,

Spanish soldiers sought out and captured Charquin and he was sent as a prisoner to the Santa Barbara Presidio. In retaliation, on December 14, 1793, several Quiroste under the leadership of a man named Ochole, attacked and burned buildings at Mission Santa Cruz. Meanwhile, Charquin had escaped from the Presidio and returned to the Santa Cruz Mountains. Spanish soldiers were immediately transferred to Mission Santa Cruz as reinforcements and scouts were sent into the mountains to capture the Quiroste ringleaders. In February 1794, it was reported that Indians in the Santa Cruz Mountains were making arrows, presumably to carry out a second attack on the mission (Milliken 1991:189-190; 1995:120). In April 1796, both Charquin and Ochole were captured, and they later died in prison at the Presidio of San Diego. Soon after the Quiroste were defeated by Spanish soldiers, a large group of adults joined Mission Santa Clara, “more than in all the previous sixteen years combined” (Milliken 1995:5).

And yet a local Native American presence in Quiroste territory continued. Following the displacement of the Quiroste tribe, the Santa Cruz Mountains continued to be a stronghold for Mission Indian refugees and bandits, such as the legendary Pomponio.

Pomponio was born about 1799 at Mission Dolores, baptized in 1803 and was a member of the *Guailem* tribe, who were from the Marin County coast above San Francisco Bay. By 1820, Pomponio had become a renegade- as noted by a San Francisco missionary who wrote about depredations committed by Pomponio and his gang. In 1823, an Indian girl who had been abducted by Pomponio’s gang escaped and informed the San Francisco Presidio soldiers of his hiding place. Corporal Jose Reyes Berryesa and the Indian girl followed the old Spanish trail up to Skyline and over to the reputed hiding place where they set up an ambush. The getaway was situated about two miles south of Alpine Road where a small hollow with a stream plunges down into Devil’s Canyon. Evidently there were two caves near the falls, but Pomponio evaded capture until he was later apprehended in Marin County in 1824, and summarily executed at Mission San Carlos in Carmel.

Another intriguing clue regarding Native American presence in the uplands of the Santa Cruz Mountains occurred in 1857 when Alex Garvey, a San Mateo

County surveyor working near Skyline, came across “Indian huts” on a shelf in the side of a canyon within what is now the Russian Ridge OSP. Historian Alan Brown noted, “[t]hese people-remnants of who-knows-what groups (perhaps the Mission Indian village in Redwood City) - seem to have gone to work for the local Basque sheep rancher, Juan Mendicoa, when he settled nearby at the Laguna del Corazón in 1859” (Brown 1973:18), which is today’s Mindego Ranch Area of Russian Ridge OSP.

2.2 Historical Overview

Euroamerican settlement from the eighteenth century to the present has resulted in increasingly dense occupation and resource uses. The following overview of the history of the mid-peninsula region provides a general history of the predominant land uses during Spanish, Mexican and American Periods. Unlike the previous discussion of the historical developments during the early historical period as they relate to the Native American inhabitants of the area, the following overview focuses on land uses that involved many ethnic groups including but not limited to Euroamericans, Native Americans, Chinese, or Basque. The predominant land use themes for the area are agriculture, ranching, logging, mining, and settlement growth.

2.2.1 Spanish Period (1776–1821)

As previously discussed, during the late sixteenth century, the native inhabitants of coastal California made occasional contact with the crews of European vessels. The landings of Sir Francis Drake and Sebastian Cermeño in what is today Marin County are two well-known examples. Such interactions were isolated occurrences (Lightfoot and Simmons 1998; Schneider 2009) and large scale, land-based exploration and settlement did not occur until the second half of the eighteenth century.

Spanish interest in Alta California began in earnest in the 1760s with rumors that Russia was planning to expand their colonial sphere southward from Alaska into California. In response, the Spanish government sent Father Junípero Serra and Spanish settlers northward from Mexico. In 1769, Mission San Diego and the first presidio were established. The success of Mission San Diego was followed by a

string of settlements and missions that reached northward ending with Mission San Francisco Solano in Sonoma County, which was 1823 (Hoover et al. 1990).

The missions are perhaps the best known institution of Spanish colonial California, but presidios (military garrisons) and pueblos (secular towns) were also important parts of the colonial strategy that were perfected during the previous centuries of Spanish conquest in the Americas. In California, the Spanish established four presidios. These presidios served as administrative centers, offered protection from hostile Indians, and discouraged encroachment from other colonial powers. Three pueblos were also established to supply the presidios with grain, meat and other foodstuffs (Panich et al. 2010:67).

In Spanish era California, supplies were either home produced on mission lands or were officially distributed once a year by the Spanish Manila galleon trade system based at San Blas, Mexico. Coughlin cited a mission letter describing the daily rations as consisting of a cup of corn, some flour and a little milk when one of the shipments was late (Coughlin 1967:101). During the onset of the Mexican War of Independence in the 1810s, California became isolated. Supply ships ceased to sail up the Pacific Coast from San Blas, and the Spanish outposts of central California were forced to engage in illicit trade with American and British vessels as well as the fledgling Russian colony at Fort Ross in Sonoma County (Lightfoot 2005:58-59; Voss 2008:54-66).

The earliest documented exploration of the San Francisco Bay region occurred in 1769 when Gaspar de Portolá led an expedition through the area. On November 4th of that year, members of the party climbed Sweeney Ridge and became the first Europeans to set eyes upon San Francisco Bay. That night they camped in an area now inundated by San Andreas Reservoir, and Portolá later led his expedition southeast through the valley into the area of the modern Crystal Springs Reservoirs (Hoover et al. 1990:369). This exploration was followed in later years by the Pedro Fages expeditions of 1770 and 1772, the Fernando Javier de Rivera expedition of 1774, and Juan Bautista de Anza's 1776 expedition (Hoover et al. 1990:285, 330-331).

Mission San Francisco de Asís (also known as Mission San Francisco Dolores) and the Presidio of

San Francisco were founded in 1776 on the northern tip of the peninsula overlooking the entry to San Francisco Bay. From this strategic location, a successful frontier community was created. The grazing lands for livestock herds extended south through San Mateo County and west to the coast (Beck and Haase 1980:30). Yerba Buena Cove was established as an anchorage for Mission San Francisco shipping by the 1790s (Hoover et al. 1990:334).

In 1777, Spanish missionaries founded Mission Santa Clara de Asís on the banks of the Guadalupe River at the south end of the San Francisco peninsula. Later that same year the Spanish governor of Alta California, Felipe Neve, founded the Pueblo San José de Guadalupe near the mission (Hall 1871:14). The Mission Santa Clara lands totaled approximately 240 square miles which extended from the Guadalupe River to the east to the Santa Cruz Mountains to the southwest and north to San Francisquito Creek (Bocek and Reese 1992:47).

Some private land grants were also issued under the Spanish colonial authority. One such grant was Rancho de las Pulgas, which is located on the San Francisco peninsula between the two mission districts. The District includes portions of both the Mission San Francisco Dolores and Mission Santa Clara de Asís mission lands, and Rancho de las Pulgas.

Settlement

During the Spanish Period, non-Native settlement on the San Francisco peninsula was primarily at the two missions (Mission San Francisco Dolores and Mission Santa Clara de Asís), the San Francisco Presidio, and the Pueblo de San José. These settlements are to the north and southeast of the District boundaries. Rancho de las Pulgas is the only Spanish period private rancho located within the District. In 1795, the Pulgas rancho was granted to Don José Darío Argüello, who later served as interim governor of California. The boundaries of the Pulgas Rancho stretched from San Mateo Creek in the north to San Francisquito Creek in the south, and from the San Francisco Bay in the east to “the sierra or range of mountains” in the west. The exact location of the original ranch house is unknown, but is probably within the boundaries of modern day San Carlos

(Hoover et al. 1990: 381-382; Menlo Park Historical Association 1985). The District OSPs do not appear to have been settled during the Spanish Period.

Agriculture

When Spanish colonists expanded north into Alta California during the late eighteenth to early nineteenth century, they found a Mediterranean climate similar to Spain and northern Mexico. They used their traditional farming techniques and built irrigation systems at their missions and associated pueblos. These techniques included dry farming, run-off irrigation, flood water farming, and irrigation systems that used dams, aqueducts and ditches (JPR and Caltrans 2000:8). The missions produced grains and legumes (wheat, barley, corn, beans, lentils, and peas) in volume, and established small scale orchards, vineyards, and garden crops as well.

Initially, the missions were not self-supporting and the Spanish government sent annual shipments of food and other supplies from Mexico. By the end of the Spanish period, the missions were producing sufficient food to survive on their own and were able to export hides and tallow from their ranching activities (Bocek and Reese 1992:46). Based on mission census records, Mission San Francisco produced a total of 30,529 bushels of wheat, 15,872 bushels of barley, and smaller amounts of corn (4,517 bushels), beans (5,168 bushels), and other legumes (5,081) between 1783 and 1831. During the same period, Mission Santa Clara produced 42,206 bushels of wheat, 5,749 bushels of barley, and 11,512 bushels of corn (Bocek and Reese 1992:47). The acreage needed for farming was a small percentage of the available mission lands. The primary use for mission lands was ranching.

Ranching

The Spanish missionaries brought livestock with them when they moved north into Alta California to establish their missions. These were primarily Spanish cattle, churro and merino sheep, goats, swine, horses, and mules. Starting in 1769, Captain Fernando Rivera arrived in San Diego with 200 head of cattle to provide meat for the mission (Burcham 1982:118). By 1770, on his second expedition from Mexico, Rivera introduced the first flock of sheep at Mission San Diego (Burcham 1982:146).

The mild Mediterranean climate, abundant grasslands, and numerous creeks and rivers provided excellent conditions for ranching. As a result, livestock and the hide and tallow trade became the backbone of the California economy under the Spanish and Mexican administrations. On the San Francisco peninsula, cattle were pastured in valley lowlands and the around the Bayshore during the winter and spring. In the summer, the herds were driven up into the coastal foothills, where water was still available during the dry season. Rangelands were not fenced, thus herd ownership was distinguished by annual branding (Bocek and Reese 1992:48).

The Mission San Francisco Delores and Mission Santa Clara de Asís maintained enormous herds of cattle and sheep during their tenure on the San Francisco peninsula. In 1776, Mission San Francisco started with 13 horned cattle, 8 horses, and 4 mules. At its peak, around 1808, Mission San Francisco controlled approximately 11,000 cattle, 10,000 sheep, and 1,000 horses (Griffin n.d.a). To the south, Mission Santa Clara started with 117 head of cattle, 16 horses, and 18 mules in 1777. By 1808, Mission Santa Clara reported 6,900 cattle, 9,000 sheep, and 2,000 horses. At its peak, it controlled up to 7,000 cattle and 12,000 sheep at various times (Griffin n.d.b).

Ranchos in the region raised cattle for the local Missions. Rancho San Pedro, which is represented by the Sanchez Adobe in modern day Pacifica, provided cattle for Mission San Francisco Delores. Rancho San Pedro was founded by Father Palou in 1784, in an effort to move farming operations to a fertile valley on the ocean. It was located in a place called Cañada de las Almejas in honor of the shellfish feast that was held there by the Portola expedition in 1769 (Hoover et al. 1990:371-372). More than half of Mission San Francisco Delores 800 neophytes were moved here to work at the rancho (Hoover et al. 1990: 372). Cattle for Mission Santa Cruz were pastured at Point Año Nuevo (State of California 2013).

There were several herdsman ranch outposts within the District boundaries. A mission rancho was near Pillar Point, known as El Pilar, that provided grazing lands for mission horse and oxen as early as the 1790s (Beck and Haase 1980:30; Hoover et al. 1990:372). A. K. Brown identified a Mission Santa

Clara ranch at San Francisquito Creek established about 1800 for sheep herders (Stanger 1963:21). Just to the north of the district, a third ranching outpost at San Mateo Creek was established in 1793 (Postel 1994:9).

Logging

Logging redwoods in the Santa Cruz Mountains along the San Francisco peninsula started in the late 1770s with the establishment of the Spanish missions. The Anza expedition in 1776 explored the foothills near San Francisquito Creek (present day Woodside) and determined that the forest there was extensive enough to supply the San Francisco Presidio and Mission San Francisco Delores with redwood, pine, live oak, cottonwood and willow (Bolton 1930: Vol. 3, 131). Since San Francisquito Creek was the boundary between the Mission San Francisco and Mission Santa Clara districts, both missions and their associated settlements would be able to conduct logging the area. By 1788, the San Francisquito Creek area had become known as El Corte de Madera, or “wood-cuttings” place (Bocek and Reese 1992:30). Logging was done with axes, lumber was hand cut using axes and adzes, and shingles were handmade (Stanger 1967:3).

Although there is no record of when El Corte Madera was first logged, Mission Santa Clara used redwood logs to build its first church in 1778. Based on the 1841 reminiscences of Tomás Pacheco, the Pueblo de San José also used the San Francisquito lumber source to build town structures beginning in 1777 (Brown 1966:3). The Mission established two draying roads between the southern edge of the forest area and Santa Clara for hauling logs. One followed modern Sandhill Road and the other followed the route of modern Arastradero Road in Palo Alto (Bocek and Reese 1992:31).

The Mission San Francisco and its Presidio also started using the San Francisquito source during the 1770s for the initial settlement structures. By the 1790s, Mission San Francisco records show increased use of the timber source. In 1797, the Yerba Buena battery required fifty one trips to cut timbers which were hauled downstream by numerous teams of oxen. The Mission supplied the ox teams and Native American wood cutters, and the Presidio sent along an escort of soldiers and a supervisor (Brown

1966:2). By the 1820s, Mission San Francisco and the Presidio started using a timber source to the north in Marin County and their use of the San Mateo County source declined. Mission Santa Clara continued to use the San Francisquito source throughout the Spanish period (Brown 1966:3-4).

Mining

In California, cinnabar, from which quicksilver is produced, was first discovered in 1824 by the brothers Secundo and Teodoro Robles in Santa Clara County (Hoover et al. 1990:406). They named their discovery the *La Mina Santa Clara*, (now known as the New Almaden Mine). The Robles brothers and their partner Antonio Suñol started mining the La Mina Santa Clara with hopes of finding gold and silver (Hoover et al. 1990:411). The mine was located here because of the cinnabar rich red earth in the area which was used by the Native Americans as pigment. The name Mt. Umunhum may be a reference to the cinnabar deposits in the area. Umunhum refers to the Ohlone word for hummingbirds. There may be a connection between the red color of the cinnabar deposits and that of ruby throated hummingbird (Hylkema 2011). The La Mina Santa Clara mining effort is located in today’s Sierra Azul OSP.

2.2.2 Mexican Republic Period (1821–1848)

In 1821, Mexico gained independence from Spain, and the following year California was declared a territory of the Mexican republic. Apart from sending in new governors and a small number of soldiers, Mexican intervention was minimal over the next several years. The secularization of the missions occurred in 1834; the Mexican governor of California downgraded the missions to the status of parish churches and divided their vast holdings into individual land grants (*ranchos*). Secularization brought an influx of Mexican settlers to California and allowed for the emergence of a new class of wealthy land owners known as *los rancheros*. This led to an emphasis on ranching and agricultural activities in California.

During the Mexican era, trade opened to American, European, and other foreign trade interests. The coastal sea otter population was notably depleted by the Mexican period and that fur trade was replaced by the hide and tallow trade as cattle ranching

became the basis of the economy (Coughlin 1967:116). Hides for shoes, tallow for candles, and cow horns for shoe buttons were shipped to New England for the shoe industry and finished goods of all sorts were brought to California (Rolle 1956:26). To maintain some control of the foreign trade and bring some levied duties to the colonial coffers, all trading vessels were required to register their cargos at the Custom House at Monterey (Hoover et al. 1990:217). American and European immigrants began to trickle into California by way of the Russian-American Company operated at Fort Ross to the north, Sutter's Fort and Colony in the Sacramento area, and maritime trade at Monterey.

In the 1840s, relations between Mexico and the United States became strained as the U.S. expanded its sphere of influence westward to the Pacific Ocean. These tensions erupted in war (1846-1848). At the close of the Mexican-American War, the Treaty of Guadalupe Hidalgo was signed and Alta California became part of the United States.

In San Mateo and Santa Clara counties, over seventy ranchos were granted by the Mexican governors to prominent families and deserving individuals (Beck and Haase 1980: Map 30). There were twenty-two local ranchos within or bordering the District, which are summarized in Table 2-4.

Table 2-4. Summary of Mexican Land Grants

Within the Midpeninsula Regional Open Space District

County	Grant Name	Mexican Patentee	Date Granted	U. S. Patentee, Date	Acres
San Mateo	Cañada de Raymundo	John Coppinger	1840	Greer & Coppinger, 1859	12,545.10
	Rancho de las Pulgas	José Darío Argüello	(Sp.) 1795	Argüello, 1857	35,240.47
	Cañada del Corte Madera	Domingo Peralta and Máximo Martínez	1833	Thurn & Carpentier, 1882	3,565.91
	El Corte de Madera	-	-	Martinez, 1858	13,316.05
	Corral de Tierra (Palomares)	Francisco Guerrero Palomares	1839	Palomares, 1866	7,766.35
	Corral de Tierra (Vasquez)	Tiburcio Vásquez	1839	Vasquez, 1873	4,436.18
	Miramontes	Candelario Miramontes	1841	Miramontes, 1882	4,424.12
	San Pedro	Francisco Sánchez	1839	Sánchez, 1870	8,926.46
	Cañada Verde y Arroyo de la Purísima	José Antonio Alviso	1838	Alviso, 1865	8,905.58
	Butano	Ramona Sanchez	1838	Rodriguez, 1866	4,439.67
Punta de Año Nuevo	Simeón Castro	1842	Castro, 1857	17,753.15	
San Antonio or Pescadero	Juan José Gonzalez	1833	Gonzalez, 1866	3,282.32	
San Gregorio	Antonio Buelna	1839	A: Rodriguez, 1861 B: Castro, 1891	13,344.15 4,439.31	
Santa Clara	Pastoria de las Borregas	Francisco Estrada	1842	A: Murphy, 1865 B: Castro, 1881	4,894.35 4,172.13
	Posolmi	Lope Íñigo	1844	Íñigo, 1881	1,695.90
	Rincon de San Francisquito	José Peña	1841	Robles, 1868	8,418.21

County	Grant Name	Mexican Patentee	Date Granted	U. S. Patentee, Date	Acres
	Rinconada del Arroyo de San Francisquito	María Antonia Mesa	1841	Mesa, 1872	2,229.34
	San Francisquito	Antonio Buelna	1839	Rodriguez, 1868	1,471
	La Purisima Concepción	José Gorgonio	1840	Briones, 1871	4,438.94
	San Antonio	Juan Prado Mesa	1839	A: Mesa, 1866 B: Dana, 1857	898.41 3,541.89
	Quito	José Noriega and José Zenon Fernández	1841	Alviso and Fernández heirs, 1866	13,309.85
	Rinconada de los Gatos	Sebastián Peralta	1840	Hernandez and Peralta, 1860	6,631.44

Eleven of these ranchos either include portions of or are adjacent to the District OSPs. In San Mateo County, these include Canada de Raymundo, Canada Verde y Arroyo de la Purisima, Rancho de las Pulgas, and Canada del Corte de Madera, El Corte de Madera, and San Gregorio (Rodriguez and Castro portions). In Santa Clara County, these include La Purisima Concepción, Posolmi, Rancho San Antonio, Quito, and Rinconada de los Gatos.

Settlement

During the Mexican period, the population settlement became more dispersed as rancho land grants were issued and land owners built adobe houses on their lands. The denser population areas were in the Pueblo de San José, the Presidio of San Francisco. The village of Yerba Buena (future San Francisco) was established in 1835 by Captain William Richardson (Hoover et al. 1990:334). The Mexican land grants on the San Francisco mid Peninsula were primarily along the coast and on either side of the ridgeline running along the Peninsula (Beck and Haase 1980:30). The adobe households within the rancho properties were generally near creeks or rivers where water was accessible. For example, the Argüello family is thought to have settled near Pulgas Creek in Rancho de las Pulgas and the Buelna family settled along San Francisquito Creek in Rancho San Francisquito (Hoover et al. 1990:380).

Agriculture

When Mexico became independent in 1822, the new economy focused on livestock ranching rather than irrigated farming. When the missions were

secularized, the Mexican settlers received large land grants and appropriated existing mission irrigated fields, livestock, fences, corrals, irrigation ditches, outbuildings, and other improvements (Bocek and Reese 1992:49). Instead of large scale farming, they tended to plant smaller fields near their adobe homes for subsistence fruits and vegetables. Along with the standard crops of wheat, corn, and beans, some *Californios* planted fruits such as melons or fruit trees, such as peach trees (Brown n.d.; Gullard and Lund 1989:36). Larger scale water system features were neglected, which resulted in a decline in irrigated farming after the missions were secularized (JRP and Caltrans 2000:11). Agricultural methods continued to rely on Native American labor for shallow plowing, sowing, and harvesting the crops grown (Bocek and Reese 1992:49). Other than being smaller in scale, there was not substantial change in agriculture practice during the Mexican period.

Ranching

During the Mexican Period, the mission lands were secularized and divided up into ranchos, which were granted by the Alta California governors to deserving citizens. Property boundaries were generally defined by describing square leagues of property extending from a drainage or other topographic feature. Livestock were branded to determine ownership and allowed to range freely, which precluded the need for extensive fences or specific rancho boundaries. Fences and ditches were used primarily to keep livestock out of mission and rancho vegetable gardens, orchards, and grain fields. Fence types

included prickly pear cactus hedges, stone, and adobe walls (Tremaine and Lopez 1998:6).

Owners of livestock were required to brand their livestock and hold at least one annual rodeo with neighboring ranchos to sort out ownership issues, brand calves, and decide which animals to cull for slaughter. Many ranchers held two rodeos annually: one in the late summer for branding and counting young stock, and a second one in the spring for when animals were chosen for slaughter for their hides and tallow (Burcham 1981:122-123).

The size of livestock operations varied from rancho to rancho. At Rancho de las Pulgas, there were 4,000 head of cattle and 2,000 horses present by 1838 (Postel 1994:15). Rafael Soto received the grant to Rancho Rinconada del Arroyo San Francisquito in 1835 which was confirmed to his widow in 1841 (Gullard and Lund 1989:47). His 1839 will listed 50 cattle, 15 horses, two yokes of oxen, and one mule (Gullard and Lund 1989:50). In 1835, the San Mateo outpost near San Mateo Creek still ran 2,125 head of sheep (Postel 1994:15).

Logging

Commercial logging of redwood forests began in the Mexican period during the mid 1830s. Due to the increasing population and the need for lumber, hand-cutting techniques for making boards and beams were replaced by *aserrados*, or whipsaw and sawpits (Bocek and Reese 1992:33). Whipsawed boards were produced by placing a squared log over a sawpit and using two men to saw the boards from above and below the log (Stanger 1967:3). A two-man team could produce lumber from a hundred feet of logs per day (Brown 1966:11-12). Although there was one early water-powered sawmill established in Santa Cruz County in 1841, sawmills did not become common until the American Period (Bocek and Reese 1992:33).

Other logging-related industries included making redwood shingles and producing oak firewood and charcoal. By the 1840s, redwood shingles were being produced on the mid Peninsula. According to an 1842 document, two medium-sized redwoods could yield 40,000 shingles (Brown 1966).

By 1836, there were several sawpits located in the Rancho Pulgas forest that were systematically cutting

lumber (Brown 1966:7). These sawpit operations employed local *Californios*, Native Americans and foreigners, who were often runaway sailors (Brown 1966:11-12). In 1840, an *embarcadero*, or port was created at the mouth of San Francisquito Creek which suggests substantial logging was occurring there by that time. The port was an alternative to the earlier Sandhill and Arastradero draying roads (Bocek and Reese 1992:34).

Mining

Mining in the region during the Mexican Period was dominated by the activities at La Mina Santa Clara. Though initial efforts at the mine were geared towards extraction of gold and silver, by 1845, Captain Andres Castellero, who had an education in geology and metallurgy realized the mine contained quicksilver ore (Tays 1996). Castellero started a mining partnership with the Robles brothers and General Castro for the Mina Santa Clara (Johnson 1963:20). On December 30, 1945, Castellero was granted “three thousand varas of land in all directions” (Garcia 1997) around the Mina Santa Clara claim. This became the first legal mining claim in California. The Mexican-American War drew Castellero back into the Army and Alexander Forbes was placed in charge of the mining activities at Mina Santa Clara (Hylkema 2011:14).

In 1848, with the discovery of gold in California, the demand for quicksilver with which to process it rose quickly (Hoover et al. 1990:412; Johnson 1963).

2.2.3 American Period (1848–Present)

At the close of the Mexican-American War (1846-1848), the United States Army took control of the Presidio of San Francisco and declared authority over Alta California. The 1848 Treaty of Guadalupe Hidalgo formally tied Alta California to the United States. In that same year, James Marshall discovered gold on the American River while surveying a prospective sawmill site and announced the find at Sutter’s Fort. The discovery of gold brought tens of thousands of gold-seekers from around the world to California. The wealth and expanding population in California short-circuited the usual territory phase and California became a state in 1850 (Hoover et al. 1990).

In 1850, Santa Clara became one of the original 27 counties of California with the town of San Jose as

the county seat. At that time, San Mateo County was part of San Francisco County, although soon after it organized into a separate county in 1856 (Hoover et al. 1990:367). The border between San Mateo and Santa Clara Counties was always San Francisquito Creek. The western boundary, however, between San Mateo and Santa Cruz Counties did not become fully established until 1868 when Pescadero, originally part of Santa Cruz County, was annexed to San Mateo County (Hoover et al. 1990:421).

During and after the Gold Rush, many of the Mexican ranchos had been overrun by land-hungry squatters who believed that all territory ceded by Mexico was in the public domain and disputed the Mexican land claims. In response, the Mexican land grants were reviewed by the U.S. Court Land Commission. The land review process was based on the Land Act of 1851, which placed the burden of proof of ownership on the grantees. The ownership of many of the rancho properties became legally tangled as Mexican families used promises of land to pay for services and goods, and squatters settled on the ranchos (Richards 1973:34). As a result, many *Californio* families and the few Native Americans who had received grants lost the titles to their land. As seen in Table 2-4 above, nearly half of the ranchos in the study area changed owners by the time they received U.S. land patents from the Land Commission.

Starting in the late 1840s, the population of the San Francisco Bay Area grew as the Gold Rush brought prospectors west. The influx of population created booming markets for food and lumber. To meet these needs, saw mills, farms, dairies, and ranches were established near the preserves in the 1850s. Those who did not find their fortune in gold country settled as farmers or ranchers in rural areas of California. The need for agricultural products encouraged settlement of the less mountainous portions of the countryside in what became Alameda, Santa Clara, and San Mateo Counties. Squatters and settlers began cultivating areas initially deemed marginal for agricultural, particularly if they were near a permanent source of water. Others took up ranching, particularly in the more mountainous areas of the San Francisco Peninsula and the east Bay, as well as in the interior valleys of the Peninsula. By the 1850s and 1860s, the opening of county and toll

roads, along with daily stage coaches, eased the movement of goods and people through these more remote and often difficult to transverse areas (Panich et al. 2010:69).

Settlement

The Gold Rush brought thousands of people to California between 1848 and 1850. San Francisco was the main port through which the vast majority of these prospectors passed on their way to the northern and southern mines. Although most did not make their fortune, many stayed on and settled in California.

During the Gold Rush, the village of Yerba Buena became the tent city of San Francisco surrounding the Yerba Buena Cove which acted as anchorage and port. Other early ports along the San Francisco Bay shore were established at the mouths of the major creeks; often to support the logging industry.

Redwood City

Redwood City was located at the end of the Embarcadero de las Pulgas at the mouth of Redwood Creek and became a logging port settlement in the 1850s, as squatters settled on the Rancho de las Pulgas lands. When San Mateo County was organized in 1856, Redwood City soon became the county seat.

Ravenswood

Ravenswood was first called the Steinberger Tract for John Beal Steinberger who settled on the southeast corner of the Rancho de las Pulgas in 1851. In 1853, the Steinberger Tract was bought by I.C. Woods, R. Rowe, D.H. Haskell, J.K. Hackett, and C.D. Judah who built a shipping wharf at the point presently known as Cooley Landing and laid out a plan for the town of Ravenswood (Hoover et al. 1990:381). The developers hoped the terminus of the Central Pacific Railroad would be located at Ravenswood, but with the decline of the lumber industry in the late 1850s, the railroad was relocated and the town eventually abandoned (Moore and Depue 1878:29).

In the 1870s, development of the town of Ravenswood was renewed when Lester P. Cooley purchased property adjacent to the Ravenswood wharf. Cooley constructed his home and ranch nearby. In addition to the Cooley Ranch, Hunter,

Shackelford and Company constructed a brick factory in 1874 (Moore and Depue 1878:29), bricks were shipped from Cooley Landing. In the 1930s the county used it as a dump (Simmons 2010). From the 1960s to the 1990s, Carl Schoof operated the landing as the Palo Alto Boat Works (Simmons 2010). Today, the Ravenswood OSP includes Cooley Landing.

Circa 1910-1920, Runnymede Poultry Farms, a cooperative farming venture was promoted and established by Charles Weeks. Weeks sold subdivisions including the 130-acre subdivision known as Ravenswood. The Depression of the 1930s and later urbanization caused the eventual decline of Weeks' farms (Barbour 1999).

San Mateo

San Mateo was originally a mission livestock outpost which continued through the Mexican period. During the Early American Period, it became a stagecoach stop settlement at San Mateo Creek along the San Francisco to San Jose stage line from 1849-1865 (Postel 1994:19).

The logging industry also supported a string of early American settlements along the Santa Cruz Mountains on the mid-Peninsula. These settlements developed in conjunction with mills, toll roads, and general stores which provided loggers with access, jobs, supplies, and often mail service.

West Union

West Union grew to support nearby mills on West Union Creek in the early to mid-1850s. Now vanished, the town hosted a schoolhouse, saloon, store and graveyard, along with three mills on West Union Creek and several more about a mile to the north (Richards 1973:54). The town stood in the general area of Cañada Road and Edgewood Road near Pulgas Ridge Preserve.

Woodside

Woodside developed as a logging settlement in the 1840s, as late Mexican Period sawpits and then American sawmills were erected in the surrounding forest lands. The community centered on the Parkhurst and Tripp store, which was established in 1851 (Hoover et al. 1990:376). By 1859, in addition to the store, Woodside boasted a school, library,

church, and several saloons (Richards 1973:60). Woodside is down slope of Teague Hill OSP.

La Honda

La Honda was established near Arroyo Honda in the 1870s when the Searsville and La Honda Turnpike was constructed by local land owners. The settlement was centered on the John Sears store, which was erected in 1878 (Hoover et al. 1990:385). The La Honda OSP is adjacent to the current town.

Searsville

Searsville was established in the early 1850s along the Sandhill Road draying road. The settlement grew around a hotel, Sears House. From 1853-1862, the Sears House was a stopping place for oxen teams hauling lumber from La Honda ridge mills down to the Redwood City port (Hoover et al. 1990:377). In 1858, August Eikerenkotter established a post office in Searsville. Eikerenkotter remained in Searsville until 1892, when Spring Valley Water Company built a dam and flooded portions of the town (Richards 1973:59). Searsville is down slope from Thornewood OSP.

Saratoga

Saratoga was originally named McCartyville. McCartyville developed in the early 1850s near several sawmills at the end of Martin McCarty's toll road on Campbell Creek (now Saratoga Creek). By 1855, the town had a post office and in 1865, it was renamed Saratoga (Hoover et al. 1990:416). Saratoga is down slope of Fremont Older OSP.

Los Gatos

Los Gatos developed along the 1857 toll road from San Jose to Santa Cruz near an 1855 stone flour mill that was built on the Arroyo de los Gatos. Several sawmills operated above the present town and the settlement was a stagecoach station (Hoover et al. 1990:415). Los Gatos is adjacent to portions of the Sierra Azul OSP.

Lexington

Lexington was a settlement above Los Gatos on Los Gatos Creek. Lexington formed in the late 1850s and early 1860s to support eight sawmills. It boasted several lumber dealers, a redwood pipe factory, a wheelwright, grocers, blacksmiths, and acted as a

stagecoach stop (Hoover 1990:415). Lexington was located west of the Sierra Azul OSP in what is now Lexington Reservoir.

Menlo Park

Menlo Park was established in 1864 as a railroad station. In 1863, a railroad was constructed from San Francisco to San Jose, which provided easy access between these towns and the Peninsula countryside. As a result, from the late 1860s onward wealthy San Franciscans settled their country estates on the Peninsula away from the city fog. Menlo Park became a service community to the large estates including Stanford, Atherton, Flood, Doyle, Felton, and Latham among others. Menlo Park incorporated in 1874.

Palo Alto

In 1891, Leland, Sr. and Jane Stanford opened the Leland Stanford Junior University on their estate land in memory of their son, Leland, Jr. The Town of Palo Alto developed to support the university, professors, and staff (Mirrieles 1959:26, 47).

During World War II, the Peninsula population expanded to fill jobs at Bay Area shipyards and other war-related industries. Among these were the Bethlehem Shipyard at the Hunter's Point Naval Shipyard and Drydocks, and four Kaiser shipyards along the East Bay region that employed up to 100,000 workers (Wagner et al. 1007:200; Wikipedia 2013).

Agriculture

The discovery of gold in 1848 and the ensuing Gold Rush shaped the course of California's agricultural landscape. Not only did the Gold Rush almost instantly create a demand for a wide variety of agricultural foodstuffs, but it also set in motion a wave of settlement aimed at producing commercial food products.

In the 1850s, agricultural settlement occurred in California at a fevered pace. During the Gold Rush period, intensive settlement occurred first in San Francisco and Sacramento and extended into the hinterlands as miners flocked to the gold fields. Many of California's first settlers turned to agriculture, not simply as a way to subsist, but as a way to profit from the high demand for fresh food.

Beyond the production of goods, land ownership itself often led to the creation of wealth, self-sufficiency, political power, and independence.

These attitudes about agriculture were in sharp contrast to those of the Mexican Period ranchers. A December 24, 1852 letter from a census taker, O. P. Sutton, to F. A. Nesbitt, the census agent for San Francisco County illustrates the agricultural transition from Mexican to American land use.

The agricultural resources of this county are as yet almost entirely under-developed, but the experiance [sic] of those who have tested the quality of the soil is that most of the cultivable lands within this county are unusually rich and productive. Hitherto most of these lands have been in the possession of those who used them only for grazing purposes, but latterly a portion of this soil has passed into the hands of another class of men, and wherever the foot of the Anglo Saxon has been planted, the land has been made to yield an abundant harvest (Sutton 1852:3).

During the late nineteenth century, several of the most important forces that spurred agricultural development in California were the spread of irrigation, improved transportation, the availability of agricultural labor, and increased mechanization. With the completion of the Transcontinental Railroad in 1869, farmers were able to ship fresh produce to markets in the East, which encouraged a shift toward irrigated crops in the 1870s. The transformation in the late nineteenth century from expansive grain fields and grazing lands to irrigated crops occurred relatively quickly and had profound consequences on the state's agriculture. The crusade to irrigate much of California played an important role in the expansion of mechanized farming and in the establishment of small farming communities.

Agriculture along the Peninsula occurred on a smaller scale than in the Central Valley and other parts of California. Irrigated crops emerged earlier here due to the numerous creeks and tributaries. By the 1850s, agricultural activities, dominated by grains such as barley, wheat, and oats, were established on the coast, in the interior valleys, and bay shore lowlands of the Peninsula. Dairies and smaller ranches were scattered within the interior of the

Peninsula and along the coast. Initially, the continuation of cattle ranching and the growth in popularity of wheat farming, which required little water, kept irrigation to a minimum. In the 1860s, an unusual cycle of droughts and flooding struck the region, creating poor soil quality and an unstable wheat market. With the completion of the local rail line from San Francisco to San Jose in 1864 and the Transcontinental Railroad in 1869, farmers were able to ship fresh produce to markets in both local cities and to the East. As a result, farmers began to turn to other crops, which by the 1870s created a need for irrigation systems (Panich et al. 2010:69-70). Wheat production continued to decline through the 1890s as the prevalence of irrigated crops expanded. In the Santa Cruz Mountains and foothills, commercial fruit orchards, particularly plum, apricot, and cherry orchards, and vineyards became prevalent during the 1870s (Bocek and Reese 1992:54). Farmers who were unable to irrigate their land turned primarily to ranching.

Coastal agriculture was initially focused on grain and potato production, but became more diversified over time. In the twentieth century, artichokes and brussels sprouts became the primary coastal crops. Ranching and agriculture were critical for early settlement and economic development in the coastal region, and conversely, the coastline ecosystem and topography provided open lands and creek water needed to support these industries.

Many early settlers along the San Mateo coast found rich soils and sufficient water for farming and dairy ranching. Consequently, this part of the coast had a thriving grain and dairy industry in the mid to late nineteenth century (Hoover et al. 1990:374-375). During the 1880s, in the Pescadero township on coastal San Mateo County, potatoes were cultivated and creeks were commercially fished for trout and steelhead (Steele 1883:214). In the early twentieth century, Italian immigrants started farming artichokes and brussels sprouts on the San Mateo Coast. The Half Moon Bay Artichoke Association was formed during the 1910s and by 1920 included 60 ranches and over 3,000 acres of bearing artichokes (Hodges 1920).

Ranching

Throughout California, cattle ranching boomed during the 1850-1860 era in response to the Gold Rush population influx. Unlike the Spanish and Mexican periods when livestock had been raised for hides, tallow, and wool, the new livestock demand was for meat for the miners and city dwellers (Burcham 1981:128). The 1860-1870 decade saw a severe drop off in livestock raising in California due to cycles of drought and flooding in the early 1860s. State wide estimates for cattle loss from starvation ranged from 200,000 to 1,000,000 head (Burcham 1981:140). Although the cattle industry survived and saw better conditions later in the nineteenth century, there were fewer ranches and cattle speculators. Ranchers began diversifying by growing alfalfa and improving cattle breeds to better tolerate drought (Burcham 1981:140-142).

Initially, ranches remained unfenced as they had during the Mexican Period and ranching strategy was “open range.” The 1850 Trespass Act required farmers to enclose their fields and exclude livestock. The act was meant to help determine liability involving livestock damage legal cases. The Trespass Act dictated that enclosures could be made of stone, hedge or wood rail (Tremaine and Lopez 1998:8). As the Gold Rush prospects waned, many miners turned to farming. As the number of farmers increased and farms grew in size, there were complaints that the Trespass Act was unfair to farmers. The passage of the No Fence Act in 1866 shifted the burden of constructing fences to the ranchers by requiring them to keep livestock out of gardens by enclosing pastures (Tremaine and Lopez 1998:6, 8-9). By the early 1870s, fence construction became a statewide requirement and ranch lands became enclosed (Tremaine and Lopez 1989:8-9). Also in the 1870s, the invention of barbed wire (ca. 1874) encouraged fence construction and (Caltrans 2006:145; Tremaine and Lopez 1998:6).

On the Peninsula, a number of dairy farms were established starting in the late 1850s to supply San Franciscans with milk. The first dairy farm in San Mateo County was established in 1858 by I. G. Knowles near Colma (Alley 1883:245). Most of the dairies were located on the north Peninsula in the San Bruno and Millbrae area near San Francisco or

on the San Mateo coast near Pescadero and San Gregorio (Alley 1883).

Logging

During 1850s and 1860s, some fifty saw mills operated in Peninsula forests, mainly near the logging town of Woodside. Woodside was strategically located at the base of the Santa Cruz Mountains where the logging roads converged on the way to the lumber yards in Redwood City and San Jose (Babal 1990:21). Though the lumber industry in redwood forests of the Peninsula was established in the late 1770s, it accelerated during the Gold Rush. At this time, dozens of small water or steam powered sawmills were operating along Peninsula creeks. Logs were pulled out of the mountainous forest by ox teams to mills via skid roads—cleared paths sometimes with half-buried logs placed crosswise and notched to keep the trains centered (Richards 1973:51). From the mills, logs were transported by roads or floated on creeks to the port in Redwood City. Mills often moved to a new location after about five years, and by the 1860s, many of the mills that started on the east slopes had moved westward toward the coast (Stanger 1938:90).

As early as 1852, the results of the logging boom were being foreseen. In his December 24, 1852 letter to the San Francisco County census agent, O. P. Sutton (1852:3) described his findings for the Corte de Madera area:

On the eastern slope of this range [Coastal Range] and near the southern boundary of the County [San Francisquito Creek] is a forest of redwood, from which is obtained the material for the manufacture of a considerable quantity of excellent lumber. This timber however, is rapidly disappearing and probably within four or five years will be entirely cut off.

By 1880, redwood logging was almost entirely limited to the western side of the Santa Cruz Mountains (Bocek and Reese 1992:38).

One of the logging neighborhoods on the Peninsula was the Purisima Creek watershed, which is located in the Purisima Creek Redwoods OSP. George R. Borden partnered with Rufus Hatch in the 1860s and logged near the mouth of Purisima Creek. From

1871 to 1900, they ran a successful steam mill a mile upstream supplying the Spring Valley Water Company with lumber. When George died in 1899, his son, Charles Borden, took over the family interests. Charles dissolved the Hatch partnership, moved the mill upstream to the confluence with Grabtown Gulch, and formed a new partnership with G. P. Hartley. The Charles Borden Mill, which operated from 1900 to ca. 1906, consisted of both a sawmill and a shingle mill. When both sides of the canyon were logged out, Charles Borden moved operations back downstream to the mouth of Purisima Creek (Stanger 1967:52-59). The archaeological remains of the Charles Borden Mill at Grabtown Gulch are still present within the Purisima Creek Redwoods OSP.

Besides logging redwood for lumber, shingle making continued to be a substantial industry. Shingles were hand-split from sawed blocks of redwood until the 1850s. During the 1850s and 1860s, several shingle mill machines were patented and shingle-making became mechanized (Stanger 1967:139-141). In 1856, John G. Moore started one of the first shingle mills on the Peninsula at Tripp Gulch. A year later, Daniel Jagers followed Moore's lead by establishing a shingle mill in the earlier Whipple's Lower Mill building on West Union Creek (Stanger 1967:51). Another early 1850s hand-split shingle operation near Woodside was described in a series of letters by Orrin S. Payne to his brother in 1856-1858:

...they would come back to the Redwoods and go to making [sic] shingles this winter...so we bought a lot of provisions and built a cabbins [sic] and have got moved into it and have got almost enough timber cut down to last us the winter, and when we get to work I think we can earn from 2 dollars to 2 dollars and 25 cents a day when it does not rain... (Payne 1856)

By January 1858, Payne was still making shingles and could produce five bunches, two hundred to a bunch, in a day (Payne 1858).

Military

American Period military presence in the region includes Camp Fremont, Moffett Field and the Almaden Air Force Facility. Of these only the Almaden Air Force Facility is within the District

Lands, located on top of Mt. Umunhum in the Sierra Azul OSP.

During World War I (1917-1919), Camp Fremont was installed as a military training camp in the village of Menlo Park and on 62,000 acres of Stanford lands and other foothill properties. This camp brought 10-15,000 young men to the area for field training, which included basic military drills, fire arms practice, artillery and mortar practice, pontoon bridge building on Felt Lake, and trench excavation on current Stanford Linear Accelerator lands (Bocek and Reese 1992:84). Part of the field training included marching and camping in the foothills and as far north as Redwood City. Most of the activities occurred between El Camino Real and modern Highway 280, however, the marches, tunnel excavation, and the artillery range were closer to and up into the foothills.

Moffett Field was originally created as the West Coast naval air station port for U.S. Navy airships, or dirigibles, during the 1930s. In 1931, the U.S. Navy began construction on Naval Air Station Sunnyvale along the bay shore in Mountain View near Stevens Creek Shoreline Nature Study Area. In 1933, the air station was commissioned as the home port for the USS Macon. After the USS Macon crashed in 1935 and the dirigible program was curtailed, the Navy transferred the air field to the U.S. Army. From 1935 to 1942, the U.S. Army Air Corps operated the air field for various squadrons and as a flight training center. During World War II, Moffett Field returned to Navy control as the Naval Airship Training Command, in charge of training pilots for Naval Lighter than Air ship (or blimp) squadrons. During the post war era, the navy operated the air field for standard air squadrons until the air field was decommissioned in 1994. In 1940, the National Advisory Committee for Aeronautics (NACA) established the Ames aeronautic laboratory at Moffett Field. In 1958, NACA became the National Aeronautics and Space Administration (NASA) and Ames Research Center now covers 439 acres of Moffett Field (NASA 2013).

The United States Air Force Almaden Station was occupied between 1957 and 1962. During the Cold War era, the Almaden Station functioned as an “early warning” radar facility to detect enemy aircraft capable of delivering a nuclear weapon. The station was located on the top of Mt. Umunhum and

adjacent Mt. Thayer. The tops of these mountains were graded flat to accommodate both the necessary military hardware and residential facilities for the servicemen and their families (Hylkema 2011:47). This facility is situated within the Sierra Azul OSP.

Mining

The Gold Rush in California (1848 to ca. 1860) brought large numbers of Euroamericans and immigrants from Europe and Asia to California. The influx of newcomers had a significant impact on the state’s natural and cultural environment (Paul 1965:95-97; Hoover et al. 1990:503). Miners in the Gold Rush (1848-ca. to 1860) employed simple methods that had been known and used for centuries in Europe and that had been employed with success in the southeastern United States (Brereton 1976). Many of these methods involved low-cost technologies such as the pan, cradle (rocker), long tom, and sluice box (Costello et al. 2007:9).

The post Gold Rush era was marked by the increased industrialization of mining, which required capital investment, hired labor, and technological innovation that made it feasible to mine previously inaccessible minerals. Industrial enterprises exploited both placer and lode deposits, using mining techniques that often caused a substantial impact on the environment (Costello et al. 2007). During the post Gold Rush era there were a succession of booms and busts that resulted in a flow of miners into and out of the mines as changing economic and technological developments made mining more or less profitable.

Although gold was not discovered in the San Francisco Bay Area, other minerals such as quicksilver and limestone have been mined within the South Bay and Peninsula areas.

Quicksilver Mining

Quicksilver, or mercury, was used to amalgamate with gold or silver to separate it from other minerals and was highly sought after during peak periods of gold and silver mining production. Quicksilver is found “only in areas of recent volcanic action” and therefore is relatively rare (Pelanconi 1969:1). Eighty-eight percent of mercury produced in the United States has come from California sources (Davis 1957:341). The three principle mercury producing districts in California were the New

Almaden in Santa Clara County, the Mayacmas in Sonoma and Lake Counties, and New Idria in San Benito County (Davis 1957:341).

Following the Mexican-American War, there were numerous disputes over California land titles and where exactly the boundaries of the Mexican properties lay. The New Almaden Mine land title soon came under dispute, and four separate cases involving the mine were eventually settled in 1863 by the United States Supreme Court (Johnson 1963:72). This litigation involved Barron & Forbes company of Mexico (the owners of Mina Santa Clara) as well as Quicksilver Mining Company of Pennsylvania and New York (Hylkema 2011:14). Although the New Almaden Mine was closed by injunction between 1858 and 1861, the mine still produced 35,333,586 pounds of mercury between 1850 and 1867 (Johnson 1963:92).

In the early to mid-1870s, the quality and quantity of New Almaden cinnabar ore dropped, though the mine continued to prosper under the management and innovation of J. B. Randol (Johnson 1963:94). At the same time, the last boom of the Comstock Silver Rush increased demand, which caused the price of quicksilver to rise. These factors precipitated a quicksilver rush in the Mayacmas District to the north. By 1875, the price of quicksilver began to drop again, and most of the Mayacmas mines were closed by the early 1880s (Pelanconi 1969).

According to F. Davis, the New Idria Mine was the main source of mercury in California from 1895 to 1932. In 1932, the Depression and dropping ore quantity stopped production at the New Idria Mine (Davis 1957:348). With the departure of Randol, in 1889, profitability at the New Almaden mine declined until the Quicksilver Mining Company went bankrupt in 1912 (Johnson 1963:104).

After another profitability hiatus, quicksilver mining picked up again during World War I and continued through the end of World War II. During the 1930s, safer methods of working with mercury-bearing ore were developed, thus increasing production (Bailey 1946:204). The New Almaden Mine was bought by G. H. Sexton and, after installing more modern equipment, returned to production from World War I through 1926. During the 1930s Depression years, residential areas of the New Almaden Mine were razed for a Civilian Conservation Corps camp

(Johnson 1963:104). In 1940, the New Almaden Corporation was formed and the New Almaden Mine was worked until 1946 (Johnson 1963:105).

According to F. Davis, from about 1944 to 1950, quicksilver production declined notably. He posited that this was due to foreign competition following the end of World War II. With the beginning of the Korean War in 1950, demand for mercury rose again. A government program designed to encourage quicksilver mine exploration and development was also initiated (Davis 1957:341). Quicksilver production continued into the 1960s when environmental laws (such as the Water Quality Control Act) put more restrictions on mine waste and possible environmental contamination (California Division of Mines and Geology 1969).

The Guadalupe Mine, adjacent to the Sierra Azul OSP, is a quicksilver mine in the New Almaden Mining District with a long history of operation. The mine was discovered in the 1850s and was first mined by the Guadalupe Mining Association of Baltimore, Maryland from 1856 until 1875. From 1875 to 1886, the Guadalupe Mining Company of California operated the mine and produced 55,910 flasks of quicksilver. The mine was idle until 1900, when the Century Mining Company was organized by Hugh C. Davey. This company remodeled the reduction plant with two 20-ton coarse ore furnaces and two 40-ton fine-ore furnaces (Aubury 1903:173-174). By 1918, the Century Company had renamed itself the New Guadalupe Company and held 2500 acres of property. The physical plant had expanded to include a rotary drier that fed directly into the four furnaces. A concentration plant was built in 1917 to reprocess material from older waste piles. Between 1903 and 1917, the mine produced 49,862 flasks of quicksilver. In 1918, there were 75 employees at the mine (Bradley 1918:157-160). The Century/New Guadalupe Company operated until 1922 when it closed due to litigation. Small scale mining operations continued intermittently during the 1930s, 1940s, and early 1950s. From 1955 to 1961, the Palo Alto Mining Corporation operated the mine using bulldozer stripping and open-cut mining techniques (Bureau of Mines Staff 1965:131-132).

Lime Quarrying

The production of lime from burning limestone has been practiced for thousands of years. Both the Mayan and Roman empires used lime mortar for building. In California, lime making came with Euroamerican settlement and became a substantial business during the Gold Rush (Perry et al. 2007:1). As the population expanded, increasing need for lime for building towns and cities prompted growth in the lime industry. Lime production peaked in 1904; however, limestone was also used for making Portland cement which superseded lime mortar as a building supply in the twentieth century (Perry et al. 2007:2).

Henry J. Kaiser became a renowned industrialist in twentieth century America. He is best known for putting thousands of men to work in his West Coast Kaiser Shipyards during World War II and building ships with great efficiency (Kaiser Permanente 2008). In 1939, Kaiser leased an existing limestone quarry on Permanente Creek along the slopes of the Santa Cruz Mountains in Cupertino and founded a cement company (Kaiser Permanente 2013). The Kaiser Permanente Quarry was used in building Shasta Dam among other projects. In 1987, Hanson, British holding company, bought the quarry and named it Hanson Permanente Cement (Jurich and Grady 2007). The name Kaiser Permanente also became associated with the health care system Kaiser and Dr. Sidney Garfield built during the 1940s to maintain worker health within the Kaiser industry workforce (Kaiser Permanente 2008).

3.0 COMMUNITY CONSULTATION

Community consultation efforts for the *Imagine the Future of Open Space* vision planning process are ongoing. Consultation for the cultural resources portion of the vision plan included contacting and discussing the *Imagine the Future of Open Space* planning process and the cultural resources part of it with the Native American Heritage Commission (NAHC), descendants of the Native Americans who lived in the region and local historical societies. The documentation for the community consultation is included in Appendix A, including letter and email correspondence and telephone records.

Pacific Legacy requested a search of the Sacred Lands Inventory maintained by the NAHC on February 12, 2013. A response from the NAHC was received on April 16, 2013, stating that no Native American Sacred Lands were identified in the

immediate Project area (see attached correspondence, Appendix A). A list of Native American individuals/organizations that may have knowledge of unreported resources or areas of concern was provided. These individuals/organizations were contacted by certified letter on April 25, 2013. They were given a two week period in which to respond to the letter of inquiry. Follow-up calls and emails were made to the individuals on the list. Contacts were asked if they would like to review the draft Stewardship Guide. Three of the individuals agreed to review the Stewardship Guide. The list of individuals and tribal representatives contacted and the results of the consultation are included in Table 3-1.

Letters were also sent to local historical societies requesting input from these groups. The list of groups contacted is included as Attachment 1. No responses were received from these groups.

Table 3-1. Record of Native American Contact

Contact	Affiliation	PL Staff	Date	Mode of Contact	Summary
Cambra, Rosemary	Muwekma Ohlone Indian Tribe of the SF Bay Area	Ballard	5/31/13	Letter, Phone, Email	Attempted to contact by phone, voicemail mailbox was full so unable to leave message. Sent follow-up email. No response received
Cerda, Tony	Coastanoan Rusmen Carmel Tribe	Ballard	5/31/13	Letter, Email	Sent follow-up email No response received
Erolinda Perez, Katherine	Ohlone/ Costanoan, Northern Valley Yokuts, Bay Miwok	Ballard	5/31/13	Letter, Phone	Called and left message. No response received.
Feyling, Jean-Marie	Amah/Mutsun Tribal Band	Ballard	5/31/13	Letter, Phone, Email	Attempted to contact by phone, no answer or voicemail, thus unable to leave message. Sent follow-up email. No response received
Galvan, Andy	The Ohlone Indian Tribe	Ballard	5/31/13	Letter, Phone	During follow-up phone call, provided an overview of the vision plan project and the documents Pacific Legacy is producing for the District. He asked me if we had done a record search, I said we had and gave a brief review of the results of the record search indicating the number of sites identified and that we are also incorporating site location data from the District of unrecorded sites. He asked how he could help and I asked if he would like to review the stewardship guide and provide input. He said he would an asked that it be emailed it to him.
Garibay, Ramona	Trina Marine Ruano Family	Ballard	5/31/13	Letter, Phone	5/31/13 called and left message. No response received.
Kehl, Jakki	Ohlone/ Costanoan	Ballard	5/31/13	Letter, Phone	Certified letter returned unclaimed (5/13/13) 5/31/13 - attempted to call, no answer, unable to leave a message because mailbox is full.

Table 3-1. Record of Native American Contact

Contact	Affiliation	PL Staff	Date	Mode of Contact	Summary
Ketchum, Edward	Amah Mutsun Tribal Band	Ballard	5/31/13	Letter, Email	Sent follow-up email, no phone number available. No response received
Lopez, Valentine	Amah Mutsun Tribal Band	Ballard	5/20/13	Letter, Phone	Had five points he would like MROSD to focus on: 1. Make restoring natural landscape a high priority; 2. Integrate traditional Native American land stewardship practices; 3. Work with appropriate local tribe for each of the preserves regarding identification and protection of culturally sensitive sites; 4. Work proactively with the appropriate local tribe during project planning stage; 5. Work with tribes to develop a model of areas with high probability of Native American sites.
Orozco, Patrick	Costanoan Ohlone Rumsen-Mutsun Tribe	Ballard	5/31/13	Letter, Phone	Attempted follow-up phone call, left a message. No response received
Sayers, Ann Marie		Ballard	5/7/13 5/20/13 5/24/13	Letter, Phone, Message, and email contact	Received voicemail message in response to letter. Ms. Sayers was concerned about which recorded sites would be subject to earth movement. Called back on 5/20/13, left message. 5/24/13 - is interested in providing input. Is concerned about not being compensated for participating in the process. Expressed frustration that other professionals who work on projects "is on company time" but the Native Americans are expected to do it for free. I said that I would relay her concern to the client. I asked her if she was still interested in seeing the stewardship guide even if she was not compensated. She said she was. I offered to send her a copy of the draft when it is completed in late June to Mid-July via US mail and email.
Zimmer, Michelle (Daughter of Irenne Zwielerin)	Amah/Mutsun Tribal Band	Ballard	5/31/13	Letter, Phone	5/31/13 Called cell phone for Irenne Zwielerin and her daughter Michelle Zimmer answered. I described the project. She said the maps were so large scale they could not pinpoint specific areas where there were sites. She is interested in reviewing the Stewardship Guide. Can be sent by email as a PDF.
Zwielerin, Irenne	Amah/Mutsun Tribal Band	Ballard	4/30/13	Letter, Email	In email response to letter, Ms. Zwielerin requested that Mark Hylkema and Leo Barker of National Park Service be contacted regarding areas of concern in the Project Area. She also requested that for projects that have the potential to expose artifacts or burials that all crews be given cultural sensitivity and artifact identification training to enable them to recognize potential cultural materials. If project discovers archaeological materials, she recommends that crews be accompanied by qualified California archaeological and Native American monitors.

4.0 CULTURAL RESOURCES OVERVIEW

4.1 Baseline Cultural Resources Inventory

In order to document the existing conditions of cultural resources with the District Lands, it was necessary to create a baseline inventory of known prehistoric and historic period archaeological and architectural resources. Data on known cultural resource was collected from three separate archives:

- the Northwest Information Center (NWIC) of the California Historical Resources Information System (CHRIS),
- files at the District Administrative Offices, and
- site records and base maps on file with archaeologist Mark Hylkema.

These investigations found that a total of 63 cultural resources have been identified within District Lands. Of these, 45 resources have been formally recorded on State of California site forms (DPR 523) including: 15 prehistoric, 26 historic period and 4 multicomponent cultural resources, defined as those that have both prehistoric/historic period deposits. There also 18 sites that have been identified within the District Lands but not formally recorded on DPR forms. Among these resources are: 15 prehistoric resources, 2 historic period and 1 multicomponent. Little is known about these unrecorded resources aside from their location and a site type.

4.1.1 Record and Information Search Methods

In order to collect data for the baseline inventory, a record and information search was conducted by the Northwest Information Center (NWIC) of the California Historical Resources Information System (CHRIS) for Pacific Legacy on March 26, 2013 (NWIC File No. 12-0828). The record search identified known and previously recorded prehistoric and historic period archaeological resources within the District Lands. The record search included a review of:

- the *Historic Properties Directory* (California Office of Historic Preservation 2012);
- the California Inventory of Historic Resources (State of California 1976);

- the NRHP (*Directory of Determinations of Eligibility*, California Office of Historic Preservation, Volumes I and II, 2001, updated 2012 for Santa Clara County);
- the *Santa Clara County Heritage Resource Inventory* (County of Santa Clara Historical Heritage Commission 1999);
- Historic maps, General Land Office, and Rancho plats.

The NWIC record search revealed that a total of 42 cultural resources were previously recorded within the District lands. These 42 resources comprised 12 prehistoric, 26 historical cultural resources and 4 multicomponent (prehistoric/historic). One of the historic period sites, however, was mis-plotted on NWIC maps and is not located within District Lands. Thus the number of sites identified totals 41, with 25 being historic period. These resources are included in Table 4-1.

The results of the NWIC record search were compared against records on file with Mark Hylkema and the District. The Midpeninsula Open Space District staff and archaeologist Mark Hylkema also provided information about 18 unrecorded historical cultural resources and 4 recorded resources whose DPR forms are not yet on file at the NWIC within the study areas. Finally, cultural resources were identified from environmental documents available on the internet and mentioned in DPR forms but not formally recorded.

4.1.2 Baseline Cultural Resources Inventory Results

These investigations found that a total of 63 cultural resources have been identified within District lands. Of these, 45 resources have been formally recorded on State of California site forms (DPR 523) including: 15 prehistoric, 26 historic period and 4 multicomponent cultural resources (including prehistoric/historic period deposits).

Twelve of the previously recorded resources have been evaluated for the NRHP or the CRHR. Of these, two are listed on the NRHP/CRHR, and one has been determined eligible for the NRHP/CRHR, three have been recommended eligible, three have been determined not eligible and two have been recommended not eligible for listing on the

NRHP/CRHR. All of the evaluated resources are historic period structures or building complexes. No archaeological sites within District lands have been evaluated for the NRHP/CRHR.

In addition to formally recorded resources, the District has on their base maps 18 resources that have been reported to or by District staff. These resources have not been formally recorded, they have known locations and limited or non-existent descriptive information. Fifteen of these resource locations are Native American sites and isolate artifacts, one is a multicomponent site consisting of a historic period orchard and prehistoric lithic scatter and two are historic period sites (an orchard and Deer Hollow Farm).

Table 4-1 summarizes the cultural resources included in the Baseline Cultural Resources Inventory, this includes resources by temporal component, resource type, resource description, environmental zone and Midpeninsula Open Space District in which they are located, and NRHP/CRHR status, when known. Much of this information is not available for resources that have not been formally recorded.

Appendix E: Natural, Cultural, and Scenic Resources Planning and Analysis Reports

Table 4-1. Baseline Cultural Resources Inventory: Identified Cultural Resources within District OSPs

This table contains sensitive cultural resource information that cannot be distributed to the general public to ensure protection and preservation of these resources.

5.0 DISCUSSION

5.1 Cultural Resource Distribution within Environmental Zones

Ecologists working with the Vision Plan have defined nine environmental zones for the region encompassed by the District's land holdings. These nine zones were designed on the basis of variations in geography and natural resources relevant to the Districts Lands (see Figure 1-2). These zones are as follows:

- Coast
- Coastal Mountains Foothill Zone
- Foothills
- Skyline
- Summit Area
- South Bay Cities
- Peninsula Cities
- Baylands

Of the environmental zones listed above, the Peninsular Cities and South Bay Cities zones represent dense urban neighborhoods that do not contain any of the OSPs; therefore, these zones are not considered further. However, the majority of recorded cultural resources—particularly prehistoric residential sites with cemeteries—are located within the urban city zone. It is likely that the greater number of recorded sites in these urban zones is a reflection of greater encounter rates with archaeological sites occurring as a result of urban expansion and development. The OSP Units relevant to this study include:

- Bear Creek Redwoods
- Coal Creek
- El Corte de Madera Creek
- El Sereno
- Foothills
- Fremont Older
- La Honda Creek
- Long Ridge
- Los Trancos
- Monte Bello
- Pichetti Ranch
- Pulgas Ridge
- Purisima Creek Redwoods/Miramontes Ridge
- Rancho San Antonio
- Ravenswood

- Russian Ridge
- Saratoga Gap
- Sierra Azul
- Skyline Ridge
- St. Joseph's Hill
- Stevens Creek Shoreline
- Teague Hill
- Thornewood
- Tunitas Creek
- Windy Hill

A variety of prehistoric, historic period and multicomponent archaeological sites are distributed across the various environmental zones within the District Lands. Of the resources in the Baseline Cultural Resources Inventory, one is within the Baylands Zone; 13 are within or bordering the Foothills Area; 16 are within or bordering the Summit Zone; and 33 are within or bordering the Skyline Zone. The largest numbers of sites were identified in the Skyline Area. These numbers, however, are likely skewed by recording biases, such as the location of recent development requiring cultural resources investigations. Thus, there are likely to be additional cultural resources present throughout the environmental zones that have yet to be documented. For example, based on historic period land use, one might expect that in the Summit Area (Sierra Azul OSP), where quicksilver mining took place, there would be additional as yet unidentified mining resources. There is the potential for numerous unrecorded archaeological resources and resource types that have yet to be identified and recorded. An example of this can be seen from a recent survey for a trail alignment near the top of Mount Umunhum where Mark Hylkema identified a high quality Franciscan chert quarry site.

The 35 prehistoric and prehistoric components include the following resources types: bedrock mortars, cupules, lithic scatters, midden, burials, stone circle and isolated artifacts (primarily groundstone). These resources represent the following land use/activity themes: Residential, Seed and Nut Extraction, Ideological, Lithic Processing, Burials, and unknown. The 33 resources that are from the historic period represent a variety of property types within broader historical themes presented in the historic context

section. The primary themes include: Settlement/Residential/Domestic, Agricultural/Ranching, Logging, Mining, Recreation, and Transportation. Other less common themes include: Communication,

Military, Forestry, and Health. Archaeological resource property types within these themes are discussed below. Table 5-1 summarizes the distribution of cultural resources within the environmental zones.

Table 5-1. Summary of Distribution of Cultural Resources in the Environmental Zones

Environmental Zone	Component	Historical Theme/ Resource Theme	Resource Type	Number of Resources
Baylands				
Baylands	Historic Period	Military	Building	1
			Total	1
Foothills				
Foothills	Historic Period	Agriculture/Ranching	Building/Building Complex	2
Foothills	Historic Period	Health	Building Complex	1
Foothills	Historic Period	Recreation	Open Space	1
Foothills	Historic Period	Mining	Mining Complex	1
Foothills	Historic Period	Residential	Building, building complex, refuse scatter	4
Foothills	Prehistoric	Burial	Burial	1
Foothills	Prehistoric	Residential/Burial, Possible Residential	Midden, burials, lithic scatter	3
Foothills	Prehistoric	Seed and Nut Extraction	BRM	1
			Total*	14
Skyline				
Skyline	Historic Period	Agriculture	Orchard	2
Skyline	Historic Period	Forestry	Buildings	1
Skyline	Historic Period	Logging	Road, Machinery	4
Skyline	Historic Period	Transportation	Road, rock wall	4
Skyline	Historic Period	Undetermined	Rock fence	1
Skyline	Historic Period	Utility/Recreation	Utility poles	1
Skyline	Prehistoric	Lithic Processing	Lithic Scatter	5
Skyline	Prehistoric	Residential	Midden, BRMs, lithic scatter	3
Skyline	Prehistoric	Seed and Nut Extraction	BRMs, portable mortar, isolate mortars	11
Skyline	Prehistoric	Seed and Nut Extraction/Ideological	BRMs, cupules	3
			Total*	35
Summit				
Summit	Historic Period	Agriculture/Residential	Building	1
Summit	Historic Period	Communication	Radio Tower	1

Table 5-1. Summary of Distribution of Cultural Resources in the Environmental Zones

Environmental Zone	Component	Historical Theme/ Resource Theme	Resource Type	Number of Resources
	Historic Period	Logging	Complex	1
Summit	Historic Period	Military	Building Complex	1
Summit	Historic Period	Mining	Mining Complex	1
Summit	Historic Period	Recreation	Building Complex	1
Summit	Historic Period	Residential	Building	1
Summit	Historic Period	Residential/ Ranching/Recreation	Building Complex	1
Summit	Historic Period	Transportation	Bridge, road	2
Summit	Prehistoric	Residential	Midden	3
Summit	Prehistoric	Seed and Nut Extraction	BRM	2
Summit	Prehistoric	Unknown	Unknown	3
			Total*	18
Total **				68

*Three resources are located in Foothills and skyline area and are counted as Foothills. Three resources are located in Skyline and Coastal Mountains areas and are counted as Skyline.

**Multicomponent resources are counted twice, once for the historic period deposit/feature and once for the prehistoric deposit.

5.1.2 Prehistoric Resource Types and Distribution

As previously mentioned, the environmental zones were defined on the basis of geography and natural resources; however, the Native American economy and culture is represented by two regions that developed such that coastal polities were dependent on different resource availability than the San Francisco Bay Shore and Valley populations. Although a greater number of people can be associated with the latter of the two regions, both socio-economic spheres interacted through kinship and alliance networks. This section will select key cultural aspects useful for interpretive goals within these two regions, and define them within the context of the eight environmental zones.

Several OSPs cross more than one environmental zone. For example, La Honda Creek OSP includes both the proposed Coastal Mountains Foothill and the Skyline Zones. Thus there are overlapping attributes within a given OSP.

The coastal and coastal mountains/foothills zones have few OSPs, but have the greater density of prehistoric archaeological sites. Conversely, the skyline and summit zones contain their own groupings of archaeological sites but these reflect tasks specific activities and include interaction areas between the coastal and Bay shore/valley foothill zones where there are once again greater densities of archaeological site clusters. The land uses/tasks are listed in Table 5-2 which also includes cultural resource types typically associated with these tasks and land use.

In keeping with the environmental zones and OSPs within the three zone groupings just described, this analysis will simply call out traits and present them in Table 5-3. Tribal affinities within the OSPs are keyed into specific environmental zones.

Table 5-2. Cultural Resource Land Use Categories

Native American Cultural Land Use/Activity Themes	Description	Potential Resource Types	Distribution in Environmental Zones
Residential	Places that served as either long term or seasonal occupation.	artifacts representing a diverse range of uses such as chipped stone tools and manufacturing flakes, milling tools and other cobble artifacts, hearths, dietary debris, human graves and anthropogenic soils.	Coast, Baylands, inland/upland locations
Travel Routes	Routes that that follow ridge systems linking residential locations, Native American tribes in other regions. Used for seasonal residential shifts between the coastal edge and interior uplands and to transport trade goods.	Evidenced by clusters of archaeological sites along ridges.	Skyline and Summit
Fishing Locations	Streams containing anadromous fish, bay and the coastal zone where fishing is documented ethnographically and where there is archaeological evidence of fishing related artifacts.	stone net weights and sinkers, along with fish bones, scales and otoliths	Coast, Baylands
Seed and Nut Extraction Zones	Meadowland and mixed hardwood forests that were sources of nut and seed crops gathered by ancestral Ohlone.	Seed and nut processing tools and locations: bedrock or portable mortars, milling slabs and hand stones, many found in residential archaeological sites	Coast, Coastal Foothills and Ridges, Summit, Skyline, Foothills and Baylands
Lithic Resources	Source locations for lithic materials used for making chipped stone tools, milling stones, hammer stones, fishing weights and other utilitarian items.	Outcrops of chert, opals, quartzites, chalcedony and adjacent lithic debitage indicating a quarry; areas where materials nodules are collected; sandstone and granitic boulders used for milling tools; and quartzitic cobbles were also used as handstones and knapped to make cobble chopper tools	
Ideological Places	Potential and known monuments or sacred places.	Places of power are sometimes ascribed to rock outcrops, springs or caves, cupule rock features and petroglyphs.	Summit and Skyline

Table 5-3. Summary of Distribution of Predicted Native American Cultural Attributes and Resource Types by OSP and Environmental Zones

OSP	Environmental Zone	Tribal Affinity	Cultural Attributes/Material & Subsistence ¹
Ravenswood	Baylands	Lamchin	- Monumental Mounds
Stevens Creek Shoreline	Baylands	Puichon	- Large populations with residential villages and resource storage - Tule balsa boats - Salt harvesting, fish, mollusks, waterfowl, eggs, sea otters, harbor seals, tule elk - Pickleweeds, Tule and cattail reeds, willow
Pulgass Ridge	Foothills	Lamchin	- Residence - Nut and seed harvest, bulbs - Deer, Tule Elk, bears
Purissima Creek Redwoods, Miramontes Ridge	Coast, Coastal Mountains and Foothills	Cotegen	- Bulbs (soaproot, iris, brodiaea, yampa), seeds (grasses, maple, sage), nuts (acorn, buckeye, laurel, hazelnut) - Hunting, deer, bear - Trade and trail routes - Bedrock mortar milling stations
Teague Hill	Foothills	Lamchin	- Bulbs, seeds, nut harvests - Hunting (deer, bear, Mountain lion, bobcat, raccoon, woodrat, etc.) - Trade and trail routes - Bedrock mortar milling stations
El Corte de Madera Creek	Skyline	Cotegen, Olpen	- Bulbs (soaproot, iris, brodiaea, yampa), seeds (grasses, maple, sage), nuts (acorn, buckeye, laurel, hazelnut)
La Honda Creek	Skyline, Foothills	Oljon, Olpen	- Hunting (birds, deer, bear) - Trade and trail routes
Thornewood	Foothills	Lamchin	- Bedrock mortar milling stations
Windy Hill	Skyline	Olpen	- Local lithic materials for chipped stone tools (Cherts, opals, quartzites, chalcedony)
Russian Ridge	Skyline	Oljon, Quiroste, Olpen	
Coal Creek	Skyline	Olpen	
Los Trancos	Skyline	Olpen	
Foothills	Foothills	Puichon	
Skyline Ridge	Skyline	Quiroste, Olpen	
Monte Bello	Skyline	Partacsi	
Rancho San Antonio	Foothills	Puichon	- Residence - Nut and seed harvest, bulbs - Deer, Tule Elk, bears
Long Ridge	Skyline	Achistaca	- Bulbs (soaproot, iris, brodiaea, yampa), seeds (grasses, maple, sage), nuts (acorn, buckeye, laurel, hazelnut)
Saratoga Gap	Skyline	Achistaca	- Hunting (birds, deer, bear) - Trade and trail routes - Bedrock mortar milling stations

Table 5-3. Summary of Distribution of Predicted Native American Cultural Attributes and Resource Types by OSP and Environmental Zones

OSP	Environmental Zone	Tribal Affinity	Cultural Attributes/Material & Subsistence ¹
			- Local lithic materials for chipped stone tools (Cherts, opals, quartzites, chalcedony)
Picchetti Ranch	Foothills	Partacsi	- Travel corridors
Fremont Older	Foothills	Partacsi	- Hunting
El Sereno	Summit Area	Partacsi, Tamien	- Toyon and Manzanita berry harvest - Nut gathering
St. Joseph's Hill	Summit Area	Chalotaca	
Bear Creek Redwoods	Summit Area	Chalotaca	- Berries, fungi, basketry materials
Sierra Azul	Summit Area	Chalotaca, Matalan	- Cosmology (Mt. Umunhum) - Cinnabar (red paint) - Chipped stone source material (quartz and Franciscan chert)

1- This list calls out some basic attributes relative to specific OSPs, and does not represent the entire tribal resource base.

5.1.3 Historic Period Resource Types and Distribution

Given the long history of human occupation within the District as well as the variety of land uses and lack of modern development, one would expect a large number of cultural resources to be present within the District Lands. The number of historic period sites identified in the Baseline Cultural Resources Inventory, however, proved to be quite small. The reason for this is not a lack of cultural resources, but rather an indication that many of the District Lands have not been subject to systematic cultural resource investigations. Consequently, it is highly likely that numerous, unidentified historic period resources exist within the District Lands. While the District is interested in identifying resources that are good examples of cultural resources and worthy of preservation, protection and interpretation, the few known resources combined with the high probability that that many additional resources will be discovered makes it important to understand the range of resources that may be present within the District Lands. For historic period resources, property types have been defined based on the known historic period land uses as defined in Section 2.7. Each of these land uses manifests itself in various cultural resource property types that may survive on the landscape. Knowing the range of possible resource types will help the District effectively

manage their known and unknown resources. The potential property types include: Settlement/Residential/Domestic, Agricultural/Ranching, Logging-related, Mining Resources, Transportation, Recreation, Military and Health and Forestry resources. The following section discusses these property types and their likely distribution in the environmental zones and OSPs.

Settlement/Residential/Domestic

Settlement/Residential/Domestic resources generally are associated with residences which reflect the daily lives and activities of individuals, families, or group residents. Domestic sites frequently are feature complexes which include multiple features and feature systems. Domestic features could include structures (houses, apartment buildings, dormitories, bath houses, cook houses, etc.), foundations, tent platforms, outdoor cooking features such as ovens, fenced yard areas, garden areas, terraces, wells, irrigation systems, infrastructure systems (sewer, water, electrical and telephone), ancillary buildings such as garages, barns or sheds, and outhouses (HARD Work Camps Team 2007:44-47). Residential resources can be found in association with many of the different land uses that took place within the District including settlement, agriculture/ranching, mining, logging, and military as there are often

living quarters or camps or homes associated with these ventures.

Archaeologically, hollow filled features (wells, outhouse pits, cellars, and trash pits among others) frequently contain refuse deposits which provide data potential for dietary, economic, sanitation, ethnicity, gender, and class research domains. Domestic sites can also include surface refuse deposits that reflect individual to municipal-scale and single-event to long-term dumping episodes. If there are multiple surface refuse scatters from different temporal periods present, they may exhibit “horizontal stratigraphy.” Although the deposits are surface deposits with no vertical stratigraphy, together they provide domestic data about different periods of occupancy in a residence (Caltrans 2008:109-110).

The currently recorded Residential/Domestic, and Ranching/Agricultural Residential sites (n=9) within the District are distributed primarily in the foothills (n=5) and summit (n=4) zones. These sites are found associated with various open space properties including Sierra Azul, Bear Creek Redwoods, Purisima Creek Redwoods, Windy Hill, Fremont Older, Picchetti Ranch, USFS Felton Station, and Rancho San Antonio. Although there was only one recorded residential site each identified in Sierra Azul, Purisima Creek Redwoods, Windy Hill, and Rancho San Antonio, there could be other unidentified and unrecorded residential sites or refuse deposits yet to be discovered in these OSPs.

Agricultural/Ranching

Agricultural/Ranching resources are associated with ranching (primarily dairying) and farming activities. The resulting sites include ranch complexes, pastures, fields, orchards, dairying facilities, agricultural facilities, and domestic sites. Resource property types could include residential and activity related buildings (houses, bunkhouses, hay barns, dairy barns, milk houses, poultry sheds, water towers, slaughter houses, blacksmith shops, ice houses, smokehouses, and other outbuildings); associated structures, and features such as livestock chutes, fences, corrals, pens, troughs, refuse dumps, agricultural machinery, water

conveyance/irrigation systems, access roads, and silos (Caltrans 2007:154-155).

Currently recorded Agricultural/Ranch sites (n=4) within the District Lands are distributed primarily in the summit (n=2) and foothills (n=2) zone. The Tripp/Dairy Ranch, Picchetti Ranch/Winery, Deer Hollow Farm, and Tevis Ranch Stables sites are located within the Bear Creek Redwoods, Rancho San Antonio, and Picchetti OSP. Based on archival research, there should be numerous agricultural and dairy ranch complexes within the coast zone which would include domestic/residential and agricultural and/or dairying components. The Tunitas Creek OSP within the coast zone was added to the District after the record search was completed. Initial research identified two property owners: Alex Gordon (ca. 1894) and Serafin Machado (ca. 1927), both of whom were farmers (Bromfield 1894; Kneese 1927; U.S. Census Bureau 1900:2B, 1920:5A). Machado was an immigrant from the Azores who established a cheese production business and dairy by 1911 in the San Gregorio area (State Dairy Bureau 1912:41; U.S. Census Bureau 1920:5A). There could, therefore, be unidentified agricultural or dairy ranching resources within this property and other properties in the coast, foothills, and summit zones.

Logging

Logging-related resources represent logging industry activities such as timber harvest, milling, shingle making, and haul and shipping routes. Archaeological property types which might result from these activities include mill sites along creeks, mill ponds, roads, railroads, wharves, skid roads, residential sites (owner, manager and worker), and work camps.

The currently recorded logging sites (n=5) within District Lands are distributed primarily in the skyline (n=4) zone and one logging complex in the summit zone. These logging sites are found in various OSPs including Bear Creek Redwoods, Purisima Creek Redwoods, and La Honda Creek. Based on archival research, there were dozens of logging, milling, and shingle-making operations throughout the San Mateo Peninsula and Santa Clara and Santa Cruz Mountains regions

(Greenberg and Stevens 1997:28; Stanger 1967, Young 1984:77, 85). Therefore, there may be unidentified logging resources within the properties in the skyline, summit, and possibly foothills and coastal mountains/foothills.

Mining

Mining Sites in the region represent activities primarily relating to lime and quicksilver resource exploitation. Mining industry activities include prospecting, extraction, fuel procurement, processing, hauling, and shipping. Archaeological properties for mining production might include prospecting features (pits, waste rock piles), extraction features (mines, shafts, adits, quarries, and tailing piles), and power procurement features (dams, ponds, water conveyance systems and/or logging features as above and wood lots for fuel). Different minerals required different processing machinery and features. For lime production, processing features would include lime kilns, whereas, for quicksilver processing features would include ore-roasting furnaces and retorts.

Processing sites might also have management structures or other outbuildings. For ore and finished product transportation, there would likely be associated roads, railroads, and /or wharves. There also might be related residential sites for mine owners, managers, and workers with associated buildings, infrastructure (utilities), and refuse deposits.

The currently recorded mining sites (n=2) within District Lands are distributed in the summit (n=1) and foothills (n=1) zones. These mining complex sites are Guadalupe quicksilver mines in the Sierra Azul OSP and the Hanson Permanente Cement Plant/Kaiser Permanente Limestone Quarry adjacent to Rancho San Antonio OSP. Based on archival research, other unidentified quarry/mining sites could be located in the foothills and summit zones. There is at least one historic Stanford-related sandstone quarry in the foothills and there are quarries and mining sites within Santa Teresa County Park to the southeast of the Sierra Azul OSP. In addition, based on the presence of the New Almaden Quicksilver Mine and the Guadalupe Mines in the Sierra Azul region, there are likely to be other unidentified quicksilver mining resources in the vicinity.

Recreation

Recreation resources are related to recreation, leisure, and tourist activities. Recreation resources might include historic period hotels and resort locations, recreational trout and salmon fishing locations along coastal creeks, horse stables, stage coach routes, parks and park facilities, and scout and other camps.

The currently recorded recreation-related resources and sites (n=5) within District Lands are distributed primarily in the summit (n=3) and skyline (n=2) zones. These sites include a radio tower (considered a communication and recreation resource because of its amateur ham-radio operator associations), horse stables, a camp building complex, the Windy Hill OSP, and utility poles that might have supported a lighted sign welcoming visitors to Big Basin State Park. These recreation resources and sites are within various OSPs including Bear Creek Redwoods, the U.S. Forest Service Felton Station, Windy Hill, and the Long Ridge-Saratoga Gap.

Transportation

Transportation resources are the remains of linear systems used to transport people, supplies, and equipment between residential hubs (towns, cities), to and from ports or other transportation hubs to residential hubs, and into and out of a resource exploitation work areas (such as logging roads or oil field roads). Transportation systems include trails, wagon roads, road systems, railroad systems, heliports, and airports. Property types within these systems include road segments, retaining walls, bridges, ditch and culvert systems to prevent roads from washing out, and associated utility systems such as lighting for safe navigation along roads.

The currently recorded transportation sites (n=6) within District Lands are distributed primarily in the skyline (n=4) and summit (n=2) zones. These transportation sites do not include the four logging road sites in the logging resource section above. These transportation related resources include four historic period road segments (the Saratoga Toll Road, Highway 35, and Highway 9); the remains of a historic bridge; and a rock retaining wall for a historic period road segment. These resources are found in Bear Creek Redwoods, Long Ridge, and

Saratoga Gap. The Tunitas Creek OSP on the San Mateo coast is situated two historic roads: Tunitas Creek Road (ca. 1875) and the Redwood City and San Gregorio Turnpike (ca. 1868) (Richards 1973:88-89). Richards (1973:88-89) identified over twenty historic period road segments extant in San Mateo County, which suggests there could be unrecorded road segments throughout the skyline, foothills, coastal mountains/foothills, and coast zones in San Mateo County. Corresponding numbers of historic roads would be expected in Santa Clara and Santa Cruz Counties.

Military

Twentieth century military resources date from the World War I (1917-1919), World War II (1941-1945) and later periods. Military resources may represent military activities such as training activities (fire arms ranges, ditch digging, military games fields) and communication (satellite communication stations); defense building complexes (forts, field camps, batteries, radar stations); supply/equipment storage (warehouses, hangars); residential building complexes (camps, cantonments, presidios), and transportation (air fields, dirigible ports, roads).

The currently recorded military sites (n=2) are located to a baylands zone and in the summit zone on Mt. Umunhum. One of the documented military resources is a 1977 generator building, Building 563, which is part of the Moffat Federal Airfield District inventory. This resource is located adjacent to the Stevens Creek OSP. The Mount Umunhum Radar Station is a Cold War period radar installation. The radar station was documented and evaluated by as a historic district on its architectural merits and recommended it not eligible for the NRHP (Page & Turnbull 2011). In 2010, Hylkema completed an archaeological survey of the complex and reported that there were no archaeological resources within the radar station district Area of Potential Effects. Page & Turnbull deferred to Hylkema's negative results for Criterion D of their evaluation (Page & Turnbull 2011). Finally, during War I, Camp Fremont, which was based in Menlo Park, trained thousands of soldiers in foothill fields behind the town and Stanford University. Though there are no documented cultural resources associated with Camp Fremont,

there may be unrecorded military resources related to the training camp activities in the Foothills or Los Trancos OSPs in the foothills zone.

Communication

Communication resources reflect activities related to various communication media including radio, satellite, telephone, and telegraph systems. The only recorded resource related to communication was a radio tower (considered both under communication and recreation based on its amateur ham-radio operator associations). The radio tower site is in the Bear Creek Redwoods OSP in the summit zone. There could be unrecorded historic period communication utility poles extant along historic road segments and near historic buildings within District Lands.

Health

Health related resources include hospitals, medical clinics, health sanitariums and convalescent homes, ambulance-related artifacts, pharmacies, and medical-related refuse deposits. There was one recorded health-related resource, the Hassler Health Home, a tubercular sanitarium located within the Pulgas Ridge OSP in the foothills zone. Although the Hassler Health Home building complex has been demolished, there could be unrecorded subsurface refuse deposits or other features related to the sanitarium still within the preserve.

Forestry

Forestry-related resources include ranger station complexes, forest fire station complexes, forestry-related machinery and maintenance complexes, and U. S. Forest Service roads. There was one forest fire station building complex, Saratoga Summit Forest Fire Station, recorded in the Skyline Zone in the Long Ridge/ Saratoga Gap OSPs. There could be unrecorded resources associated with forestry activities in the Summit and Skyline Zones.

5.2 Representative Resource Analysis

To assist the District with planning for meeting their cultural resources goals, best examples of known cultural resources were identified for

preservation, protection and interpretation efforts. To this end, cultural resource types that are common to the different land use and activity themes discussed in the historic and prehistoric contexts were identified. Using the information gathered in the Baseline Cultural Resources Inventory we identified cultural resources and landscapes which represent different land uses and aspects of the history and prehistory of the area and that meet criteria for good examples.

The criteria for determining which historic period resources are the best known examples included: the associated historic theme, site condition, and whether the site has been listed or determined eligible for the NRHP/CRHR. Many of the resources identified have a structural element and are already being interpreted to the public in some fashion. The criteria used to identify prehistoric resources or representative locations include accessibility, interpretive potential, and durability of the resource. In many cases for prehistoric resources locations for interpretation are recommended that do not include cultural resources. This has been done in order to protect the confidentiality of the site location, thus prioritizing preservation and protection over interpretation of vulnerable archaeological resources.

Unlike structures, buildings and some cultural landscapes, archaeological sites can be put at risk by direct interpretation and disclosure to the public. Archaeological and other heritage resources can be damaged or destroyed through uncontrolled public disclosure of information regarding their location. Information regarding the location, character or ownership of a historic resource is exempt from public disclosure pursuant to 16 U.S.C. § 470w-3 (National Historic Preservation Act) and 16 U.S.C. § 470hh (Archaeological Resources Protection Act). In addition, access to such information is restricted by state law, pursuant to Section 6254.10 of the California State Government Code.

5.2.1 Prehistoric Cultural Resources

In light of the legal mandate for site protection and confidentiality, it is critical to prioritize cultural resource protection over interpretation. However, it is possible to protect vulnerable archaeological

sites while providing interpretive opportunities for the public to connect with cultural heritage within District Lands. To this end, we offer general locations and site types that provide good interpretive opportunities without exposure of vulnerable archaeological sites to damage or destruction.

Mt. Umunhum is good for interpreting Native American cosmology and tribal distributions. Mt. Umunhum is part of the Ohlone creation story, it is a source of sacred red paint and is a high point from which one can see the many environmental zones and territories occupied by a number of the local tribes.

Baylands Park offers an opportunity to interpret the formerly extant monumental Native American mounds that once lined the San Francisco Bay shore, and discuss estuarine resources used by Native peoples, and the nature of maritime travel along the Bay.

Monte Bello Ridge OSP. Within Monte Bello Ridge there is an unrecorded site that includes cupule rock art and a bedrock mortar (BRM) complex. This site is valuable for interpretation of cultural landscapes, as well as insight into the cosmological and ideological world of the local Native Americans and their uplands dietary pursuits. BRMs and cupules are less vulnerable to damage and loss of integrity from the public because they tend to be more indestructible and may not have associated archaeological deposits.

Russian Ridge. The Silva Site (CA-SMA-396) at the Mindego Gateway Staging Area includes a lithic scatter as well as dense beds of soap root and yampa both of which were plants used by the Ohlone. The presence of this site in the vicinity of the Audrey Rust honor monument (Audrey's Way), provides a good opportunity to interpret Native American travel routes and gardens.

Bedrock Mortar Sites. BRM sites are useful for interpretation. Examples can be seen at Russian Ridge (already has interpretive panels), La Honda, Russian Ridge, and Monte Bello OSPs. The value of these sites for interpretation is that they often do not have associated deposits, and can be close to trails. Moreover, they are less prone to damage when properly interpreted.

Rancho San Antonio consists of oak woodland and is good for interpreting foothill resource extraction and acorn harvest.

Consultation with cultural resources specialists and descendant communities should take place prior to implementing interpretive or educational programs at these locations.

5.2.2 Historic Period Resources

A review of the currently recorded sites by theme and property type identified best known examples of various property type sites. The paucity of recorded sites, however, suggests that there are likely unrecorded historic period resources yet to be discovered and/or formally recorded within District Lands. Some of these best examples, therefore, may be superseded by future discoveries of even better examples of the particular site type. Table 5-4 summarizes the best known examples of historic period cultural resources in the District Lands

Residential/Domestic Resources

Among the documented historic period resources there are two resources that best represent the Residential/Domestic theme within District Lands. These resources include: Woodhills, the Fremont Older Residence (P-43-000403) and the Permanente Historic Trash Scatter (P-43-000403). These resources are all located in the foothills environmental zone, in the Fremont Older and Rancho San Antonio OSPs.

Woodhills, the Fremont Older Residence (P-43-000403) is a good example of an early twentieth century residence with grounds. The house was restored to its original design and is listed on NRHP and CRHR. Woodhills is currently a private residence, though docent led tours periodically available.

There is not a “best example” of a domestic refuse deposit among the recorded sites; however, the Permanente Historic Trash Scatter (P-43-001633), located in the Rancho San Antonio OSP, is in fair condition. The ca. 1920-1950 period deposit is located along a creek bank and may be associated with St. Joseph’s Seminary and/or Maryknoll Seminary. It has some condition issues as the Santa Clara Valley Water District has established an

access ramp through the deposit; however, portions of the deposit appear to be intact. Other more intact domestic refuse deposits identified in the future may supersede this deposit as a best example of this property type.

Table 5-4. Best Examples of Historic Period Resources within District OSPs

Primary Number	Trinomial	Other Identifier	Environmental Zone	Component	Resource Theme	Description	Best Example Comments
No P-number on DPR	No site number on DPR	Mt. Umunhum Radar Station	Summit Area	Historic	Military	Former Almaden Air Force Station District; 52 buildings structures and objects associated with the Former Almaden Air Force Station, ca. 1957-1979.	20th C military resource, radar complex from Cold War period.
P-41-000510	CA-SMA-362H	Historic Logging Road	Skyline Area	Historic	Logging	Two segments of corduroy logging road dating to the early 20th century, for the Charles Borden Mill	Logging resource, corduroy logging road in good condition.
P-43-000088	CA-SCL-71/H	BRM/Cupules	Summit Area	Prehistoric / Historic	Prehistoric: Seed and Nut Extraction/Ideological Historic Period: Logging	Five bedrock outcrops with 58 mortar holes and cupules. Ca. 19th logging related refuse, berms (possible pond), fencing, and road cuts. Logging disturbed prehistoric component, one BRM was moved.	Late 19th C logging complex.
P-43-000403	-	Woodhills; Cora and Fremont Older House; 22800 W Prospect Road.	Foothills Area	Historic	Residential	Building, residence built 1913 combining architectural elements of Bay Area shingle and "Modern Movement" styles. Built by Cora and Fremont Older.	Early 20th C residence with grounds, listed on NRHP/CRHR
P-43-000419	-	Picchetti Bros. Winery	Foothills Area	Historic	Ranching and Agriculture	Building complex (seven buildings built between 1880 and 1920, operated as family vineyard and winery), Currently operating as a winery and tasting room.	19th-20th C agricultural building complex. Listed on the NRHP/CRHR.

Table 5-4. Best Examples of Historic Period Resources within District OSPs

Primary Number	Trinomial	Other Identifier	Environmental Zone	Component	Resource Theme	Description	Best Example Comments
P-43-000980	-	Alma College Bridge over Briggs Creek	Summit Area	Historic	Transportation	Bridge (Steel Pratt deck truss bridge; 1920s)	20 th C transportation resource (bridge). Recommended NRHP eligible.
P-43-000981	-	Tevis Ranch Stables/ Bear Creek Stables	Summit Area	Historic	Residential/Ranching/ Recreation	Historic complex (Main residence, stables, and an employee residence; Inter-war period); early 20 th century.	20 th C recreational stables complex.
P-43-001633	-	Permanente Historic Trash Scatter	Foothills Area	Historic	Domestic Refuse Scatter	Historic trash scatter, ca. 1920 to 1950, potentially associated with St. Joseph's Seminary and/or Maryknoll Seminary	20 th C refuse scatter fair condition
P-43-002400	CA-SCL-891H	Mining District: Guadalupe Mines and town of Guadalupe	Summit Area (adjacent to)	Historic	Mining	Guadalupe Mines and town of Guadalupe (46 mercury mining areas or loci, 10 historic-era or potentially historic -era standing buildings or structures, 20 road sections; early 1850s to early 1960s)	19 th C-20 th C mining complex. Good condition.
P-44-000354	-	Old Saratoga Toll Road	Skyline Area	Historic	Transportation	Old Saratoga Toll Road, ca. 1871, built by J.W. Peery (owner of Silver Lumber Mills and tannery)	19 th C transportation (toll road)

Agricultural/Ranching Theme

The Picchetti Brothers Ranch and Winery (P-43-000419) building complex is the best example of an agricultural resource identified in District Lands. This resource is located on the Picchetti Ranch OSP in the foothills zone. The resource is a late nineteenth/early twentieth century (1880s-1920s) Italian immigrant agricultural/ranch/winery site. It is listed on NRHP and CRHR and was the subject of a 1978 Historic American Building Survey (HABS) study, which documented the complex. The integrity of the site is somewhat compromised by the absence of some of the original outbuildings including one barn, a chicken house, all but one of several aviaries, and fruit drying sheds. In its current configuration, the complex consists of seven buildings including two houses (built in ca. 1882 and 1886), the 1896 winery building, a fermenting and pressing house, a blacksmith shop, a stable, and a garage and wash house. In keeping with its historic use, the Picchetti Ranch is currently privately operated by the privately run Picchetti Winery and the barn serves as a wine tasting room which is open to the public. This resource provides an excellent opportunity for public interpretation of the history of ranching, agriculture in the District and the region using the existing historic structures, an example of the continuity of use, and should be a focus of interpretation, preservation and protection efforts.

Logging Theme

Two cultural resources are documented within District Lands that are good examples of the logging theme. They are located in the skyline and summit environmental zones in the Bear Creek Redwoods and Purisima Creek Redwoods OSPs. These resources consist of corduroy logging road segments (P-41-000510/CA-SMA-362H) and a logging complex (P-43-000088/CA-SCL-71/H). As recorded, neither of these resources is in good condition nor have they evaluated for the NRHP or CRHR. Better, as yet undiscovered, examples of historic period logging may be present on District Lands.

CA-SMA-362H (P-41-000510), a corduroy logging road, is the current best example of a logging resource within District Lands. The site is situated

in skyline zone in the Purisima Creek Redwoods OSP. CA-SMA-362H consists of two segments of corduroy logging road dating to the early 20th century, which appear to be associated with the Charles Borden Mill in the Purisima Creek Preserve. Although it is in poor condition, described in the site record as “depressions, or 'ghost images' of rotten logs,” it is currently the best example of logging road segments of this type. Future discoveries might supersede this logging road as a best example of a logging resource. Though this resource is not currently interpreted to the public; it is located in Purisima Creek Redwoods which the Conservation by Design (2011) has recommended as a location for interpreting logging history to the public as it contains numerous remnant logging areas. CA-SMA-362H may contribute to these efforts.

CA-SCL-71/H (P-43-000088) is currently the only recorded historic period logging complex site. It is part of a multicomponent site near Briggs Creek. The historic component includes two road cut segments, a possible former pond based on two berms surrounding a spring, large redwood stumps, a post and barbed wire fence segment, and a historic period refuse scatter dating from ca. 1880s to the early twentieth century. The refuse scatter included cut nails, a kaolin pipe stem fragment, ca. 1880s medicine bottle shards, undecorated ceramic sherds, and unidentified metal fragments. The integrity of the historic site component is undetermined and the site has not been evaluated. Additional cultural resources investigations at this site may help determine whether it has sufficient data potential to be eligible for the NRHP/CRHR and its potential for interpretation or need for preservation and protection. There may be other unrecorded logging resources that prove to be better examples of logging activity in the area.

Mining Theme

The Guadalupe Mines and townsite (P-43-002400; CA-SCL-891H) is the best example of the Mining theme. This resource is situated adjacent to and within the Sierra Azul OSP in the summit zone and is associated with quicksilver mining from the 1850s to 1960s. The Guadalupe Mines and townsite includes 46 quicksilver mining areas or loci, 10 historic standing buildings or structures,

and 20 road segments. Most of the resource is outside of District Lands, but notes in the site record indicate that unrecorded residential, town and mining related features are present within the Sierra Azul OSP boundaries. The site record suggests the site has good integrity, but has not yet been evaluated for eligibility for the NRHP and CRHR. Additional investigations are required to determine whether intact portions of the resource are present within the OSP boundaries. These investigations may help assess the eligibility of the resource for the NRHP/CRHR and assist the District in identifying protection, preservation and interpretation opportunities of this resource and quicksilver mining in the Sierra Azul OSP.

Recreation Resources

There is not an outstanding example of a recreation related resource among the recorded sites. There is one early twentieth century building complex site, the Tevis Ranch Stables (P-43-000981), which is a ranch complex used for recreation purposes. The Tevis Ranch Stables is in the Bear Creek Redwoods OSP in the summit zone. The Tevis Ranch Stables were built in the 1910s for entertainment of weekend guests. They include a main residence with an enclosed yard area, stables, and an employee residence created from a former tack and storage room. The stables include a main building with several attached outbuildings (hay storage areas, a carriage house, and sheds). The resource has poor integrity due to repeated remodeling of the buildings over time. The Tevis Ranch stable was evaluated and recommended not eligible for the NRHP. Though this site is the current best example of a recreation site type; future discoveries or property purchases may reveal better examples of recreation resources.

Transportation Resources

Two transportation resources stand out as good examples: the Alma College Bridge over Briggs Creek (P-43-00980) and the Old Saratoga Toll road (P-44-00354). These resources are in the summit and skyline zones in the Bear Creek Redwoods and Long Ridge/ Saratoga Gap OSPs.

The best current example of a historic period bridge is the Alma College Bridge over Briggs Creek (P-43-000980) in the Bear Creek Redwoods

Preserve. This is a ca. 1920 steel Pratt deck truss bridge with has good integrity and has been recommended eligible for the NRHP under Criterion C.

The earliest example of a wagon/toll road is the Old Saratoga Toll Road (P-44-000354) in the Long Ridge/ Saratoga Gap Preserves. Old Saratoga Toll Road, ca. 1871, was built by J.W. Peery (owner of Silver Lumber Mills and Tannery). Although its integrity and NRHP status is unknown and the majority of the recorded portion of the resource is outside of District Lands, it is the best known example of a historic road in the area. Currently, the road is used as a riding and hiking trail, which facilitate public interpretation because of easy available access.

Military

The best current example of a military site complex is the Former Almaden Air Force Station District, also known as the Mt. Umunhum Radar Station, in the Sierra Azul OSP in the summit zone. It is comprised of 52 buildings, structures, and objects associated with the Former Almaden Air Force Station, occupied from ca. 1957 to 1979. The resource integrity varies as 34 of 52 resources retained good integrity as of 2010. In 2011, the military district was evaluated and found not eligible for the NRHP. The site still provides an opportunity for public education about Cold War period history in the south Bay region.

Communication, Health, and Forestry

None of the resources in the Baseline Cultural Resources Inventory that are associated with Communication, Health, or Forestry are good examples of these historic themes. Those that have been identified are found in the foothill and summit zones. Forestry resources are likely to be found in the summit and skyline zones, whereas health related resources are likely to be located closer to settled areas. Communication facilities may be present throughout the environmental zones as they connect settled areas. Future cultural resource investigations may identify examples for these types that are appropriate for protection, preservation and/or interpretation efforts.

6.0 SUMMARY AND CONCLUSIONS

This cultural resources investigation was conducted for the *Imagine the Future of Open Space* vision planning process and seeks to provide a baseline inventory of the cultural resources present within the District and a context for understanding the relationship of the cultural resources to the people and the activities that created them. To this end, we provide the technical data to be used by the District in planning for future protection, preservation and interpretation of cultural resources within their control and ultimately to achieve their cultural resource goals. Another fundamental goal of this study was to provide useful information about the human cultures and histories on District Lands that managers and interpreters can reference for planning and public outreach purposes. This existing conditions report is intended to provide the larger context for the Stewardship Guide (Ballard and Hylkema 2013), which offers guidance on the treatment of cultural resources.

The Baseline Cultural Resources Inventory was compiled from multiple sources and includes 63 resources including 45 formally recorded cultural resources and 18 known but as yet unrecorded resources. These resources include 30 prehistoric, 28 historic and 5 multicomponent archaeological sites, buildings, structures representing a wide variety of prehistoric and historic period activities and land uses. These resources are spread throughout the District are clustered in several environmental zones—baylands, foothills, summit and skyline—with the greatest number in the skyline zone.

Among these are good examples of cultural resources and landscapes that are the result of human activity in the District during the prehistoric and the historic period. These representative resources and cultural landscapes should be the

focus for District preservation, protection and interpretive efforts.

Within the largely undeveloped District Lands, there is great depth of human history in the District, thus, one would predict a large number of cultural resources to be present. Significantly, few resources were identified in the District's Lands, only 63 in 60,000 acres. This very low site density—0.0011 site per acre—does not mean there are few resources within the District, rather it indicates that much of the District has not been systematically studied. As the District completes additional cultural resources surveys, the number of resources will surely grow, as will the list good representative sites to be stewarded. Therefore, much remains to be discovered and a document like this will need to be updated from time to time as new finds are made.

The regional overview, creation of the Baseline Cultural Resources Inventory demonstrated several important points. First, the District has been the site of long term human occupation including a wide array of land uses. Many of these prehistoric and historic period land uses manifest themselves as cultural resources that survive to the present. Second, given this long and diverse human history and the relative lack of development in the District, we would expect an abundant and diverse array of cultural resources to be present. However, relatively few resources were identified during the cultural resource data collection indicating that numerous unidentified cultural resources are likely to be present on District Lands. Third, there are good representative resources present on District Lands. However, while this research identified good examples of different types of cultural resources and locations conducive to cultural resource interpretation, future cultural resource investigations of District Lands may identify better examples of prehistoric and historic property types which exemplify different prehistoric and historic land use and be useful for connecting the public to the cultural heritage of the area.

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APPENDIX E-1A: COMMUNITY CONSULTATION DOCUMENTATION



Appendix E-2:

Cultural Resources Stewardship Guide

for the Midpeninsula Regional Open Space
District Vision Plan

Prepared for:

Midpeninsula Regional Open Space District
330 Distel Circle, Los Altos, CA 94022

March 2015

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OVERVIEW OF THE PURPOSE OF THE STEWARDSHIP GUIDE

The purpose of this Stewardship Guide (Guide) is to provide the Midpeninsula Regional Open Space District (District) with goals and actions for protection, preservation, and interpretation of cultural resources within District preserves and identify priority actions for the District. Stewardship involves management, protection and preservation of cultural resources and, when appropriate, the use of cultural resources to communicate the importance of community heritage and enhance historical understanding of the region. This Guide begins by discussing the regulatory context in which much of the cultural resources investigations take place. Next, it identifies the potential threats to cultural resources on District preserves. Awareness of the range of threats to cultural resources is essential to effective stewardship of cultural resources. The Guide proceeds to define cultural resource goals and sub-goals for the District and actions that can help the district achieve these goals. Finally, priority actions are derived from this and presented to help the District implement effective stewardship of cultural resources under their administration.

The Guide was developed in consultation with District staff and Native American community and incorporates baseline data on known cultural resources and the prehistory and history of the region. Prior to the development of this guide, Pacific Legacy, Inc. and archaeologist Mark Hylkema compiled a regional overview of the prehistory and history of the Bay Area and Santa Clara Valley. Cultural resource data was collected from Northwest Information Center, District records, and data on file with Mark Hylkema to create an inventory of known cultural resources. This inventory formed a baseline for understanding the nature of and location of cultural resources within preserves. The Guide is intended to be used in conjunction with other District planning documents including *Resource Management Policies* (MROSD 2011), *Interpretive Guide* (Conservation by Design, Inc 2011), *Basic*

Policy of the Midpeninsula Regional Open Space District (MROSD 1999), and the *Strategic Plan 2012* (MROSD 2012).

REGULATORY CONTEXT

The suite of State and Federal cultural resource laws provide protections and guidelines for identifying significant cultural resources and mitigating the impacts or effects of District actions on significant resources. While this body of law does not mandate the full range of actions that encompass cultural resources stewardship, it provides a framework for mitigating the effects of activities on the resources. Because activities related to current land use on District preserves have the potential to negatively impact cultural resources, the District must comply with cultural resource regulations during its operations.

An overview of the regulatory context for cultural resources management within the District is provided in the *Resource Management Policies*:

The California Environmental Quality Act (CEQA) (Guideline 15064.5, Public Resources Code 21038.2) states that a substantial adverse change to the significance of a historical resource or a unique archaeological resource must be treated as a significant effect on the environment in a project's environmental review. Public Resources Code 5097.9-5097.994 mandates protocols for protecting Native American graves and human remains, and prohibits unauthorized excavation, destruction, or vandalism to Native American archaeological sites on public land.

Section 106 of the National Historic Preservation Act of 1966 requires consideration of impacts to historic resources on federal lands or projects requiring federal permits. Likewise, any project that requires review under the National Environmental Policy Act of 1969 must consider impacts to cultural

resources. The Native American Graves Protection and Repatriation Act of 1990 (NAGPRA) mandates the protection of Native American burial sites on federal lands and the repatriation of human remains and funerary objects to descendent Native American groups. Under NAGPRA, institutions with collections of Native American remains and funerary items must create an inventory and notify lineal descendents as part of the repatriation process.

In compliance with the statutes listed above, the District has included protocols for unexpected discoveries of archaeological sites and human remains as mitigation measures in District projects. An example of a District project specifically identifying protocols for cultural resource protection is the Service Plan and accompanying Environmental Impact Report for expansion of the District’s boundaries to include coastal San Mateo County completed in 2003. The Service Plan recognized the unique value of cultural resources in the San Mateo County coastal area and established Cultural Resource Policies to preserve cultural resources in the Coastal Annexation Area. The Policies and

Implementation Measures established in this Cultural RMPs are consistent with the Cultural Resource Policies in the Service Plan. (MROSD 2011:38-39).

THREATS TO CULTURAL RESOURCES

Cultural resources within the District preserves may be altered or destroyed by a number of activities. Cultural resources include prehistoric and historical archaeological sites, structures, and cultural landscapes. For archaeological sites, activities that involve ground disturbance have the greatest potential to impact sites. Architectural resources and cultural landscapes can be impacted by the removal of features, flora, remodeling or maintenance activities, and fire. Many of the potential threats to cultural resources may be the direct result of District activities; others may be indirect or related to natural phenomenon. Table 1 presents a list of activities that are potential threats to cultural resources. This list is as complete as possible though cannot be considered comprehensive as we do not know the full range of activities that may take place in the preserves in the future.

Table 1. Potential Threats to Cultural Resources in District Preserves

Resource Type	Potential Threats to Resources	Nature of Effects on Cultural Resources
Archaeological	Includes prehistoric sites and features, historic period sites and structures. Usually has artifacts or features on or beneath the ground surface.	Most effects to archaeological sites are the result of ground disturbing activities that impact the integrity of the site.
	Agricultural (ploughing, ripping , field preparation)	Loss of site integrity or site destruction due to ground disturbance.
	Small Scale Development (construction, utility installation)	Loss of site integrity or site destruction due to ground disturbance.
	Erosion	Loss of site integrity due to ground disturbance, redeposition of cultural materials.
	Facility construction and maintenance (campgrounds, trails, parking lots, signage, visitor and administrative buildings, utilities)	Loss of site integrity or site destruction due to ground disturbance. Increased public access to site area may result in pothunting, defacement, ground disturbance, trampling, etc.

Resource Type	Potential Threats to Resources	Nature of Effects on Cultural Resources
	Ranching (erosion from grazing, water conveyance and storage, fencing)	Loss of site integrity or site destruction due to ground disturbance.
	Habitat Management	Loss of site integrity or site destruction due to ground disturbance.
	Recreation Activities (hiking, biking, equestrian, dogs, rock climbing, camping, geocaching) and public access	Loss of site integrity or site destruction due to ground disturbance, pothunting, Increased public access to site area may result in pothunting, defacement, ground disturbance, trampling, etc.
	Road building and maintenance	Loss of site integrity or site destruction due to ground disturbance, increased vulnerability of site to pothunting or other disturbances because of increased public access to resource locations.
	Vegetation clearance (forest management, landscaping, grubbing)	Loss of site integrity or site destruction due to ground disturbance from mechanical and hand clearance, access road construction.
	Prescribed Burns/Wildfire	Loss of site integrity or site destruction due to ground disturbance from firefighting activities (fire breaks, access roads, fire equipment), negative effects of fire to surface and near surface sites (burning of wooden site element, impacts on obsidian hydration, etc.).
Architectural	Includes structures, buildings, objects, linear features (walls, fences)	
	Changes to setting (development, changes in vegetation, viewshed, relocation)	Changes to setting may significantly alter the nature of the landscape and make the resource not eligible for the NRHP or the CRHR
	Development	Loss of site integrity or destruction due to ground disturbance, changes in setting and viewshed.
	Public Access	Increased public access to site area may result in pothunting, defacement, graffiti, etc.
	Modification and renovation	Modifications to architectural resources that are either eligible for the CRHR or the NRHP or potentially eligible for the CRHR/NRHP may significantly affect the resource's integrity and make it not eligible for the NRHP or the CRHR.
	Prescribed Burns / Wildfire	Loss of resource integrity or site destruction due to burning, ground disturbance from firefighting activities (fire breaks, access roads, fire equipment).
Cultural Landscapes	Can include natural features, archaeological sites, structures, buildings, linear features (walls, fences, roads), formal or informal landscaping, native and non-native plant species.	

Resource Type	Potential Threats to Resources	Nature of Effects on Cultural Resources
	Changes to setting (development, changes in vegetation, viewshed, relocation)	Changes to setting may significantly alter the nature of the landscape and make the landscape not eligible for the NRHP or the CRHR.
	Habitat Management	Impacts to integrity or destruction of components of landscape including archaeological sites due to ground disturbance, changes to plants within the landscape due to removal of existing floral and planting native species (might impact historic landscapes that include non-native plant species).
	Modification and renovation	Landscapes can include built environment, thus modifications to architectural resources that are either eligible for the CRHR or the NRHP or potentially eligible for the CRHR/NRHP may significantly affect a cultural landscape's integrity as well as and make it not eligible for the NRHP or the CRHR.
	Development	Loss of integrity or destruction due to ground disturbance, changes in setting and viewshed, removal of landscape elements.
	Road building and maintenance	Loss of landscape integrity or destruction due to ground disturbance, changes in setting, and other disturbances because of better public access to resource locations.
	Prescribed Burns / Wildfire	Loss of resource integrity or site destruction due to burning, ground disturbance from firefighting activities (fire breaks, access roads, fire equipment).

CULTURAL RESOURCE GOALS AND STEWARDSHIP ACTIONS

Goals

Overarching goals for the District have been developed as part of the Vision Plan process. The goals addressing cultural resources are subsumed under the Community Heritage theme. Two goals were defined for this theme:

- Community heritage and past ways of life are remembered and honored through preservation and interpretation.
- Known cultural and historical resources are identified, protected and preserved, and yet-unknown resources are protected for future discovery (through preservation of open space) for the benefit of all.

Cultural resource stewardship is essential to achieving these goals. These goals can be further broken down into sub-goals which define aspects of stewardship. Cultural resource sub-goals (CR-1 through CR-5) address components of cultural resources stewardship and support the overall cultural resource goals. This section provides five sub-goals and four actions which support the stewardship of cultural resources through identification, protection, preservation, and interpretation. The District should implement these actions as resources allow.

Sub-goal CR-1: Identify and evaluate cultural resources within the District preserves, including prehistoric and

historic archaeological sites, structures, and cultural landscapes.

- 1) Systematic Inventory Survey – either project driven or as resources allow, as part of ongoing goal to expand the District’s inventory of cultural resources.
 - a) Employ a qualified archaeologist to conduct archaeological investigations.
 - b) Record sites on appropriate DPR forms, including GPS boundaries and feature locations, as appropriate.
 - c) As resources allow, build and maintain a confidential Cultural Resource Inventory Database as defined in Policy CR-1 of the *Resource Management Policies* (Midpeninsula Regional Open Space District 2011).
 - i) Include site location and descriptive information in District inventory (GIS database, master site record file)
 - ii) Maintain archive of current DPR forms and cultural resources reports for resources in District.
- 2) Evaluate the resources for California Register of Historical Resources (CRHR)/National Register of Historic Places (NRHP) eligibility.
 - a) Employ a qualified archaeologist to evaluate archaeological resources. Archaeological qualifications are defined based on the regulatory environment of the investigation.
 - b) CRHR /NRHP eligibility provides a measure for identifying sites that may be priorities for protection, preservation and interpretation.
 - c) Consult with Native American community on resource identification, particularly for Native American cultural landscapes and sacred sites.
- 3) Address inadvertent discoveries of cultural resources.
 - a) Employ archaeological and/or Native American monitors on projects with potential to affect cultural resources.
 - b) Create an inadvertent discovery plan for ground disturbing projects that have the potential to identify cultural resources.
- 4) Inventory known buildings and structures within park preserves to identify historic period structures.
 - a) Prior to proposed renovations or modification of historic period structures, have a qualified architectural historian evaluate structures for CRHR/NRHP eligibility.
 - b) Mitigate impacts of project to structures based on recommendations from a qualified architectural historian.
 - c) A qualified architectural historian meets the secretary of interior qualifications for architectural history (http://www.nps.gov/history/local-law/arch_stnds_9.htm).
- 5) Train District staff how to identify cultural resources to provide baseline information and help target areas for future inventory and recording.
- 6) As resources allow, create a multi-media archive for digital and hardcopy documents related to cultural resources. Archive should meet state and federal curation standards for digital and paper documents. Archive will allow District staff and consultants to more effectively manage known resources and conduct research. Relevant documents to include in the archive are:
 - a) DPR forms
 - b) Cultural resources reports
 - c) Primary historic documents
 - d) Archaeological, historical and architectural reference materials
 - e) GIS database of resource locations
 - f) Photographs
 - g) Video/film
 - h) Maps

Sub-goal CR-2: Protect and preserve cultural resources within District preserves while allowing appropriate public access and providing appropriate amenities for low-intensity recreation and conducting land management activities.

- 1) Identify current and potential threats to known cultural resources
- 2) Identify projects which may impact known cultural resources, implement mitigation measures for cultural resources based on the project activities and threat potentials.
- 3) Protect cultural resources from threats
 - a) Avoidance is preferred option.
 - b) If avoidance is not possible, develop a plan to mitigate the effects
 - i) Potential mitigation measures may include:
 - (1) Evaluation for CRHR/NRHP eligibility
 - (2) Data recovery which may include: documentation, archival research, excavation, and/or interpretation
 - (3) Archaeological monitoring
- 4) Consult with Native American community to identify which cultural resources and Native American landscapes to protect and preserve and define specific actions to achieve this goal.
- 5) Consult with appropriate Native American tribe(s)/individual(s) about mitigation measures.
- 6) Examples of resource specific protection/preservation measures that relate specifically to threats
 - a) Vegetation clearing around cultural resources such as bedrock mortars, historic structures or sites with wooden components (e.g., corduroy logging road) to prevent impacts from fire.

- b) Locate new or relocate existing trails and roads away from sensitive cultural resources.
- c) Provide security measures (fencing and patrols) for resources that are vulnerable to threats related to public access (e.g. pothunting, defacement).
- 7) Provide training to District staff for identification of cultural resources, cultural sensitivity of resources, and potential threats and their impacts to cultural resources.

Sub-goal CR-3: Involve and engage communities in protection, management, and stewardship of cultural resources, as appropriate.

- 1) Consult with stakeholders including descendant communities (Native American and other ethnic groups), historical societies and other interest groups in developing protection and stewardship plans for cultural resources that are relevant for each group (such as, Native American input on Native American archaeological sites and cultural landscapes).
- 2) Involve Native American community in project planning.
- 3) Consider contracting with Native Americans on project basis to provide compensation for consultation.
- 4) Consult with local Native Americans about projects that may affect sensitive Native American sites such as sites with burials.

Sub-goal CR-4: Educate the community and interpret cultural resources to increase public knowledge, understanding and appreciation of cultural resources and local history.

Tie education and interpretation approaches to cultural sub-themes and storylines provided by the *Interpretation Guide* (Conservation by Design, Inc. 2011). The relevant subtheme for cultural resources is: “History Lies Underfoot” and its two

storylines are: 1) archaeological resources of the District provide clues to what life was like for the prehistoric people who hunted, gathered and camped on what is now District land; 2) more recent cultural and historical features such as buildings, fences and other infrastructure illustrate the region's ranching, logging, and farming past, as outlined in the *Interpretation Guide* (Conservation by Design, Inc. 2011).

- 1) Interpretation is informal instruction (interpretive plan) (Conservation by Design, Inc. 2011)
 - a) Integrate aspects of cultural resources, community heritage, past life ways and local history into informal environmental instruction. For example,
 - i) include Native American uses, names, role in subsistence or other aspects of Native American culture in interpretive information about the native flora and fauna in District preserves. Alternatively discuss the origin and local historical relevance of non-native species present in the District preserves;
 - ii) incorporate historical land use such as logging, mining, agriculture, ranching and settlement into the interpretation of local history and historic period cultural resources.
 - b) Interpret Native American cultural landscapes as a proxy for cultural resources in order to protect the confidentiality of cultural resource locations and preserve Native American archeological sites or other culturally sensitive locations.
 - c) Develop cultural resource guides for interpreters, guides may be District-wide or tailored individual preserves.
 - d) Provide both self-guided and person-to-person interpretation of cultural resources, community heritage and past ways of life.

- e) Focus cultural resource interpretation efforts in places that have both high visitor rates and good examples of cultural resource types or Native American cultural landscapes.
 - f) Include preservation and protection issues in interpretive displays.
 - g) Consult with community groups, including Native Americans, when developing interpretive materials and interpretation priorities.
- 2) Education is formal instruction tied to a developed curriculum (Conservation by Design, Inc. 2011).
 - a) Develop curriculum to address community heritage and past ways of life using cultural resources.
 - b) Expand existing environmental education curriculum to address cultural resources, community heritage and past ways of life.

Sub-goal CR-5: Integrate the concept of cultural landscapes and prehistoric and historic land uses in the planning and implementation of land management actions (e.g. fire and forest management, vegetation management).

- 1) Identify cultural landscapes and their contributing elements
- 2) Identify threats to known cultural resources
- 3) Protect cultural resources from threats
 - a) Avoidance is preferred option.
 - b) If avoidance is not possible, develop a plan to mitigate the effect. Potential mitigation measures may include:
 - i) Evaluation for CRHR/NRHP eligibility
 - ii) Data recovery which may include: documentation, archival research, excavation, and/or interpretation.

- 4) Consult with Native American community on resource identification, particularly for Native American cultural landscapes.
- 5) Consult with appropriate Native American tribe/individuals about mitigation measures.

Priority Actions

Based on the definition of actions for the stewardship of cultural resources the following actions are identified as priorities for the District.

1. **Build Cultural Resources Archive** – Archive includes a cultural resources database and system for curating digital and hardcopy documents.
2. **Build Cultural Resources Inventory Database** – Identify and record cultural resources within District preserves. Focus efforts on areas where there is a high potential for cultural resources and greatest threat from District activities.

3. **Consultation with Stakeholders** – Stakeholders include Native Americans tribes and individuals, other ethnic groups whose history is tied to cultural resources and District lands, and historical societies. Consultation on identification, areas with high cultural sensitivity, interpretation, and project specific planning.
4. **Interpretation** – Use best examples resources to interpret community heritage. Develop guides for interpreters to ensure accuracy of message. Protect and preserve and interpret historic period resources that communicate past life ways related to logging, settlement, ranching, military, agricultural activities in the region. Identify Native American cultural landscapes in high traffic preserves that can be used to interpret Native American lifeways.

REFERENCES

Conservation by Design, Inc.

2011 *Interpretive Planning Guide*. On file, Midpeninsula Regional Open Space District, Los Altos, California.

Midpeninsula Regional Open Space District (MROSD)

1999 *Basic Policy of the Midpeninsula Regional Open Space District*. On file, Midpeninsula Regional Open Space District, Los Altos, California.

2011 *Resource Management Policies*. Midpeninsula Regional Open Space District. On file, Midpeninsula Regional Open Space District, Los Altos, California.

2012 *Strategic Plan 2012*. On file, Midpeninsula Regional Open Space District, Los Altos, California.



Appendix E-3:

NATURAL, CULTURAL, AND SCENIC LANDSCAPES ASSESSMENT

Prepared for:

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March 2015

Prepared by:

Prepared by Sandy Sommer, Zachary Alexander and Alex Roa
(Midpeninsula Regional Open Space District staff)

INTRODUCTION

This memorandum provides an overview and assessment of the natural, cultural, and scenic landscapes within the Vision Plan Area, including the District’s approximately 62,000 acres of open space preserves. It is a high level assessment that touches upon the important, iconic places and sights— those that define the region’s unique sense of place. Many of these landscape features have already been preserved within Midpen’s open space preserves, but others are threatened and their loss could alter the scenic, natural character of the landscape. This memo also identifies potential opportunities for Midpen to take action for the benefit of these natural, cultural, or scenic resources.

The assessment was developed by open space planners Sandra Sommer, Zachary Alexander, and Alex Roa, based upon input from the community as well as Midpen staff, partners and volunteers. Analyses for this theme included work to identify scenic resources within the Vision Plan Area. To identify important scenic landscapes, Midpen inventoried county- and state-designated scenic areas, surveyed knowledgeable staff on areas of high scenic significance, interviewed partners concerned with cultural and scenic issues, and created a spatial database and map of these scenic resources. In addition, this memorandum was also informed by the Vision Plan assessment of cultural resources (presented in a separate report, appendices E-2 and 3).

Information contained in this memorandum can be used to develop various aspects of the “Natural, Cultural and Scenic Landscapes” theme of the Vision Plan, including the goals and priority actions; it also provides information that might inform subsequent open space preserve planning, land conservation, and management activities.

VISION PLAN AREA-WIDE OPPORTUNITIES

Overall

- Increase access or protection of iconic locations and natural features, relevant to the Bay Area and beyond
- Increase sense of place by protecting locally significant natural or cultural features

Natural Landscapes

- Provide additional access to narrow trails with limited manmade features
- Emphasize areas designed for quiet experiences, shielded by earth, vegetation, or other means to provide a restful experience free of traffic and other sounds of daily life

Scenic Landscapes

- Preserve the scenic backdrop seen from urban areas
- Protect lands within designated scenic corridors or that can be seen from protected land
- Preserve the scenic qualities of the coast and rural areas within the District’s boundaries, including vegetation and vistas.
- Provide access to quiet places to enjoy vistas and take refuge from urban life
- Closely monitor outside projects and potential threats to scenic views. Monitor and attempt to stop the destruction of historic landscapes and traditions

Cultural Landscapes

- Identify and protect immediately at-risk cultural resources
- Emphasize partnerships that preserves and/or enhances cultural resources
- Provide increased access to interpretive features or locations for cultural resources
- Inventory and archive, as well as increase interpretation of cultural resources on District lands

SUBREGIONAL OPPORTUNITIES

North San Mateo County Coast		
Iconic Places and Sights	Threats	Potential Opportunities
The view of the curve of Half Moon Bay	Development, lack of public access to Vista points	Monitor development, provide access Consider access at Miramontes Open Space Preserve Consider connections with Burleigh Murray State Park
The bluff/lighthouse at Pillar Point		Increase access in conjunction with partner agencies
Montara Mountain		Ensure view corridors
Ocean, rugged coastline, views of waves	Environmental pollution, development	Ensure view corridors
Tidepools / Beaches	Tight public agency budgets leading to restricted public access	Ensure view corridors. Support ongoing access.
Agricultural fields/greenhouses	Urban development, fallowing	Allowing for views of working agriculture on the Coast from Highway 1, major coastal roads, and other public lands
Coastal landscape character	Development Loss of connection with historic past including working lands	Incorporate consideration for iconic landscapes in land preservation activities <ul style="list-style-type: none"> • Riparian mouths/streams/delta • Marine terraces • Coastal grasslands/coastal scrub • Eucalyptus rows/wind rows • Scenic - ridge top views or coastal terraces/views/beach access • Preserving historic/cultural agricultural lands • Windblown cypress/coastal vegetation/forests
South San Mateo County Coast		
Iconic Places and Sights	Threats	Potential Opportunities
Redwood forest scenic backdrop		
Coastal landscape character	Development Loss of connection with historic past including working lands	Incorporate consideration for iconic landscapes in land preservation activities <ul style="list-style-type: none"> • Riparian mouths/streams/delta • Marine terraces • Coastal grasslands/coastal scrub • Eucalyptus rows/wind rows • Scenic - ridge top views or coastal terraces/views/beach access • Preserving historic/cultural agricultural lands • Windblown cypress/coastal vegetation/forests • Support and partner with local agencies to protect rural landscapes and scenic vistas

South San Mateo County Coast		
Iconic Places and Sights	Threats	Potential Opportunities
Redwood forest scenic backdrop		
		from potential development.
Agricultural way of life, farms, cattle grazing	Urban development, fallowing	Allow for views of working agriculture on the Coast from Highway 1, major coastal roads, and other public lands Reintroduce grazing to La Honda Creek Open Space Preserve, and increase public access Preserve/support coastal ag labor housing
Ocean, rugged coastline, views of waves	Environmental pollution, development	Ensure view corridors
Tidepools / Beaches		Ensure view corridors. Support ongoing access.
Narrow rural roads		
Pigeon Point Lighthouse		
Año Nuevo Native American village	Tight public agency budgets leading to restricted public access	Partner with Native American tribes and State Parks to develop an interpretation program for Native American coastal to ridgeline lifestyle.
Coastal streams (San Gregorio, Pescadero)		
Central Coastal Mountains		
Iconic Places and Sights	Threats	Potential Opportunities
Redwood forests		
		Enhance public access and interpretation
Rugged stream canyons		Support and partner with local agencies to protect rural landscapes and scenic vistas from undesirable alteration
Narrow rural roads		Support and partner with local agencies to protect rural landscapes and scenic vistas from undesirable alteration
Logging history	Lack of features and access to historic sites	Enhance interpretation
Skyline Ridge		
Iconic Places and Sights	Threats	Potential Opportunities
Mindego Hill and Lake	Lack of public access	Increased public access to scenic vistas and natural landscapes Provide interpretation of past Native American settlement on and near Mindego Lake
Cattle grazing history		Provide interpretation of past use of Mindego Ranch property
Redwood forests		Increase public access to and interpretation of natural landscapes

Skyline Boulevard scenic corridor (Highway 35)	Development	Support and partner with local agencies to protect rural landscapes and scenic vistas from undesirable alteration
Bayside vistas		Increase accessible Vista points

Peninsula Foothills		
Iconic Places and Sights	Threats	Potential Opportunities
Historic country estates	Lack of public access and interpretation	Prioritize/explore partnership opportunities to provide protection, public access, and interpretation of local history at the Hawthorns site and at Thornwood OSP.
Windy Hill		
Bayside vistas		Increase accessible Vista points
Farming and grazing history		With partners and volunteers, continue to interpret history of Deer Hollow Farm at Rancho San Antonio OSP
Views of Santa Clara valley floor and rolling foothills		

South Bay Foothills		
Iconic Places and Sights	Threats	Potential Opportunities
Remains of the Alma historic townsite and valley	Few remaining structures	Create and execute a plan to highlight and preserve the Beatty property and associated structures to emphasize cultural interpretation of the valley and Town of Alma
Alma College site	Physical decay Lack of interpretive information Lack of public access	Explore options to preserve historic buildings. Introduce hands on interpretative sites and information <ul style="list-style-type: none"> • Prehistoric resources • Alma College Buildings • Railroad Bridge • Stables • San Andreas Fault
Views of Santa Clara valley floor and rolling foothills	Lack of roadside and publicly accessible vista points	Implement Bear Creek OSP Master Plan with emphasis on cultural resources and scenic viewpoints of valley floor, Sierra Azul, and rolling foothills
Picchetti Ranch	Minimal interpretive information	Expand interpretive features (signage) to explain history and how it ties together the past and present. Partner with other groups to bring back working lands (Orchards + vineyards) Use old styles of farming, have harvest days for the public
Fremont Older House	House can only be seen by the public once per year	Re-evaluate the use of the house to allow regular tours

Sierra Azul		
Iconic Places and Sights	Threats	Potential Opportunities
Mt Umunhum	Minimal interpretive information	Emphasize: <ul style="list-style-type: none"> Capturing the historic/prehistoric stories and presenting them. Importance of the peak in Native American culture, and during the Cold War Era Views of Monterey Bay and SF Bay
Bald Mountain, Loma Prieta, El Sombroso, ridgeline		Execute BCR/SA master plan, focusing on providing more access to scenic vistas and unique natural landscapes
Remains of New Almaden mining district	Environmental contamination prevents public access. Physical decay.	Emphasize layers of history, how important the mines were to Native American lifestyle/trade and the importance during the gold rush as demand increased. Integrate with the interpretive facilities at Almaden Quicksilver County Park.
Views of Guadalupe Creek from Hicks Road		Incorporate awareness of need for visual connection to Creek into restoration efforts
San Francisco Baylands		
Iconic Places and Sights	Threats	Potential Opportunities
Migrating wildlife	Lack of suitable habitat and interpretive facilities	With partners, provide additional interpretation and strive to preserve habitat
History of man's use of the Bay's edge	Lack of interpretive facilities	Provide additional interpretation discussing historic and prehistoric bayfront uses at District preserves. Continue to partner with other agencies to develop interpretation facilities.
Marshlands	Development, climate change	With partners, expand and preserve existing marshlands to address sea level rise.
San Francisco Bay Trail	Gaps in trail prevent continuity	Continue to work with partners toward the goal of seamless trail
Peninsula and South Bay Cities		
Iconic Places and Sights	Threats	Potential Opportunities
Stream corridors	Lack of access and visibility	Ensure visibility of and access to streams as part of restoration and flood control projects
Remnant natural landscapes	Development	With partners, explore ways to interpret nature in the city
Distant ridgeline views		Ensure view corridors and interpretation of landmarks

Appendix F: Working Lands Planning and Analysis Report



Melissa Sarr

Coal Creek Open Space Preserve



Appendix F-1:

Agriculture in the Midpeninsula
Regional Open Space District:
*Existing Conditions, Trends,
Constraints and Opportunities*

Prepared for:

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EXECUTIVE SUMMARY

The purpose of this memo is to document the existing conditions and to identify the trends, constraints and opportunities for agriculture within the Midpeninsula Regional Open Space District. The memo is organized into three main sections: (1) Agricultural Resources and Trends, (2) Agricultural Land Use, Economics and Trends by Sector, and (3) District-wide Issues and Trends. The memo was informed by review of existing plans and studies, analysis of existing data, and interviews with various agricultural experts.

Summary of Findings

Historical Agricultural Land Use

The agricultural lands within the District have a history of producing farm products for the greater Bay Area and beyond for centuries. Notable historical production areas include the southern bayside valley lands – part of the Valley of the Heart’s Delight – renowned for its orchards; wine grape production in the bayside foothills; nursery crops first in the baylands and now concentrated around Half Moon Bay; grazing on hillside and coastal grasslands; and vegetable crops along the coastal bluffs.

Agricultural Land Resources and Trends

In 2010, there were 54,484 acres of agricultural land within the District’s boundaries (15 % of all land) including: 2,199 acres of Prime Farmland, 145 acres of Farmland of Statewide Importance, 3,006 acres of Unique Farmland, and 733 acres of Farmland of Local Importance, and 8,765 acres of Grazing Lands.

During the last 20 years, there has been a net reduction of 5,013 acres of Farmland in San Mateo and Santa Clara Counties within the District geographic boundaries, which represents a 45% loss of farmland overall and a 21% loss of Prime Farmland. There was a net gain of 2,958 of Grazing Land, most of which was a result of conversion from farmland. Farmland became grazing lands primarily on the coastside, and was converted to urban land uses primarily in Santa

Clara County; some farmland also natural land as a result of fallowing.

Agricultural Land Use Regulations

San Mateo and Santa Clara counties and the Coastal Commission have enacted significant land use regulations that protect farmland and established various policies supportive of agriculture. These include the San Mateo County’s Planned Agricultural District, which limits subdivision and most non-agricultural uses on prime farmland and most grazing land; the Local Coastal Program, a plan approved by the California Coastal Commission that limits urban development and also establishes policies for agriculture and ecosystem management; the District’s Coastside Protection Program, which includes a goal of preserving coastal agricultural land; and various policies in the San Mateo and Santa Clara County general plans. These are important and necessary measures for protecting farmland that also reflect strong political and community support. Their focus is to protect grazing and agriculture land, which helps sustain agriculture; however, they are not otherwise actively involved in enhancing the economic viability of agriculture.

Demographics

- The total number of farms and ranches reported in San Mateo County by the USDA 2007 Ag Census was 329¹. However, anecdotal reports by interviewees suggest that the farming population is on the decline with the total number in 2013 well under 200².
- In the MROSD area of Santa Clara County, there are approximately 20 operators, the majority of whom are wine grape growers.³
- Trends in the demographics of San Mateo County farms and ranches largely track trends

¹ 2007 Census of Agriculture

² Crowder, Fred and Corshen, Bob. Personal Communication. April/May 2013.

³ Santa Clara County Agriculture Commissioner’s Office data

across the nation: an average age of farmers being close to 60 years old, a preponderance of small farms (with revenues of less than \$10,000 per year), and a minority of farmers that claim farming as their primary income.

- The nursery sector has provided a significant number of agricultural jobs in the past, but employment in that sector has declined dramatically in the past several years.

Grazing Sector

- A high percentage (46%) of grazing lands in the District boundaries are owned and/or controlled either by the District itself or by other public agencies and private land trusts. Some ranchers express concern that their viability is in the hands of the District and other public landowners for whom maintaining and enhancing agricultural economic viability is not a top priority.
- There is more demand than supply for grazing lands.
- Additional constraints include lack of processing facilities, fragmentation of grazing lands, and increasing conflicts between wildlife and livestock.
- Given both the growing market demand for ecologically and humanely produced animal products and the recognition on the part of land owners that grazing is an effective land management strategy, there exists significant potential to support goals of both ranchers and conservation organizations.
- New livestock operations, such as goat dairies and pastured poultry, show promise for modest growth.

Crops Sector

- Most vegetable crop production takes place on coastal farmland.
- Over the past decade, the value of crop production has experienced a steep decline (63%) with acreage also declining (22%). Brussels sprouts make up about half of crop

values. Diversification of crops will be critical to future viability of industry.

- Fruit production (mainly berries and wine grapes) represents only around 10 percent of overall crop production value. However, over the past decade, fruit production value has increased by 73 percent and fruit acreage by 131 percent.
- Constraints include regulatory burden on farmers, insufficient and uncertain water supply and lack of infrastructure.
- Succession of row crop operations is a key challenge for future viability. While there appears to be some influx of new farmers, they are undertaking small diversified operations rather than taking over the larger, conventional operations. In order for larger properties of crop acreage to be maintained, new operators must be supported.

Nursery Crops and Horticulture

- The nursery crop sector has the key role in San Mateo County's agricultural economy, both through direct sales and also likely through indirect agri-tourism impacts, and represents a considerable percentage (23%) of the land use of crop land.
- The sector is a significant contributor, and likely the largest, to agricultural employment overall.
- The sector has contracted by about 30 percent in terms of production value over the past decade and there is consolidation occurring. The primary vulnerability stems from losses to foreign competition. Additional factors are labor issues and lack of innovation.
- Idle infrastructure might represent an opportunity to be leveraged by crop farmers.

Vineyards

- There is far more demand than supply for wine grape growing ground and opportunities to develop new ground are very limited. This demand belies the fact that conditions are somewhat challenging. The existing vineyards are located on relatively small parcels, in hilly areas, have relatively small yields, and limited water supplies.
- Regulations make it difficult and often prohibitive to establish visitor facilities where the grapes are grown.
- The winery business is having a resurgence, with acreage growing as much as feasible and with wine grape land and wine grapes both increasing considerably in value.
- There is also resurgence in the planting of hobby and backyard vineyards.

Urban Agriculture and Agricultural Education

- Urban agriculture (including school and community gardens) and agricultural education programs contribute to local food access and create public awareness about agriculture and local food systems.
- In San Jose, and likely in other communities, the demand for plots in community gardens exceeds supply.
- Existing agricultural education facilities cannot meet demand for programs, primarily due to funding constraints.

Summary of Findings by Issue Area

The findings above are extrapolated primarily from the sections in the memo about the various production sectors. The findings below are summarized in terms of issue areas.

Regulation

- Regulatory/permitting requirements are numerous, complex, overly restrictive, sometimes contradictory, and sometimes unreasonable.
- There is strong appreciation for the creation of the new ombudsperson position that will help address some aspects of this issue.

Water Supply

- Water, including access to water and water supply reliability are a big challenge, especially given increasing demand for limited and uncertain supply.

Labor

- There is virtually no farm labor pool on the coast primarily to the high cost of living and lack of affordable housing for farm employees.

Public Education

- There is a need to create greater public awareness about local agriculture, including about its contributions, resources, about what farmers face, and about what is needed to keep agriculture properties in agricultural use.

Collaboration among Key Stakeholders

- More cooperation and collaboration is needed among key stakeholders and potential partners.
- A long-term vision is needed that includes strategies for both the conservation of farmland and the enhancement of the economic viability of agriculture, that integrates goals for agriculture with open space and community livability goals, and that is linked with regional sustainability planning.

Farmland Preservation Tools and Land Costs

- ‘Gentleman farmers’ who have outside incomes can drive up cost of land and make it unaffordable for farmers and ranchers trying to make a livelihood.

Agricultural Viability

- The economic viability of agriculture has numerous aspects, many of which are outlined above and some of which are governed by drivers well beyond local control. A holistic,

systematic and long-term approach is needed and would start with an overall consensus vision for agriculture in the District.

Throughout this memo are sector-specific points about next steps for analysis and data gaps.

PART 1. AGRICULTURAL RESOURCES AND TRENDS

1.1 Historical Agricultural Land Use

San Mateo County

The agricultural history of the San Francisco Peninsula dates back to the Mission era in the late 18th century. The padres introduced many kinds of orchard crops as well as cattle, horses, oxen, sheep and goats into the lands around the missions. During the rancho period that followed and lasted to the mid-19th century, production of hides and tallow from cattle raised on large tracts of land was the primary agricultural activity. Over the next century the deep fertile soils, moderate climate and plentiful water of the bayside of the peninsula proved to be well suited for many types of agricultural production: grain, and forage crops, orchard and row crops, and nursery products. On the coastal bluffs, crop production complemented the thriving fishing business that centered around Half Moon Bay. Horticultural production, which has been the leading agricultural product in the county for well over 100 years, gradually moved its locus of production from the Bay side to the coast during the middle of the 20th century, as the coastal plains were urbanized.

In connection with the opening of a new exhibit entitled *Plowing Ahead: Historic Peninsula Farming* which opened on March 13th at the San Mateo History Museum, San Mateo County Historical Association president Mitch Postel shares that “San Mateo County was the original bread basket for San Francisco”, and evidently beyond. This is evidenced by some key facts:⁴

- According to the 1880 U.S. Census, more than 10 percent of the 8,700 residents owned

or leased their own farms. Sunset Magazine was begun around this time as pamphlet published by the railroad company, also a major land holder, and early issues were filled with ads for small farms for sale.

- The first commercial planting of artichokes in California took place just north of Half Moon Bay in the 1890s.
- San Mateo County farmers were among the first farmers in the state to grow Brussels sprouts for market, starting in 1909.
- The Weeks Poultry Colony, also known as the Runnymede Little Farms Colony, was a utopian agricultural community located in East Palo Alto that was made up of 600 1-acre long lots for small –scale homesteaders. In the 1920’s and 30’s many of these long lots and chicken houses got repurposed for horticultural production.
- Horticultural products helped bring international prominence. Just after World War II, *Acre of Orchids* was considered the largest orchid grower in the world at the time.

Santa Clara County

The agricultural land in Santa Clara County that is within the District was historically divided between the valley floor which supported orchards as well as other agricultural products, and the mountains which have been managed forest or grazing lands.. The valley area was part of the rich Santa Clara Valley which extended from around Palo Alto down to around Morgan Hill, and was known as the *Valley of the Heart’s Delight* due to the beauty of vast expanse of blossoming orchards in springtime. Viticulture has also been important in the foothills. Though the wine grape growing area has contracted over time due to urbanization, today the vineyards that remain along with small new plantings are enjoying a successful resurgence.

⁴ “Exhibit explores county’s connection to farming.” The Daily Journal, http://archives.smdailyjournal.com/article_preview.php?id=1766419&title=Exhibit%20explores%20county%20C3%A2%EF%BF%BD%E2%84%A2s%20history%20of%20farming, accessed March 15, 2013.

1.2 Agricultural Land Resources and Trends

The following section covers land use and land use conversion trends and land use regulations including current issues.

Land Use and Land Conversion Trends

In 2010, the District's boundaries contained 54,484 acres of Agricultural Land, which is approximately 15 percent of all land within the jurisdiction (Table 1⁵). Of the total 54,484 acres of agricultural land, the 6,083 acres (11%) of cultivated farmland includes 2,199 acres of Prime Farmland, 145 acres of Farmland of Statewide Importance, 3,006 acres of Unique Farmland, and 733 acres of Farmland of Local Importance. There are 48,765 acres of Grazing Lands, which represent ~89% of all agricultural land (DOC 2010).

Table 1: Land cover (acres) within the three counties within the MROSD District and Sphere (FMMP 1990, 2010)

Land Cover Types	Total 1990	2010			Total 2010	Change:1990- 2010	
		San Mateo	Santa Clara	Santa Cruz		%	acres
Prime Farmland	2,778	2,180	19	0	2,199	-21%	-579
Farmland of Statewide Importance	219	145	0	0	145	-34%	-74
Farmland of Local Importance	2,880	2,225	779	1	3,006	4%	126
Unique Farmland	5,220	689	32	12	733	-86%	-4,487
Subtotal: All Farmland	11,096	5,240	831	13	6,083	-45%	-5,013
Grazing Land	45,807	48,335	430	0	48,765	6%	-2,958
Subtotal: All Agricultural Land	56,903	53,575	1,261	13	54,848	-4%	-2,055
Water	17,740	14,676	3,221	0	17,897	1%	157
Other Land	204,431	128,592	73,115	1,873	203,580	0%	-851
Urban and Built Up	90,506	28,994	64,247	15	93,255	3%	2,749
Grand Total	369,581	225,837	141,844	1,900	369,581	0%	0

During the last 20 years, there has been a net reduction of 5,013 acres of Farmland within the District's jurisdiction, which represents a 45% loss of farmland overall and a 21% loss of Prime Farmland. There was a net gain of 2,958 of Grazing Land, most of which was a result of conversion from Farmland. Table 2 demonstrates these changes by County in terms of Agricultural Land Classification (DOC 2010). Table 3 shows these changes over in two-year increments over 20 years in San Mateo County only.

⁵ Provided by Jodi McGraw

Table 2: Acres of land in areas that changed types between 1990 and 2010 (FMMP 1990 and 2010)

1990 Land Cover	2010 Land Cover									Grand Total	
	Cultivated Land					Non-cultivated land					
	Prime	State wide Importance	Local Import-ance	Unique	All Farm land	Grazing	Other Land	Urban/ Built Up	Water		All non-cultivat ed land
Prime Farmland		12	9	338	360	384	443	314		1,142	1,502
Farmland of Statewide Importance	38			25	63	17	73			90	152
Farmland of Local Importance	103	14		325	443	3,081	993	292		4,366	4,809
Unique Farmland	334	27	13		374	565	666	28		1,259	1,633
All Farmland	475	54	22	688	1,240	4,047	2,175	635		6,857	8,096
Grazing	53	5	204	353	614		624	151	6	781	1,395
Other Land	336	20	96	531	983	244		4,491	182	4,916	5,899
Urban and Built-up Land	60			188	247	62	2,147		75	2,283	2,531
Water							102	3		106	106
Non-farmland	448	25	300	1,071	1,844	306	2,873	4,645	262	8,086	9,930
Total	923	79	323	1,759	3,084	4,353	5,048	5,279	262	14,942	18,026

The details about where these changes occurred are described in the J McGraw 5/15/13 Memo with accompanying maps. The primary reasons for the loss of farmland are dependent on location and include:

- Change in agricultural land use from dry-land farming or hay production to grazing lands, including in areas with sloped terrain or that lost access to a water supply.
- Conversion to urban land uses, primarily in Santa Clara County near Sunnyvale and Mountain View
- Conversion to natural land cover types including riparian habitat, by both public and private land owners.

Of the 54,857 acres of all Agricultural Lands within the District's jurisdiction, the MROSD owns 8,227 acres of grazing lands (17% of all District Grazing Lands), has full or partial easements over another 317 acres of grazing lands, and owns 113 acres of Farmland including 32 acres of Prime Farmland (2% of all District Farmlands). Effective November 1, 2013, the District we reintroduced cattle to approximately 2,000 acres of grazing land with the McDonald area of La Honda Creek Open Space Preserve, which has not been grazed for over 15 years.

Table 3: San Mateo County 1990-2010 Land Use Summary (FMMP 1990 and 2010)

LAND USE CATEGORY	ACREAGE BY CATEGORY (1)						1990- 2012 NET ACRE	AVG ANNUAL ACRE CHG	% change
	1990 (2)	1994	1998	2002 (3)	2006	2010			
Prime Farmland	2,381	2,404	2,644	2,624	2,356	2,180	-236	-12	-10%
Farmland of Statewide Importance	219	198	177	205	185	146	-52	-3	-24%
Unique Farmland	2,443	2,621	2,963	2,656	2,387	2,271	-374	-19	-15%
Farmland of Local Importance	4,126	4,030	3,933	3,518	3,496	695	-3,399	-170	-82%
Important Farmland Subtotal	9,169	9,253	9,717	9,003	8,424	5,292	-4,061	-203	-44%
Grazing Land	46,060	45,777	45,750	45,888	46,293	48,797	2,987	149	6%
Agricultural Land Subtotal	55,229	55,030	55,467	54,891	54,717	54,089	-1,074	-54	-2%
Urban and Built-Up Land	69,528	70,135	70,830	71,160	71,691	72,510	2,814	141	4%
Other Land	163,010	162,601	161,418	161,664	161,309	161,119	-1,788	-89	-1%
Water Area	65,684	65,684	65,735	65,734	65,734	65,734	50	3	0%
Total Area Inventoried	353,451	353,450	353,450	353,449	353,451	353,452	2	0	0%

(1) Figures are generated from the most current version of the GIS data. Files dating from 1984 through 1992 were reprocessed with a standardized county line in the Albers Equal Area projection, and other boundary improvements.

(2) Total area inventoried increased in 1990 upon completion of Eastern San Mateo Area soil survey. See other worksheet for older data.

(3) Due to the incorporation of digital soil survey data (SSURGO) during this update, acreages for farmland, grazing and other land use in the categories may differ from those published in the 2000-2002 California Farmland Conversion Report.

In addition to MROSD, private land trusts and other public entities own or protect with easements an additional 13,677 of Grazing Lands (28% of all Grazing Lands) and an additional 2,396 acres of farmland (39% of all farmland). Of these entities, the two with the most significant Agricultural Lands holdings are the Peninsula Open Space Trust (POST) and the California Department of Parks and Recreation.

Table 4: Acres of Agricultural Land Protected

	Total	MROSD Fee Title and Conservation Easements	Non-MROSD Fee Title and Conservation Easements	Protected Lands	Unprotected Lands	Percentage Protected
Prime Farmland	2,198	32	919	951	1,247	43%
F.Statewide Importance	145	1	52	53	92	37%
Unique Farmland	3,042	80	1,062	1,142	1,900	38%
F. Local Importance	754	0	363	363	391	48%
All Farmland	6,139	113	2,396	2,509	3,630	41%
Grazing Land	48,765	8,534	13,677	22,211	26,554	46%
Total	54,904	8,647	16,073	24,720	30,184	45%

Of the 5,012 net acres of Farmland removed from production, 2,009 acres that changed from cultivated to uncultivated status are managed by conservation agencies. For location of these lands, see the MROSD Agricultural Resources map, Appendix A.

Table 5: Protected Farmland Removed from Production between 1990 and 2010

Farmland Type	Removed Total Acres	Unprotected Acres	Protected			
			Fee Acres	Easement Acres	Total Acres	Percent of total
Prime Farmland	1,142	925	137	80	217	19%
F. Statewide Importance	90	33	57	0	57	64%
Unique Farmland	1,259	889	370	0	370	29%
F. Local Importance	4,366	3,001	1,365	0	1,365	31%
All Farmland	6,857	4,848	1,929	80	2,009	

1.3 Summary of Findings on Land Use Regulation

Overview

Land use regulation in unincorporated coastal areas of San Mateo County, the location for most of the nursery, floriculture, cropland, and grazing land, is strongly protective of agriculture⁶. Much of this area is included in a Planned Agricultural District (Appendix B), which limits subdivision and most non-agricultural uses on prime farmland (which includes much grazing land). The area generally west of the Santa Cruz Mountains is also subject to the Local Coastal Program, a plan approved by the California Coastal Commission that limits urban development and also establishes policies for agriculture and ecosystem management. The small number of jobs in the

coastal area and the lack of freeway access also reduce development pressure.

The District's Coastside Protection Program was initiated in 2004 as a result of the extension of the District's boundary to the Pacific Ocean and the annexation within the District of San Mateo coastal lands. One of the five program goals is to: "Preserve the coastside's precious agricultural land by creating partnerships with local farmers - or agricultural trusts - which would financially support farmers so that they can continue farming while guaranteeing the community that the land will remain undeveloped." The other goals are to "preserve the rural heritage and scenic beauty of the San Mateo coast, open coastland previously closed to the public, create democratic representation and accountability, and bring much-needed services to the coastside.⁷ The Program aims to protect 11,800 acres of the coastside as open space and agricultural land over the 15 years following its inception (i.e. from 2004 to 2019).

Santa Clara County is also supportive of agriculture. The Santa Clara County General Plan (1995-2010) recognizes that agriculture plays several key roles in the county. These roles are that agriculture:

⁶ Applicable sections of San Mateo County Zoning Regulations (1999) include: Chapter 10. "A-1" Districts (Agricultural Districts); Chapter 11. "A-2" Districts (Exclusive Agricultural Districts); Chapter 12> "A-3" Districts (Floricultural Districts); Chapter 12.5 "COSC" District (Community Open Space Conservation District); Chapter 20-A RM Districts (Resource Management District); Chapter 21A "PAD" (Planned Agricultural District)

⁷ http://www.openspace.org/plans_projects/cpp.asp

- Remains a fundamental part of the region’s economy;
- Provides a locally-grown supply of food;
- Provides a scenic relief from continuous urban development.

In order to confront various challenges to the economic viability of agriculture and to preserve the remaining supply of farmland, the General Plan sets of a number of strategies, policies and implementation measures. These include Agricultural & Agricultural Resources Strategy #2 - Maintain Stable Long Range Land Use Patterns, and Strategy #3 – Enhance the Long Term Economic Viability of Agriculture. A new Health Element is the first element to be addressed for the updated Santa Clara General Plan. The Community Health Existing Conditions Report (May 2013)⁸ includes a section on Food Systems, with subsections on Access to Healthy Foods, Food Security and Food Assistance, and Local Food Production.

Despite protections and supportive policies, the amount of San Mateo County cropland in production shrank 42 percent from 1990 to 2010 and the amount of cropland in production within the District area in Santa Clara County shrank by 59 percent⁹. The cropland reduction in San Mateo County constituted the largest drop by percentage in this category among Bay Area counties, according to *Sustaining Our Agricultural Bounty* (March 2011, American Farmland Trust, Greenbelt Alliance, SAGE).

Key Finding

In the District, there are various land use regulations that protect farmland and various policies supportive of agriculture. While these are important and necessary, they are not sufficient, for achieving the purpose of enhancing the economic viability of agriculture.

⁸

<http://www.sccgov.org/sites/planning/PlansPrograms/GeneralPlan/Health/Pages/HealthElement.aspx>

⁹ Data provided by Jodi McGraw.

Next Steps for Analysis and Data Gaps

- Investigate whether land use designations support location and operation of processing, distribution and marketing facilities and the location of worker housing that are all needed to support agriculture.
- Mapping change of land use or permits granted or lapsed for agricultural support services such as food and flower processing, distribution, retailing of agricultural equipment and direct-to-consumer marketing of agricultural products could reveal trends.
- Investigate the causal relationships between the changing proportions of land devoted to timber, grazing, cropland, and nursery/floriculture and changing land prices and changing water supply.

1.4 Demographics

Overview

This section primarily covers the demographics for San Mateo County agriculture, and includes data on numbers of farmers, average age, ethnicity and farm scale. The data in this section comes from the USDA 2007 Census of Agriculture. It is important to note that before 2002, the Census of Agriculture collected detailed demographic data on only one operator per farm. Since 2002, the census has taken a more comprehensive approach, counting all operators and collecting detailed demographic information on up to three operators per farm. The principal operator is the person in charge of day-to-day decisions for the farm or ranch. For the purposes of this study, the principal operator has been used since it best approximates the “farmer” or “owner”.

Key Findings

- The total number of farms and ranches reported in San Mateo County by the USDA 2007 Ag Census was 329¹⁰. However, anecdotal reports by interviewees suggest that

¹⁰ 2007 Census of Agriculture

the farming population is on the decline with the total number in 2013 well under 200¹¹.

- In the MROSD area of Santa Clara County, there are approximately 20 operators, the majority of whom are wine grape growers.¹²
- Trends in the demographics of San Mateo County farms and ranches largely track trends across the nation: an average age of farmers being close to 60 years old, a preponderance of small farms (with revenues of less than \$10,000 per year), and a minority of farmers that claim farming as their primary income.
- The nursery sector has provided a significant number of agricultural jobs in the past, but employment in that sector has declined dramatically in the past several years.

Number of Farmers and Ranchers

There may be a definitional issue causing the discrepancy between the number farms and ranches reported in San Mateo County by the USDA 2007 Ag Census (329) and the number suggested by interviewees (under 200). USDA defines a farm as “any place from which \$1,000 or more of agricultural products were produced and sold, or normally would have been sold, during the year.” This definition will include non-commercial operations, while the farms that report to the agricultural commissioner do not include non-commercial operations. Thus the difference between the two figures is likely the result of how a farm is defined. Verification will need to wait until the USDA 2012 Census of Agriculture is released in late 2013.

Age

Trends in the demographics of San Mateo County farms and ranches largely track trends across the nation with a few notable exceptions. One of the most significant demographic challenges that the agricultural sector faces nationally is also an issue

in San Mateo County. In San Mateo County the average age of farmers is 58.4 years, which is above the 57.1 figure nationally. There are many drivers of this phenomenon that will not be discussed here.

Farmers are not entering the profession at a sufficient rate to replace themselves. Succession planning for the transfer of land assets is not the only critical action needed to facilitate new farmers and ranchers entering the profession. As stated by interviewees, a viable agricultural economy is a necessary prerequisite to attracting new farmers and ranchers.

Diversity

Racial and ethnic diversity of farmers and ranchers has been on the rise nationally, and San Mateo County is no exception. In California, the percentage of Asian and Hispanic producers is higher than the national figures. This is relevant to the District’s efforts to support agricultural viability in that any programs should be accessible and culturally-appropriate for the diversity represented in San Mateo County agriculture.

Farming as Lifestyle

As is the case with most farms in the United States, San Mateo County farms tend to be small, with 55 percent of all farms reporting less than \$10,000 in sales of agricultural products. The figure nationally is 60 percent. Of the 2.2 million farms nationwide, only 1 million show positive net cash income from the farm operation. While this factor for San Mateo County was not studied for this report, similar trends should be expected as those found nationally. One way to corroborate this assumption about the applicability of national data, is to consider the numbers for San Mateo County related to percentage of operators claiming farming as their primary profession (41%) and the percentage that work more than half the year off-farm (45%); many ranchers and farmers work other jobs to subsidize their agricultural income.

¹¹ Crowder, Fred and Corshen, Bob. Personal Communication. April/May 2013.

¹² Santa Clara County Agriculture Commissioner’s Office data

Table 6: San Mateo County Demographic Data (2007 Census of Agriculture)

Characteristic	San Mateo County 2007	U.S. 2007
Number of principal operators	329	2.2 Million
Average age of operator	58.4	57.1
% farms with sales > \$10,000	55%	60%
% men as principal operator	74%	86%
% White principal operators	91.50%	96%
% Black principal operators	0.90%	1.40%
% Asian principal operators	5%	0.50%
% Hispanic principal operators	6%	2.50%
% land owned by operator*	?	62%
% principal operators that claim farming as primary occupation	41%	45%
% principal operators working off-farm for more than half of year	45%	41%
% certified organic farms	5.70%	0.60%
# of certified organic farms	19	14,540
% organic acreage	0.30%	0.4%
organic acreage	180	4,077,337
% certified organic sales	0.01%	1%
Farms with 1-9 acres	111 (34%)	10.5%
Farms with 10-49 acres	101 (31 %)	28%
Farms with 50-179 acres	66 (20%)	30%
Farms with 180-499 acres	26 (8%)	17%
Farms with 500-999 acres	11 (3%)	7%
Farms with 1,000 or more acres	14 (4%)	8%

* Unknown for San Mateo County

These figures are similar to the national data in which 1.2 million farms depend on non-farm income to cover farm expenses, while the same number, 1.2 million, report something other than farming as their primary occupation. Clearly these are characteristics and trends that are deep-seeded in the evolution of the agricultural sector nationally.

The motivations and decision-making criteria utilized by commercial vs. non-commercial operators of agricultural operations and lands differ. Given the significant number of farmers that depend on off-farm incomes it can be difficult to distinguish between commercial and non-commercial operations. It will be important to consider these factors when identifying

mechanisms to support agricultural viability in San Mateo County. (See Table 6.)

Land Ownership

Nationally, more than 60 percent of land used in agriculture is owned by the operator. The figure for California is similar. The figure for San Mateo County is a data gap, that is worth researching as part of the Vision Process. Non-operator landowners tend to participate less in USDA conservation programs¹³. Ownership and tenure are key determinants of decision-making criteria

¹³ Trends in U.S. Farmland Values and Ownership. USDA, March 2012. [http://www.ers.usda.gov/media/377487/eib92_2 .pdf](http://www.ers.usda.gov/media/377487/eib92_2.pdf), accessed May 30, 2013.

for farmers and ranchers. Whether the interest is acquisition, an easement, or the probability of conservation practices being implemented, this information will be valuable for the District to have.

Government Payments

According to the 2007 Ag Census government payments to San Mateo County farmers and ranchers total \$25,000. This figure is well below the national average and is an indication that the type of agriculture practiced here does not qualify for most agricultural support programs, such as commodity payments and the larger conservation programs such as Conservation and Wetlands Reserve Programs. NRCS District Conservationist Jim Howard reports that the \$25,000 figure does not include conservation cost-share programs such as Environmental Quality Incentives Program.¹⁴ This will be important information to consider since these programs can play an important role in incentivizing good land management practices, while also covering part of the cost.

Employment Data

The economic impact study commissioned by the San Mateo County Agricultural Commissioner, and expected to be completed in summer 2013, will include data on the “Employment Effects” of the industry. Specifically, it will include total employment by farm production sector, and distinguish between direct, indirect, and induced employment. The report’s findings will help to flesh out the full picture of existing agricultural conditions in the county since trends in agricultural employment are an important indicator of the health of the agricultural economy.

According to the California Employment Development Department (EDD), in San Mateo County there were 1,600 people employed in the “Total Farm” category in 2011¹⁵. The data just for

the City of Half Moon Bay for the 2010 Fiscal Year (ending on June 30),¹⁶ indicate that nursery businesses were some of the top employers in the City as well as a significant source of agricultural employment in the county. Nurseryman’s Exchange¹⁷ reported 400 employees and was ranked as the second largest employer in the City. Bay City Flowers reported 340 employees and was ranked as the third largest employer in the City. The same City of Half Moon Bay report for the 2012 Fiscal Year¹⁸ indicates that the employment contribution by the nursery sector appears to have shrunk significantly. The only agricultural employer listed on the top-10 employer list was Nurserymen’s Exchange with a total of 140 employees.

Next Steps for Analysis and Data Gaps

Given the discrepancy concerning total number of San Mateo County farmers and ranchers, it is important to understand whether the underlying reason is a reduction in the number of commercial operators and/or a difference in reporting methodologies.

More fundamentally, it is important to know more about each and every one of the County’s relatively small and aging farming population. Long-term farmers and ranchers hold deep knowledge of the land and its capabilities and are therefore a critical agricultural resource for shaping the viability of agriculture into the future. Similarly, it is important to track each new farmer and to understand the drivers underlying the success of some of these new farmers and why, as one interview reports, there is high turn-over among new entry farmers. More detailed knowledge about the farming population (e.g. cultural diversity, tenure, reliance on outside

¹⁴ Data from local NRCS office is pending.

¹⁵ <http://www.labormarketinfo.edd.ca.gov/>

¹⁶ City of Half Moon Bay California Comprehensive Annual Financial Report Fiscal year ended June 30, 2010.

¹⁷ Sold to in 2012, and now operated as, Rocket Farms, as one of their several facilities nationally.

¹⁸ City of Half Moon Bay California Comprehensive Annual Financial Report Fiscal year ended June 30, 2012.

income, success factor, etc.) can help make policies and strategies aimed at enhancing agricultural viability, more effective and better targeted.

It will be helpful to have a better understanding about the utilization of USDA funding and cost share programs in the county, and whether there may be barriers in the way and opportunities for increasing utilization.

PART 2. AGRICULTURAL LAND USE AND TRENDS BY SECTOR

2.1 Section Overview

The previous section considered agricultural land resources and trends, with a focus on agricultural lands resources as well as on human resources. This section looks at agriculture in the District in terms of production sectors. The four most important production sectors in terms of economic value and extent of land use are investigated in some depth and include: grazing, cultivated agriculture (mainly vegetable row crops, fruit and nut crops), nursery crops and vineyards.

The section concludes with a brief summary of urban agriculture and agri-tourism.

The primary data sources used in this section are the San Mateo and Santa Clara County Crop Reports. These are prepared annually by the County Agricultural Commissioners and are based on self-reporting by farmers and ranchers.

Table 7 gives an overview of all production in San Mateo County, which represents most of the agricultural production in the District. Table 8 summarizes current production for the Santa Clara County area of the District.

Table 7: San Mateo County Crop Production Values & Acreages for 2011, with Changes from 2000-2011

	Cropland Acreage	% Cropland Acreage	Crop Values	% of Total Crop Value	Value 2000-2011 % Change	Acres 2000-2011 % Change
Fruit & Nut Crops	243	1%	\$1,666,000	1.2%	73%	131%
Vegetable Crops	1,949	8%	\$16,648,000	12.0%	-63%	-22%
Field Crops	920	4%	\$561,000	0.4%	-15%	207%
Pasture/Range	19,524	82%	\$204,000	0.2%	-47%	-36%
Livestock			\$2,312,000	1.7%	40%	
Livestock & Apiary Products			\$1,478,000	1.1%	475%	
Floral & Nursery Crops -Indoor	214	1%	\$90,541,000	67.0%	-17%	-64%
Floral & Nursery Crops -Outdoor	690	3%	\$20,890,000	16.0%	-52%	-37%
Total	23,540	100%	\$134,300,000	100%	-33%	-33%

Source: San Mateo County Agricultural Crop Reports, 2000-2011

	Acreage
Fruit & Nut Crops - orchard	71
Fruit & Nut Crops - vineyard	302
Vegetable Crops	6
Field Crops	0
Pasture/Range	430
Floral & Nursery Crops -Indoor	30
Floral & Nursery Crops -Outdoor	31
Total	870

Source: Santa Clara County Ag. Crop Report 2011

2.2 Grazing

Overview

This section covers grazing lands and livestock operations primarily in San Mateo County. Within the District there are 48,765 acres of grazing lands, the vast majority of which – 48,335 acres - are located in San Mateo County. The 438 acres of grazing lands in the Santa Clara County area of the District are less than one percent the size of the grazing lands in San Mateo County.

Grazing lands are a predominant land use in San Mateo County and are an important part of the landscape and viewshed. However, data below

indicate that perhaps less than half of the total 48,335 acres of grazing lands in the county are actually grazed.

Key Findings

- A high percentage (46%) of grazing lands in the District as defined by FMMP are owned and/or controlled either by the District itself or by other public agencies and private land trusts.
- The amount of land that is actually grazed (or considered potential grazing lands) by the District also include 'other lands' and so is much greater than the acreage categorized by FMMP as grazing lands. When expanding the definition of grazing lands in this way, the percentage of grazing lands controlled by the District or other public agencies/land trusts increases to nearly 65%.
- Some ranchers express concern that their viability is in the hands of the District and other public landowners for whom maintaining and enhancing agricultural economic viability is not a top priority
- Although the District has helped protect approx. 7,000 acres of grazing land, reintroducing 3,000 acres that are actively grazed, and rebuilt ranch residences at two coastal properties and provides rental offsets to grazing and agricultural tenants for infrastructures improvements, ranchers express concern that their viability is in the hands of the District and other public landowners for whom maintaining and enhancing agricultural economic viability is not a top priority.
- Additional constraints include lack of processing facilities, fragmentation of grazing lands, and increasing conflicts between wildlife and livestock. Notably, the District is working with private neighbors to identify common grazing tenants.
- Given both the growing market demand for ecologically and humanely produced animal

products and the recognition on the part of land owners that grazing is an effective land management strategy, there exists significant potential to support goals of both ranchers and conservation organizations.

- New livestock operations, such as goat dairies and pastured poultry, show promise for modest growth.

Acreage

Two methods of assessing extent of grazing acreage within the District have been utilized.

1. FMMP maps and monitors "land on which the existing vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities."
2. County Crop Reports provide information about the extent of acreage reported by landowners and ranchers as utilized for 'pasture' and 'pasture, irrigated'. For purposes of this study we will consider these terms equivalent to 'grazing lands'. MROSD and others use the term 'rangeland', which again, we will use as an equivalent to 'grazing lands' for purposes of this study.

Grazing lands (again, as defined by FMMP) represent around 13 percent (48,765 acres) of the total amount of land within the District jurisdiction (370,622 acres). Of these 48,765 acres of grazing lands, 8,227 acres are owned by the District and comprise 17 percent of grazing lands within its jurisdiction. An additional 317 acres are protected via easement held by the District. Virtually all of the acreage owned and protected by the District is currently grazed under lease agreements with ranchers.

While FMMP data is important, it does not tell the complete story with regard to how much land is being grazed. Grazing is utilized as a management tool by the District on lands that are categorized by FMMP as grazing lands, as well as 'other lands'

such as forests. This means that grazing as an agricultural practice is occurring on much more acreage than is indicated by the grazing lands figure provided by FMMP. For example, Clayton Koopmann indicated that by the end of 2,014 up to 12,000 acres of lands owned by the District would be actively grazed. In addition, he stated that there are more than 17,000 acres of lands which are apt for grazing. Specifically, he shared that Montebello Open Space Preserve and Russian Ridge Open Space Preserve hold great potential for grazing, but will not be grazed in the near future due to lack of infrastructure.

Apart from grazing lands owned and permanently protected by the District, there are also 13,677 acres of grazing lands within the District’s jurisdiction, that are protected either in fee or through easements held by other conservation organizations including Peninsula Open Space Trust (POST) and State Parks, among others.¹⁹ Thus 22,221 acres (45 percent) of the total grazing acreage within the District jurisdiction is permanently protected.

Depending on which data source is utilized, very different trends are identified with regard to changes in extent of grazing lands over the past decade. In Table 9, FMMP grazing land data for the District is compared with San Mateo Crop Report data on grazing lands. (District grazing land data is used as a proxy for San Mateo County grazing land data since almost all District grazing land is in the county.)

According to the Crop Report, acreage actually utilized for livestock pasture decreased by 35.6

percent from 2000- 2010. However, according to FMMP data, grazing acreage has increased by nearly 7 percent during this time period. The vast majority of this increase is primarily the result of non-irrigated farmland (Farmland of Local Importance, as classified by FMMP) being converted to grazing lands. Between 1990 and 2012, 3,433 acres of farmland were converted to grazing lands. Most of that acreage (3,081 acres) was previously classified as Farmland of Local Importance. A deduction is that these converted lands were located on steeper slopes, more marginal soils and/or in areas with unreliable water supply.

Clayton Koopmann, Rangeland Ecologist at the MROSD²⁰, weighed in about this large discrepancy between FMMP and Crop Report data. Contrary to what the Crop Report data suggest, Koopmann does not see evidence of large amounts of grazing lands sitting idle within the District. On the contrary he sees ranchers having difficulty finding adequate amounts of grazing acreage to lease. As an example, and as noted above, the 8,544 acres of grazing lands that the District owns are currently leased to ranchers.

Possible explanations for the reduced acreage reported in the Crop Report include underreporting and lack of reporting by landowners and operators. (Although this does not explain the significant reduction of more than 10,000 acres indicated by the difference between 2008 and 2010 Crop Report data.) The data showing a reduction in acreage being grazed seems to contradict anecdotal information that

Table 9: MROSD Grazing Lands acreage per FMMP and SMC Crop Report Data

Year	FMMP acres	Crop Report acres	Difference
2000	45,716	30,300	15,416
2004	45,949	30,300	15,649
2008	48,959	30,300	18,659
2010/2011	48,797	19,524	29,273
% change	7%	-36%	

¹⁹ Acreage and easement/title holders to be determined.

²⁰ Personal communication, April 8, 2013.

there is more demand for grazing lands than supply. It is also at odds with the considerable increase in revenue from cattle operations over the past several years. (See Table 10.)

One point on which there is agreement, according to comments from several interviews, is that there is a growing recognition on the part of landowners that grazing animals provide important ecosystem services such as vegetation management, fire protection, and habitat provision through stock ponds.

Locations

Most grazing lands within the county are located along the coast. District protected (fee title) grazing lands, which total 8,534 acres, are primarily located along the western side of Skyline Boulevard.

Types of Operations, Scales and Markets

Data from the 2007 USDA Agricultural Census indicate that there were 53 cattle and calf operations in San Mateo County, in 2007 up from 48 in 2002. Number of animals (cattle and calves) sold in the 2007 Census was reported as 2,419, essentially the same as in 2002 at 2,421.

Production systems of grazing operations in San Mateo County include traditional cow/calf, beef cattle, as well as a handful of dairies including three milk cow dairies as well as sheep and goat dairies.

According to the 2007 Ag Census, 44 of the 53 cattle operations in the County utilize rotational²¹ or management intensive grazing²². Five ranches

²¹ Rotational Grazing: Planting forage and using grazing rotations among different fields to maximize production and reduce sediment and nutrient runoff. From: <http://www.wi.nrcs.usda.gov/programs/solutions/rotationalgrazing.html>

²² Management-intensive grazing (MIG) is the movement of grazing animals through a series of paddocks for brief periods of time so that the forages are allowed periods of regrowth to restore reserves and in so doing, the animals are provided with high quality feed if returned at the proper time. From: Dairy

reported having organic pastureland, for a total of 142 acres.

In terms of scale, the two main metrics for characterizing the scale of a grazing operation are acreage and number/head of animals or Animal Unit Months (AUM). While there are certainly properties being grazed that are less than 2,500 acres, this is the minimum amount of land that rancher Doniga Markegard²³ says is needed in order to be viable at least for a grass-fed beef operation, such as hers. She reports that this amount of acreage will allow a grass-fed beef rancher to finish 100 head of steer a year. She noted that ranchers are always looking for additional land to access, in order to “bank” grass in the case that drought conditions reduce the amount of grass available for grazing.

As a point of reference, the Markegards graze their animals on six different parcels, three in Sonoma County and three in San Mateo County. The parcels and total acreage in San Mateo are larger than those in Sonoma County. They lease one property from the District that is 952 acres, and lease two others, including one from POST that is approximately 2,000 acres and a third that is ~550 acres, for a total of about 3,500 acres.

According to the Census, only five cattle operations sell more than 100 head of cattle per year, which suggests that most cattle grazing in the county is made up of cow/calf operations.

In terms of markets, it is most common for the non-milk operations to sell their animals in the traditional manner - at the “saleyard”. According to the interviewees, an estimate of direct-to-consumer marketed meat that is produced in the county is on the order of 5 percent of total.

Economic Values

Table 10 summarizes economic data about grazing and livestock operations in San Mateo County

Success Through Management Intensive Grazing. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs144p2_025534.pdf. Accessed May 30, 2013.

²³ Personal communication, April 30, 2013.

from 2000 to 2011. It shows that livestock revenues have increased by 40 percent over this period, led by a significant (53%) increase in the cattle and cow/calf sector. Livestock products

also appear to be on the upswing, led by value-added and processed products including goat cheese, wool, and honey.

Table 10: Grazing-Livestock Production San Mateo County Agricultural Activity 2000 - 2011

All values in 2008, except for 2011	2000		2004		2008		2011		Value % Change 2000-	Acres % Change 2000-
	Gross Market Value	% Crops (a)	Gross Market Value	% Crops	Gross Market Value	% Crops	Gross Market Value	% Crops		
Field Crops	\$1,048,315	0.5%	\$825,852	0.4%	\$772,000	0.5%	\$ 765,000	0.6%	-27%	-35%
Beans, Dry Edible (a)	\$370,866	0.2%	\$155,758	0.1%	\$184,000	0.1%	\$ 362,000	0.3%	-2%	-61%
Grain (Barley, Oats, Rye, Wheat)	\$185,433	0.1%	\$71,716	0.0%	\$72,000	0.0%	\$ 66,000	0.0%	-64%	19%
Hay (Oats)	\$61,811	0.0%	\$187,133	0.1%	\$166,000	0.1%	\$ 102,000	0.1%	65%	-38%
Hay (Volunteer)	\$44,504	0.0%	\$61,631	0.0%	\$38,000	0.0%	\$ 31,000	0.0%	-30%	-41%
Pasture (Irrigated)	\$51,921	0.0%	\$47,063	0.0%	\$42,000	0.0%	\$ 30,000	0.0%	-42%	-34%
Pasture (Other)	\$333,780	0.2%	\$302,551	0.2%	\$270,000	0.2%	\$ 174,000	0.1%	-48%	-36%
Livestock (b)	\$1,646,646	0.8%	\$1,991,232	1.1%	\$2,378,000	1.5%	\$ 2,312,000	1.7%	40%	n/a
Cattle and Calves	\$1,149,685	0.6%	\$1,419,747	0.8%	1814000	1.1%	\$ 1,755,000	1.3%	53%	
Sheep and Lambs	\$98,898	0.0%	\$93,006	0.0%	95000	0.1%	\$ 107,000	0.1%	8%	
Hogs and Pigs	\$176,780	0.1%	\$253,246	0.1%	180000	0.1%	\$ 135,000	0.1%	-24%	
Other (c)	\$221,284	0.1%	\$225,232	0.1%	289000	0.2%	\$ 315,000	0.2%	42%	
Livestock Products & Apiary (d)	\$257,000	0.1%	\$830,334	0.4%	\$851,000	0.5%	\$ 1,478,000	1.1%	475%	n/a
Honey	\$54,000	0.0%	\$133,346	0.1%	\$185,000	0.1%	\$ 336,000	0.3%	522%	
Beeswax	\$1,000	0.0%	\$1,121	0.0%	\$3,000	0.0%	\$ 4,000	0.0%	300%	
Other (e)	\$202,000	0.1%	\$695,867	0.4%	\$663,000	0.4%	\$ 1,138,000	0.8%	463%	

(a) Includes Cranberry, Fava, etc.;

(b) For 2000-2008, includes Cattle and Cows, Sheep and Lambs, Hogs and Pigs, Chickens, Goats, Turkeys, etc. Production value expressed in "Number Head Sold";

(c) For 2011, includes Chickens, Goats, Turkeys, etc.;

(d) Production value expressed in lbs.

(e) Includes Goat cheese, Eggs, Wool, etc.

Sector-wide Infrastructure

According to interviewees, ranch-based infrastructure within the District, regardless of ownership, is severely degraded. Ranch-based infrastructure that is lacking or degraded include cross fencing and water conveyance. With respect to sector-wide infrastructure, there are no meat processing or storage facilities in the county, which makes it difficult to scale up operations and build a local demand for meat products.

The trends, constraints and opportunity sections below primarily reflect highlights of comments from interviewees related to grazing specifically.

Part 3 of this document provides more detail about trends, constraints and opportunities for agriculture in the District overall.

Trends

- Increased interest in farming and ranching as a vocation and profession.
- Increased demand for meat and animal products that are raised in a manner that cares for the environment, utilizes humane practices, and is local.

- Interest on the part of the District and POST to support agriculture as a strategy to manage lands under their stewardship.

Constraints

- Ranching is a marginally profitable enterprise with the cost of doing business going up every year. It is extremely challenging to operate a viable business, let alone attract new ranchers to the business. Interviewees state that land costs have increased. They state for example, that the animal unit/month fees charged by District are much higher than the Bureau of Land Management. *Grazing lease terms based on adjustment at the end of the year and “animal units per month” are of concern to one interviewee who states that an increase in prices in a given year does not necessarily translate into profitability overall. Another interviewee expressed concern that when a parcel goes from conservation to grazing land use the rancher is expected to pay possessory income tax.*
- Public landowners lack a detailed understanding about the economics of ranching. Limited grazing land availability is limiting a viable scale of operations.
- Lack of adequate infrastructure on ranches and the cost to upgrade and/or install infrastructure is a barrier to bringing more grazing lands on-line.
- Ranchers seem to bear the bulk of the burden to install infrastructure. Landowners not always willing to invest in infrastructure such as wells, troughs, fencing needed to make grazing leases viable.
- Lack of affordable housing for agricultural operators and workers, complicating their ability to be close to the land and their crops and animals.
- Fragmentation of grazing lands requires moving animals around.

- Lack of local processing facilities is hindering growth of the grass-fed beef industry in particular.
- Habitat protection can lead to reduction of available grazing lands.
- Increasing conflicts between wildlife and livestock. New approaches to protecting livestock are needed.

Opportunities

- The growing recognition on the part of landowners that grazing animals provide important ecosystem services may provide an opportunity in that it might result in more land becoming available for grazing. Some ranchers also hope that at some point there might be payment for the provision of such ecosystems services.
- Some new opportunities with other livestock, such as goats and pastured poultry, show promise for modest growth in production value, though not in demand for acreage.
- There is growing market demand for ecologically and humanely produced animal products.

Next Steps for Analysis and Data Gaps

- There are discrepancies that need to be addressed in the data about extent of District grazing lands actually being grazed and the extent of grazing acreage that the District itself manages and is actively leasing to ranchers.
- The ownership and status of the 438 acres of grazing lands in the Santa Clara County within the District jurisdiction need to be further investigated.

2.3 Crop Production

Overview

This section covers production of vegetable crops and fruit and nut crops in San Mateo County and the Santa Clara County area of the District.

Except as otherwise noted, data comes from the annual Crop Reports produced by the respective county agricultural commissioners.

Vegetable crop production is important in San Mateo County. Such production accounts for almost all of the land use of County’s prime farmland. The county is also a leading producer in the state for Brussels sprouts and peas, crops which thrive in the cool coastal climate. Pumpkins, artichokes, leeks and green beans are other important vegetables crops in the county.

On the other hand, vegetable crop production represents only around 12 percent of overall production values for the county and production values and acreage for this sector have been experiencing consistent declines since at least 2000. During the 2000-2011 period, the value of vegetable crop production declined 63 percent, while acreage in production as reported in the County Agricultural Crop report dropped 22 percent. (See Table 12.)

Vegetable crop production in the Santa Clara County area of the District is negligible. The 22 acres in production is just about the same as the number of acres of remaining prime farmland in this area. However, the Santa Clara County area of the District has about 150 percent more acreage in production in the fruit and nut category (which includes wine grapes), than does San Mateo County. Wine grape production is summarized in Section 2.5.

Key Findings

- Over the past decade, the value of crop production has experienced a steep decline (63%) with acreage also declining (22%). Brussels sprouts make up about half of crop values. Diversification of crops will be critical to future viability of industry.
- Although fruit production (mainly berries and wine grapes) represent only around 10 percent of overall crop production value, over the past decade, fruit production value has increased

by 73 percent and fruit acreage by 131 percent.

- Constraints include regulatory burden on farmers, insufficient and uncertain water supply and lack of infrastructure.
- Succession of row crop operations is a key challenge for future viability. While there appears to be some influx of new farmers, they are undertaking small diversified operations rather than taking over the larger, conventional operations. In order for larger properties of crop acreage to be maintained, new operators must be supported.

Locations

The vast majority of farmland acreage within the MROSD is located along the San Mateo Coast. (See the MROSD Agricultural Resources map, Appendix B.)

Acreage

Two methods of assessing extent of crop acreage have been utilized: FMMP maps based on farmland classifications and County Crop Reports. Unlike for grazing lands, FMMP definitions of farmland require that land have been used for agricultural production at some time during the four years prior to mapping date.

Crop lands represent around 1.6 percent (6,083 acres) of the total amount of land within the District jurisdiction (370,622 acres). Of these 6,083 acres of crop lands, 113 acres are owned by the District²⁴ and represent 1.8 percent of crop lands within its jurisdiction.

Apart from crop lands owned and permanently protected by the District, there are also 2,396 acres of crop lands within the District jurisdiction protected either in fee or through easements that are held by other agencies including POST, State Parks, among others.²⁵ Thus 2,509 acres (41

²⁴ MROSD

²⁵ Acreage and easement/title holders to be determined.

percent of the total crop land acreage within the District jurisdiction) is permanently protected.

Depending on which data source is utilized, very different trends are identified with regard to changes in extent of crop lands over the past decade. Table 11 conveys changes in crop acreage for San Mateo County over the past decade according to both methods. Utilizing FMMP data, farmland acreage has decreased by 46 percent during the 2000-2010 period. However, according to the Crop Report, acreage actually utilized to produce crops in San Mateo County decreased by 28 percent during the same period. Similar to grazing, we anticipate the FMMP data to be most accurate, and that these differences are owed to underreporting and lack of reporting by producers for the County Crop Report.

Farmland Classifications

Table 1 shows the number of acres within the District per farmland classification: Prime Farmland, Farmland of Statewide Importance, Farmland of Local Importance, and Unique Farmland. These classifications are important because classifications indicate suitability for different crops.

Organic Agriculture

Organic agriculture represents a small fraction of crop production in San Mateo County. Fourteen farms, of the nineteen farms in the county that report organic acreage, produce vegetables and/or fruits on a total of 38 acres.²⁶ In addition, thirteen farms report that they are transitioning another 129 acres of combined pasture and cropland to certified organic practices. By way of contrast, Monterey County has 106 organic farms with a combined total of 20,404 acres; San Benito

County has 71 organic farms with a combined acreage of 13,467 acres; and Santa Cruz County has 89 farms with a combined total of 1,406 acres.²⁷

Scales

Due to the fact that relatively few types of crops are produced on the coastal farmlands, the scale of those crop fields tend to be larger than in areas where there is greater crop diversity.

Markets

Table 11: MROSD Crop Lands acreage per FMMP and SMC Crop Report Data

Year	FMMP acres	Crop Report acres	Difference
2000	9,879	5,562	4,317
2004	8,937	4,620	4,317
2008	5,482	4,244	1,238
2010/2011	5,292	4,016	1,276
% change	-46%	-28%	

According to interviewees, conventionally grown crops tend to be sold wholesale, via grower shippers in the Salinas Valley or through the terminal market in South San Francisco.

Organically grown crops tend to be sold through direct markets, with a small amount of product moving through the wholesale part of the supply chain. According to preliminary findings from the market study being produced by the Community Alliance with Family Farmers (CAFF), farmers in San Mateo County that grow crops similar to those being grown in Santa Cruz and Monterey Counties have difficulty competing on price due to inferior yields and limited agricultural infrastructure that has declined over the past three decades.²⁸ An important component of agricultural infrastructure that has disappeared is the support businesses such as tractor dealerships and repair shops, welding shops, seed and supply distributors, etc.

²⁶ USDA Ag Census 2007

²⁷ USDA Ag Census 2007

²⁸ Bob Corshen, Community Alliance with Family Farmers, personal communication. April 2013.

Direct Markets

- Community Supported Agriculture (CSA) – According to the Census of Ag there were three CSA operations in San Mateo County in 2007.²⁹
- There are 26 Farmers Markets in San Mateo County. Despite this abundance of direct marketing opportunities, San Mateo County farmers are underrepresented at area farmers' markets. Interviewees have explained this situation is due to a number of factors, including distance from markets, lack of product diversity, and less competitive pricing.

Agri-tourism

- Farm Stands – many seasonal farm stands focus on pumpkins. These are often combined with pumpkin patches and corn mazes. Exceptions include stands along Highway 1 that sell primarily sell peas and artichokes.
- U-Pick operations combined with farm stands. Primary examples are Phipps Ranch and Coastways Ranch both which have focus on berries and both located in or near Pescadero, and the long-established Webb Ranch in Portola Valley, which grows a wide variety of products due to its temperate bayside location.
- Half Moon Bay Pumpkin & Art Festival in October is a good outlet for local pumpkin growers and also significant agri-tourism draw.

Economic Values

Table 12 illustrates the dramatic decline in dollar value, and to a lesser degree, acreage, for San Mateo County crops, over the last decade. The most significant change was the elimination of mushroom production, which represented nearly \$30 million in sales in 2000, and is now non-existent. Interviewees cite various reasons for the closing of the mushroom facility including issues concerning labor, water supply and environmental compliance. Other crops that declined noticeably in production value and/or acreage were artichokes (down 68 % in value), beans and peas. On the other hand, Brussels sprout production is up by 78 percent, even though acreage is down 9 percent, which indicates impressive gains in yields.

Production of strawberries and bush berries were not tracked as individual commodities in 2011. Due to the fact that there were fewer than four growers reporting production of these crops, there were tracked in the 'Miscellaneous' category. However since this category grew more than fourfold between 2008-2011, and since production of strawberries and bush berries is continuing on the coast, even if by just a few farmers, it can be surmised that these crops are proving to have some staying power.

San Mateo County wine grape production is another bright spot in the fruit category, having grown about 200 percent in both value and acreage during the study period.

The trends, constraints and opportunity sections below primarily reflect highlights of comments from interviewees related to crop production specifically. Part 3 of this document provides more detail about trends, constraints and opportunities for agriculture in the District overall.

²⁹ USDA Census of Agriculture 2007

Table 12: San Mateo County Agriculture Crop Activity 2000-2011 - FRUIT & NUT and VEGETABLE CROPS

	2000			2004			2008			2011			Value 2000-2011	Acres 2000-2011
	Acres	Gross Market Value	% All Crops (a)	Acres	Gross Market Value	% All Crops (a)	Acres	Gross Market Value	% All Crops (a)	Acres	Gross Market Value	% All Crops (a)		
All values in 2008\$, except for 2011														
Fruit & Nut Crops	105	\$961,780	0.5%	159	\$1,595,675	0.8%	204	\$1,635,000	1.0%	243	\$1,666,000	1.2%	73%	131%
Bushberries	24	\$268,260	0%	28	\$419,089	0%	33	\$371,000	0%			0%	-100%	-100%
Strawberries	18	\$316,473	0%	15	\$315,997	0%	24	\$543,000	0%			0%	-100%	-100%
Wine Grapes	45	\$171,835	0%	86	\$467,273	0%	96	\$481,000	0%	135	\$508,000	0%	196%	200%
Miscellaneous (b)	18	\$205,213	0%	30	\$393,316	0%	51	\$240,000	0%	108	\$1,158,000	1%	464%	500%
Vegetable Crops	2,509	\$44,701,747	22%	2,436	\$33,443,064	18%	2,097	\$20,446,000	13%	1,949	\$16,648,000	12%	-63%	-22%
Artichokes (c)	231	\$776,347	0%	93	\$567,003	0%	66	\$407,000	0%	56	\$249,000	0%	-68%	-76%
Beans, Fava			0%			0%			0%	210	\$560,000	0%		
Beans, Snap	143	\$584,732	0%	158	\$726,122	0%	118	\$597,000	0%	94	\$389,000	0%	-33%	-34%
Brussels Sprouts (d)	723	\$4,977,025	2%	734	\$6,698,698	4%	675	\$5,841,000	4%	655	\$8,857,000	7%	78%	-9%
Leeks	163	\$1,657,772	1%	155	\$1,462,329	1%	175	\$1,492,000	1%	160	\$1,507,000	1%	-9%	-2%
Mushrooms	17	\$29,896,765	15%	14	\$19,101,038	10%	8	\$6,927,000	4%			0%	-100%	-100%
Peas	345	\$806,016	0%	267	\$596,137	0%	219	\$795,000	0%	218	\$738,000	1%	-8%	-37%
Pumpkins	240	\$653,961	0%	242	\$626,392	0%	263	\$952,000	1%	226	\$639,000	0%	-2%	-6%
Misc. Vegetables														
<i>Field and Indoor Grow</i>	647	\$5,349,128	3%	773	\$3,665,346	2%	573	\$3,435,000	2%	330	\$3,709,000	3%	-31%	-49%

(a) Includes vegetable, field, and fruit & nut crops. Does not include floral and nursery crops or livestock.

(b) For 2004: (Includes Apples, Kiwi, Pears, Walnuts, etc.) For 2008: (Includes Kiwi, Apples, etc.).

(c) For 2000: (Includes Cabbage, Corn, Herbs, Leaf Lettuce, Potatoes, Spinach, Swiss chard, etc.) For 2004: (Includes Beets, Cabbage, Corn, Herbs, Leaf Lettuce, Potatoes, Swiss Chard, Tomatoes, etc.) For 2008: (Includes Herbs, Fava Beans, Peppers, Swiss Chard, Edible Flowers, Tomatoes, etc.)

Trends

- Older, more established conventional growers are holding on, but are not being replaced.
- Big turnover amongst new, younger farmers, who often lack resources and skills, don't have established relationships, and usually don't own their land

Constraints

- Regulatory burden is increasing, while technical and financial assistance for compliance is not keeping pace. New food safety regulations and new labor regulations were specifically mentioned.
- Deer pressure from open space lands
- Lack of infrastructure such as tractor repair services and supply depots and also processing facilities.
- Insufficient and uncertain water supply.
- Nitrate contamination of some wells.
- Conflicts with urban land use in some urban edge areas.

Opportunities

- The buy local campaign (As Fresh as it Gets) has been effective at increasing demand and should be continued.
- Value-added production through direct and local sales and/or organic production is important for viability
- Investigation into the possibilities of bio-char for soil texture, carbon sequestration, and water use efficiency.
- Research is underway to study biopesticides and fumigant alternatives for Brussels sprouts, a crop that has required a heavy load of chemical inputs for production.

Next Steps for Analysis and Data Gaps

There are discrepancies that need to be addressed in the data about extent of District grazing lands actually being grazed and the extent of grazing acreage that the District itself manages and is actively leasing to ranchers.

2.4 Nursery and Horticulture

Overview

Nursery crop production continues to have a key role in San Mateo’s agricultural economy. Floral and nursery crops represent the lion’s share of agricultural production value in San Mateo County. Even with the decline in value of the agricultural sector overall during the past decade, combined with a decline in value and acreage of nursery crops, today nursery crops represent an even greater share (83%) of agricultural production in the county than it did in 2000. The nursery crop sector takes up around 900 acres, which is around 23 percent of all the county’s crop land. (See Table 7.) In addition, the nursery crop sector is a significant and most likely still the largest agricultural employer in the county. (See Demographics section, employment subsection.)

Key Findings

- The nursery crop sector has the key role in San Mateo County’s agricultural economy, both through direct sales and also likely through indirect agri-tourism impacts, and represents a considerable percentage (23%) of the land use of crop land.
- The sector is a significant contributor, and likely the largest, to agricultural employment overall.
- The sector is contracting and there is consolidation occurring. The primary vulnerability stems from losses to foreign competition³⁰. Additional factors are labor issues and lack of innovation.
- Idle infrastructure might represent an opportunity to be leveraged by crop farmers.

³⁰ Interviewee John LaGrandeur of Rocket Farms referred to foreign competition as one of the primary drivers of contraction and consolidation in the nursery subsector.

Acreage

Combined, indoor and outdoor nursery crop production takes up a little over 900 acres, a reduction of around 53 percent over the past decade. (See Table 13.) Interviewees have stated that there is idle greenhouse capacity in the county and suggest that such capacity could be converted to use for growing vegetable starts, growing vegetables out of season, or even customized for aqua-ponics operations.

Floral and Nursery crops in Santa Clara County are limited to Christmas tree farms (two operators with around 30 acres combined) in the foothill areas and indoor and outdoor plant nurseries, (five operators with around 30 acres combined).

Scales

While indoor floral and nursery crops represent the largest percentage of the nursery sector production value, outdoor nursery crops represent the largest percentage of the nursery sector acreage. Acreage of some products is in fact on a par with some crop production. There are 412 acres of cut flowers, 278 acres of ornamentals, and 145 acres of Christmas trees. Vegetable crop acreage includes 226 acres of pumpkins, 218 acres of peas and 160 acres of leeks.

Locations

Nursery production is concentrated along the coast around Half Moon Bay and also includes Christmas tree farms in several coastal and bayside locations.

Markets

Some of the larger operations such as Rocket Farms and Bay Cities market their products solely through wholesale channels, while retail operations such as the Half Moon Bay Nursery³¹, maintain retail operations to sell directly to consumers, in addition to selling wholesale.

³¹ Half Moon Bay Nursery states on its website that it has over 3 acres of retail space.

Table 13: San Mateo County Agriculture Activity 2000-2011 - NURSERY CROPS

	2000			2004			2008			2011			Value % Change 2000-2011	Acres % Change 2000-2011
	Acres	Gross Market Value	% All Crops	Acres	Gross Market Value	% All Crops	Acres	Gross Market Value	% All Crops	Acres	Gross Market Value	% All Crops		
All values in 2008 \$ except for 2011														
Floral & Nursery Crops - Indoor	599	\$108,694,000	54%	323	\$105,339,000	56%	311	\$108,957,000	68%	214	\$90,541,000	67%	-17%	-64%
Potted Plants	255	\$95,186,000	47%	251	\$94,680,000	50%	245	\$98,703,000	61%	170	\$83,320,000	62%	-12%	-33%
Flowering	173.35	66,786,000	33%	202	\$77,620,000	41%	222	\$91,308,000	57%	156	\$79,520,000	59%	19%	-10%
Foliage	82	\$28,400,000	14%	49	\$17,060,000	9%	23	\$7,395,000	5%	15	\$3,800,000	3%	-87%	-82%
Cut Flowers	77	\$11,655,000.00	6%	61	\$7,710,000	4%	60	\$9,052,000	6%	39	\$6,503,000	5%	-44%	-49%
Bedding Plants, Cuttings & Liners	12	\$1,853,000	1%	11	\$2,949,000	2%	6	\$1,202,000	1%	4	\$718,000	1%	-61%	-62%
Floral & Nursery Crops - Outdoor	1,094	\$43,738,000	22%	938	\$39,870,000	21%	807	\$25,886,000	16%	690	\$20,890,000	16%	-52%	-37%
Ornamentals	356	\$32,109,000	16%	402	\$32,325,000	17%	312	\$19,436,000	12%	278	\$15,358,000	11%	-52%	-22%
Nursery Stock	192	\$31,822,000	16%	211	\$29,496,000	16%	166	\$19,134,000	12%	133	\$15,010,000	11%	-53%	-31%
Christmas Trees	149	\$287,000	0%	175	\$360,000	0%	146	\$302,000	0%	145	\$348,000	0%	21%	-3%
Herbaceous														
Perennials	15	\$2,324,000	1%	16	\$2,469,000	1%			0%			0%	-100%	-100%
Cut Flowers	738	\$11,629,000	6%	536	\$7,545,000	4%	495	\$6,450,000	4%	412	\$5,532,000	4%	-52%	-44%

The agri-tourism impact of the nursery business is likely to be considerable. Preliminary research indicates that with its retail nursery outlets and Christmas tree farms, the nursery crop sector has more agri-tourism destinations than does all other production sectors combined.

Economic Values

Table 13 illustrates the decline in both dollar value (notably for outdoor nursery crops) and in acreage (notably for indoor nursery crops) over the past decade.

Sector-wide infrastructure

Informants tell us that greenhouse infrastructure is in need of upgrades. Water supply and treatment infrastructure for individual operations is an important component of these upgrades, given water scarcity and increased regulation of waste water discharge by the State Water Resources Control Board and the Coastal Commission.

Trends

- In a slow decline due to constraints outweighing opportunities.

Constraints

- Resistance to change has led to at least one local industry leader (Nurserymen’s Exchange) having to sell.
- Peak season labor needs exceed local capacity; large operators have to bus workers in from as far away as Stockton.
- Competition from foreign imports.
- Inadequate housing and transportation for workers compound labor scarcity
- Need help with energy and water efficiency, including effluent treatment for water recycling.

Opportunities

- Existing infrastructure provides some capital to build on.
- Off-season food production and vegetable starts for farmers.
- Aquaponics: fish and produce growing systems that can utilize vacant greenhouse infrastructure

Next Steps for Analysis and Data Gaps

The agri-tourism impact of the nursery business should be investigated since it appears to be considerable and since agri-tourism generally has an economic multiplier effect.

More nursery business owners should be interviewed since this is such an important sector to the overall agricultural economy.³²

2.5 Vineyards

Acreages and production values of vineyards in San Mateo and San Clara Counties are discussed in the previous Crops Sector section. Below is a summary of other key facts about this relatively thriving agricultural sector.

Operations and Locations

All wine grape growing operations in the District are within the Santa Cruz Mountains AVA (American Viticultural Area) which has around 70 members. Most of the established operators have been in business for at least 15 years.³³

San Mateo County has around 12-14 wine grape operations with total acreage of 135-145 acres. Four of these have commercial acreages greater than 10 acres. Two of these, the Thomas Fogarty Winery/Vineyard (~45 acres) and Spring Ridge Vineyards (~15 acres) are located in Portola Valley. Two others, Woodside Vineyards (~38 acres) and Clos de la Tech (~28 acres) are located in Woodside.³⁴

The MROSD area of Santa Clara County has around 35-40 wine grape operations with total acreage of 302 acres. The largest grower by far is Ridge Vineyards (~123 acres) followed by Mt Eden Vineyards (~42 acres). Other smaller scale

wineries of note include Cooper-Garrod Estate Vineyards, Fellom Ranch Muns Vineyard, La Rusticana, Savannah-Chanelle Vineyards, Pichetti, McCarthy Ranch, Lokteff Vineyard and Winery, and Vinedos Pichon.³⁵

Much of the remaining grape growing acreage in the District consists of very small commercial acreages of two to five acres and hobby plots, most smaller than one acre³⁶

Constraints

- There is far more demand than supply for wine grape growing ground and opportunities to develop new ground are very limited. Most recent expansion in the District has been in the Montabello Road area in Santa Clara County. Interviewees state that other hill-tops that could have been appropriate for wine grape growing have been bought by parks as open space.³⁷
- This demand belies the fact that conditions are somewhat challenging. The existing vineyards are located on relatively small parcels, in hilly areas, and have relatively small yields.
- Water supplies are limited so many vineyards are dry-farmed. Where irrigation is used, especially when vineyards are being established, operators need to be careful with water management to avoid soil erosion problems.
- Regulations make it difficult and often prohibitive to establish visitor facilities where the grapes are grown; however as a silver lining, many local wine tasting bars are now cropping up in cities such as Saratoga.

³² Despite repeated attempts to schedule interviews and expressions of interest from nursery business owners contacted, only one nursery business owner interviewee provided information for this section.

³³ Personal communication, Jan Garrod, Garrod & Cooper Vineyards.

³⁴ San Mateo County Agricultural Commissioners Office data

³⁵ Santa Clara County Agricultural Commissioners Office data

³⁶ Santa Clara County Agricultural Commissioners Office data

³⁷ Personal communication, Jan Garrod, Garrod & Cooper Vineyards

Opportunities

- The winery business is having a resurgence, with acreage growing as much as feasible and with wine grape land and wine grapes both increasing considerably in value, likely as a result of limits to available and feasible acreage.
- There is also resurgence in the planting of hobby and backyard vineyards, especially in the foothill areas where there are numerous estate and ranchette scale lots. In turn, this has become a boon for the landscapers and contractors who make a good living from planting and maintaining these vineyards, which cost around \$30 K per acre to install and around \$4-\$5 K per acre per year to manage.³⁸

2.6 Urban Agriculture and Agricultural Education

Urban agriculture and agricultural education are not, for the most part, significant in terms of land use. However, these sectors are very important in terms of contributing to local food access and creating public awareness about agriculture and local food systems.

Primary types of urban agriculture include school gardens, community gardens, demonstration gardens, job training gardens, research gardens, and botanical gardens. Each of these different types of gardens is characterized in terms including: program offerings; the regulatory and public agencies with which they interact; governance, management, and operating structures; budget ranges; and land tenure arrangements.

There are many cities in the District with community garden programs, including Pacifica, Redwood City, Belmont, San Mateo, East Palo Alto, and San Jose, where there is a long waiting list for community garden plots.

³⁸ Personal communication, Jan Garrod, Garrod & Cooper Vineyards

The largest urban agriculture facilities in the District include:

- Collective Roots, located in East Palo Alto, contracts with schools to provide science and nutrition education during the school day to students in pre-school through high school. Their after school programs at schools or community sites offer opportunities to work in organic gardening, organic meal preparations, and related arts, crafts, and sciences.
- Full Circle Farm is an 11 acre, sustainable, educational nonprofit farm in Sunnyvale. The garden hosts field trips for groups from preschool to middle school. Peterson 6th and 7th graders spend one period every two weeks in the garden.
- Hidden Villa Farm is a 16 acre farm that is part of a 1,600 nonprofit open space preserve in the Los Altos Hills. It offers agriculture and wilderness education programs to groups from preschool to high school.
- Deer Hollow Farm is an educational center operated by the City of Mountain View, where visitors, school classes, and community groups can observe and participate in a working farm.
- Elkus Ranch Environmental Education and Conference Center is a several hundred acre facility located in the hills east of Half Moon Bay and operated by UC Cooperative Extension. The environmental education program includes opportunities to learn about the production of food and fiber, the interrelations of plants and animals in their natural habitats, and the importance of environmental stewardship. The District has a relationship with each of these Ag and environmental educational organizations, which could be enhanced.

According to Jason McKenney, Hidden Villa Agriculture Manager, the demand for agricultural education programs far outstrips the capacity of

local facilities. Limiting factors are funding for transportation costs and for service provision. McKenney notes that there is also unmet demand for new farmer education and training, such as through the types of internships programs provided by Hidden Villa and other farms.

Several farms have also developed extensive agricultural education programs, which contribute to their revenues while helping market their products and creating public awareness about

agriculture in general. Two of the most notable such farms with education programs are:

- Pie Ranch is a diversified 27 acre farm, established as a nonprofit, that hosts youth from the regional high schools to participate in farm-based programs.
- Harley Goat Dairy, located in Pescadero, offers farm and dairy tours year round. The tours, available to school groups, focus on the process of transforming milk into dairy products.

PART 3. DISTRICT-WIDE ISSUES, INITIATIVES AND NEXT STEPS FOR ANALYSIS

This section covers aspects of issues that were not touched on the previous section and is organized by topic: agricultural regulations, water, labor, public education, agricultural viability, farmland preservation, and collaboration among stakeholders, agricultural infrastructure, markets, labor, and socio-economics. Each topic also includes a section on any relevant initiatives and proposed next steps for analysis.

The section was informed by findings from data and existing studies and by comments from interviewees.

3.1 Key Findings by Topic

Regulation

Issues

- Regulatory/permitting requirements are numerous, complex, overly restrictive, sometimes contradictory, and sometimes unreasonable.
- Enforcement of new regulations should be preceded by outreach, education and technical assistance as feasible.

Existing and Pending Initiatives

- Strong appreciation for the commitment of Supervisor Horsley to create and help fund an ombudsperson position that will focus on streamlining, harmonizing and perhaps revising regulatory and permitting processes and also providing technical and financial assistance to farmers.

Water Supply

Issues

- Water, including access to water and water supply reliability are a big challenge, especially given increasing demand for limited and uncertain supply.

- Farmers want technical and financial assistance to help them with water use efficiency, development of off-stream storage, and for nursery businesses in particular for rain water harvesting and development of recycled water facilities. Some of this already happening in nursery businesses.
- There is concern that rights are being taken away for species protection as more land is conserved.

Existing and Pending Initiatives

- Watershed Management Plans have been completed or are underway for watersheds including the Pilarcitos Creek, San Geronimo Creek and Pescadero Creek.
- Integrated Watershed Restoration Program (IWRP) was recently initiated in San Mateo, based in part of the success of the program in Santa Cruz County
- Next Steps for Analysis and Data Gaps
- Lake Lucerne, a reservoir and fishing lake on the coast near Pigeon Point, could conceivably supply water to nearby farms.
- Assessment of, and development of a long-range plan for, all irrigation water supply sources for all prime farmland on the coast, would be beneficial.
- Identify areas of cropland/nursery/grazing land currently have adequate water supply in the near future/long-term future for their current uses.
 - Identify which areas of cropland/nursery/grazing land have had to reduce their water consumption, change crops, or change locations of stock ponds due to resource management (e.g. fish habitat) constraints.

- If more water is needed for crops and there are regulatory or feasibility challenges to capturing more winter precipitation through on-stream and off-stream storage, identify alternatives (e.g. managing upstream areas for greater water interception and retention, changes in crop choice, local capture and water recycling in urbanized areas, more efficient irrigation, etc.).
- Assess the role of groundwater for agricultural use, and how groundwater recharge is likely to change in the future given climate change and any changes in development patterns.
- A watershed-wide and multiple-partner approach to water conservation is needed.
- Determine whether there are changes to the process of implementing water quality and habitat protection regulations that could help farmers through streamlining or increased clarity.
- An initiative in the late 90's to develop a recycled water facility in Half Moon Bay could have potentially augmented supply of irrigation water. It was defeated due to concerns it would be an inducement to growth, but this type of approach may still have potential in the future.
- Currently, coastal San Mateo County is part of the Bay Area Water Management District. It has been suggested, that since this area is more or less, independent in terms of water supply and water management, it might be worth assessing whether it should become its own water management district.

Labor

Issues

- There is virtually no farm labor pool on the coast.
- The high cost of living and lack of affordable housing farm employees (and also for new farmers) is problematic.
- There are regulatory challenges with remodeling existing structure and with permitting accessory dwelling units (ADUs) to accommodate employees
- Some farmers state that requirements to remove a packing shed and labor camp were for the purpose of making a nice view for the public.

Existing and Pending Initiatives

- The County is reviewing policies related to addressing the problem of farm employee housing.

Next Steps for Analysis and Data Gaps

- Assessment of the needs and optimal locations for creating needed farm worker housing.

Public Education

Issues

- There is widespread consumer ignorance about local agriculture, including about its contributions, resources, and about what farmers face.
- There is a need to create greater awareness about what is needed to keep agriculture properties in agricultural use.

Existing and Pending Initiatives

- The *As Fresh as it Gets* campaign is effective. The San Mateo County/Silicon Valley “As Fresh as it Gets” campaign began in 2006, highlighting the fresh produce and seafood in San Mateo

County, as well as the area's locally made goat cheese, wines and beers.

- There is a request for a county-wide public education and awareness campaign, to further increase recognition of the importance of agriculture in the region and to help link farmers and consumers; a school curriculum should be part of the effort.

Collaboration among Key Stakeholders

Issues

- There is insufficient cooperation and collaboration among potential partners.
- The District and POST, as major land conservancy organizations, have not had a focus on the protection of agricultural resources – land, water – or on supporting farmers and ranchers, the critical human resources on which viable farming depends
- There is a big culture divide between commercial, long-time farmers and newer farmers sometimes regarded as hobby farmers.
- Agencies, advocacy organizations, farming groups and land conservancies collaborate to some extent on an issue by issue basis, but a long-term, consensus vision for agriculture that looks at resources, economics, and social factors is lacking.
- Careful consideration is needed concerning the placement of public access trails.
- A long-term vision is needed that includes both strategies for the conservation of farmland and enhancement of the economic viability and that integrates goals for agriculture with open space and community livability goals and with regional sustainability planning.

Existing and Pending Initiatives

- The San Mateo County Food System Alliance has been convening representatives of all the parts of the San Mateo County food system - including public health - since 2006. Recent pending projects include the production of a Food System Assessment and an Aggregation Feasibility Study.
- There has been a request for the Agricultural Workshop convened by Supervisor Horsley in January 2013 to become a bi-annual convening.

Farmland Preservation

Issues

- 'Gentleman farmers' who have outside incomes can drive up cost of land and make it unaffordable for farmers and ranchers trying to make a livelihood.
- San Mateo County has been fairly generous with Williamson Act contracts; perhaps too generous so maybe reducing the size of the contracts.
- There needs to be further assessment of the affirmative easement tool.

Agricultural Viability

Issues

- Need a better understanding of the economies of scale and tipping points per farming sector.
- Agri-tourism and recreation can be both a help and hindrance. Some operations rely on agri-tourism; for other operations (e.g. Brussels sprouts), public access is a problem. Lots of concern and disconnect and need for more systematic planning.
- Not enough growers in the county to meet demand for diversified products at farmers' markets and institutional outlets.

- Investigate how the pricing of leases, including those granted by the District, affect the viability of farming.

Existing and Pending Initiatives

- Continue and deepen eco-systems services research, such as the SC3 project, and eco-systems services market development, such as the CalCAN-led initiative for cap and trade funds to go to agriculture.
- More demonstration projects.
 - Introduction of crop-livestock operations to decrease inputs and rotational grazing to increase soil health.

- Cloverdale Ranch and Johnston Ranch both good options.

Next Steps for Analysis and Data Gaps

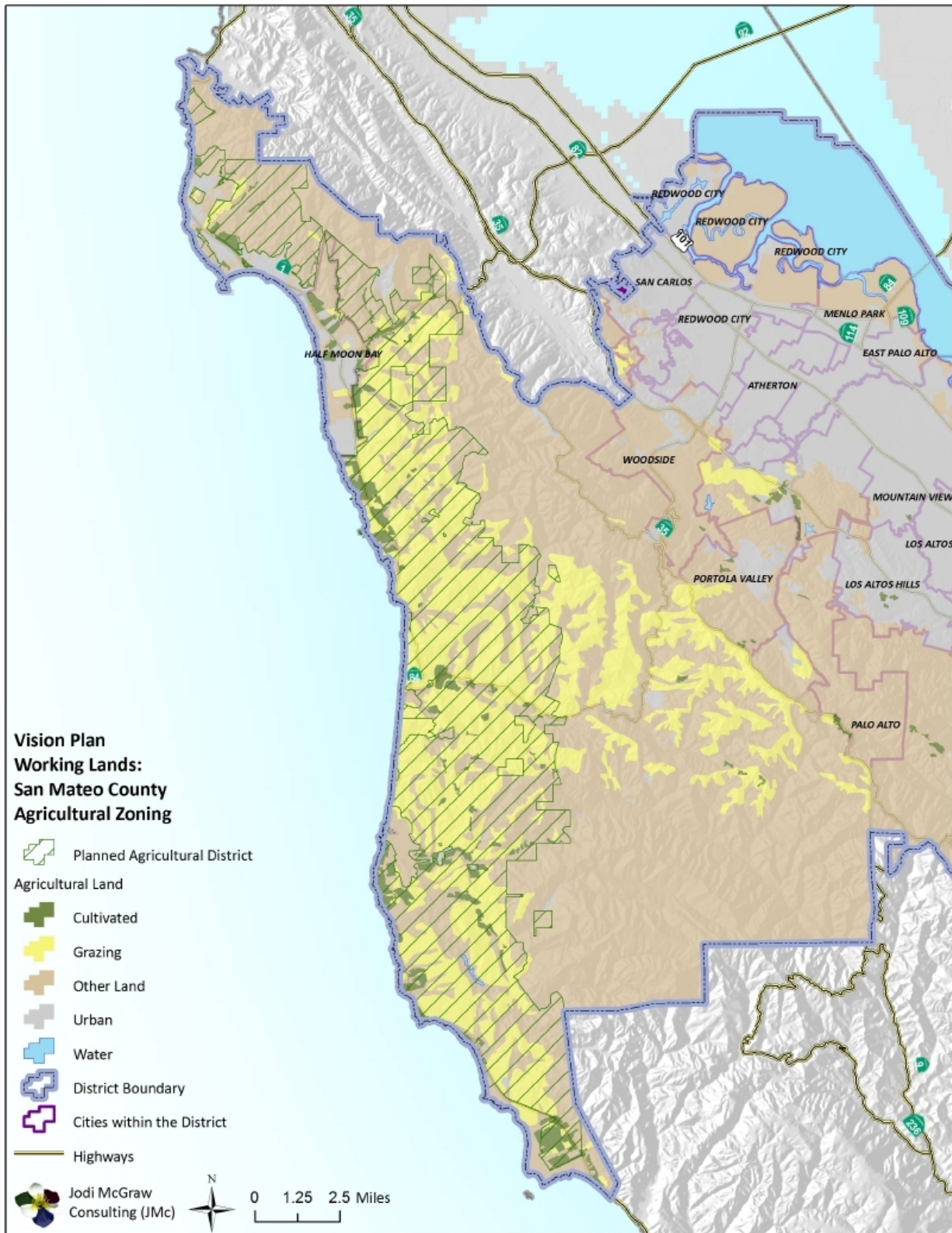
- There is a need to assess the carrying capacity of agri-tourism. Highway 92 and Highway 1, the main connections to population centers, have limited capacity. Pumpkin- and Christmas tree-generated traffic jams are already a problem. Agri-tourism that takes advantage of other seasons might be investigated.
- There is a need to assess how to create more opportunities for farmers to build equity on leased land.

PART 4. APPENDICES

Appendix A



Appendix B



Appendix C

List of Interviewees

Interviewed

Bob Corshen	Community Alliance with Family Farmers
Fred Crowder	San Mateo County Agricultural Commissioner
Vince Fontana	Rancher
Clayton Koopmann	MROSD
Jan Garrod	Garrod & Cooper Vineyards
Jered Lawson	Pie Ranch
Dave Lea	Cabrillo Farms
John LeGrandeur	Rocket Farms
Peter Marchi	Marchi Farms
Doniga Markegard	Markegard Family Grass-Fed
Jason McKenney	Hidden Villa Farm Manager
Kellyx Nelson	San Mateo County Resource Conservation District

Not interviewed (due to scheduling), but want to contribute

Steve Oku	Oku Nursery
Dave Repetto	Repetto's Nursery
Jennifer Gross	San Mateo County Health System

Appendix D

Source Documents

- 1) California Department of Conservation Farmland Mapping & Monitoring Program, Data specific to MROSD, 1990-2010.
- 2) California Employment Development Department Labor Market Data 2011.
- 3) California Rangeland Coalition Conservation Coalition Strategic Plan 2010-2015.
- 4) Comprehensive Annual Financial Reports, City of Half Moon Bay, FY 2010-2011 and FY 2011-2012.
- 5) *Exhibit explores county's history of farming*, Heather Murtagh, The Daily Journal, 3/9/ 2013.
- 6) Existing Conditions Report, Santa Clara County General Plan Health Element, May 2013.
- 7) Farmland for Farming: The Pie Ranch Access to Land Project, 2012
- 8) Midpeninsula Regional Open Space District Strategic Plan 2012
- 9) Midpeninsula Regional Open Space District, Coastside Protection Program 2004
- 10) Midpeninsula Regional Open Space District, Coastal Annexation Plan, 2003
- 11) Protect Farm and Ranch Land - POST Website <http://www.openspacetrust.org/whatwesave/farms.html> (including profiles which describe ways POST works with farmers and ranchers)
- 12) Producing, Distributing, and Consuming Healthy Local Food: Ingredients for a Sustainable Food System, The San Mateo County Food System Alliance, 2012
http://aginnovations.org/images/uploads/SustainableFoodBrief_March_2012.pdf
- 13) San Mateo County General Plan
- 14) San Mateo County Crop Reports 2000 – 2011, San Mateo County Agricultural Commissioner
- 15) San Mateo County Agricultural Commissioner, Pesticide Use Permits 2012.
- 16) Santa Clara County Crop Data. Various reports and maps provided by Santa Clara County Department of Agriculture, May 2013.
- 17) Santa Clara County General Plan (1995-2010)
- 18) Santa Clara County General Plan 2014 Update, Health Element
- 19) Sustaining our Agricultural Bounty: An Assessment of the Current State of Farming and Ranching in the San Francisco Bay Area, 2011. American Farmland Trust, Greenbelt Alliance and Sustainable Agriculture Education.
- 20) Trends in U.S. Farmland Values and Ownership, USDA, March 2012.
- 21) Triple Harvest: Farmland Conservation for Climate Protection, Smart Growth and Food Security in California, 2012. California Climate & Agriculture Network.
- 22) USDA 2007 Census of Agriculture

Initiatives and Plans Underway

- Agricultural Economic Development Investment Strategy Study. Commissioned by American Farmland Trust, to be completed by summer 2013
- Economic Contributions of San Mateo County Agriculture Study. Commissioned by the Agricultural Commissioner, to be completed by late May/early June.
- Agriculture Infrastructure in San Mateo County Study. Commissioned by Food System Alliance, conducted by Community Alliance with Family Farmers, to be completed by June.

Appendix G: Public Deliberation Report



Karl Gahl

Russian Ridge Open Space Preserve



Appendix G-1:

Imagine the Future of Open Space: Public Deliberation Summary Report

Prepared for:

Midpeninsula Regional Open Space District
330 Distel Circle, Los Altos, CA 94022

January 2014

Prepared by:

Sandy Sommer, Midpeninsula Regional Open Space District
Linda Blong, Public Dialogue Consortium



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INTRODUCTION

The purpose of this document is to report on the results of the Vision Plan team's efforts to engage the public in discussions and choice-making around Goals and Priority Actions for the Midpeninsula Regional Open Space District (District). These efforts reflect the District's commitment to a planning process that combines robust scientific analysis with meaningful public input. The efforts constitute the *deliberation phase* of the five stage SHEDD process: Getting Started, Hearing the voices, Enriching the conversation, Deliberating, and Deciding (see R-13-10 dated January 15, 2013). The results are intended to inform District decisions on the goals and actions included in the Vision Plan.

WHAT WE DID AND WHO WE TALKED TO

The deliberation phase of the vision planning process involved two parallel strategies for engaging the public: face-to-face public workshops and online interaction (imagine.openspace.org). Both of these strategies focused on Vision Plan Goals and Priority Actions drafted by District staff and finalized by the District Board of Directors (Board) with input from the Vision Plan Community Advisory Committee (CAC). The development of the Goals and Priority Actions was informed by the scientific analysis, and community, partner and stakeholder conversations conducted in earlier phases of the planning process.

Public Outreach for Deliberation Phase

Outreach efforts for the deliberation phase were coordinated between the workshop and online engagement strategies. Beginning in early September 2013, District staff worked with the Public Dialogue Consortium (PDC) to notify the public of the Workshops, and built upon the robust online participation generated in earlier phases. Outreach included the following means:

- District print newsletter
- District website (www.openspace.org)

- Email announcements to existing interested parties lists
- Facebook & Twitter announcements
- Announcements through the imagine.openspace.org website
- Public radio (KQED) interview with District planner Sandy Sommer
- Email notifications through partner organizations' contact lists
- Distributing postcards with meeting dates and locations, as well as the imagine.openspace.org URL, at various district events and preserves
- Informational flyers in preserve signboards and in various public locations throughout the District

Notifications for public workshops were sent out via various channels at least once a week starting one month prior to the first public workshop on October 21, 2013 and continued until the fifth and final workshop November 16, 2013.

Notifications for online participation continued through the final week of the online platform, which closed December 15, 2013.

Public Workshops

The *region* framework established for the Vision Plan was used to structure the public workshops (See **Appendix A** for a Region Map). Five public workshops were held in locations across the District, each with a focus on the overall Vision Plan Goals and sets of Priority Actions associated with at least two planning regions. The workshops were designed to both inform and engage the public, and each of the approximately three-hour meetings was based on a similar agenda. The workshops included presentations, small group discussions, and the use of keypad technology. Using the keypads, the participants rated the Goals and Priority Actions on a scale of one to ten where ten represented the highest level of importance/priority, and one represented the lowest level of importance/priority. This approach enabled participants to express individual opinions and preferences, and to have immediate access to the aggregated responses of the group. Rating of

goals and priorities resulted in an average score, shown in the Results section of this report.

The agendas consistently included the following components:

1. Opening with introductory District video and the use of keypads to gather and show information about who was in the room.
2. Presentation and keypad rating of Goals for each of five *Open Space Themes*.
3. Opportunity for participants to generate and rate additional goals.
4. For each region covered: presentation, small group discussion, and keypad rating of Priority Actions.
5. Opportunity for participants to generate and rate additional Priority Actions
6. Workshop evaluation with keypads.

Summary of Public Workshops: Locations, Number of Participants and Regions

Workshop locations were chosen based on accessibility and geographic relevance to the regions that were covered.

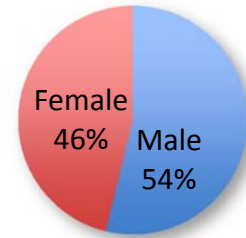
<p>Half Moon Bay, CA October 21st 6-9 p.m. Cunha Elementary School</p>	<p>37 participants rated District Goals and Priority Actions in the following regions:</p> <ul style="list-style-type: none"> • North San Mateo Coast • South San Mateo Coast
<p>Saratoga, CA October 28th, 6-9 p.m. West Valley College</p>	<p>71 participants rated District Goals and Priority Actions in the following regions:</p> <ul style="list-style-type: none"> • Sierra Azul • South Bay Foothills
<p>La Honda, CA November 2nd, 1-4 p.m. Skyline Field Office</p>	<p>24 participants rated District Goals and Priority Actions in the following regions:</p> <ul style="list-style-type: none"> • Skyline Ridge • Central Coast Mountains
<p>Mountain View, CA November 4th, 6-9 p.m. Graham Middle School</p>	<p>68 participants rated District Goals and Priority Actions in the following regions:</p> <ul style="list-style-type: none"> • Skyline Ridge • Peninsula Foothills
<p>Redwood City, CA November 16th, 1-4 p.m. Fair Oaks Community Center</p>	<p>34 participants rated District Goals and Priority Actions in the following regions:</p> <ul style="list-style-type: none"> • Baylands; Peninsula & South Bay Cities • Peninsula Foothills
<p>TOTAL WORKSHOP ATTENDANCE:</p>	<p>234 participants</p>

Who We Talked To: Participant Demographics for Public Workshops

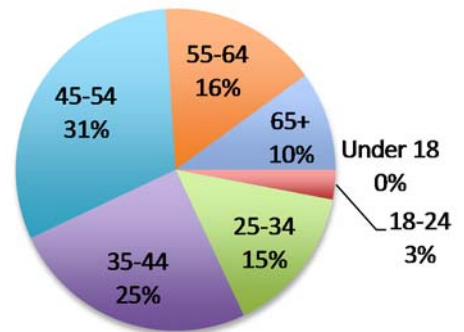
Based on the demographic information provided through the keypad voting technology, a total of 234 community members participated in the public workshops. As the charts here indicate, there was a small majority of male participants. Although all adult age ranges were represented, the overwhelming majority were over the age of 45.

In addition to basic questions of demographics, participants were asked about how and how often they visited open space preserves. A large majority of the workshop participants were frequent users of the preserves and most of those reporting on their primary activity used the preserves to walk, hike, or run¹.

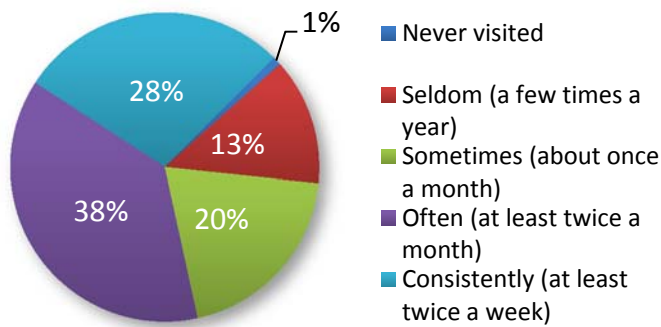
Gender - Public Workshops



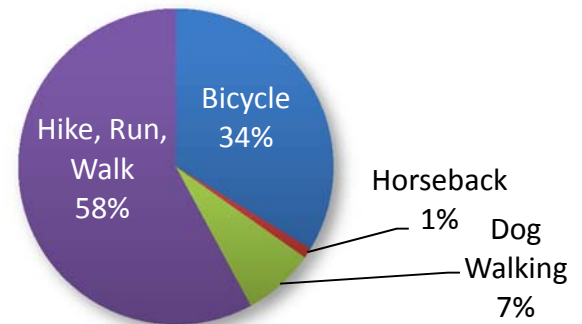
Public Workshop Participant Age



How often do you visit open space?



How do you primarily use open space?

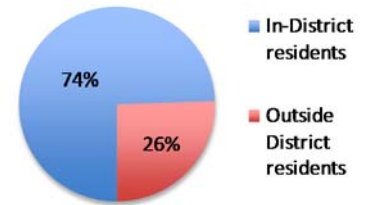


¹ The use of open space question was added after the second workshop so 96 of the 231 participants answered the question.

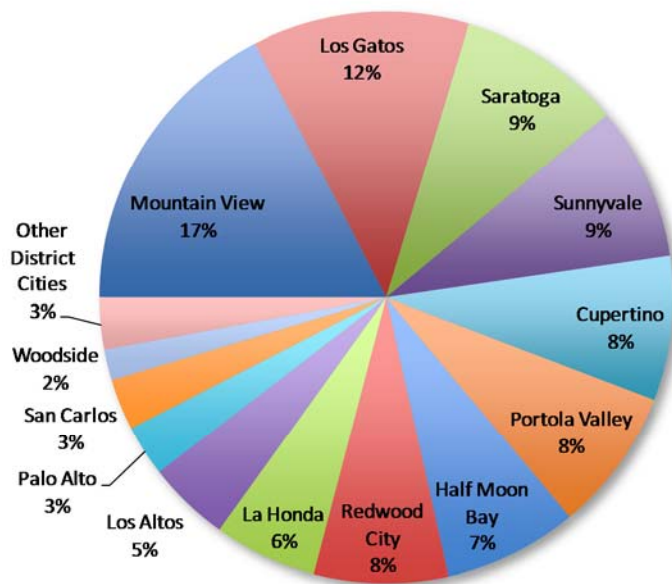
Participants identified their city of residence using keypads. The majority of participants reside within District boundaries.

However, the limits of the technology created some challenges that resulted in what is likely to be an over use of the “other” category. In addition, a few cities, including Palo Alto and San Jose, were added to the options after the second workshop making it likely that these two cities are underrepresented in their category (and overrepresented in “Other”).

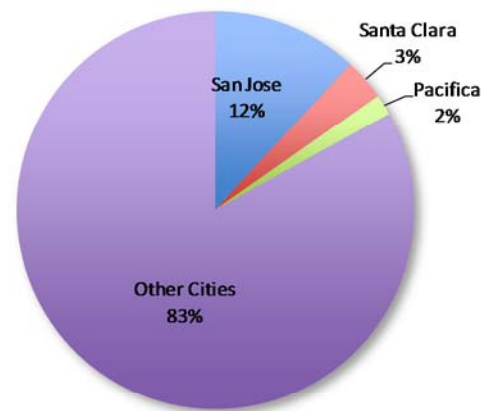
Workshop Participants



Workshop Participants from District (172)



Workshop Participants from Outside District (59)

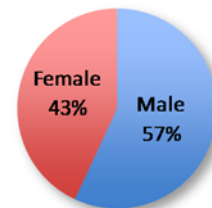


Online Deliberation

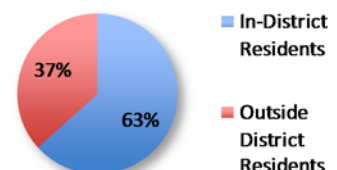
An online participation platform MindMixer (imagine.openspace.org) ran concurrently with the public workshops. Like those involved in public workshops, online participants rated both Goals and Priority Actions. However, online participants could rate actions across all regions. Workshop participants were therefore encouraged to access the website to rate actions in regions not covered in the workshop they attended.

Participants were invited to comment on, as well as rate, Goals and Priority Actions by indicating "I love it?", "I like it!", "It's ok", or "Neutral."

Online Participant Gender



Online Participants



Definitions of each were provided on the website and indicated as follows:

- Love it! = This is a top priority for me!
- Like it! = This is a priority for me, but I have higher priorities.
- It's OK = I see how that can be important, but it is not a high priority for me.
- Neutral = This is not a priority for me.

Rating of goals and priorities resulted in the accumulation of *points* (or stars) as shown in the tables in the Results section of this report. In addition to rating the Goals and Priority Actions developed by the District, online participants could add their own goals and actions for rating and comment.

Who We Talked To: Online Participant Demographics

461 participants rated goals and/or actions within the online platform during the deliberation phase. As with the public workshops, male participants were in the majority, as with participants over the age of 45 as shown in the charts below.

The majority of online participants resided within the District. Participants from a wide range of cities joined the deliberation, as shown in the adjacent charts.

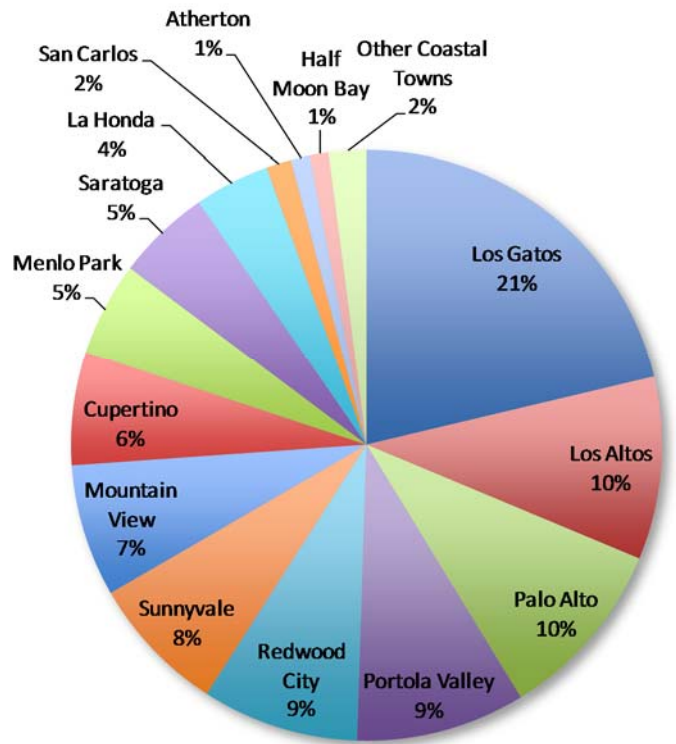
CAC Deliberation

The Vision Plan Community Advisory Committee (CAC) also rated the Priority Actions across all regions at their meeting on December 18, 2013. The meeting was similar to the public workshops, with brief presentations, group discussions, and the use of keypad technology.

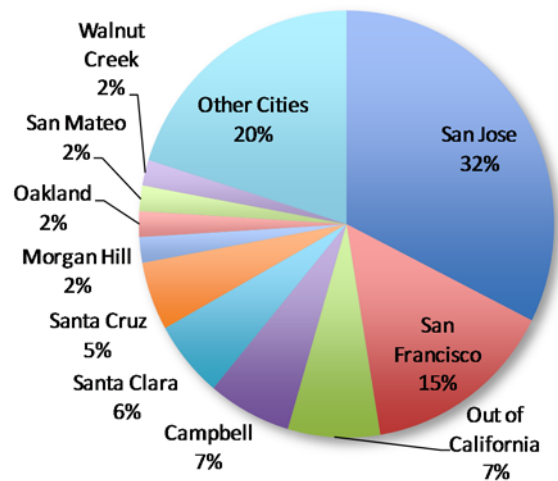
RESULTS OF PUBLIC DELIBERATION

The five workshops, online activity, and CAC meeting produced public input on the relative importance of the Vision Plan Goals and Priority Actions to those people that participated. While not statistically valid, this input was gathered from a wide range of highly engaged individuals. These

Online Participants from District (291)



Online Participants from Outside District (170)



results are meant to inform staff recommendations and Board decisions about the focus of the vision plan. The ranked lists of Goals and Priority Actions that resulted from the public meetings are based on average ratings, but these data are also broken down by demographic subgroups to provide additional information the priorities expressed by types of participants. The

online deliberation produced similar lists based on the four-point rating scale (however with less demographic detail).

Vision Plan Goal Results

Participants rated vision plan Goals across five *themes*. (The CAC did not rate the Goals using the keypads, having extensively participated in their development.) The information they were provided on these Goals included a short bulleted list of objectives. (See **Appendix B-1**).

Workshop Goal Ratings

Table 1 provides a detailed look at the participants' average ratings broken out by key demographics and by each of the individual workshops. The Goals are listed by overall average rating in descending order. Generally, items scoring over 7.5 are considered to be first tier items, but it is also informative to review the ratings of core sub-groups that reflect significant minority preferences.

“Stewardship of Nature” was, on average, the most highly rated goal at the workshops. “Expand

more important than stewardship to younger age groups, those that consistently use open space, and bicyclists. Also of note in these ratings is the low diversity score in the top-rated goal (which indicates agreement), as well as the high diversity scores in red (which indicates lack of agreement).

Online Goal Ratings

For ease of comparison, the online ratings are also shown on **Table 1** in the yellow column on the right. These are based on total points (rather than the average) gained across all ratings on a four-point scale (see page 4 and 5 above), so the comparison is somewhat limited. However, the difference in relative scores of some of the Goals may be of interest. Generally, the ranking of the Goals is similar across platforms and participant populations, at least in considering tiers. Two notable exceptions are the low ranking of “Sense of Place” and high ranking of “Expand Opportunity and Variety” by the online participants. For further detail regarding online goal ratings, including comments, see **Appendix B-2**.



Appropriate Low Intensity Access” tended to be

TABLE 1: Goals Ratings

Theme	VISION PLAN GOALS	DIVERSITY	AVG	GENDER		WORKSHOP					AGE					VISIT OPEN SPACE					USE OPEN SPACE				Online Points	
			TOTAL 234	F (99)	M (117)	10.21 (28)	10.28 (67)	11.2 (25)	11.4 (64)	11.16 (34)	18 24 (7)	25 34 (13)	35 44 (25)	45 54 (65)	55 64 (62)	65 or > (46)	Never (2)	SEL-DOM (29)	SOME TIMES (43)	OF-TEN (81)	CON-SIST-ENTLY (63)	BIKE (32)	DOG (7)	HIKE (53)		Horse (1)
Healthy Nature	Stewardship of Nature	18	8.3	<u>9.1</u>	7.9	8.7	8.2	7.8	8.5	8.6	<u>9.5</u>	8	7.8	8.3	8.6	<u>8.9</u>	4.5	8.6	8.3	8.7	8	<u>7.3</u>	8.1	<u>9.2</u>	8	100
Outdoor Recreation / Healthy Living	Expand Appropriate Low Intensity Access	26	8.2	8.4	8.2	<u>7.2</u>	8.6	8.4	8.4	7.9	<u>9.5</u>	<u>9.1</u>	<u>8.8</u>	<u>8.8</u>	<u>7.7</u>	7.8	4.5	<u>7</u>	7.9	8.6	<u>8.9</u>	<u>9.6</u>	<u>6.4</u>	<u>7.7</u>	<u>10</u>	101
Natural, Cultural, & Scenic Landscapes	Quiet Enjoyment of Nature	<u>29</u>	7.8	<u>8.5</u>	<u>7.3</u>	8.1	7.9	8	8	7.1	7.8	<u>6.8</u>	8.2	7.4	<u>8.3</u>	8.1	4	8.1	7.7	7.9	7.7	<u>6.7</u>	<u>6.3</u>	<u>8.4</u>	<u>6</u>	96
Healthy Nature	Biodiversity	25	7.6	<u>8.3</u>	7.2	<u>8.2</u>	7.5	<u>7.1</u>	7.9	7.6	<u>9</u>	7.4	7.8	7.6	7.7	7.7	2.5	7.8	7.5	8	7.4	<u>6.5</u>	<u>8.2</u>	<u>8.4</u>	<u>6</u>	85
Healthy Nature	Habitat Connectivity	25	7.6	<u>8.2</u>	7.3	7.9	7.6	7.3	7.5	7.8	<u>9</u>	7.8	7.7	7.5	7.8	7.6	2.5	7.6	7.6	7.8	7.5	<u>6.8</u>	<u>8.3</u>	8	8	107
Natural, Cultural, & Scenic Landscapes	Sense of Place	25	7.4	<u>8.3</u>	7	7.8	7.6	7.2	7.6	<u>6.9</u>	<u>8.8</u>	7.3	7.8	7.2	7.7	7.7	2.5	<u>8.1</u>	7.2	7.6	7.3	7	7	7.6	7	58
Viable Working Lands	Model Ecologically Sound Practices	27	7	<u>7.8</u>	<u>6.5</u>	<u>8.3</u>	7.3	7.4	6.7	<u>6.2</u>	<u>8</u>	6.6	<u>6.4</u>	7	7	<u>7.6</u>	5.5	7.3	6.9	<u>7.5</u>	6.6	<u>5.7</u>	<u>6.4</u>	7	<u>10</u>	66
Outdoor Recreation / Healthy Living	Ensure Compatibility	25	7	7.4	6.9	7	7.2	7	<u>7.5</u>	<u>5.9</u>	<u>9</u>	<u>8.1</u>	6.6	7.1	6.8	7.3	3.5	<u>6.4</u>	6.9	7.4	7.2	7.2	6.6	7.1	8	75
Enriched Experiences	Volunteer Stewardship	26	6.7	7	6.4	7	6.6	<u>7.8</u>	6.5	6.1	<u>7.8</u>	6.5	6	6.5	6.6	<u>7.3</u>	4	6.5	6.7	<u>7.2</u>	6.3	<u>5.4</u>	<u>7.2</u>	7	7	69
Viable Working Lands	Support Agriculture and Local Food Producers	<u>39</u>	6.4	<u>7</u>	6	<u>7.8</u>	6.6	6.6	<u>5.9</u>	<u>5.6</u>	<u>7</u>	<u>5.5</u>	<u>5.3</u>	6.3	6.5	<u>7.5</u>	4	6.6	<u>7.2</u>	6.7	<u>5.6</u>	<u>4.9</u>	<u>5.1</u>	6.5	<u>9</u>	72
Enriched Experiences	Increase Diversity and Remove Access Barriers	25	6.4	6.8	6.1	6.4	6.6	<u>7.2</u>	6.3	<u>5.4</u>	<u>8</u>	<u>6.9</u>	6.2	6.3	6.4	6.5	6.5	6.6	6.5	6.7	<u>5.9</u>	<u>5.1</u>	<u>5.6</u>	6.6	7	66
Outdoor Recreation / Healthy Living	Expand Opportunity and Variety	<u>33</u>	6.3	6.6	6.1	6	6	<u>7.3</u>	6.7	<u>5.3</u>	<u>8.3</u>	<u>7.8</u>	6.1	6.2	6	6.2	8	6	<u>6.9</u>	6.4	<u>5.8</u>	<u>5.7</u>	6.1	6.6	6	96
Enriched Experiences	Improved Visitor Experiences	25	6.2	6.6	5.8	6.6	6.2	<u>6.7</u>	6.4	<u>4.8</u>	<u>7.9</u>	<u>5.5</u>	6.2	<u>5.7</u>	6.2	<u>6.8</u>	9	6.2	<u>6.8</u>	6.1	5.8	<u>5.3</u>	<u>4.1</u>	6.5	<u>8</u>	72
Enriched Experiences	Knowledge, Understanding, and Appreciation	<u>29</u>	6	<u>6.6</u>	<u>5.5</u>	<u>7.2</u>	5.9	6.2	6.1	<u>4.7</u>	<u>8.2</u>	6	<u>5.3</u>	5.9	5.8	<u>6.6</u>	4	6.3	6.3	6	<u>5.5</u>	<u>4.8</u>	<u>4</u>	6.4	6	48
Natural, Cultural, & Scenic Landscapes	Stewarding Many Cultures	27	6	<u>6.5</u>	5.7	<u>7</u>	6.1	6	5.8	<u>4.9</u>	<u>7.4</u>	6.2	5.8	5.7	6.1	6.2	3.5	6.4	6.2	6	<u>5.5</u>	<u>5</u>	<u>4.6</u>	6.1	6	40
Viable Working Lands	Educate about the Region's Agricultural Heritage	28	5.5	<u>6</u>	5.1	<u>6.7</u>	5.3	5.9	5.2	<u>5</u>	<u>6.7</u>	<u>4.9</u>	<u>5</u>	5.2	5.4	<u>6.3</u>	4.5	5.7	6.1	5.4	<u>4.9</u>	<u>3.9</u>	<u>6.3</u>	5.8	<u>7</u>	39

Rating Scale
 The ten point rating scale was presented to participants in the public workshop with the following prompts:

10	Highest level of Importance/Priority
8	Mostly Important/Priority
6	Tends to be Important/Priority
5	Tends to Not be Important/Priority
3	Mostly Not Important/Priority

Div: Diversity Scores
 The purple column provides a diversity score for each overall average rating. These are percentage scores that reflect the level of diversity in the average ratings. If 50% of the participants were to rate the item as "1" and 50% of the participants were to rate the item as "10", the diversity score would be 100% (high diversity of opinion). Conversely, if 100% of the participants were to rate an item as "5", then the diversity score would be zero (no diversity of opinion). So higher scores means less agreement. Low scores reflect commonality.

Highlighting Divergence in Subgroup Ratings
 The table uses formatting to highlight subgroup averages that vary notably from the overall average:

- Green italic with one underline = .5 to .9 above the total average
- Green italic with two underlines = 1 or more above the total average
- Red italic with one underline = .5 to .9 below the total average
- Red italic with two underlines = 1 or more below the total average

N: The Number of Participants in Subgroups
 For each subgroup, the number of participants rating the goals is provided in parenthesis in the heading. This is important when considering the relative influence of the group's rating on the average. The N actually varies across goals because not all participants rated all goals. This highest number in each group was generally selected for inclusion in the chart.

Editor's Note: Priority Action Numbering

Please note that the priority action numbering system has changed since this report was prepared. The priority action numbers used in this report are shown under “Old Vision Plan Numbers” in the table below, while the new numbers used in the published Vision Plan are indicated in purple.

New Vision Plan Numbers		Old Vision Plan Numbers			
1	74	19	17	37	24
2	34	20	16	38	35
3	67	21	11	39	62
4	52	22	10	40	44
5	51	23	4	41	31
6	32	24	7	42	61
7	64	25	1	43	60
8	48	26	76	44	59
9	46	27	72	45	40
10	47	28	73	46	39
11	30	29	71	47	43
12	23	30	75	48	57
13	58	31	70	49	37
14	56	32	66	50	21
15	55	33	53	51	19
16	38	34	29	52	22
17	27	35	25	53	9
18	18	36	28	54	8

Vision Plan Priority Action Results

Participants in the vision plan public deliberation phase learned about Priority Actions by reviewing *Priority Action Profiles* (see several samples in **Appendix C**). A total of 54 Priority Actions were developed.

Workshop Priority Action Ratings

At the public workshops, District staff presented the Priority Action Profiles and addressed participant questions without getting into details that were not appropriate at this stage of priority action development. The workshop participants jotted down *pencil ratings* during the presentation and then engaged in small group discussions to explore different perspectives on priorities. Keypad ratings were thus informed by these discussions.

The rating processes for the Priority Actions resulted in a ranked list of Priority Actions within each region (See **Table 2** and **Appendix D-1**). Also provided (see **Table 3**) is a listing of all Priority Actions sorted by public workshop ranking. Refer to the **Workshop Ratings Key** on page 13 for an explanation of table abbreviations and formatting.

Overall, due to time limitations, public workshop participants were able to rate 46 of the 54 Priority Actions. Workshop participants were therefore encouraged to access the website to rate actions not covered. With the exception of the “Cities” region, all areas of District have at least one priority action in the highest tier based on Public Workshop ratings (greater than 7.5). The participants in the Redwood City meeting consistently rated Priority Actions (across the board) lower than participants at other workshops.

Online Priority Action Ratings

Online participants were afforded the opportunity to rate all 54 Priority Actions across all regions, using the Vision Plan website at imagine.openspace.org. **Tables 2 and 3** indicate the online point totals. Unlike the workshop results, average scores and demographic details are not available, making a direct comparison impossible.

Online, the highest rated Priority Actions tended to be those that reflected long-standing community interest, that had received recent media coverage, or that were located in well known places. The most highly rated priority action was *17- El Sereno Dog Trails and Connections*, which received 193 points. Considering that 13% of online participants were from Los Gatos and El Sereno Open Space Preserve is already open to the public, this score does not seem surprising. However, *47 – Coal Creek: Reopen Alpine Road for Trail Use* (127 points) was also entered as a duplicate participant-generated action (119 points), so in total this priority action was by far the highest rated online item (with 246 points).

CAC Priority Action Ratings

At their December 18, 2013 meeting, the CAC rated 39 Priority Actions drawn from the more highly ranked subset, based upon public workshop and online rankings. **Tables 2 and 3** indicate the CAC point totals (See **Appendix D-2** for greater detail).

CAC members tended to have lower diversity rankings than the public in general, reflective of their closer ties to the District and its work.

The order of Priority Actions within regions was fairly consistent between the CAC and public workshops ratings, with the exception of the Skyline Region. Other notable exceptions were higher CAC ratings for *#7 - Sierra Azul: Rancho de Guadalupe Family Recreation and Interpretive Projects* (which the CAC toured, so was more informed about the area) and *#31- Rancho San Antonio: Hidden Villa Access and Preservation Projects* (the CAC includes Hidden Villa’s Executive Director).

Priority Action Ratings Compared to Goal Ratings

The highly rated Priority Actions are generally in alignment with the highly rated Goals of *Stewardship of Nature* and *Expanding Low Intensity Access*. The highest rated Priority Actions for both the public workshop participants and the CAC show a balanced emphasis on both of these Goals.

In contrast, the highest rated priorities of the online participants were more often those actions that emphasized expanded public access. Consistent with the Goals ratings, all participants tended to rate Priority Actions that emphasized the Viable Working Lands and Enriched Experiences themes (without stewardship or access) on the lower end of the scale.

Workshop Ratings Key

Rating Scale

The ten point rating scale was presented to participants in the public workshop with the following prompts:

- 10 Highest level of Importance/Priority
- 8 Mostly Important/Priority
- 6 Tends to be Important/Priority
- 5 Tends to Not be Important/Priority
- 3 Mostly Not Important/Priority
- 1 Lowest Level of Importance/Priority

Div: Diversity Scores

The purple column provides a diversity score for each overall average rating. These are percentage scores that reflect the level of diversity in the average ratings. If 50% of the participants were to rate the item as "1" and 50% of the participants were to rate the item as "10", the diversity score would be 100% (high diversity of opinion). Conversely, if 100% of the participants were to rate an item as "5", then the diversity score would be zero (no diversity of opinion). So higher scores means less agreement. Low scores reflect commonality.

Highlighting Divergence in Subgroup Ratings

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N: The Number of Participants in Subgroups

For each subgroup, the number of participants rating the item is provided in parentheses in the heading. This factor is important when considering the relative influence of the group's rating on the average. The N actually varies in a given workshop because not all participants necessarily rated each action. This highest number in each group was generally selected for inclusion in the chart.

Table 2: Priority Action Ratings, by Region

Note: Table is sorted by Workshop Results

	Workshop Results			Online Points	CAC Results***		
	N	Avg	Div		N	Avg	Div
North San Mateo County Coast Region - HMB Workshop - 10.21.13							
67 - Purisima Creek Redwoods: Purisima-to-Sea Trail Watershed Protection & Conservation Grazing	30	8.3	30	98	19	8.7	7
74 - Miramontes Ridge: Gateway to the Coast Public Access, Stream Restoration, & Agriculture Enhancement	31	7.6	30	65	19	7.6	21
73 - Miramontes Ridge/Purisima Crk Rdwds: Mills Creek/Arroyo Leon Watershed, Stream Restoration, & Trails	31	7.1	29	59	19	7.5	12
75 - Regional: Support CA Coastal Trail	31	6.9	43	74	19	7.4	23
70 - Miramontes Ridge/Purisima Creek Redwoods: Fire Management and Risk Reductions	30	6.6	30	41			
72 - Miramontes Ridge/Purisima Creek Redwoods: Coastside Environmental Education Partnerships	31	5.6	40	26			
71 - Advocate to Protect Coastal Vistas**				40			

	Workshop Results			Online Points	CAC Results		
	N	Avg	Div		N	Avg	Div
South San Mateo County Coast Region - HMB Workshop - 10.21.13							
64 - La Honda Creek: Driscoll Ranch Public Access, Endangered Wildlife Protection, & Conservation Grazing	28	9	10	86	19	8.1	25
58 - Cloverdale Ranch: Wildlife Protection, Grazing, and Trail Connections	30	7.8	29	52	19	7.4	21
62 - La Honda Creek/El Corte Madera Creek: San Gregorio Watershed and Agriculture Preservation Projects	30	7.4	26	41	21	6.9	26
66 - Tunitas Creek: Additional Watershed Preservation & Conservation Grazing	30	7.2	28	32	20	6.8	25
59 - Lower Pescadero Creek: Watershed Preservation & Conservation Grazing	30	7.1	36	39	19	6.9	28
57 - Gazos Creek Watershed: Preserve Redwoods, Fish & Add Trails**				68	21	7.4	25
61 - Advocate to Protect Coastal Vistas**				44			
60 - Lower Pomponio Creek: Watershed Preservation and Grazing**				38			

	Workshop Results			Online Points	CAC Results		
	N	Avg	Div		N	Avg	Div
Central Coastal Mountains Region - Skyline Area Workshop - 11.2.13							
56 - Regional: Trail Connections and Campgrounds	24	8.4	15	69	21	8.3	16
55 - Regional: Redwood Protection and Salmon Fishery Conservation	24	7.5	19	52	21	8.3	12

	Workshop Results			Online Points	CAC Results		
	N	Avg	Div		N	Avg	Div
Skyline Region - 2 Workshops - 11.2.2013 and 11.4.2013							
51 - La Honda Creek: Upper Area Recreation - Habitat Restoration and Conservation Grazing Projects	84	8	23	97	21	9.1	9
46 - Russian Ridge: Public Recreation - Grazing - and Wildlife Protection Projects	83	8	19	96	21	8.7	11
48 - La Honda Creek/Russian Ridge: Preservation of Upper San Gregorio Watershed & Ridge Trail Completion	82	8	25	82	21	8.3	10
47 - Coal Creek: Reopen Alpine Road for Trail Use	85	7.8	27	127#	21	6.9	17
38 - Long Ridge: Trail - Conservation and Habitat Restoration Projects	83	7.7	20	114	21	8	13
52 - El Corte de Madera Creek: Bike Trail and Water Quality Projects	85	7.5	28	138	21	7.4	14
40 - Skyline Subregion: Fire Management and Forest Restoration Projects	84	6.5	30	48			
39 - Skyline Ridge: Education Facilities - Trails and Wildlife Conservation Projects	84	6.4	33	51	21	7.9	16
53 - Purisima Creek Redwoods: Parking and Repair Projects	86	5.8	32	63			
37 - Saratoga Gap: Stevens Canyon Ranch Family Food Education Projects	83	4.9	25	22	21	6.8	22
43 - Monte Bello: Campfire Talks & Habitat Projects**				27			

	Workshop Results			Online Points	CAC Results***		
	N	Avg	Div		N	Avg	Div
Peninsula Foothills Region - 2 Workshops - 11.4.2013 and 11.16.2013							
27 - Regional: Complete Upper Stevens Creek Trail	97	8.1	29	141	21	8.1	13
32 - Windy Hill: Trail Improvements - Preservation - and Hawthorns Area Historic Partnership	102	7.7	36	107	21	8.1	17
76 - Pulgas Ridge: Regional and Neighborhood Trail Extensions	102	6.7	38	98	20	6.9	19
44 - Regional: San Andreas Fault Interpretive Trail Program	102	5.8	36	61	21	6.9	17
30 - Rancho San Antonio: Interpretive Improvements - Refurbishing - and Transit Solutions	101	5.6	40	130			
31 - Rancho San Antonio: Hidden Villa Access and Preservation Projects	102	5.6	46	73	21	8	15
28 - Collaborate to Restore San Francisquito Creek Fish Habitat**				67			
29 - Teague Hill: West Union Crk Watershed Restoration Partnership**				39			

	Workshop Results			Online Points	CAC Results		
	N	Avg	Div		N	Avg	Div
Peninsula / South Bay Cities & Baylands Regions - Redwood City Workshop - 11.16.2013							
34 - Regional: Bayfront Habitat Protection and Public Access Partnerships	34	7.6	38	109	21	9.1	5
23 - Peninsula/South Bay Cities: Partner to Complete Middle Stevens Creek Trail	34	6.7	41	133	21	8	18
35 - Ravenswood: Cooley Landing Nature Center Partnership	34	6.2	42	37	21	8.8	18
24 - Peninsula/South Bay Cities: San Francisquito Creek Restoration Partnership	34	4.9	34	58			
22 - Peninsula/South Bay Cities: Los Gatos Creek Trail Connections	34	4.4	32	120	21	7.2	21
25 - Major Roadway Signage**				16			

	Workshop Results				CAC Results		
	N	Avg	Div	Online Points	N	Avg	Div
South Bay Foothills Region - Saratoga Workshop - 10.28.13							
16 - South Bay Foothills: Wildlife Passage and Ridge Trail Improvements	64	8.6	18	94	21	8.6	14
11 - Bear Creek Redwoods: Public Recreation and Interpretive Projects	65	8.1	22	76	21	8	15
18 - South Bay Foothills: Saratoga-to-Sea Trail and Wildlife Corridor	65	7.4	32	101	21	8.1	10
17 - El Sereno: Dog Trails & Connections	66	6.8	31	193	21	6.6	26
21 - Picchetti Ranch: Family Nature Play Program	66	6.1	15	39	21	6.8	25
19 - Fremont Older: Historic Woodhills Restoration & Overall Parking Improvements	66	5.8	23	60			

	Workshop Results				CAC Results		
	N	Avg	Div	Online Points	N	Avg	Div
Sierra Azul Region - Saratoga Workshop - 10.28.13							
1 - Sierra Azul: Loma Prieta Area Public Access, Regional Trails, and Habitat Projects	69	8.2	27	158	21	8.2	8
4 - Sierra Azul: Mt. Umunhum Public Access and Interpretation Projects	68	8	23	159	21	8.9	9
10 - Sierra Azul: Cathedral Oaks Public Access and Conservation Projects	70	7.6	22	124	21	7.8	11
8 - Sierra Azul: Fire Management	70	7.5	18	68			
9 - Sierra Azul: Expand access in the Kennedy-Limekiln Area	64	6.9	27	121	21	7.7	12
7 - Sierra Azul: Rancho de Guadalupe Family Recreation and Interpretive Projects	70	6.8	20	83	21	8.5	8

** : Not rated at the public workshops

*** : CAC did not rate all actions on 12/18/13

: Same participant generated action also received 119 points

Table 3: Priority Action ratings, by Public Workshop Ranking

Note: Table is sorted by Workshop Results

Priority Action	Region	Wkshp Results			Online Points	CAC Results***		
		N	Avg	Div		N	Avg	Div
64 - La Honda Creek: Driscoll Ranch Public Access, Endangered Wildlife Protection, & Conservation Grazing	South Coast	28	9	10	86	19	8.1	25
16 - South Bay Foothills: Wildlife Passage and Ridge Trail Improvements	South Foothills	64	8.6	18	94	21	8.6	14
56 - Regional: Trail Connections and Campgrounds	Coastal Mtns	24	8.4	15	69	21	8.3	16
67 - Purisima Creek Redwoods: Purisima-to-Sea Trail Watershed Protection & Conservation Grazing	North Coast	30	8.3	30	98	19	8.7	7
1 - Sierra Azul: Loma Prieta Area Public Access, Regional Trails, and Habitat Projects	Sierra Azul	69	8.2	27	158	21	8.2	8
27 - Regional: Complete Upper Stevens Creek Trail	Pen. Foothills	97	8.1	29	141	21	8.1	13
11 - Bear Creek Redwoods: Public Recreation and Interpretive Projects	South Foothills	65	8.1	22	76	21	8	15
51 - La Honda Creek: Upper Area Recreation - Habitat Restoration and Conservation Grazing Projects	Skyline	84	8	23	97	21	9.1	9
46 - Russian Ridge: Public Recreation - Grazing - and Wildlife Protection Projects	Skyline	83	8	19	96	21	8.7	11
48 - La Honda Creek/Russian Ridge: Preservation of Upper San Gregorio Watershed & Ridge Trail Comp	Skyline	82	8	25	82	21	8.3	10
4 - Sierra Azul: Mt. Umunhum Public Access and Interpretation Projects	Sierra Azul	68	8	23	159	21	8.9	9
58 - Cloverdale Ranch: Wildlife Protection, Grazing, and Trail Connections	South Coast	30	7.8	29	52	19	7.4	21
47 - Coal Creek: Reopen Alpine Road for Trail Use	Skyline	85	7.8	27	127 #	21	6.9	17
38 - Long Ridge: Trail - Conservation and Habitat Restoration Projects	Skyline	83	7.7	20	114	21	8	13
32 - Windy Hill: Trail Improvements - Preservation - and Hawthorns Area Historic Partnership	Pen. Foothills	102	7.7	36	107	21	8.1	17
74 - Miramontes Ridge: Gateway to the Coast Public Access, Stream Restoration, & Agriculture Enhanc	North Coast	31	7.6	30	65	19	7.6	21
34 - Regional: Bayfront Habitat Protection and Public Access Partnerships	Baylands	34	7.6	38	109	21	9.1	5
10 - Sierra Azul: Cathedral Oaks Public Access and Conservation Projects	Sierra Azul	70	7.6	22	124	21	7.8	11
55 - Regional: Redwood Protection and Salmon Fishery Conservation	Coastal Mtns	24	7.5	19	52	21	8.3	12
52 - El Corte de Madera Creek: Bike Trail and Water Quality Projects	Skyline	85	7.5	28	138	21	7.4	14
8 - Sierra Azul: Fire Management	Sierra Azul	70	7.5	18	68			
62 - La Honda Creek/El Corte Madera Creek: San Gregorio Watershed and Agriculture Preservation Pro	South Coast	30	7.4	26	41	21	6.9	26
18 - South Bay Foothills: Saratoga-to-Sea Trail and Wildlife Corridor	South Foothills	65	7.4	32	101	21	8.1	10
66 - Tunitas Creek: Additional Watershed Preservation & Conservation Grazing	South Coast	30	7.2	28	32	20	6.8	25
73 - Miramontes Ridge/Purisima Crk Rdwds: Mills Creek/Arroyo Leon Watershed, Stream Restoration,	North Coast	31	7.1	29	59	19	7.5	12
59 - Lower Pescadero Creek: Watershed Preservation & Conservation Grazing	South Coast	30	7.1	36	39	19	6.9	28
75 - Regional: Support CA Coastal Trail	North Coast	31	6.9	43	74	19	7.4	23
9 - Sierra Azul: Expand access in the Kennedy-Limekiln Area	Sierra Azul	64	6.9	27	121	21	7.7	12
17 - El Sereno: Dog Trails & Connections	South Foothills	66	6.8	31	193	21	6.6	26
7 - Sierra Azul: Rancho de Guadalupe Family Recreation and Interpretive Projects	Sierra Azul	70	6.8	20	83	21	8.5	8
76 - Pulgas Ridge: Regional and Neighborhood Trail Extensions	Pen. Foothills	102	6.7	38	98	20	6.9	19
23 - Peninsula/South Bay Cities: Partner to Complete Middle Stevens Creek Trail	Cities	34	6.7	41	133	21	8	18
70 - Miramontes Ridge/Purisima Creek Redwoods: Fire Management and Risk Reductions	North Coast	30	6.6	30	41			
40 - Skyline Subregion: Fire Management and Forest Restoration Projects	Skyline	84	6.5	30	48			
39 - Skyline Ridge: Education Facilities - Trails and Wildlife Conservation Projects	Skyline	84	6.4	33	51	21	7.9	16
35 - Ravenswood: Cooley Landing Nature Center Partnership	Baylands	34	6.2	42	37	21	8.8	18
21 - Picchetti Ranch: Family Nature Play Program	South Foothills	66	6.1	15	39	21	6.8	25
53 - Purisima Creek Redwoods: Parking and Repair Projects	Skyline	86	5.8	32	63			
44 - Regional: San Andreas Fault Interpretive Trail Program	Pen. Foothills	102	5.8	36	61	21	6.9	17
19 - Fremont Older: Historic Woodhills Restoration & Overall Parking Improvements	South Foothills	66	5.8	23	60			
72 - Miramontes Ridge/Purisima Creek Redwoods: Coastside Environmental Education Partnerships	North Coast	31	5.6	40	26			
30 - Rancho San Antonio: Intrepretive Improvements - Refurbishing - and Transit Solutions	Pen. Foothills	101	5.6	40	130			
31 - Rancho San Antonio: Hidden Villa Access and Preservation Projects	Pen. Foothills	102	5.6	46	73	21	8	15
37 - Saratoga Gap: Stevens Canyon Ranch Family Food Education Projects	Skyline	83	4.9	25	22	21	6.8	22
24 - Peninsula/South Bay Cities: San Francisquito Creek Restoration Partnership	Cities	34	4.9	34	58			
22 - Peninsula/South Bay Cities: Los Gatos Creek Trail Connections	Cities	34	4.4	32	120	21	7.2	21
71 - Advocate to Protect Coastal Vistas**	North Coast				40			
57 - Gazos Creek Watershed: Preserve Redwoods, Fish & Add Trails**	South Coast				68	21	7.4	25
61 - Advocate to Protect Coastal Vistas**	South Coast				44			
60 - Lower Pomponio Creek: Watershed Preservation and Grazing**	South Coast				38			
43 - Monte Bello: Campfire Talks & Habitat Projects**	Skyline				27			
28 - Collaborate to Restore San Francisquito Creek Fish Habitat**	Pen. Foothills				67			
29 - Teague Hill: West Union Crk Watershed Restoration Partnership**	Pen. Foothills				39			
25 - Major Roadway Signage**	Cities				16			

** : Not rated at the public workshops

*** : CAC did not rate all actions

: Same participant generated action also received 119 points

Participant-generated Goals and Actions

In addition to the ranked lists of Goals and Priority Actions developed by the District, participants in public workshops and online offered their own ideas for Goals and Priority Actions. Some of these were also rated. These ideas are included in **Appendix E**.

Workshop Participant Comments

Workshop participant comments are shown in **Appendix F**.

Workshop Participant Evaluations

Workshop evaluations conducted with keypads at the end of the meetings indicate that the agenda and use of the keypad technology were well received by participants. In all cases, participation in the workshops raised the level of trust in the Vision Plan engagement process. Participants over the age of 65 tended to express a higher level of satisfaction with the workshops. Those participants that indicated that they primarily bicycle when they use open space expressed a lower level of satisfaction with the workshops, as did the attendees at the November 16, 2013 workshop. (See **Appendix G**)



Photo: Ray Hosler

NEXT STEPS

The District now moves into the *deciding phase of the* vision planning process. In this final phase of the process the Board will delve into the results of the deliberations outlined in this report and decide what Priority Actions will be featured in the Vision Plan. This will not be an easy task as each and every one of the actions that were profiled in the deliberation phase were selected from an even broader pool of potential Priority Actions and developed with considerable input scientific and public input. It is important to keep in mind, however, that none of the actions that were included in the deliberation phase need be completely removed from all future consideration. In the future, conditions will change and priorities will shift accordingly in response to those changes.

A first step in the deciding phase is to sort actions into tiers that reflect levels of priority. These tiers can be informed by the public input gathered across all three sources of deliberative input: public workshops, online deliberation, and the CAC deliberative meeting. **Table 4** provides an overview of where the actions fall in relation to *top tier* ratings across the three sources of input. For purposes of this table, the top tier is generally defined as a rating in the top quartile. For the public workshops and CAC, the top quartile is an average result greater than 7.5. For the online scores, the scores over 100 comprise the top quartile. The table is not intended to comprise a final tiered ranking. Rather, it is meant as an initial summary that can be used to surface actions that require a closer look to understand their ratings, and the specific populations and situations through which these ratings were produced.

CONCLUSION

During the deliberation phase of the vision planning process, more than 535 members of the public actively engaged with the District and its work. They learned about the Themes and Goals that guide that work and the kinds of actions that might be taken to work toward those Goals. They considered their own priorities and values in relation to that work and many of them explored perspectives different from their own through small group conversations and online comments. And ultimately, they expressed their priorities through rating systems that invited them to consider tradeoffs and to see how others' priorities compared to their own.

The District has gained some useful information through this process. The results offer a solid look at the values and opinions of community stakeholders — those who really care about what the District is doing and what it will do in the future. What is more, the process has shown those stakeholders that the District cares about what is important *to them*, and intends to bring their voices into decision making processes that will shape the future of open space on the Peninsula and in the South Bay.

As the District Board engages in the work of making decisions about how Goals will be expressed and what Priority Actions will be featured in the Vision Plan, the results of the public deliberations outlined in this report will sit along side scientific analyses and expert planning to provide a balanced foundation for making difficult choices. Community stakeholders will continue to observe, participate, and better understand what has informed the decisions that will guide the work that they so clearly care about.

Table 4: Comparison of All Ratings

Priority Action	Region	Top Wkshp Results (>7.5)	Top Online (Top 25%)	Top CAC Results (>7.5)	Sum	Wkshp Results			CAC Results***			
						N	Avg	Div	Online Points	N	Avg	Div
34 - Regional: Bayfront Habitat Protection and Public Access Partnerships	Baylands	1	1	1	3	34	7.6	38	109	21	9.1	5
4 - Sierra Azul: Mt. Umunhum Public Access and Interpretation Projects	Sierra Azul	1	1	1	3	68	8	23	159	21	8.9	9
1 - Sierra Azul: Loma Prieta Area Public Access, Regional Trails, and Habitat Projects	Sierra Azul	1	1	1	3	69	8.2	27	158	21	8.2	8
27 - Regional: Complete Upper Stevens Creek Trail	Pen. Fthills	1	1	1	3	97	8.1	29	141	21	8.1	13
32 - Windy Hill: Trail Improvements, Preservation, and Hawthorns Area Historic Partnership	Pen. Fthills	1	1	1	3	102	7.7	36	107	21	8.1	17
38 - Long Ridge: Trail, Conservation and Habitat Restoration Projects	Skyline	1	1	1	3	83	7.7	20	114	21	8	13
10 - Sierra Azul: Cathedral Oaks Public Access and Conservation Projects	Sierra Azul	1	1	1	3	70	7.6	22	124	21	7.8	11
51 - La Honda Creek: Upper Area Recreation, Habitat Restoration and Conservation Grazing	Skyline	1		1	2	84	8	23	97	21	9.1	9
67 - Purisima Creek Redwoods: Purisima-to-Sea Trail Watershed Protection & Cons. Grazing	North Coast	1		1	2	30	8.3	30	98	19	8.7	7
46 - Russian Ridge: Public Recreation - Grazing - and Wildlife Protection Projects	Skyline	1		1	2	83	8	19	96	21	8.7	11
16 - South Bay Foothills: Wildlife Passage and Ridge Trail Improvements	South Fthills	1		1	2	64	8.6	18	94	21	8.6	14
56 - Regional: Trail Connections and Campgrounds	Coastal Mtns	1		1	2	24	8.4	15	69	21	8.3	10
48 - La Honda Ck/Russian Ridge: Upper San Gregorio Wtrshd Preservation & Ridge Trail Completion	Skyline	1		1	2	82	8	25	82	21	8.3	16
55 - Regional: Redwood Protection and Salmon Fishery Conservation	Coastal Mtns	1		1	2	24	7.5	19	52	21	8.3	12
64 - La Honda Creek: Driscoll Ranch Public Access, Endangered Wildlife Protection, & Cons. Grazing	South Coast	1		1	2	28	9	10	86	19	8.1	25
18 - South Bay Foothills: Saratoga-to-Sea Trail and Wildlife Corridor	South Fthills		1	1	2	65	7.4	32	101	21	8.1	10
11 - Bear Creek Redwoods: Public Recreation and Interpretive Projects	South Fthills	1		1	2	65	8.1	22	76	21	8	15
23 - Peninsula/South Bay Cities: Partner to Complete Middle Stevens Creek Trail	Cities		1	1	2	34	6.7	41	133	21	8	18
9 - Sierra Azul: Expand access in the Kennedy-Limekiln Area	Sierra Azul		1	1	2	64	6.9	27	121	21	7.7	12
74 - Miramontes Ridge: Gateway to Coast Public Access, Stream Restoration, & Ag Enhancement	North Coast	1		1	2	31	7.6	30	65	19	7.6	21
52 - El Corte de Madera Creek: Bike Trail and Water Quality Projects	Skyline	1	1		2	85	7.5	28	138	21	7.4	14
47 - Coal Creek: Reopen Alpine Road for Trail Use	Skyline	1	1		2	85	7.8	27	127#	21	6.9	17
35 - Ravenswood: Cooley Landing Nature Center Partnership	Baylands			1	1	34	6.2	42	37	21	8.8	18
7 - Sierra Azul: Rancho de Guadalupe Family Recreation and Interpretive Projects	Sierra Azul			1	1	70	6.8	20	83	21	8.5	8
31 - Rancho San Antonio: Hidden Villa Access and Preservation Projects	Pen. Fthills			1	1	102	5.6	46	73	21	8	15
39 - Skyline Ridge: Education Facilities - Trailsand Wildlife Conservation Projects	Skyline			1	1	84	6.4	33	51	21	7.9	16
73 - Miramontes Ridge/Pur. Ck Rdwds: Mills Creek/Arroyo Leon Wtrshd Restoration, & Trails	North Coast			1	1	31	7.1	29	59	19	7.5	12
58 - Cloverdale Ranch: Wildlife Protection, Grazing, and Trail Connections	South Coast	1			1	30	7.8	29	52	19	7.4	21
22 - Peninsula/South Bay Cities: Los Gatos Creek Trail Connections	Cities		1		1	34	4.4	32	120	21	7.2	21
17 - El Sereno: Dog Trails & Connections	South Fthills		1		1	66	6.8	31	193	21	6.6	26
8 - Sierra Azul: Fire Management	Sierra Azul	1			1	70	7.5	18	68			
30 - Rancho San Antonio: Interpretive Improvements, Refurbishing, and Transit Solutions	Pen. Fthills		1		1	101	5.6	40	130			
75 - Regional: Support CA Coastal Trail	North Coast				0	31	6.9	43	74	19	7.4	23
57 - Gazos Creek Watershed: Preserve Redwoods, Fish & Add Trails**	South Coast				0				68	21	7.4	25
62 - La Honda Creek/El Corte Madera Creek: San Gregorio Watershed and Ag Preservation	South Coast				0	30	7.4	26	41	21	6.9	26
59 - Lower Pescadero Creek: Watershed Preservation & Conservation Grazing	South Coast				0	30	7.1	36	39	19	6.9	28
76 - Pulgas Ridge: Regional and Neighborhood Trail Extensions	Pen. Fthills				0	102	6.7	38	98	20	6.9	19
44 - Regional: San Andreas Fault Interpretive Trail Program	Pen. Fthills				0	102	5.8	36	61	21	6.9	17
66 - Tunitas Creek: Additional Watershed Preservation & Conservation Grazing	South Coast				0	30	7.2	28	32	20	6.8	25
21 - Picchetti Ranch: Family Nature Play Program	South Fthills				0	66	6.1	15	39	21	6.8	25
37 - Saratoga Gap: Stevens Canyon Ranch Family Food Education Projects	Skyline				0	83	4.9	25	22	21	6.8	22
70 - Miramontes Ridge/Purisima Creek Redwoods: Fire Management and Risk Reductions	North Coast				0	30	6.6	30	41			
40 - Skyline Region: Fire Management and Forest Restoration Projects	Skyline				0	84	6.5	30	48			
53 - Purisima Creek Redwoods: Parking and Repair Projects	Skyline				0	86	5.8	32	63			
19 - Fremont Older: Historic Woodhills Restoration & Overall Parking Improvements	South Fthills				0	66	5.8	23	60			
72 - Miramontes Ridge/Purisima Creek Redwoods: Coastside Environmental Education Partnerships	North Coast				0	31	5.6	40	26			
24 - Peninsula/South Bay Cities: San Francisquito Creek Restoration Partnership	Cities				0	34	4.9	34	58			
28 - Collaborate to Restore San Francisquito Creek Fish Habitat**	Pen. Fthills				0				67			
61 - Advocate to Protect Coastal Vistas**	South Coast				0				44			
71 - Advocate to Protect Coastal Vistas**	North Coast				0				40			
29 - Teague Hill: West Union Crk Watershed Restoration Partnership**	Pen. Fthills				0				39			
60 - Lower Pomponio Creek: Watershed Preservation and Grazing**	South Coast				0				38			
43 - Monte Bello: Campfire Talks & Habitat Projects**	Skyline				0				27			
25 - Major Roadway Signage**	Cities				0				16			

*: Use of keypads to collect data on use of open space did not start until 11/4/13 workshop

** : Not rated at the public workshops

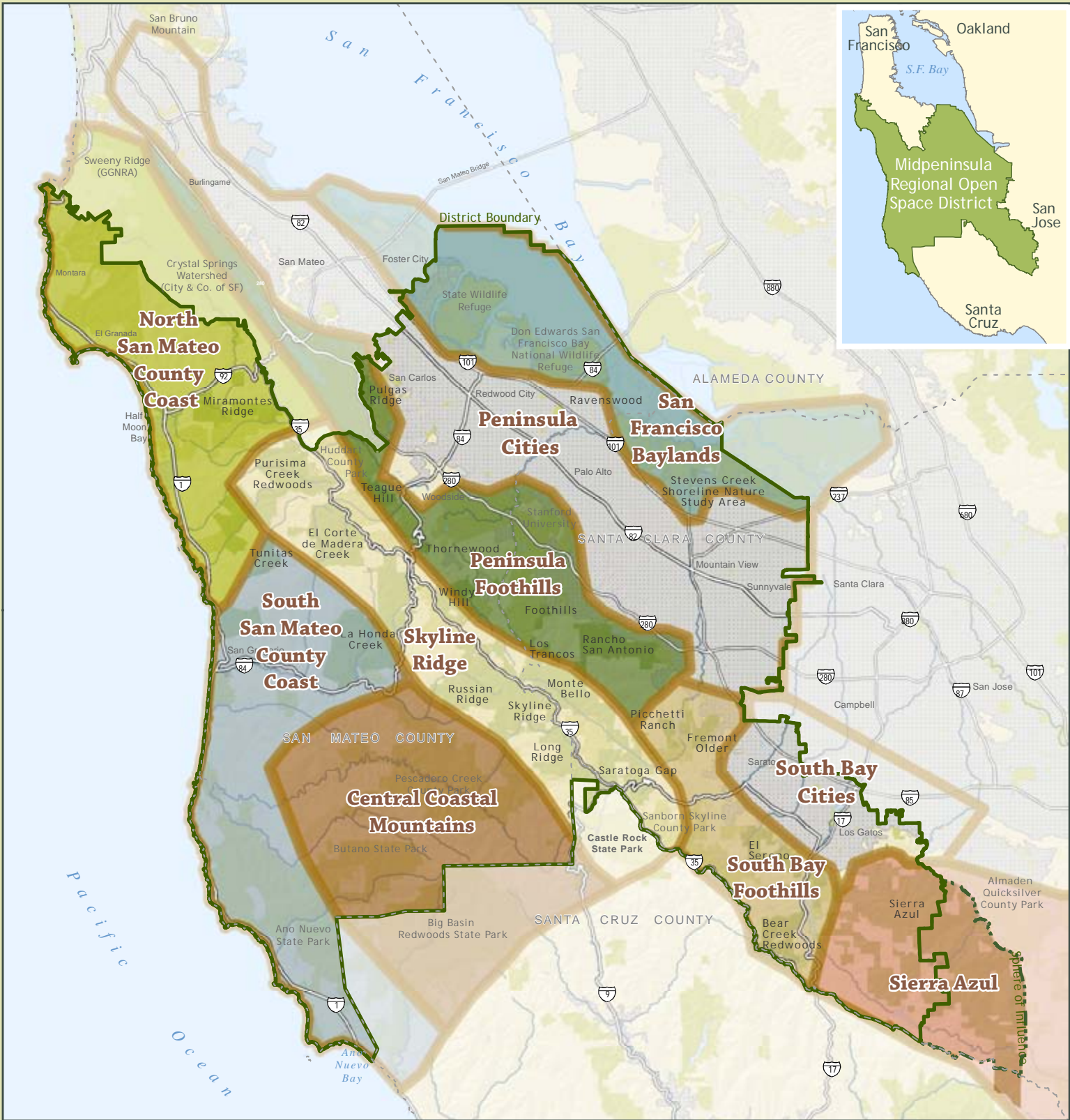
***: CAC did not rate all actions

#: Same participant generated action also received 119 points

APPENDICES

- Appendix A: Region Map
- Appendix B: Goals Detail
- Appendix C: Sample Priority Action Profiles
- Appendix D: Priority Action Ratings by Region: Details
- Appendix E: Participant Generated Goals and Priority Actions
- Appendix F: Workshop Participant Comments
- Appendix G: Workshop Evaluation Results

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Appendix A :Open Space Subregions

- | | | | |
|--|------------------------------|--|---------------------------|
| | Central Coastal Mountains | | Skyline Ridge |
| | North San Mateo County Coast | | South Bay Foothills |
| | Peninsula & South Bay Cities | | San Mateo County Coast |
| | Peninsula Foothills | | Subregion Area |
| | San Francisco Baylands | | MROSD Boundary |
| | Sierra Azul | | MROSD Sphere of Influence |

Midpeninsula Regional Open Space District (MROSD)



January, 2014



While the District strives to use the best available digital data, this data does not represent a legal survey and is merely a graphic illustration of geographic features.

APPENDIX B: GOALS DETAIL

B-1: Public Workshop Handouts

B-2: Online Goal Rating



Healthy Nature

(Plants, Animals, Air, Soils, and Water)

Taking care of the land, air, water, and soils so that plants and animals thrive and nature's benefits are provided to people.

Priority Action Goals:

Stewardship of Nature

- Restore the natural environment, control invasive plants and animals, and limit the spread of pathogens
- Promote natural ecosystem processes
- Prevent or address erosion and pollution
- Protect watersheds and restore stream flow to improve habitat for fish and wildlife

Biodiversity

- Protect large contiguous areas of intact habitat that represent the Peninsula and South Bay's full mosaic of natural communities
- Conserve sensitive species and special natural communities
- Increase adaptation to climate change and reduce carbon impacts
- Encourage scientific research, partnerships, and relationships with educational institutions and scientists

Habitat Connectivity

- Increase connectivity between protected areas to support natural wildlife movement patterns

Enriched Experiences

(Interpretation, Education, Outreach, Volunteer Stewardship)



Learning about and appreciating the local environment, as well as connecting people with nature and with each other.

Priority Action Goals:

Increase Diversity and Remove Access Barriers

- Creatively reach more people, including those with disabilities, and increase the cultural diversity of our visitors
- Expand youth programming and outreach through partnerships

Improved Visitor Experiences

- Provide opportunities where families can engage safely with nature
- Emphasize a variety of natural learning environments
- Increase use of technology to introduce people to nature

Volunteer Stewardship

- Increase support for volunteer stewardship and open space conservation
- Increase use of technology to promote volunteer stewardship
- Encourage hands-on volunteer stewardship and citizen science activities on District lands

Knowledge, Understanding, and Appreciation

- Remember and honor community heritage and past ways of life through activities, programming, and projects
- Interpret how natural and cultural resources relate to people's current lives
- Increase site-specific interpretation projects and programs that emphasize the protection of natural and cultural resources



Viabale Working Lands

Protecting viable working lands that reflect our heritage, and provide food and jobs.

Priority Action Goals:

Support Agriculture and Local Food Producers

- Preserve farms and rangelands by working cooperatively with partners and the agricultural community
- Prioritize preservation of agricultural lands at the urban edge and currently in agricultural use
- Promote large contiguous blocks of land in agricultural use
- Support the region's agricultural economy
- Protect the economic viability of District working lands

Model Ecologically Sound Practices

- Use rangeland management to improve grassland health, reduce wildfire fuel loads, and protect water quality
- Promote wise water use and other ecologically sensitive farming practices

Educate about the Region's Agricultural Heritage

- Foster awareness of, and support public education programs about, the importance of agriculture to the region's heritage and future.



Outdoor Recreation and Healthy Living

Providing accessible open space lands for recreation and outdoor exercise in a natural setting.

Priority Action Goals:

Expand Appropriate Low Intensity Access

- Provide new public access or improve access with trails and staging area improvements
- Increase access close to where more people live, and encourage access that minimizes the use of cars
- Provide ecologically-sensitive access to exceptional natural features or vistas
- Provide regional, long distance trails that connect open space to communities

Ensure Compatibility

- Ensure access compatible with resource protection and regulatory constraints
- Distribute opportunities for low intensity recreation across District
- Reduce or eliminate safety hazards and promote safe use of the preserves
- Provide ongoing management and maintenance

Expand Opportunity and Variety

- Increase diversity of visitors
- Accommodate a wide variety of visitors of all abilities, ages, cultures, and interests



Natural, Cultural, and Scenic Landscapes

Conserving the area's scenery and rich history, and providing places for escape and quiet enjoyment.

Priority Action Goals:

Quiet Enjoyment of Nature

- Provide opportunities for people to experience, enjoy, and interpret the beauty and tranquility of natural open space
- Increase access to quiet places to enjoy vistas, encourage connections with nature, and take refuge from urban life

Sense of Place

- Maintain a sense of place by protecting and increasing access to locally significant, iconic natural or cultural features
- Preserve the scenic backdrop and designated scenic corridors, emphasizing the view from major roadways and parklands
- Preserve the character and scenic qualities of coastal and rural areas

Stewarding Many Cultures

- Protect at-risk culturally significant resources and promote their responsible stewardship
- Cultivate partnerships that preserve and/or enhance cultural resources
- Increase interpretation of cultural resources

Online Ratings: Goals for Open Space

Points

107

Idea Title	Habitat Connectivity
Idea Detail	<ul style="list-style-type: none"> •Increase connectivity between protected areas to support natural wildlife movement patterns
Comment 1	<p>I agree with this priority. Please update this to include not just connectivity between protected areas, but also along stream corridors so that migratory aquaitc species (like steelhead and salmon) can connect between the Pacific Ocean / SF Bay to the MROSD Preserves (which typically occur near the headwaters). MROSD support of fish passage barriers downstream of their preserves and not in protected areas, for example, is critical to reconnecting sea-run fish (and ocean nutrients) to headwater streams on Preserve lands. Many Preserve lands and wildlife have been starved of ocean nutrients for over a century, due to downstream fish passage barriers, such as dams and road crossings. Thanks for considering. By Matt S</p>
Comment 2	<p>This can be done with trail connections as well, serving two goals. By Galli B</p>

101

Idea Title	Expand Appropriate Low Intensity Access
Idea Detail	<ul style="list-style-type: none"> •Provide new public access or improve access with trails and staging area improvements •Increase access close to where more people live, and encourage access that minimizes the use of cars •Provide ecologically-sensitive access to exceptional natural features or vistas •Provide regional, long distance trails that connect open space to communities
Comment 1	<p>Horses and hikers should be prioritized on trails, as they are not usually accommodated on city streets. By Kathleen M</p>
Comment 2	<p>How exactly are horses and hikers less accommodated on city streets than mountain bikers? Mountain biking does not exist without trails! Please increase access to single track for cyclist throughout MPOSD! By Paul W</p>
Comment 3	<p>More singletrack access to bikes By J-C P</p>
Comment 4	<p>As everyone below me has said, I fully support expanding access, as long as this includes BIKES. Bikes are an affordable way to get needed exercise while enjoying open space. Most of us cannot afford horses, nor do they provide the same level of exercise. Biking is a healthy lifelong sport that should have much more access than it currently does on the peninsula. By Linda H</p>
Comment 5	<p>1% of Santa Clara county population has usurped access to the foothill properties that are easiest to access for recreation. Middle income families do not have \$\$\$ to pay for riding horses. Children need opportunities for healthy recreation. Ban dangerous slave animals, and expand recreational trails for running and biking in the foothills, so people do not have to ride further. By Daniel E</p>
Comment 6	<p>I am strongly in favor as long as it includes bike access, important for enjoyment of the large areas available. I am not in favor of this goal if it excludes or biased against bikes. By Larry W</p>
Comment 7	<p>I agree with RA. Low Intensity needs to be defined as I can see it being used against particular classes of trail users. By Alistair A</p>

Comment 8	This is one of my favorite ideas so far. Increasing access close to where more people live is very important to making open space more accessible to the larger community. Providing regional trail connections to communities helps us all see each open space in it's regional context and encourages further exploration (by highlighting the regional trail, or wanting to trek throughout the regional trail, or be able to get to a preserve without a car). By Galli B
Comment 9	This sounds great, assuming that low-intensity access includes active recreation (such as bike). The term low-intensity needs to be better explained (if it excludes bicycles then I am opposed). I assume that this goal is talking about providing additional trail access to preserves for all users, and making connections so that people can ride/hike from home to use the preserves more easily. By R A

Idea Title	<i>Stewardship of Nature</i>	100
Idea Detail	<ul style="list-style-type: none"> •Restore the natural environment, control invasive plants and animals, and limit the spread of pathogens •Promote natural ecosystem processes •Prevent or address erosion and pollution •Protect watersheds and restore stream flow to improve habitat for fish and wildlife 	

Idea Title	<i>Quiet Enjoyment of Nature</i>	96
Idea Detail	<ul style="list-style-type: none"> •Provide opportunities for people to experience, enjoy, and interpret the beauty and tranquility of natural open space •Increase access to quiet places to enjoy vistas, encourage connections with nature, and take refuge from urban life 	
Comment 1	Agree with the first poster. As soon as I step into the trails on my Mtn bike, I immediately am quietly enjoying nature (or after I get a few hundred yards away from the constant roar of Sunday motorcycles). Hope this "priority" of quiet enjoyment is not trying to limit bikes. Most of the time, we rarely encounter any other trail users, when we do, we dismount for horses and stop or yield to all pedestrians on the trail. We only wish we had the opportunity to have more recreational trails available for biking to enjoy this wonderful quiet nature we are so lucky to leave near. By Linda H	
Comment 2	I think this idea is hard to interpret. I really enjoy the peace and quiet especially when I'm mountain biking and hiking. By Sean M	
Comment 3	I enjoy the quiet especially on my mountain bike. By Sean M	
Comment 4	Yes, we need more trails so you can get away from cars. Make trails for people to bike up to Skyline without intermingling with dangerous cars. By Daniel E	
Comment 5	This is an important goal, so long as it is not interpreted as a method to prohibit access for active recreation (biking). The two goals can co-exist together on the same trails in the same preserves. It is not a one or the other situation. By R A	
Comment 6	@ Frank S7. Exactly. Just having quality open space and access to that open space accomplishes this, no? I'm going to translate this goal: Open Space w/access. Who can be against this? This is like voting for Open Space with more trees and grass. We need real goals to vote on here! By orion W	

Comment 7	When I am using the existing open space preserves, it is rare that I will come across another trail user. I, almost immediately after entering the trails, feel the sense of refuge from urban life. By Frank S
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Idea Title	<i>Expand Opportunity and Variety</i>	96
Idea Detail	<ul style="list-style-type: none"> •Increase diversity of visitors •Accommodate a wide variety of visitors of all abilities, ages, cultures, and interests 	
Comment 1	Agree with Frank. A fantastic way to expand recreational opportunities would be to expand access to all users (horse, bike, hike) across park regions for longer excursions and to reduce driving. i.e.: if we could access from our neighborhood open space to regions more distant, we would not have to drive to those regions. By Linda H	
Comment 2	A diverse user group is great! I think one way to create a more diverse user group, would be to increase bicycle trail access. It would be fantastic to be able to access Montebello Open Space from Rancho San Antonio. Opening PG&E Trail or Upper High Meadow Trail to Black Mountain Trail would be a great way to increase the diversity of this open space. By Frank S	

Idea Title	<i>Biodiversity</i>	85
Idea Detail	<ul style="list-style-type: none"> •Protect large contiguous areas of intact habitat that represent the Peninsula and South Bay’s full mosaic of natural communities •Conserve sensitive species and special natural communities •Increase adaptation to climate change and reduce carbon impacts •Encourage scientific research, partnerships, and relationships with educational institutions and scientists 	
Comment 1	Seems like this one could be lumped in with the above habitat connectivity into one goal. Aren't we already doing this as a priority? By Linda H	
Comment 2	Isn't much of this a cornerstone of any open space program? Also, very broad. What does "increase adaptation to climate change" mean? By Orion W	

Idea Title	<i>Ensure Compatibility, Safety, and Maintenance</i>	75
Idea Detail	<ul style="list-style-type: none"> •Ensure access compatible with resource protection and regulatory constraints •Distribute opportunities for low intensity recreation across District •Reduce or eliminate safety hazards and promote safe use of the preserves •Provide ongoing management and maintenance 	
Comment 1	These descriptions are so vague and lumped together I have no idea what I am really voting for. By Drew P	
Comment 2	What we have learned about pedestrian / auto conflict and crashes is that we can increase pedestrian safety by slowing auto traffic with traffic calming measures. Fire roads are the freeways of our parks and tend to increase speeding by bikes and horses. We need to reduce trail widths and increase side friction to naturally slow bikes and horses. Wide trails with large radius turns are not safe trails. By Marc J	

Comment 3	Really hard to understand what you mean here by "low intensity". There are enough "horse only" trails, it would be wonderful to see some "bike only" trails. All are, of course, open to hikers. As in my other post, a few bike only trails (no major views, just nice single track technical climbs/descents to enjoy or a clockwise loop that bikers can enjoy free of horses or hikers) would certainly draw more visitors and may improve safety if the two groups had an opportunity for their own spaces to recreate. By Linda H
Comment 4	Isn't this sort of table stakes for MPROSD? By Brian M
Comment 5	I am not sure if this idea is in support of more active recreation (biking/running) in the preserves or against it? The idea description could be clearer on this (what is low-intensity? what are considered safety hazards?) I support more active recreational opportunities (esp. biking) in all of the preserves. By R A
Comment 6	I would like to see a more balanced trail designation system. There are plenty of hiker only, or hiker/equestrian trails, but no bicycle only, or bicycle/hiker only trails. One safety concern of mine is that equestrians have limited control over their horses. Additionally, the horse has a mind of it's own. If a horse is spooked, it can be completely out of the control of the rider. This presents an extreme danger to the rider, the horse, and other trail users. By Frank S
Comment 7	I would like a simple and clear protocol or rating system for how access to trails are determined for different user groups: Hikers, Cyclists, Horses... By Kevin M R

Idea Title	<i>Improved Visitor Experiences</i>	72
Idea Detail	<ul style="list-style-type: none"> •Provide opportunities where families can engage safely with nature •Emphasize a variety of natural learning environments •Increase use of technology to introduce people to nature 	
Comment 1	Agree with Frank. Horse poop really sucks. Mountain bikes don't leave behind any poop for the hikers! Wish there were more technically challenging single track bike only segments that perhaps ran parallel or bypassed wider hiking trails (like Manzanita at Skeggs and Rocky Ridge at Santa Theresa). The majority of trails are closed to bikes, why not improve bike visitor experience by opening a few "bike only" trails that would challenge our skills, or a flow trail/mtn bike park that might attract more visitors. By Linda H	
Comment 2	There are not enough beginner friendly, accessible trails for biking. Not everybody can ride steep, dusty, slippery fireroads. By Daniel E	
Comment 3	One improved visitor experience would be to tighten the regulations on equestrians. Horses defecate on the trails. The equestrians are not required to pick up after it. As a hiker, this does not create an enjoyable experience. Additionally, horses can be extremely terrifying and hard to control. Horses are known to be spooked easily, which imposes a risk on not just the horse and rider, but to all other trail users. By Frank S	

Idea Title	<i>Support Agriculture and Local Food Producers</i>	72
Idea Detail	<ul style="list-style-type: none"> •Preserve farms and range lands by working cooperatively with partners and the agricultural community •Prioritize preservation of agricultural lands at the urban edge and currently in agricultural use •Promote large contiguous blocks of land in agricultural use •Support the region's agricultural economy •Protect the economic viability of District working lands 	
Idea Title	<i>Volunteer Stewardship</i>	69
Idea Detail	<ul style="list-style-type: none"> •Increase support for volunteer stewardship and open space conservation •Increase use of technology to promote volunteer stewardship •Encourage hands-on volunteer stewardship and citizen science activities on District lands 	
Idea Title	<i>Increase Diversity and Remove Access Barriers</i>	66
Idea Detail	<ul style="list-style-type: none"> •Creatively reach more people, including those with disabilities, and increase the cultural diversity of our visitors •Expand youth programming and outreach through partnerships 	
Comment 1	Seems like there are already organizations that do provide disabled persons outdoor access and transport. Not sure these should really be a priority over expanding general public access....to increase cultural diversity on our trails?? This area is already extremely diverse so why target certain cultural or racial groups to visit here more than others? Everyone is already welcome, right? By Linda H	
Comment 2	Is outreach like this a significant part of your mission? By Brian M	
Idea Title	<i>Model Ecologically Sound Practices</i>	66
Idea Detail	<ul style="list-style-type: none"> •Use rangeland management to improve grassland health, reduce wildfire fuel loads, and protect water quality •Promote wise water use and other ecologically sensitive farming practices 	
Idea Title	<i>Sense of Place</i>	58
Idea Detail	<ul style="list-style-type: none"> •Maintain a sense of place by protecting and increasing access to locally significant, iconic natural or cultural features •Preserve the scenic backdrop and designated scenic corridors, emphasizing the view from major roadways and parklands •Preserve the character and scenic qualities of coastal and rural areas 	
Idea Title	<i>Knowledge, Understanding, and Appreciation</i>	48
Idea Detail	<ul style="list-style-type: none"> •Remember and honor community heritage and past ways of life through activities, programming, and projects •Interpret how natural and cultural resources relate to people's current lives •Increase site-specific interpretation projects and programs that emphasize the protection of natural and cultural resources 	

Idea Title	<i>Stewarding Many Cultures</i>	40
Idea Detail	<ul style="list-style-type: none"> •Protect at-risk culturally significant resources and promote their responsible stewardship •Cultivate partnerships that preserve and/or enhance cultural resources •Increase interpretation of cultural resources 	
Idea Title	<i>Educate about the Region’s Agricultural Heritage</i>	39
Idea Detail	<ul style="list-style-type: none"> •Foster awareness of, and support public educations programs about, the importance of agriculture to the region’s heritage and future. 	

APPENDIX C: SAMPLE PRIORITY ACTION PROFILES

Bear Creek Redwoods:

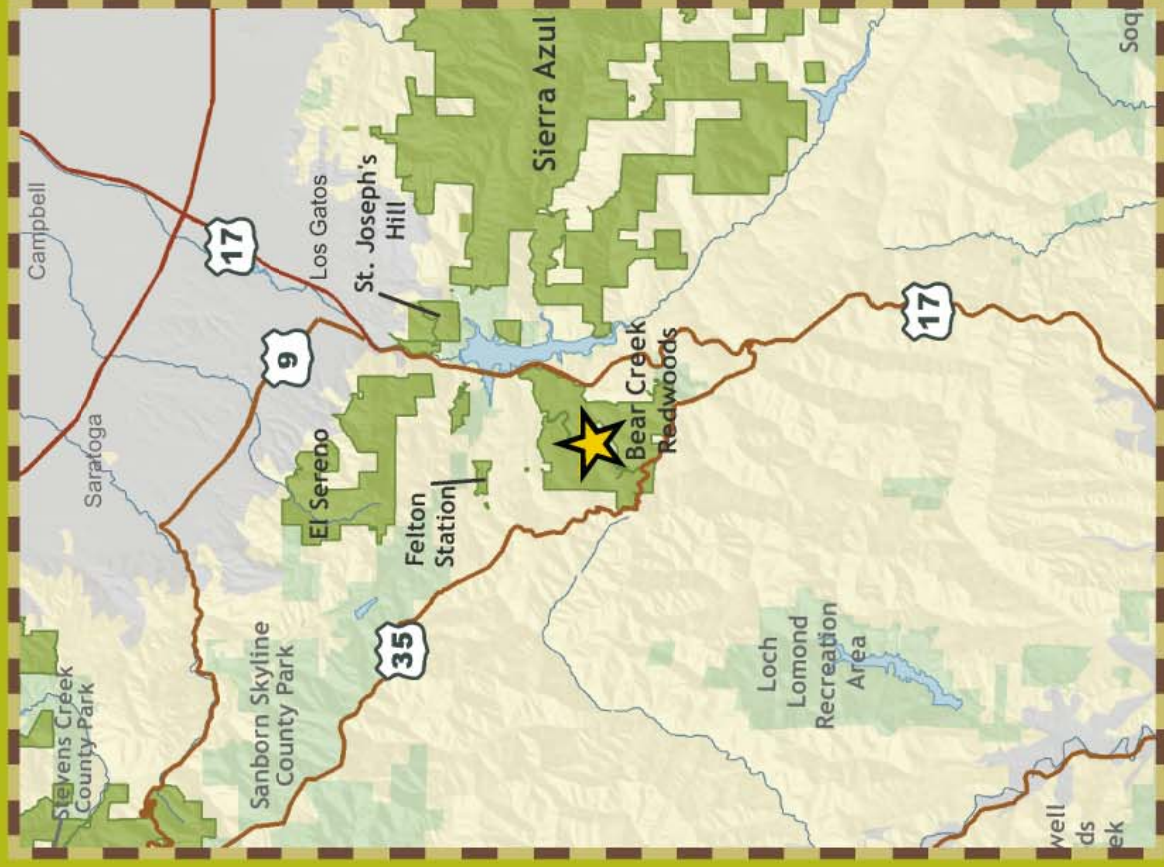
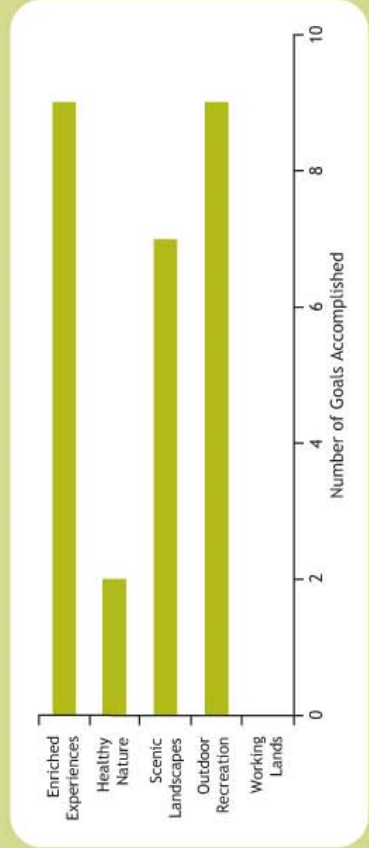
Public Recreation and Interpretive Projects



Open for hiking, equestrian activities. Provide parking areas, trails; upgrade stables. Restore & protect habitats for various species, address invasives. Repair roads & trails to reduce sediment. Provide interpretive/educational services, volunteer programs. Rehabilitate Alma College site, explore limited reuse by public or private partners.



Goals Accomplished by This Action



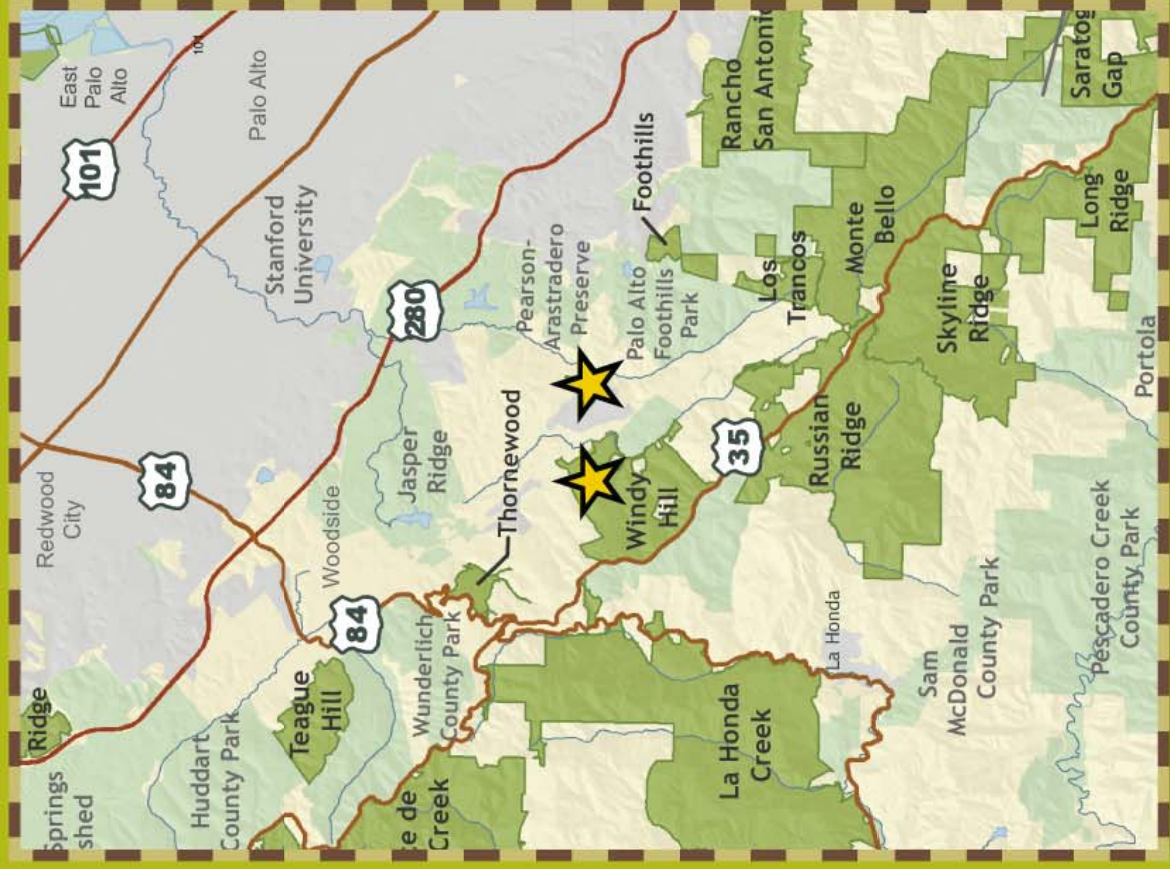
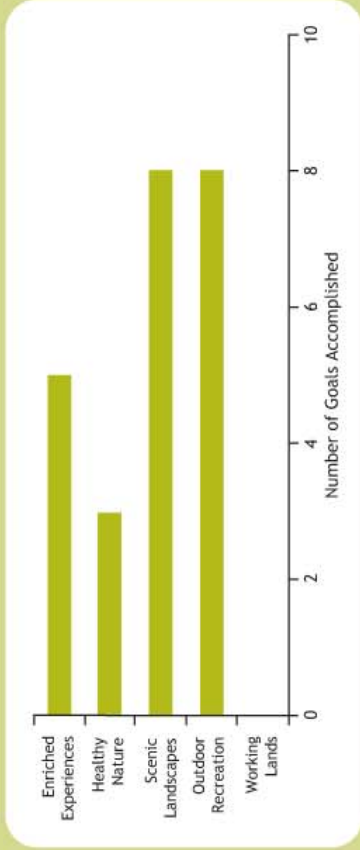
Windy Hill:

Trail Improvements, Preservation, and Hawthorns Area
Historic Partnership

Improve trails, complete pond facilities. Increase multi-use trails, study possible increased dog use. Open Hawthorns Area, develop trails connecting to Portola Valley and Palo Alto trails. Explore partnerships to protect, restore, and interpret historic buildings. Improve habitat conditions in Los Trancos Creek. Preserve additional scenic open space as available.



Goals Accomplished by This Action



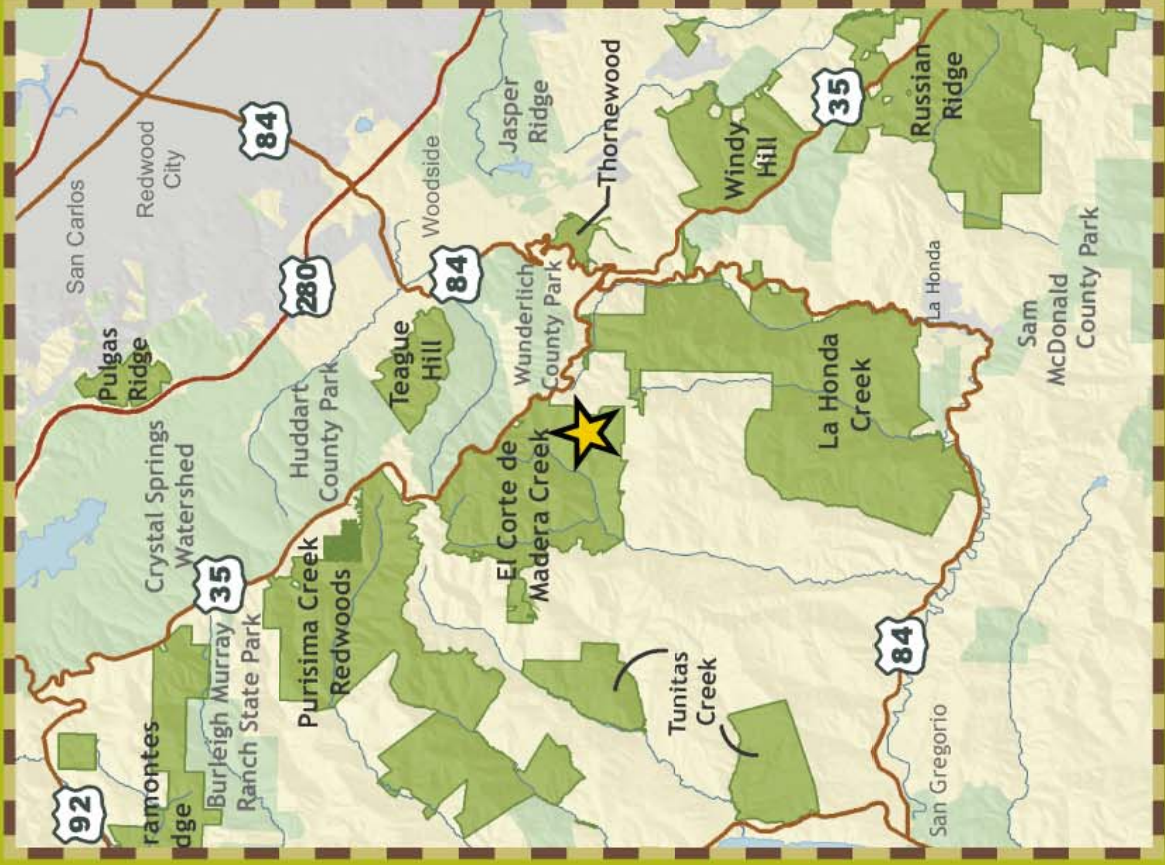
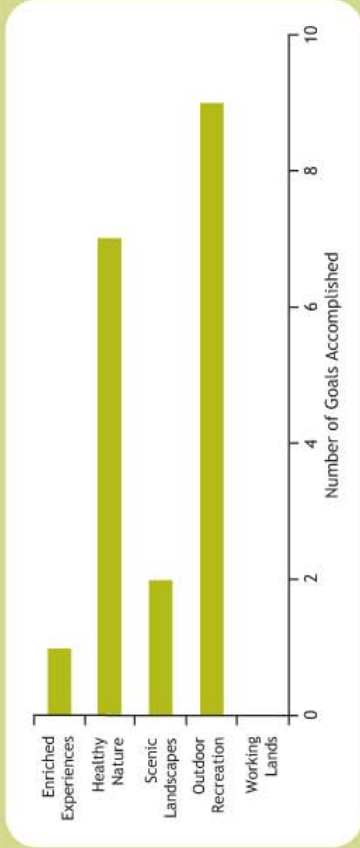
El Corte de Madera Creek:

Bike Trail and Water Quality Projects

Develop and carry out plans for single-use biking/hiking trails, complete Ridge Trail gaps, and develop trail system leading to parking area. Restore damaged trails for better water quality. Deter marbled murrelet predators. Preserve additional open space as available.



Goals Accomplished by This Action



Purisima Creek Redwoods:

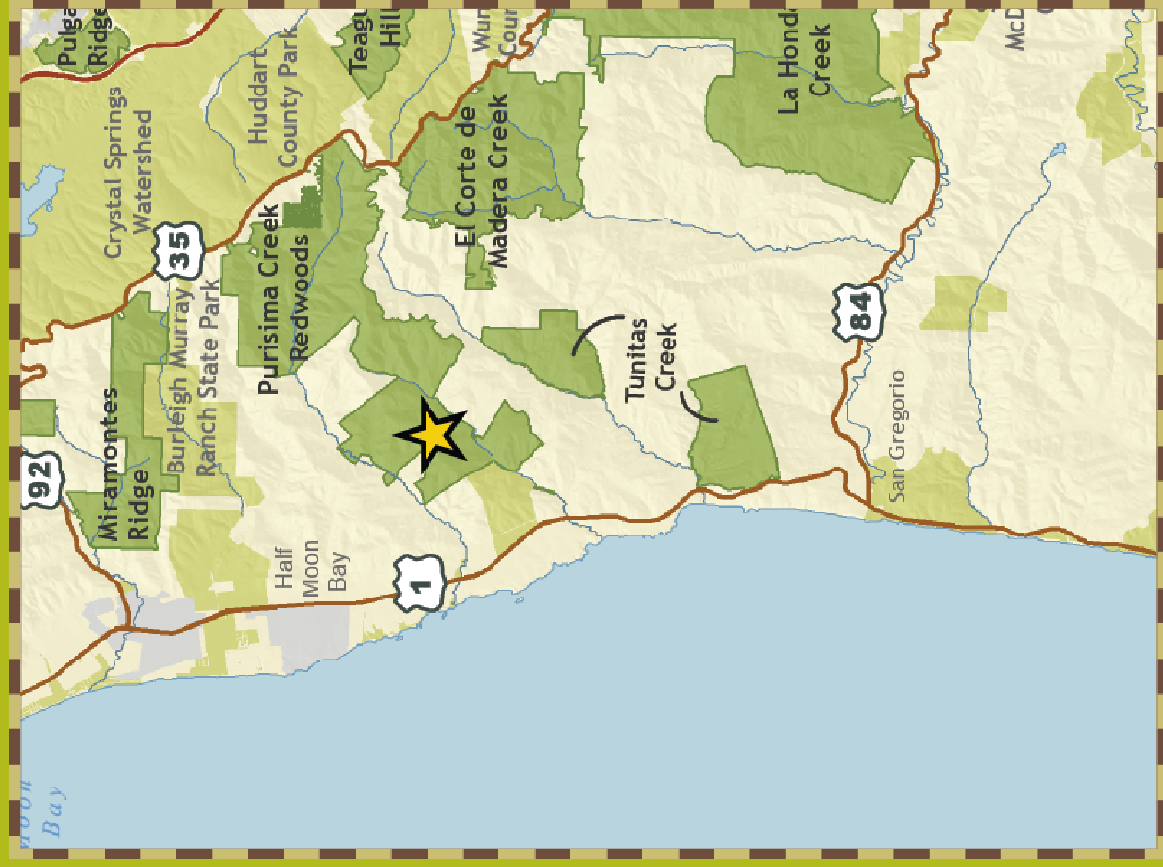
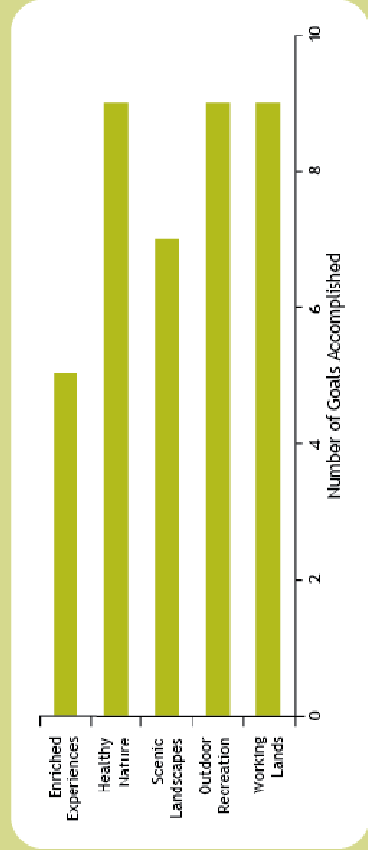
Purisima-to-Sea Trail Completion, Watershed Protection & Conservation Grazing Projects



Complete and open multi-use Purisima-to-Sea trail connection between Ridge Trail & Coastal Trail, add new parking areas. Preserve additional open space as available. Remove fish barriers and restore Lobitos Creek. Study & improve ponds for red-legged frogs. Continue grazing, improve fencing, cattle watering to protect ponds and streams. Develop interpretive materials and volunteer steward program.



Goals Accomplished by This Action





Key to Priority Action Icons

These icons illustrate the main components of the priority actions. For example, if a priority action contains icon number 1, improving access to trails is a significant part of that action.



1. Improves access to trails



9. Ensures clean streams and water bodies



2. Supports multiple trail uses (hiking, biking, horseback riding, dogs)



10. Protects and manages forests



3. Family friendly location



11. Reduces fire risk



4. Extends regional trails



12. Provides environmental education



5. Eliminates barriers to using open space



13. Protects beautiful scenery and panoramic views



6. Protects endangered species



14. Preserves local character and sense of place



7. Restores natural conditions for plants and animals



15. Conserves additional open space



8. Environmental stewardship and maintenance



16. Protects local farms and ranches

APPENDIX D: PRIORITY ACTION RATINGS BY REGION: DETAILS

D-1: Priority Action Ratings by Region: Details from Public Workshops

D-2: Priority Action Ratings by Region: Details from CAC Meeting

Priority Action Ratings by
Region: Details from Public Workshops

	Workshop Results			Gender		Age						Visit Open Space				Use Open Space*						
	N	Avg	Div	Female (15)	Male (11)	18-24 (1)	25-34 (2)	35-44 (1)	45-54 (4)	55-64 (12)	65 ≤ (6)	Seldom (4)	Sometimes (9)	Often (10)	Consistentl y							
North San Mateo County Coast Region - HMB Workshop - 10.21.13																						
67 - Purisima Creek Redwoods: Purisima-to-Sea Trail Watershed Protection & Conservation Grazing	30	8.3	30	8.8	7.7	9	8.5	9	9	9.6	5.3	8.8	7.6	8.3	9.3	This Data is not available for this region						
74 - Miramontes Ridge: Gateway to the Coast Public Access, Stream Restoration, & Agriculture Enhancement	31	7.6	30	7.9	7.3	8	8.5	9	9.5	8.5	4.2	7.2	6.7	7.8	9							
73 - Miramontes Ridge/Purisima Crk Rdwds: Mills Creek/Arroyo Leon Watershed, Stream Restoration, & Trails	31	7.1	29	7.1	6.8	9	8.5	7	6.5	7.8	4.8	6.2	6.6	7.6	7.3							
75 - Regional: Support CA Coastal Trail	31	6.9	43	7	6.9	10	7	7	8	7.5	4.7	6	6.8	6.9	7.3							
70 - Miramontes Ridge/Purisima Creek Redwoods:Fire Management and Risk Reductions	30	6.6	30	6.9	6.7	10	8.5	7	6.5	6.2	7	4.5	6.5	6.7	9							
72 - Miramontes Ridge/Purisima Creek Redwoods:Coastside Environmental Education Partnerships	31	5.6	40	5.3	5.8	10	6	10	7	5.2	3.3	4.5	4.6	5.4	8							

	Workshop Results			Gender		Age						Visit Open Space				Use Open Space*						
	N	Avg	Div	Female (14)	Male (11)	18-24 (1)	25-34 (2)	35-44 (1)	45-54 (4)	55-64 (11)	65 ≤ (6)	Seldom (4)	Sometimes (9)	Often (8)	Consistentl y							
South San Mateo County Coast Region - HMB Workshop - 10.21.13																						
64 - La Honda Creek: Driscoll Ranch Public Access, Endangered Wildlife Protection, & Conservation Grazing	28	9	10	9.4	8.8	9	10	9	8.8	8.9	9.5	8.2	8.9	9.5	10	This Data is not available for this region						
58 - Cloverdale Ranch: Wildlife Protection, Grazing, and Trail Connections	30	7.8	29	8	8.6	8	9	10	9.5	7.5	8.3	5.2	8.3	9	9.7							
62 - La Honda Creek/El Corte Madera Creek: San Gregorio Watershed and Agriculture Preservation Projects	30	7.4	26	7.1	7.9	8	9	10	7.5	7.8	5.7	7.2	7.1	7.2	8.3							
66 - Tunitas Creek: Additional Watershed Preservation & Conservation Grazing	30	7.2	28	7	7.2	9	7	9	7	7.8	5.2	6.2	6.7	7.4	7.7							
59 - Lower Pescadero Creek: Watershed Preservation & Conservation Grazing	30	7.1	36	7	7.6	9	8.5	10	8.5	6.7	6.3	6.5	7.4	6.9	8.3							

	Workshop Results			Gender		Age						Visit Open Space				Use Open Space*						
	N	Avg	Div	Female (12)	Male (8)	18-24 (0)	25-34 (1)	35-44 (4)	45-54 (6)	55-64 (4)	65 ≤ (5)	Seldom (2)	Sometimes (3)	Often (10)	Consistentl y							
Central Coastal Mountains Region - Skyline Area Workshop - 11.2.13																						
56 - Regional: Trail Connections and Campgrounds	24	8.4	15	8.3	8.6	0	10	8.8	8.5	8.5	7.4	8	9.3	8.7	7.6	This Data is not available for this region						
55 - Regional: Redwood Protection and Salmon Fishery Conservation	24	7.5	19	7.9	6.6	0	6	7.5	7.7	8	7.8	8	6.3	7.3	8.3							

	Workshop Results			Gender		Age						Visit Open Space				Use Open Space						
	N	Avg	Div	Female (39)	Male (41)	18-24 (2)	25-34 (4)	35-44 (10)	45-54 (26)	55-64 (18)	65 ≤ (18)	Seldom (8)	Sometimes (16)	Often (21)	Consistentl y	Bike (18)	Dog (2)	Hike (32)	Horse (1)			
Skyline Region - 2 Workshops - 11.2.2013 and 11.4.2013																						
51 - La Honda Creek: Upper Area Recreation - Habitat Restoration and Conservation Grazing Projects	84	8	23	8	8.2	4.5	9.5	8.2	8.4	7.8	8	8.3	7.8	8.3	8.1	9	8.5	8	9			
46 - Russian Ridge: Public Recreation - Grazing - and Wildlife Protection Projects	83	8	19	8.2	8	6	9.8	8	8	7.9	8.2	7.6	7.3	8.3	8.6	8.8	8.5	7.5	9			
48 - La Honda Creek/Russian Ridge: Preservation of Upper San Gregorio Watershed & Ridge Trail Completion	82	8	25	7.9	7.9	5	10	7.5	8	7.8	8	8.1	7.5	8.5	7.8	9	8.5	7.9	10			
47 - Coal Creek: Reopen Alpine Road for Trail Use	85	7.8	27	7.8	7.7	3.5	9.8	7	8.1	7.3	8.2	7.8	7.5	7.7	8.3	8.3	6	7.2	8			
38 - Long Ridge: Trail - Conservation and Habitat Restoration Projects	83	7.7	20	7.3	8.1	7	9.5	7.7	7.6	7.7	7.6	8	6.8	8	7.9	8.9	9	7.4	6			
52 - El Corte de Madera Creek: Bike Trail and Water Quality Projects	85	7.5	28	7.2	7.8	8.5	10	7	7.8	7.3	6.9	8.1	6.2	7.5	8.3	9.7	7.5	6.8	5			
40 - Skyline Subregion: Fire Management and Forest Restoration Projects	84	6.5	30	6.9	5.9	9.5	2.5	6.4	5.6	6.8	8	7	6.4	6.6	6.2	4.9	9.5	7.5	5			
39 - Skyline Ridge: Education Facilities - Trailsand Wildlife Conservation Projects	84	6.4	33	6.9	5.8	5	2.2	6	5.7	6.7	8.2	7.8	7.2	6.6	5.1	4.7	9	7.5	6			
53 - Purisima Creek Redwoods: Parking and Repair Projects	86	5.8	32	6.5	5.2	5.5	2.2	5.2	5.8	6	7.4	6.9	6.4	6	5.3	4.2	6	7.4	7			
37 - Saratoga Gap: Stevens Canyon Ranch Family Food Education Projects	83	4.9	25	5.7	4.1	4	1.8	5.2	4.8	4.4	6.2	6.4	5.9	5.3	3.5	3.5	6	4.9	6			

	Workshop Results			Gender		Age						Visit Open Space				Use Open Space						
	N	Avg	Div	Female (43)	Male (50)	18-24 (2)	25-34 (5)	35-44 (11)	45-54 (35)	55-64 (20)	65 ≤ (22)	Seldom (11)	Sometimes (20)	Often (33)	Consistentl y	Bike (31)	Dog (7)	Hike (49)	Horse (1)			
Peninsula Foothills Region - 2 Workshops - 11.4.2013 and 11.16.2013																						
27 - Regional: Complete Upper Stevens Creek Trail	97	8.1	29	8.5	7.8	9	9.4	7.6	8.3	7.7	8.3	8	6.3	8.4	9.4	9.4	6.7	7.7	10			
32 - Windy Hill: Trail Improvements - Preservation - and Hawthorns Area Historic Partnership	102	7.7	36	8.4	7.5	5.5	5.2	8.7	8.7	7.2	8	8.1	7.4	8.1	7.7	8.1	7.9	7.9	8			
76 - Pulgas Ridge: Regional and Neighborhood Trail Extensions	102	6.7	38	7.2	6.5	8.5	4.2	7.5	7.1	6.4	6.6	5.9	5.7	7.5	7.2	7.4	7.4	6.7	9			
44 - Regional: San Andreas Fault Interpretive Trail Program	102	5.8	36	6.5	5.4	5.5	6.2	5.8	5.6	5.6	6.6	6.1	6.3	6.7	4.7	5.1	6.2	6.4	6			
30- Rancho San Antonio: Intrepretive Improvements - Refurbishing - and Transit Solutions	101	5.6	40	6.1	5.4	4.5	4	5.2	5.9	5.4	6.5	5.5	5.6	6.6	5	5.5	6.3	5.9	5			
31- Rancho San Antonio: Hidden Villa Access and Preservation Projects	102	5.6	46	6.1	5.2	2.5	2.6	5.4	5.3	5.7	7.3	5.6	6.6	6.3	4.3	3.9	5.3	6.8	6			

Priority Action Ratings by

Region: Details from Public Workshops

	Workshop Results			Gender		Age						Visit Open Space				Use Open Space			
	N	Avg	Div	Female (16)	Male (16)	18-24 (0)	25-34 (2)	35-44 (4)	45-54 (15)	55-64 (6)	65 ≤ (6)	Seldom (4)	Sometimes (7)	Often (11)	Consistentl y (11)	Bike (13)	Dog (5)	Hike (14)	Horse (0)
Peninsula / South Bay Cities & Baylands Regions - Redwood City Workshop - 11.16.2013																			
34 - Regional: Bayfront Habitat Protection and Public Access Partnerships	34	7.6	38	8.6	7	0	10	6.8	8	6.7	8.5	7	7.4	8.6	7.5	7.8	7	8.6	0
23 - Peninsula/South Bay Cities: Partner to Complete Middle Stevens Creek Trail	34	6.7	41	7.6	5.9	0	7.5	6.5	7.4	4.7	7.7	5.8	6.1	7.4	7.2	8	5	6.9	0
35 - Ravenswood: Cooley Landing Nature Center Partnership	34	6.2	42	7.2	5.5	0	4	6	6.9	5.7	7	2.5	6.3	7.5	6.8	6.9	4.2	7.1	0
24 - Peninsula/South Bay Cities: San Francisquito Creek Restoration Partnership	34	4.9	34	5.6	4.4	0	5.5	5.8	4.7	3.7	6.7	4.2	4.9	5.8	4.7	5.2	3.2	5.9	0
22 - Peninsula/South Bay Cities: Los Gatos Creek Trail Connections	34	4.4	32	4.4	4.3	0	6	3	4.1	4.5	6.2	4.2	5.1	4.8	3.9	4.2	3.2	5.4	0
25 - Major Roadway Signage**																			

	Workshop Results			Gender		Age						Visit Open Space				Use Open Space*
	N	Avg	Div	Female (23)	Male (42)	18-24 (3)	25-34 (5)	35-44 (9)	45-54 (18)	55-64 (18)	65 ≤ (12)	Seldom (10)	Sometimes (7)	Often (26)	Consistentl y	This data is not available for this region
South Bay Foothills Region - Saratoga Workshop - 10.28.13																
16 - South Bay Foothills: Wildlife Passage and Ridge Trail Improvements	64	8.6	18	8.5	8.7	9.3	9.4	9.2	8.7	8.5	7.8	9.4	9	8.2	8.6	
11 - Bear Creek Redwoods: Public Recreation and Interpretive Projects	65	8.1	22	8.3	8.1	7.7	8.8	8	7.5	7.9	9.6	8.4	8.1	8.1	8.2	
18 - South Bay Foothills: Saratoga-to-Sea Trail and Wildlife Corridor	65	7.4	32	7.9	7.1	9.7	9.2	6.6	7.1	7.6	7	7.2	8.2	7.4	7.2	
17 - El Sereno: Dog Trails & Connections	66	6.8	31	7.6	6.4	5.7	7.4	6.6	6.8	7.4	5.9	7	6.4	6.6	7.1	
21 - Picchetti Ranch: Family Nature Play Program	66	6.1	15	6.3	6	8	7.4	5.6	5.9	6.1	6.1	5.9	6.9	6.1	5.8	
19 - Fremont Older: Historic Woodhills Restoration & Overall Parking Improvements	66	5.8	23	6.2	5.7	7	6.6	6	5.4	5.9	5.8	6.5	6	5.5	5.7	

	Workshop Results			Gender		Age						Visit Open Space				Use Open Space*
	N	Avg	Div	Female (24)	Male (45)	18-24 (3)	25-34 (5)	35-44 (9)	45-54 (19)	55-64 (21)	65 ≤ (12)	Seldom (10)	Sometimes (9)	Often (27)	Consistentl y	This data is not available for this region
Sierra Azul Region - Saratoga Workshop - 10.28.13																
1 - Sierra Azul: Loma Prieta Area Public Access, Regional Trails, and Habitat Projects	69	8.2	27	8.3	8.1	8.3	8.2	8.2	8.2	8.5	7.4	8.2	7.8	8.5	7.9	
4 - Sierra Azul: Mt. Umunhum Public Access and Interpretation Projects	68	8	23	7.7	8.1	9.3	8.6	7.9	7.8	8.4	7	8.3	7.9	7.9	7.8	
10 - Sierra Azul: Cathedral Oaks Public Access and Conservation Projects	70	7.6	22	8.1	7.3	8.3	8	6.8	7.2	8	7.8	8.4	7.1	7.6	7.4	
8 - Sierra Azul: Fire Management	70	7.5	18	7.9	7.3	8.7	8	7	7.2	8	7.2	7.4	7.4	7.3	7.7	
9 - Sierra Azul: Expand access in the Kennedy-Limekiln Area	64	6.9	27	7.5	6.7	7.3	6.8	8	6.2	7.3	6.6	6	6.7	7.2	7.2	
7 - Sierra Azul: Rancho de Guadalupe Family Recreation and Interpretive Projects	70	6.8	20	6.8	6.7	6.7	6.8	6.4	6.6	7.3	6.2	6.5	7.1	6.7	6.6	

*: Use of keypads to collect data on use of open space did not start until 11/4/13 workshop

	CAC Results			Gender						Visit Open Space				Use Open Space			
	N	Avg	Div	Female (6)	Male (13)	35-44 (2)	45-54 (6)	55-64 (6)	65 ≤ (5)	Seldom (5)	Sometimes (5)	Often (4)	Consistently (5)	Bike (3)	Dog (1)	Hike (13)	Horse (1)
North San Mateo County Coast Region																	
67 - Pursima Creek Redwoods: Pursima-to-Sea Trail Completion, Watershed Protection & Conservation Grazing Projects	19	8.7	7	9	8.7	8	8.8	8.7	9.2	8.8	7.8	8.8	9.8	10	8	8.6	7
74 - Miramontes Ridge: Gateway to the San Mateo Coast Public Access, Stream Restoration, and Agriculture Enhancement Projects	19	7.6	21	8	7.4	8	6.2	8.3	8	8.4	7.4	8.2	6.2	6.7	9	7.4	9
73 - Miramontes Ridge/Purisima Creek Redwoods: Mills Creek/Arroyo Leon Watershed Protection, Stream Restoration, & Trails	19	7.5	12	7.2	7.7	6	7.8	7.4	7.8	7.2	6.6	8	8.2	9.7	7	6.8	8
75 - Regional: Support CA Coastal Trail	19	7.4	23	6.6	7.7	7	7.7	7.3	7.2	7.5	6.4	8	7.8	9	8	7.1	6
70 - Miramontes Ridge/Purisima Creek Redwoods: Fire Management and Risk Reductions*																	
72 - Miramontes Ridge/Purisima Creek Redwoods: Coastside Environmental Education Partnerships*																	

	All Results			Gender						Visit Open Space				Use Open Space			
	N	Avg	Div	Female (6)	Male (13)	35-44 (2)	45-54 (6)	55-64 (6)	65 ≤ (5)	Seldom (5)	Sometimes (5)	Often (4)	Consistently (5)	Bike (3)	Dog (1)	Hike (13)	Horse (1)
South San Mateo County Coast Region																	
64 - La Honda Creek: Driscoll Ranch Area Public Access, Endangered Wildlife Protection, & Conservation Grazing	19	8.1	25	7.8	8.2	7	8	9.3	7	7.2	8.2	8	9	8	9	8.6	9
57 - Gazos Creek Watershed: Preserve Redwoods, Fish & Add Trails	21	7.4	25	5.8	8.1	7.5	7.8	8.3	5.6	7.2	7.2	8	7.2	9.7	7	7.3	8
58 - Cloverdale Ranch: Wildlife Protection, Grazing, and Trail Connections	19	7.4	21	5.5	8.2	8	8	7.5	6.2	7	7.2	8	7.2	9.5	9	7.4	7
59 - Lower Pescadero Creek: Watershed Preservation & Conservation Grazing	19	6.9	28	6	7.4	8.5	6	8	6.2	6.8	7.6	8.5	5.2	5	9	7.6	8
62 - La Honda Creek/El Corte Madera Creek: San Gregorio Watershed & Agriculture Preservation	21	6.9	26	6.7	6.8	6.5	6	8.3	6	6.4	7.6	7.5	5.8	5	8	7.5	8
66 - Tunitas Creek: Additional Watershed Preservation & Conservation Grazing	20	6.8	25	6.7	6.8	8	5.3	8.2	6.2	6.4	6.8	8.2	5.8	5.3	8	7.3	8

	All Results			Gender						Visit Open Space				Use Open Space			
	N	Avg	Div	Female (6)	Male (13)	35-44 (2)	45-54 (6)	55-64 (6)	65 ≤ (5)	Seldom (5)	Sometimes (5)	Often (4)	Consistently (5)	Bike (3)	Dog (1)	Hike (13)	Horse (1)
Central Coastal Mountains Region																	
55 - Regional: Redwood Protection and Salmon Fishery Conservation	21	8.3	12	8.5	8	8.5	7.2	8.7	8.6	8.4	7.4	9	8	7.7	8	8.4	6
56 - Regional: Trail Connections and Campgrounds	21	8.3	16	8.7	8.1	6	8.2	8.5	9	9.4	7	7	9.4	9.7	9	7.8	7

	All Results			Gender						Visit Open Space				Use Open Space			
	N	Avg	Div	Female (6)	Male (13)	35-44 (2)	45-54 (6)	55-64 (6)	65 ≤ (5)	Seldom (5)	Sometimes (5)	Often (4)	Consistently (5)	Bike (3)	Dog (1)	Hike (13)	Horse (1)
Skyline Region																	
51 - La Honda Creek: Upper Area Recreation, Habitat Restoration & Conservation Grazing	21	9.1	9	9.2	9.1	10	8.8	9.2	9	8.4	8.2	10	10	10	8	8.9	9
46 - Russian Ridge: Public Recreation, Grazing, & Wildlife Protection Projects	21	8.7	11	8.2	8.8	8.5	8.7	8.3	9	8.6	7.6	9	9.4	9.3	10	8.5	5
48 - La Honda Creek/Russian Ridge: Preservation of Upper San Gregorio Watershed and Ridge Trail Completion	21	8.3	10	8.2	8.4	8	8	9	8	8.4	7.4	8.5	9	9.3	8	8.2	6
38 - Long Ridge: Trail, Conservation & Habitat Restoration Projects	21	8	13	8	8.2	7	8.3	8	8.4	8	7.6	8.8	8.2	9.7	6	7.9	6
39 - Skyline Ridge: Education Facilities - Trails & Wildlife Conservation Projects	21	7.9	16	8.3	7.6	7	7.2	7.8	9	7.8	7.4	8.8	7.6	7.3	9	7.9	5
52 - El Corte de Madera Creek: Bike Trail and Water Quality Projects	21	7.4	14	7.3	7.6	6.5	8	7.2	7.8	7	6.4	8	8.8	9.7	7	7.2	4
47 - Coal Creek: Reopen Alpine Road for Trail Use	21	6.9	17	6.5	6.9	4	7.5	6.2	7.8	7	5.8	6.5	7.8	9	9	6.2	4
37 - Saratoga Gap: Stevens Canyon Ranch Family Food Education Projects	21	6.8	22	7.3	6.7	8	5.7	7	7.8	8.4	6.6	7	5.6	4	5	7.5	6
40 - Skyline Subregion: Fire Management and Forest Restoration Projects*																	
53 - Purisima Creek Redwoods: Parking and Repair Projects*																	

	All Results			Gender						Visit Open Space				Use Open Space			
	N	Avg	Div	Female (6)	Male (13)	35-44 (2)	45-54 (6)	55-64 (6)	65 ≤ (5)	Seldom (5)	Sometimes (5)	Often (4)	Consistently (5)	Bike (3)	Dog (1)	Hike (13)	Horse (1)
Peninsula Foothills Region																	
27 - Regional: Complete Upper Stevens Creek Trail	21	8.1	13	8.5	8.2	6.5	8.3	8.3	8.8	8.2	7.4	8.2	9.2	9.7	7	7.9	8
32 - Windy Hill: Trail Improvements, Preservation, and Hawthorns Area Historic Partnership	21	8.1	17	8.7	7.8	7	7.3	8.8	8.4	7.6	7.2	8.5	9	9.7	8	7.5	9
31- Rancho San Antonio: Hidden Villa Access & Preservation Projects	21	8	15	7.7	8	9.5	7	8	8.2	8.4	8.2	8.5	6.6	5	8	8.5	8
76 - Pulgas Ridge: Regional & Neighborhood Trail Extensions	20	6.9	19	6.7	6.5	4.5	6.8	7.3	6.2	6.4	6.8	6.2	6.8	7	6	6.2	8
44 - Regional: San Andreas Fault Interpretive Trail Program	21	6.9	17	7.7	6.2	7.5	5.3	7.3	7	7.6	6.2	6.5	6.2	4.3	7	6.8	7
30- Rancho San Antonio: Intrepretive Improvements, Refurbishing, & Transit Solutions*																	

	All Results			Gender						Visit Open Space				Use Open Space			
	N	Avg	Div	Female (6)	Male (13)	35-44 (2)	45-54 (6)	55-64 (6)	65 ≤ (5)	Seldom (5)	Sometimes (5)	Often (4)	Consistently (5)	Bike (3)	Dog (1)	Hike (13)	Horse (1)
Peninsula / South Bay Cities & Baylands Regions																	
34 - Regional: Bayfront Habitat Protection and Public Access Partnerships	4	9.1	5	9.3	9.1	9	8.8	9.5	9.2	9	8.6	9.8	9.4	9.7	8	9.1	9
35 - Ravenswood: Cooley Landing Nature Center Partnership	21	8.8	18	9.2	8.5	6.5	8.3	9	9.6	9.6	8.8	7.5	8.6	9	10	8.4	9
23 - Peninsula/South Bay Cities: Partner to Complete Middle Stevens Creek Trail	21	8	10	8.3	7.8	7	8.2	8.3	7.6	7.4	8	7.5	8.8	8	6	8.1	8
22 - Peninsula/South Bay Cities: Los Gatos Creek Trail Connections	21	7.2	21	8.2	6.5	7.5	5.8	7.8	7.2	7.4	7.4	7	6.2	4.7	7	7.3	8
24 - Peninsula/South Bay Cities: San Francisquito Creek Restoration Partnership *																	

	All Results			Gender						Visit Open Space				Use Open Space			
	N	Avg	Div	Female (6)	Male (13)	35-44 (2)	45-54 (6)	55-64 (6)	65 ≤ (5)	Seldom (5)	Sometimes (5)	Often (4)	Consistently (5)	Bike (3)	Dog (1)	Hike (13)	Horse (1)
South Bay Foothills Region																	
16 - South Bay Foothills: Wildlife Passage and Ridge Trail Improvements	21	8.6	14	8.8	8.3	7.5	7.3	9.3	9.2	8.8	8.4	9.8	7.2	7	10	8.5	10
18 - South Bay Foothills: Saratoga-to-Sea Trail and Wildlife Corridor	21	8.1	10	8.7	7.8	7	8	7.8	8.8	7.6	8.6	8	8	7.7	9	7.8	10
11 - Bear Creek Redwoods: Public Recreation and Interpretive Projects	21	8	15	8.8	7.5	7	7.7	8	8.6	7.4	8	7.8	8.6	6.7	7	8.1	9
21 - Picchetti Ranch: Family Nature Play Program	21	6.8	25	7.8	6.1	5.5	5.5	7.2	7.8	8	7	5.8	5.6	2.7	6	7.3	7
17 - El Sereno: Dog Trails & Connections	21	6.6	26	7.2	6.5	4	7	8	6	6	7.4	5.8	7.6	8	8	5.9	10
19 - Fremont Older: Historic Woodhills Restoration & Overall Parking Improvements*																	

	All Results			Gender						Visit Open Space				Use Open Space			
	N	Avg	Div	Female (6)	Male (13)	35-44 (2)	45-54 (6)	55-64 (6)	65 ≤ (5)	Seldom (5)	Sometimes (5)	Often (4)	Consistently (5)	Bike (3)	Dog (1)	Hike (13)	Horse (1)
Sierra Azul Region																	
4 - Sierra Azul: Mt. Umunhum Public Access and Interpretation Projects	21	8.9	9	8.7	8.8	8.5	9	8.8	8.6	7.2	8.4	10	9.8	9.7	8	8.7	8
7 - Sierra Azul: Rancho de Guadalupe Family Recreation and Interpretive Projects	21	8.5	8	8.2	8.6	7.5	9	8.2	8.6	8.2	8	8.2	9.4	8.7	8	8.5	7
1 - Sierra Azul: Loma Prieta Area Public Access, Regional Trails, and Habitat Projects	21	8.2	8	8	8.5	7	8.5	8.7	8.2	8	7.6	8.8	9	10	8	7.8	8
10 - Sierra Azul: Cathedral Oaks Public Access and Conservation Projects	21	7.8	11	7.7	7.9	8	8.2	7.7	7.6	6.6	7.2	9	8.8	9.7	6	7.4	8
9 - Sierra Azul: Expand access in the Kennedy-Limekiln Area	21	7.7	12	7.5	7.5	7.5	8	7.3	7.2	6.8	7.4	7.8	8.2	9	6	7.1	8
8 - Sierra Azul: Fire Management*																	

*: Not rated by CAC

APPENDIX E: PARTICIPANT GENERATED GOALS AND PRIORITY ACTIONS

E-1: Public Workshop Participant Ideas for Additional Goals

E-2: Public Workshop Participant Ideas for Additional Priority Actions

E-3: Online Ideas for Additional Priority Actions

Appendix E-1: Public Workshop Participant Ideas for Additional Goals

HALF MOON BAY WORKSHOP - OCTOBER 21, 2013	AVG	Div	N
Partnering/Working with neighbors to protect both district lands and neighbor lands.	8.4	12	25
Do not treat the Coast the same as the Peninsula area.	7.9	22	23
More collaboration with other organizations.	7.9	13	25
Improve participation - by all groups - races - ages - working classes - IN THIS PUBLIC PROCESS	7.8	24	24
Under support ag: provide affordable access to such lands for current and future farmers and ranchers.	7.6	30	24
Education is there, but not thoroughly nor accurately describes to fully benefit kids - I'd reframe it - separate & clarify.	7.4	23	24
Access by trail from inland areas to the shoreline (priority action 48)	7.3	21	21
Increase amount of open space land.	7	40	23
Need metrics of core mission - healthy nature - stewardship - pollution - farms & ranchers - something about fuel loads.	7	29	22
Designation of a contiguous "Portola Trail" from South San Mateo County line to the Discovery Site on Sweeney Ridge by the 250th Anniversary of the Expedition in 2019.	7	34	21
Manage current lands well and make them safe for visitors & residents: Reduce fuel load through more grazing supported by the land - possible burns - other techniques.	6.9	24	22
Reserve some significant areas for true" wilderness - at least as much as possible in urban areas - limit bike access - perhaps limit number of visitors - restore/remove as much human caused change to original landscape."	6.6	40	27
Healthy Nature - include wetlands with watersheds connecting Enriched Experiences - watershed management thru bioassessment projects - use SWAMP guidelines	6.2	25	20
Support extended hours - after Sunset	5.5	42	25
Leave well enough alone - keep it natural - don't improve remote areas - let nature take its course - if ain't broke - don't fix it.	5.2	40	24
More of an objective: conduct scientific research - prsettlement vs current settlement	4.8	30	24
Clearly identify what constitutes low impact activity - ie: the actions of MROSD in cutting access for Mt bike riders from the Mindego Hill Trail - trucks drive on this trail - if one group is denied access due to potential harm...all users should be denied access.	4	51	26

SARATOGA WORKSHOP - OCTOBER 28, 2013	AVG	Div	N
Make Bear Creek Redwoods more accessible *	7.7	21	62
Open more multiuse trails	7.4	28	62
Restore natural habitat & wildlife in these lands, not just protect what is there now.	7.3	23	62
More single track trails for all users including bikes	7.2	32	61
Equitable trail access decisions across user groups, based on current approaches to trail design and land management (vs. historic/legacy based decisions)	7.2	27	59
Mountain Bike specific trails (ditto)	7	44	62
Minimize human impact in ecological sensitive areas. Save our wildlife!	7	29	59
Allow areas for dogs on leash.	6.5	34	61
Permit dogs on leash in the El Sereno Open Space **	6.4	38	60
Create a citizen scientist/volunteer program on habitat connectivity by establishing camera traps to monitor wildlife	6.4	28	62
Open some trails for limited (until 10 pm) biking (after dusk)	6.2	48	61
Define appropriate access	6.1	30	58
Goal: HISTORIC PRESERVATION	5.6	29	60
A working farm that urban kids can visit (families, school field trips) [I know you already have Deer Hollow Farm - maybe offer one elsewhere as well]	5.3	37	63
Replace dirt roads with narrow trails with grade <10%	5.2	35	60

*: This goal matches MROSD Priority Action #11

** : This goal matches MROSD Priority Action #17

Appendix E-1: Public Workshop Participant Ideas for Additional Goals

SKYLINE FIELD OFFICE WORKSHOP - NOVEMBER 2, 2013	AVG	Div	N
Increase interconnecting trails between parks for cyclists and other users so we don't have to mix with more vehicles on roads.	7.8	34	23
Use best science to guide what you do.	7.2	26	24
Skyline to the sea multi use trail	7.2	48	24
More multuse single track following contours instead of dirt roads up & down hills	7.2	36	24
Increase access close to where more people live, and encourage access that minimizes the use of cars.	7.1	19	24
Eliminate the cartel marijuana grow site on district lands.	6.9	52	24
T-Open newly purchased open space within a specified time limit	6.8	40	24
More diverse perspectives on Mid Pen Board	6.6	43	21
Public outreach about trails and preserves to gain new visitors - Publicizing OSP facilities and activities - massively increase advertisement of presence of the open spaces.	6.5	21	24
Expand multiuse access - areas - hours - etc. i.e. keep parks open later	6.5	67	24
Reduce fuel loads in Oak Woodlands - reducing the fuel loads	6.5	23	24
Equal access to trails.	6.3	62	22
Co-operation with schools and encouragement of science/nature education - this is in other goals but is not specific	6.2	15	24
Expand trail access for cyclists - more bike access on single track	6.2	71	22
Provide bikonly downhill trails that parallel uphill trails to avoid conflicts.	6.2	48	24
Increase representation of user demographics by advertising	6	27	22

MOUNTAIN VIEW WORKSHOP - NOVEMBER 4, 2013	AVG	Div	N
Add more open space	8.3	26	60
Trail connectivity from valley/foothills up to Skyline region for all user groups	7.8	27	61
Community focus groups for specific trail use issues - biking - hiking - equestrian - dogs	6.8	28	57
Access during night time in a compatible way - Allow preserve trail access after sunset - until 10pm - to allow users to access trails after work on short winter days - access to 10 pm	6.5	46	61
Allow preserve trail access after sunset - until 10pm - to allow users to access trails after work on short winter days	6.5	61	51
Study restoration of watersheds by eliminating dammed lands and ponds	5.7	34	57
Additional aesthetic trails	5.6	43	54
More biking single track	5.5	65	59
Improve access to trails for bicycles	5.5	62	60
Provide sites for nature education centers	5.5	40	62
Increase access to multi-use trails for cyclists	5.2	66	60
Imagine the future of your excellent staff? - compensation - housing - advancement/education	5.1	49	53
Great care needs to be taken by those who have been granted great powers - and we should prioritize the preservation and protection of the wild animals - plants - and terrain acquired by MROSD - and remember not to trample individual home owner's rights to the present peace - privacy - and securities that they have vested in their homes adjacent to open space	5.1	44	55
More (but still limited) access for organized sports events (trail running - mountain biking - orienteering - etc) including school activities.	4.7	42	61

Appendix E-1: Public Workshop Participant Ideas for Additional Goals

REDWOOD CITY WORKSHOP - NOVEMBER 16, 2013	AVG	Div	N
Land acquisition - acquire more land - continue to acquire lands in order to avoid loving to death - overuse problem	8.2	36	36
Acquire watershed properties where protected species are present	7.1	41	34
Restrict widening of single track trails	6.8	40	36
Provide more multiple trail user trails between parks - hike - bike - equestrian	6.6	42	35
Change midpen charter such that directors cannot be appointed but only elected	6.4	49	30
Actions should allow participants to show support for individual activities including hiking - horse riding - and bicycling	6.3	43	32
Expand on leash access - expand dog access - Expand dog walking access beyond existing 15% of parks - and add additional off leash areas beyond Pulgas Ridge - to reduce over crowding at that one facility	6.2	58	35
Obtain more lands along and ? the Bay	6.2	44	31
Create smaller open space opportunities within or close to urban areas - but not parks - example - Hetch Hetchy trail in Redwood City	6	43	36
Wildlife preservation should have priority over recreation and open land. Save wildlife - minimize human impact!	5.9	62	32
Improve access for all capabilities	5.4	43	36
More night time access like at Mission Peak in East Bay	5.4	54	34
Better parking at busy lots - Rancho - Fremont - Wind Hill - etc	5.3	37	33
Fuel load reduction	5.2	24	34
Create bicycle only single track trails	5.1	62	37
Reduce number of rules and regulations governing preserve use - parks are over regulated - too many limits on dogs - speed limits - helmets - closure hours - etc - rules should not be arbitrary	5	75	33
Provide more technically challenging single track trails for cyclists	4.6	53	37
Protect open space and wildlife by No Access from the public	4.5	59	35

Appendix E-2: Workshop Participant Ideas for Additional Priority Actions

North San Mateo Coast - Half Moon Bay Workshop, October 21, 2013

Designation of historic Portola Trail in combination with coastal trail but on different route when expedition was east of highway 1.
Be ready to move on any opportunity to protect + make accessible the viable working row-crop lands. Highest
Focus on visitor and resident safety and manage current lands well across all preserves.
Ca. Coastal Trail Completion, Ensure clean streams + aquatic health, Partnering with other conservation
Every project should have an educational aspect to teach future generations. Fish + agricultural sustainability is need and should be encouraged. (2 comments)
Connect all the priority action areas with trails and build "Youth Hostels" at key locations.

South San Mateo Coast - Half Moon Bay Workshop October 21, 2013

South county project list should include coastal trail completion with designation of Portola Trail. Specific archeology search for Casa Grande Indian Village.
Partner w-/create/recruit schools and educational programs to train new land stewards!
Acquire new row crop farmland and make it available to new farmers and offer longer leases.
More emphasis on working farmlands on south coast area. Affordable housing and land leases for ongoing agricultural activity.
Link the lands to the food and provide a teachable moment! Integrate projects, such that people from urban areas get to appreciate the open space.
Monitor biodiversity of flora + fauna.

Sierra Azul - Saratoga Workshop, October 28, 2013

Open Bear Creek for multi use trails
(2) Open more trails to mountain biking, and create more connections to adjacent parks.
(2) Provide a plan to open up mountain biking only trails with technical features.
Develop Trail Connections for Bay Area Ridge Trail to the sea via Nisene Marks State Park
Create native plant nursery to restore natural areas (like Golden Gate National Park) Provides excellent volunteer opportunities

South Bay Foothills - Saratoga Workshop, October 28, 2013

Connect multi-use future trails in Stevens Creek Canyon continuously
Multi use trails in Bear Creek
Purchase land to connect existing corridors
Permit leashed dogs on El Sereno trail
Build trails for mountain biking
Bring back wildlife once natural to area (like beaver that established self in Lexington Basin) For instance: elk, eagle, osprey, river otter, bears, badgers, hawk.
Open more trails to mountain biking and create more connections to adjacent parks.
More bike access on trails: Bear Creek, El Sereno, Saratoga to sea trails, Fremont Older (with 6pm-10pm, access to bikes in fall/winter).

General Ideas - Saratoga Workshop, October 28, 2013

All user groups be judged to the same standard when trails access is determined. If one user group is allotted their own single use trail, the scales should be balanced by allowing other user groups their own trail(s), ideally
Off leash area at other preserves. Model Pulgas Ridge.
What is MROSD doing to partner with neighboring city/county agencies? What can we do to assist MROSD with
How about odd/even hike/bike?

Appendix E-2: Workshop Participant Ideas for Additional Priority Actions

Skyline - Skyline Field Office Workshop, November 2, 2013

Improve trails with more single track.
Improve trail loops, including multiple OSPs or adjacent county/city parks. –lower focus on “there & back” trails –lower focus on Ridge Trail.
More single track Mtn bike access.
(2) Single Track. Increase bike access to reflect the size of the bike user group and to disperse bike use for less congestion and better safety, for bike users/non bike users. Thank you.
Would like Trail Development (multi-use) everywhere as priority.
More interconnect multi-use trails.
Watershed parts of projects are important.
It is absolutely vital to keep some prime trails bike-free, that is, off-limits to bikes.
High priorities are: 1. Erosion control & watershed protection. 2. Connecting through trails.
Long Ridge: Group feels erosion control important but is less concerned about parking.
There is a large disabled parking lot near Horseshoe Lake, but the fire road/trail from the parking lot to the Lake is very rough & rutted and generally unsuitable for wheelchair. It would be helpful to keep it in good repair at least as far as Richey’s Dam, and preferably for some distance along the lake edge beyond the dam.
Central Coast: interconnecting trails that don’t exclude cyclists
Open to dogs: Saratoga Gap, Long Ridge, Skyline Ridge.
Create a user survey to better understand the number/percent of people per activity/use type at the parks, weekend use/weekday use.
Safe route for all user groups along Skyline.
Walk in campsites away from main trails.
Skyline Ridge as part of a Regional Rim Trail System
A new trail camp for use by backpackers & possibly mtn. biker towards the north end of the open space area.
Bus shuttle from Hwy 92 to Saratoga Gap (Hwy 9) on Skyline Blvd during summer working with SamTrans.
Don’t ticket riders who speed but are still riding safely. The judges who respond to these citations think they are
A bus shuttle on hwy 35 for access to preserves along corridor.
No bike trails at either place- #48(la Honda creek/Russian ridge) and #51(la Honda creek)
(2) Nighttime access to trails (night hikes, runs, bikes) + early morning access (before 6am).
Putting a Nature Interpretive Center at Hawthorns in an existing building + developing a Nature “garden” to restore nature, remove broom, enhance creek.

Peninsula Foothills - Mountain View Workshop, November 4, 2013

Guide Book with online + mobile version to Open Space lands to provide historic, geologic + habitat information in more thorough detail than available in interpretive signage.
Bicycle Parking- at Russian Ridge & Deer Hollow Farm to encourage access by bike + Rancho San Antonio.
The Portola Valley Nature and Science Committee seeks opportunity to develop a nature center on the
Connect Windy Hill to Russian Ridge and La Honda Creek by trail.

Appendix E-2: Workshop Participant Ideas for Additional Priority Actions

Peninsula Foothills - Redwood City Workshop, November 16, 2013

(2) Create a bike path through Pulgas Ridge OSP to connect to Canada Rd. from Edgewood Rd. & Crestview Dr. (bypass for Edgewood Rd grade).

Trail Connectivity between Bay lands, Foothills & Skyline regions for all users.

#27 Bay Trail to Ridge Trail: Need for overnight place to stay- group camp or hostel w. minimal maintenance. Many would like to hike long trips, several nights. (Could limit nights to 2)

The MidPenn needs more than one place for overnight camping for hikers (No car camping!). #32 Add another Backpack camp?

Partner with bike share program to get visitors from parking to staging areas. Currently just at transit centers.

Habitat as the topmost criteria-even beyond trails.

More off leash dog areas.

Develop single use trail systems and subsystems specific to: -mtn. bikes –dogs –equestrian

Open up more/all trails to mt. bikes.

South Bay Peninsula Cities and Bay lands - Redwood City Workshop, November 16, 2013

Support work to eliminate illegal encampments on Los Gatos

Sponsor a linear open space and trail on the "Hetch Hetchy" right-of-way through Redwood City.

Open parks at night like Mission Peak in East Bay.

A combined Nature Center +Tech Center at RSA.

Pack out TP or other ways to take care of human waste. Litter prevention! Rancho San Antonio and other heavily used spaces.

Improve trails parallel to Skyline Blvd. Continuous access from Saratoga Gap to Purisima Creek or even Half

Appendix E-3
Online Ideas for Additional Priority Actions

Participant Generated Action	POINTS
Connect Montebello and Rancho San Antonio for bicycles	152
End Exclusionary Trail Management- Open Single Track to bicycles	141
Allow preserve access until 10pm	129
Connect Skyline area trails to Woodside	120
Acquire & maintain Dirt Alpine: Best access to heart of Midpen*	119
Alternating trail user days	98
Allow dogs on more trails !	84
Increase bicycle speed limit	84
Specific user group contacts	60
Create a small Trials and Mini-bike area	47
More accessibility for dogs	32
User group interaction	31
More camping sites	25
Expand District into Santa Cruz County	22
Create a Bay 2 Sea multi-use trail	21
"Silent" Sundays (or other day)	18
Current trail design guidelines encourage speeding	9
More true hiking trails	8
Protect private property rights of individual homeowners	5
Evaluate creek ordinances, if any, in Redwood City and elsewhere	0

* This idea matches MROSD Priority Action #47

Appendix F: Public Workshop Comments

Half Moon Bay Workshop - October 21, 2013

Comments on Process

- Process worked pretty well. Would have liked less time on going through the goals. For some people, feedback at the end was too late, might be good to have some discussion early.
- Ranking priority actions is really tough without separating out some of the pieces. For example, some actions would require new acquisitions—not a simple management action... Also, I may strongly support some parts of a proposal, but may disagree with another or support an action in general, but not agree Midpen is necessarily the correct agency to implement it. Not sure about the value of this exercise.
- Process too long. Keep to 1.5 hours.
- Very well done- Thanks for staying on subject.
- Please coordinate slide order with handouts! North coast evaluation limits our vision of what MROSD could do with each project. They should all have a teaching aspect. Focus on agricultural + fishing lands to advance the understanding + improvement of both is really needed. Protection of the watershed is also a high priority.
- It felt a little rushed. It would have been helpful to have the themes packet stapled in the same order as the slides. The Priority Action Goals should have been lettered the way the voting slides were, it would be easier to vote. The remote voting device was easy to use.

Ideas

- I recommend each project to have 9 + 12 (key to priority actions items). Monitor biodiversity of flora + fauna. Create coastal trails with many forms of accessibility with wildlife and the health of the environment in mind. Implement overpasses or underpasses for people and wildlife to cross open space preserves.
- We need more fire management in our public lands. Fire is necessary for the native species that are adapted to regular burning, to introduce nutrients back into the soil, and to keep the population of non-native species down. Controlled burns would also reduce the fuel load and
- Make future fires safer.

Other Comments

- No. San Mateo County coast map – common mistake- “McNee Ranch State Park” is not correct. “McNee Ranch” is part of “Montara State Beach”. Maybe someday it’ll get a new name.
- Having been involved through a series of these meetings, I still feel that significant emphasis about retaining working agriculture and retaining affordable land and housing for agricultural farmers and workers. Agriculture needs strong support, not an illusion of pretty landscape only.
- I am concerned about the mode of grazing?? Are native grasses being over-grazed?
- 75 should be in both project lists for N. and S. Coast County. The historic Portola Trail should be designated in combination with the Coastal Trail.

Appendix F: Public Workshop Comments

Saratoga Workshop - October 28, 2013

Comments on Process

- Process is good. Please give more information on how to get to meeting place at West Valley. I'm parked across campus. Saw map- but didn't see building names. In area that I parked- no signs. - money machine didn't work, didn't have time to put flyer on car. Your special event parking permit could have been online.
- Great meeting facilitator. Nice to hear area presentations by Mid Pen staff.
- There was not enough specifics on the "actions".

Ideas

- All user groups be judged to the same standard when trails access is determined. (Ex- if minimizing impacts to terrain-species is paramount, mountain bikes should not automatically be the first group excluded). 2. Mt. Biking should be viewed as a tranquil nature experience similar to those hiking. In order to attain a level trails access playing field with MROSD, fundamental shifts need to occur from the cemented in perception of the MROSD board that MTB is a non-tranquil recreation activity. 3. What good will all this info do if MROSD board snubs input, as they seeming do when it suits? 4. MROSD board needs to be much more open to shared use trails, which are the norm within the coastal region. 5. If one user group is allotted their own single use trail, the scales should be balanced by allowing other user groups their own trail(s), ideally nearby.
- Offleash areas in big-acre preserves. Model Pulgas Ridge off leash area at other preserves.
- More bike-friendly trails. Maybe some bike only trails? There are hike-only trails for people who don't want to deal with bikers. Why not some courtesy for biker? I think we can all get along, but if we can't... How about odd/even hike/bike? Tahoe run trails has success with that. 2. More dog-friendly trails, too, please!
- I would love to see more horse trails. From Fremont Older we horses (hikers too) need to be able to get around the reservoir area (Near Tony look trail). I want to be able to access the Highway 9 corridor (Sea-to-Sea trail) via horses. Years ago this was possible but no more. Pichetti has no real horse access from Garrod's/ I want to ride over Steven's Canyon up into upper Steven's Creek & Pichetti via horses. Why not make the trail near Steven's Canyon available to horses to reach the rest of the part. We need more trails in Older. I ride M-W & there are always people in this park. All that space but no new trails. More trails for horses/hiking while bikes on others. Parking for cars is basic but for horse there are few places to park. Bigger room, Talk less about how we do this. I wanted to hear what we're doing on trails & opening more trails please, Stayed 1 3/4hrs.

Other Comments

- We should not be introducing camping. Night use + opens District to many problems + additional usage of resources. Leave camping to State + County parks. District user & volunteer.
- I appreciate the opportunity to be involved with this process but am not confident our inputs will be used to make change. Specifically, there were very few ideas specific to opening more mountain biking trails.
- What is MROSD doing to partner with neighboring city/county agencies? What can we do to assist MROSD with this?

Appendix F: Public Workshop Comments

Skyline Field Office Workshop - November 2, 2013

Comments on Process

- Many “priority actions” had multiple components. There wasn’t a simple way to choose one or some components over others. Also, the multi-use vs. single use questions were ambiguous, so I may have rated some questions inconsistently with my opinions.

Other Comments

- Ask the Question: 1. How do you get to parks? 2. How would you like to get to parks? –car-mass transit- walk- horse- bike.
- I was disappointed in being unable to request access for dogs in more places, esp. Long Ridge. I am old and wish to have dog as my hiking companion in the preserves closest to my home in Saratoga. If poor behavior is a problem then a certification process might help.

Mountain View Workshop - November 4, 2013

Comments on Process

- Very well organized & executed. Valuable! Congratulations to Midpen for investing in public feedback.
- What about long term goals for your excellent staff? What do you want your future staff to look like? Is there a Board member focusing on this?

Other Comments

- Thank you for the public’s input. Even though Rancho San Antonio seemed to get a low priority. I really hope that access can be improved. Also, thank you for protecting our open space.
- Too bad people aren’t more open to trying new or different ideas.
- Not addressed: User group policy incompatible with resource protection. The cycling lobby is always well represented at meetings/workshops, which ensures that there will be no breaching of the issue or further restricting their use of the trails they’ve already damaged. One planner even attributed the damage at ECdM to “motorcycles”. South Leaf Trail will be the next to go down, so maybe you are already photo shopping images of Harleys on that original segment (which contrasts so dramatically with the newer section re-built last decade, connecting to Methuselah). Conceptually there is a simple answer: place the burden of proof on cyclists to demonstrate that a segment of single-track can maintain its surface integrity under the impact of cycling. Many segments can and do, and I am NOT categorically opposed to their access to single-track. But cyclists are not “low-intensity” users at ECdM, and have not earned the benefit of any doubt. On the contrary, the bias should be against their access to single-track until they demonstrate they can use it w/o destructive impact.
- I have been walking in Rancho San Antonio & Windy Hill for about 20 years. I really like how the MROSD is managed. Long term, I am concerned about how well your excellent staff is paid in this high cost living area. I hope they are paid above average? Then salaries look modest to me. What about housing for them? More on employee housing? In summary, I have met many rangers & maintenance employees, all excellent. I am surprised no long term goals concern your excellent but hard working staff. You folks do a big job with very few people. Well Done! – Allan Wentworth, ahwentworth@sbcglobal.net

Appendix F: Public Workshop Comments

Redwood City Workshop - November 16, 2013

Comments on Process

- The priority actions goals had letters A-P on the slides, but not on the handout.
- It's a bit confusing at first.
- Excellent process! Well done; very clear; friendly. Lots of speakers- good to hear different voices, purposes. Have a microphone at each table. People waiting around w/ one was too late by the time question was asked.
- The priority actions with keys is hard to follow. Look at ways to more concisely represent this information. I think it can be done on a single page.
- Great presentation. Loved the computer program that you used.
- It would be very helpful if at beginning of presentation someone would give explanation of where this fits into the overall process of producing the vision plan.
- Good use of technology for voting. Website voting is good but you can do better at including more people. Meetings could be webcast with live online voting. More online reading material.
- If you want to get wider participation you need to contact each city's outreach(?) coordination e.g. in RWCity, Sheri(?)Costa_Brava@rwc.org. But make it FOCUSED- say "Please fill out the on-line comment form" + provide a simple LINK to (can't read word here). -The announcement was pretty verbose (tho nice!) Hope this helps.
- Not enough information given to provide informed ratings of individual projects. What are the tradeoffs? For instance, access vs. biodiversity. What are the relative resource expenditures required compared to what is available. Too much focus on very granular details vs overall goals. So please don't much too much focus on response to individual projects. -But, thank you for listening.
- Meeting could have been much shorter if less time wasted on reading lists that we can read for ourselves, and explaining project management jargon. Need clearer explanation of what each priority action entails. Ie, what exactly is the proposed project and contribution. Also, too much time explaining processes. Also- You should have asked us how we typically use the parks, ie, rugged hiking, light hiking, bikes, strollers, dogs... you can use that info to better serve community needs. Since there isn't time to prai?e real details about actual projects, it would be more useful to get more detailed feedback from us about general preferences and goals or usage patterns. Not useful to make us vote on concrete projects without really knowing what they are.

Ideas

- Offer another opportunity for a coffee table book-art, photography, poetry, etc. This could meet the enriched experiences, Id go out to photograph for the contest. Helps me see better.

Appendix G

VISION PLAN WORKSHOP EVALUATIONS																										
PARTICIPANT EVALUATIONS	DIVERSITY	AVG		GENDER		WORKSHOP					AGE					VISIT OPEN SPACE				USE OPEN SPACE						
		TOTAL (205)	F (86)	M (101)	10.21 (20)	10.28 (61)	11.2 (22)	11.4 (60)	11.16 (28)	18 24 (6)	25 34 (13)	35 44 (24)	45 54 (58)	55 64 (51)	65 or > (41)	SEL-DOM (25)	SOME TIMES (36)	OF-TEN (70)	CON-SIST-ENTLY (57)	BIKE (29)	DOG (4)	HIKE (44)				
The voting technology was used effectively and benefitted the Workshop	14	8.6	9	8.6	8.4	9	8.7	8.8	8.3	8.4	8.8	8.7	8.7	8.9	8.7	8.7	8.7	8	9.2	8.6	8.4	8.2	8.7	8.7	8.7	8.1
I support the role the Open Space District plays in the preservation and management of open spaces for public use and benefit	23	8.4	8.9	7.9	8.4	8.5	8.8	8.5	7.7	7.8	8.4	8	8.3	8.2	8.2	8.2	8.2	8	9	7.9	6.9	9.2	8.4	8.4	8.5	8.5
Overall, we had a successful Vision Workshop	15	8.1	8.4	7.9	8.2	8.4	8.2	8.2	7.1	8.8	8	7.6	7.8	8.2	8.2	8.8	8.3	7.8	8.7	7.6	6.8	8.5	8.3	8.3	8.5	8.5
I feel my time was used effectively	16	7.8	8	7.6	7.7	8	7.9	7.7	7.5	7.8	7.1	7.5	7.7	7.9	7.9	8.3	7.6	7.4	8.3	7.5	6.6	7.5	7.6	7.6	7.5	8.1
The Workshop gave me an opportunity to have my voice heard on an important topic	22	7.8	8.1	7.6	7.5	7.8	7.8	7.6	7.4	7.8	7.7	7.9	7.5	7.9	7.9	8.2	7.9	7.5	8.3	7.6	6.6	7.7	7.9	7.9	7.7	8.1
At the End of the workshop: I trust the process of engagement for the Vision Plan Public Workshops	26	7.2	7.9	6.7	7.6	7.3	8	7.3	6.6	7	6.8	6.6	6.9	7.3	8.4	7.1	7.1	7.3	7.8	6.8	5.4	8	7.1	7.1	8	8
At the Beginning of the workshop: I trust the process of engagement for the Vision Plan Public Workshops	27	6.7	7.3	6.3	0	6.8	6.9	7.1	6.2	6.3	6.1	6.3	6.4	6.8	7.8	7.2	6.8	6.8	7.2	6.1	5.3	6.1	7.2	7.2	6.1	7.6