



Midpeninsula Regional
Open Space District

PLANNING AND NATURAL RESOURCES COMMITTEE

R-18-35
April 30, 2018

AGENDA ITEM 2

AGENDA ITEM

Update to the Resource Management Policies, Water Resources Section

ACTING GENERAL MANAGER'S RECOMMENDATIONS

1. Direct the Acting General Manager to review the proposed revisions, with any changes as requested by the Committee, with key stakeholders.
2. Forward the policy updates to the full Board for consideration and approval.

SUMMARY

The Board of Directors (Board) adopted the Midpeninsula Regional Open Space District's (District) Resource Management Policies in 1994 and subsequently revised these policies in 2012 (R-12-05) and 2014 (R-14-148). In 2016, Midpen hired a Water Resources Specialist to develop and implement a water resources program. As part of this work, the Water Resource Specialist has identified water policy gaps and new issues that have emerged since the last review of the Resource Management Policies. Correspondingly, the Acting General Manager is proposing additions to the water resources section of the policies pertaining to water diversions, and consumptive water use and management. In addition, minor edits are recommended to provide greater clarity and improve the organization of the water resources section.

At the April 30, 2018 meeting, the Committee will review the specific policy revisions in detail as part of the staff presentation. Attachment 1 presents the proposed policy revisions.

DISCUSSION

The Resource Management Policies cover all Midpen property, including lands located in the San Mateo County Coastal Service Plan area (R-03-12). The Resource Management Policies serve as the principal policy governing resource management issues to guide the work of staff and inform the public on Midpen policies and priorities. The Resource Management Policies also serve as a framework for evaluating the benefits and impacts of 'outside projects' (i.e. projects proposed by other landowners) on the integrity of Midpen natural resources. Much of the original text from 1994 remains in the current policy. The 2012 update, among other broad changes, added water resources policies that address watershed coordination, fisheries habitat, and ponds/wetlands management. The 2014 revision included an update to policies affecting the Integrated Pest Management Program.

In 2016, Midpen hired a Water Resources Specialist to develop and implement a water resources program. As part of this work, the Water Resource Specialist has identified new policy areas and issues that have emerged since the most recent 2014 review of the Resource Management Policies. Below are the proposed new substantive additions to the water resources section, which pertain to consumptive water use and management, and water diversions.

Substantive Policy Changes:

The current focus of the water resources policy section is on sediment delivery from Midpen roads and trails (i.e. water quality impacts). The current policies do not sufficiently address the diversion and use of water to support various Midpen operations (residential, grazing, agriculture, and offices).

The Acting General Manager and Water Resources Specialist propose policy additions to more clearly define a framework for encouraging ecologically-sensitive water diversion and use that achieves a balance between consumptive uses and needs with natural resource protection. Because Midpen diverts water to meet its operational objectives, assessing and addressing the potential ecological impacts of those diversions is important to ensure protection of the environment and the sustainability of natural water resources and water-dependent ecological functions. As part of this work, alternate water sources and new water storage infrastructure would be evaluated to determine the best approach to balance the goals and needs for consumptive operational uses and resource management. The proposed revisions are summarized below. These policy revisions reflect either State policy or law and/or are best management practices (BMPs).

Table 1. Water Policy Revisions Summary Table

Proposed Policy Revision Statement	Similar to State Policy or Law	BMPs
Review outside projects for potential water resource impacts (WR-1)		✓
Monitor water diversions and use water efficiently (WR-4)	✓	✓
Evaluate new water sources and balance operational and environmental needs (WR-4)	✓	✓
Avoid direct stream diversion when other water sources exist (WR-6)		✓
Evaluate water storage options (WR-6 and WR-8)	✓	✓
Develop drought management strategies (WR-8)	✓	✓

FISCAL IMPACT

The proposed policy updates have no direct fiscal impact. Projects implemented consistent with the new policy, such as new water storage systems or resilient water supplies, will carry direct implementation costs and may either reduce or increase future operational costs as compared to the pre-existing water systems.

PUBLIC NOTICE

Public notice was provided as required by the Brown Act. In addition, pending Committee action, the Acting General Manager would direct staff to consult directly with the Farm Bureau and other key stakeholders on the recommended policy changes (see Next Steps below).

CEQA COMPLIANCE

The water resources policy updates are not a project subject to the California Environmental Quality Act. Projects subsequently developed pursuant to the policies may require CEQA review.

NEXT STEPS

Feedback from the Committee will be incorporated into the water resources policy section of the Resource Management Policies. The Acting General Manager would then direct staff to present the water resources policy updates to the San Mateo County Farm Bureau and other key stakeholders in June, prior to bringing the item to the full Board of Directors for consideration in either late July or August.

Attachment(s)

1. Water Resource Policy with major revisions highlighted

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WATER RESOURCES

BACKGROUND

Water is essential to life on earth and is also one of the most important forces shaping **habitats** and **biodiversity**. District **open space** lands contain a variety of water **resources** that include such diverse habitats as freshwater **wetlands** (including ponds and seasonal wetlands) and **watercourses**, salt water tidal wetlands within San Francisco Bay, and groundwater resources such as springs, seeps, and underground aquifers. These water resources have **natural**, scenic, recreational, scientific, and educational values. In general, this policy will discuss **waters** (sag ponds, artificial impoundments, lakes, and aquifers), watercourses (such as streams and creeks), and wetlands. These terms are discussed further below.

“Waters” is a term that is broadly used to describe all aquatic systems. This policy defines “waters” as areas of standing water, both seasonal and permanent, such as lakes and ponds, as well as underground aquifers. “Watercourse” is a generic term used to define any land feature that conveys concentrated water flow, regardless of whether the water flow is ephemeral, intermittent, or perennial. “Wetlands” are distinguished by the presence of water, either at the surface or within the root zone. Wetlands have unique **soil** conditions that differ from adjacent uplands and support vegetation adapted to wet conditions. Wetlands provide critical ecological functions and habitat for a variety of fish, wildlife, and plant species

Wetlands are lands that are transitional between terrestrial and aquatic systems. The water table is usually at or near the surface, or land is covered by shallow water. Some functions of wetlands include the following: provide habitat for fish and aquatic wildlife, offer foraging habitat or water for terrestrial wildlife and birds, absorb flood waters, reduce erosion, recharge aquifers, cleanse pollutants, provide aesthetic values, support unique plant associations, and provide habitat for many rare species of plants and wildlife. In California, wetlands of all types have been greatly reduced in area from their historic extent and are being rapidly lost or adversely impacted.

Watersheds Within the District

District Preserves are located within 22 major **watersheds** extending from the Pacific Ocean in San Mateo County to the baylands in San Mateo and Santa Clara Counties. Watersheds are land or “basins” within which all precipitation within a given watershed drains to a single body of water, often a creek or stream. Many of the District’s lands are located within the headwaters or uppermost sections of these watersheds.

Most preserve watersheds contain steep ridges and deep canyons typical of the Santa Cruz Mountains. Rainfall occurs mostly between November and April with seasonal rainfall totals varying greatly within the District. The greatest rainfall quantities occur along the west facing slopes near the summit of the mountain range where totals can reach 40 to 50 inches per year, however, averages around 20 to 30 inches per year are more typical. In the Santa Cruz Mountains, fog accounts for approximately 10-20 inches of this precipitation, much of which is delivered in the dry summer months. Many smaller creeks and streams are intermittent, reflecting this seasonal distribution of rainfall. Winter flows are higher, especially during and immediately following storms.

The Influence of Water Movement

Water flows in predictable patterns on the surface, through rocks beneath the soil, and in underground water tables. Plants and animals are adapted to specific movement patterns of water, sediment, and nutrients occurring in their area. A significant change in any of these factors may reduce or eliminate original species in favor of those better able to survive in the new conditions. Maintaining and restoring hydrologic patterns is important in maintaining healthy **ecosystems**.

The condition of soil and vegetation influences the rate at which water moves as well as its quality and quantity. Leaf litter acts as mulch that helps absorb and conserve rainwater. Maintaining a continuous cover of live and decomposing vegetation residue is the most successful long-term approach to controlling erosion and maintaining **water quality** and quantity.

Water Management Within the District

As rain falls on District Preserves, it is captured and transported through the ecosystem. These processes create high-quality water for the environment and people. District Preserves also support groundwater recharge that helps sustain summer and fall water availability and mitigate the impact of drought.

Groundwater is water that is held underground in soil or pores and crevices in bedrock

The District is also dependent on water to fulfill its mission. District field offices require water for employees, equipment maintenance, dust control, and fire suppression. The District manages residential properties that are often located in areas without municipal supplies, thus relying on locally, naturally occurring water sources. Grazing operations that manage grasslands for multiple benefits require water in remote areas. Irrigation supports farming that provides local food.

Surface water is found in streams, rivers, ponds, and lakes.

The District manages ponds that support aquatic and terrestrial wildlife. In the semi-arid region of the Santa Cruz Mountains, restoration of stream and **aquatic ecosystems** is a priority for managing ecosystems.

Springs are a type of groundwater that surfaces at a point on the land.

The District relies on a variety of water sources. **Springs** are captured and developed to provide water to people and livestock with the goal of allowing wildlife access to the spring water. Wells capture deeper groundwater sources and require energy to pump the water to the surface. Streamflow can be captured by small impoundments or pumps and diverted to the place it is needed. These waters are often stored to provide water during the dry seasons in tanks or ponds

Consumptive use is the amount of water that is used by people, livestock, or crops that is unavailable to the environment after use.

Water Resource Issues

Wetlands and watercourses on the District's open space lands provide valuable and increasingly scarce habitat for a variety of **native** plant and animal species as well as many **special status** species. Where aquatic habitat is not directly present on District lands, runoff from District lands supports habitats downstream, a connection that should be recognized

and preserved. Issues associated with the management of water resources and water quality include erosion and sedimentation, **excessive diversion of water for consumptive use**, severe erosion following **wildland** fires, agricultural runoff, **pesticides** and fertilizers, septic system wastewater disposal, stormwater runoff, flooding, drought, climate change, associated sea level rise, and chemical **contamination** from neighboring areas or from former use of preserve lands.

WATER RESOURCES GOALS, POLICIES, AND IMPLEMENTATION MEASURES

Goal WR- Protect and restore natural water courses, wetlands and hydrologic processes

Policy WR-1 Protect surface and ground water from contamination.

- ◆ Inventory existing facilities and uses that affect watercourses, **riparian** areas, and wetlands, and prepare plans for protection or **restoration**, as appropriate.
- ◆ Research and pursue cleanup of likely sources of pollution, such as buried fuel tanks, improperly dumped or stored material, and faulty waste or drainage systems.
- ◆ Utilize self-contained sanitary facilities or place rest rooms where they cannot contaminate water sources.
- ◆ Control activities having a high potential for pollution.
- ◆ Properly decommission abandoned septic systems and avoid water quality impacts when constructing new septic systems. Manage active and abandoned wells to avoid groundwater contamination
- ◆ Regulate the type and intensity of human activity on District lands to protect water quality.
- ◆ Review offsite land use and water management projects and policies that affect District water resources. Recommend and support measures to maintain natural water quality, channel flow, and sedimentation rates on District lands.

Contamination is man-made waste that has polluted the environment making it unfit or unsafe. Examples on District lands include deteriorated septic systems, underground storage tanks, leaking transformers, and trash and debris.

Policy WR-2 Restore, maintain or **enhance** water quality on District lands

- ◆ Manage vegetation to improve watershed productivity and water quality.
- ◆ Manage agricultural leases and easements to maximize the protection and **enhancement** of riparian areas and water quality.
- ◆ Monitor sediment delivery and transport on District preserves located within watersheds identified as impaired by sediment or supportive of special status animals requiring aquatic habitat.
- ◆ Coordinate with agencies and organizations to establish volunteer-based monitoring programs. Participate in regional watershed management activities.

Restoration and enhancement are terms that are sometimes used interchangeably when discussing habitat improvement projects. Restoration refers to the process of returning land that has been degraded and disturbed into functional habitat. Enhancement refers to the process of altering a habitat to provide specific ecosystem functions that may be missing; typically to provide habitat for endangered species.

Policy WR-3 Minimize interference with natural flow of surface and ground water.

- ◆ Incorporate **best management practices (BMPs)** and develop stormwater pollution prevention plans (SWPPP) when required at staging areas.
- ◆ Inventory and assess roads and trails on District lands to identify significant erosion and sediment sources. Prioritize maintenance and road/trail management based on most

severe erosion and sediment delivery sites.

- ◆ Manage human activities to control erosion--for example, abandon and where feasible **restore** to a natural condition poorly designed or sited roads to a natural condition, close certain trails to bicycle and equestrian use during the wet season, re-route existing trails to minimize erosion and sediment delivery.
- ◆ Restore hydrologic processes altered by past land uses by installing erosion control materials and structures, removing culverts and drainage diversions where appropriate, and using improved drainage structures that minimize alteration of hydrology.
- ◆ Minimize soil disturbance during all construction projects.
- ◆ Locate new trails to minimize potential water pollution and stream bank erosion and sediment delivery.
- ◆ Construct trails, roads, staging areas, and buildings so that streams are not permanently diverted nor interrupted, and runoff is not concentrated. Minimize creation of impermeable surfaces.
- ◆ Identify and mitigate significant impacts of altered water flow on plants and animals, including aquatic organisms.

Many of the District's properties contain legacy logging and ranching roads that were not designed or constructed for year-round use. These road systems can greatly alter the flow of water across the land, causing erosion and sediment problems due to concentrated runoff from winter rains.

Policy WR-4 Manage Water Consumption to Balance Operational and Environmental Needs

- ◆ Phase in installation of water meters or other measures to monitor annual consumptive water use.
- ◆ Develop and regularly update BMPs for efficient water use in offices, field operations, residences, grazing, and farming.
- ◆ Evaluate and consider the environmental and operational benefits and tradeoffs of each water source for new projects.
- ◆ Evaluate and consider the construction and operational costs of each water source.
- ◆ Balance operational and consumptive use needs with the goal of maintaining healthy ecological functions.
- ◆ Provide technical assistance to lessees of District lands and owners of lands which the District has an agricultural easement on to secure water rights for the continuation or establishment of viable agriculture consistent with the protection of sensitive habitats (see Coastal Service Plan PA.2).

Two types of surface water use are recognized under California law: appropriative rights and riparian rights.

Appropriative rights require a permit from the State Water Resources Control Board, which grants the right to use water on parcels not adjacent to the watercourse or to store water.

Riparian rights are the rights of any owner of a parcel immediately adjacent to a watercourse to use water.

Policy WR-5 Determine and maintain District water rights and utilization.

- ◆ Identify existing uses of surface water on newly acquired open space lands, as part of the purchase process. Protect appropriative and riparian water rights for appropriate and beneficial existing or possible future uses.

Secure water rights for the continuation or establishment of viable agriculture and grazing on

District land consistent with protection of sensitive habitats.

Policy WR-6 Preserve and enhance fisheries habitats. (See WM policies)

- ◆ Inventory and assess stream reaches accessible to **anadromous** fish to identify impediments to fish passage and opportunities for habitat enhancement.
- ◆ Remove artificial **barriers** to fish passage where removal will enhance spawning and rearing habitats
- ◆ Enhance spawning and rearing habitats for native fisheries through restoration. Prioritize restoration and enhancement of areas providing habitat to sensitive species.
- ◆ Monitor sensitive fish species populations in District waters.
- ◆ Monitor water quality and condition of high priority aquatic habitats associated with District projects containing spawning, breeding, rearing habitat for special status fish, reptile, amphibian, or other aquatic species.
- ◆ Evaluate and consider the environmental benefits and construction/operational costs of off-stream storage facilities to minimize stream diversion and/or allow for the release of water into natural waterways during low flow seasons and implement accordingly.
- ◆ Avoid new direct stream diversion for consumptive uses where economically feasible alternative water sources exist, or the diversion captures the majority of flows, or the aquatic habitat would be substantially impaired. Explore alternate sources for existing in stream diversions.

Policy WR-7 Preserve and enhance ponds and other wetland habitats. (See VM-1 and WM policies)

- ◆ Maintain ponds or other water bodies as wildlife watering sources as appropriate (See WM-2).
- Inventory and assess ponds and wetlands to identify opportunities for habitat maintenance and enhancement.
- ◆ Monitor sensitive reptile, amphibian, and aquatic organism populations dependent on District wetlands.
- ◆ Preserve ponds through maintenance of artificial impoundment structures where ponds provide habitat for sensitive and other wildlife species.

Few of the ponds in the Santa Cruz Mountains are naturally occurring features. The majority of ponds were created as artificial impoundments that require ongoing management to maintain. Regardless of their origin, ponds provide wildlife access to a scarce resource (water) and greatly increase the diversity of species inhabiting the District's lands.

Policy WR-8 Develop seasonal and multi-year drought management strategies for District lands

- ◆ Evaluate and develop where appropriate wells and springs to create resilient water supplies.
- ◆ Identify and curtail diversions that strain naturally limited water sources, especially those that significantly impact special status species.
- ◆ Evaluate and implement where appropriate additional water storage infrastructure to store water when it is naturally abundant for later use during dry seasons.
- ◆ Evaluate and alter as appropriate water-intensive land management practices during drought conditions to reduce overall District-wide water consumption.