



MANAGEMENT AREAS AND SUB-AREAS	PROGRAM AND/OR ACTIVITY
<i>Community Use Management</i>	
Recreation	Camanche North and South Shore Recreation Area concessions Pardee Recreation Area concessions Camanche Hills Hunting Preserve concessions Mokelumne River Day Use Area Middle Bar Boat Take-out Facility Hiking trails (construction and maintenance)
Education	Stewardship through education program District-sponsored annual hikes/trips (wildflowers, bald eagle tours) Mokelumne River Fish Hatchery
Cultural and historical resources	Inventory of historic and cultural artifacts as found/identified
Mobilehome park	Three mobilehome parks managed through Camanche recreation area concessionaire
<i>Asset Management</i>	
Infrastructure	Preventative and corrective maintenance system Asset management system
Land ownership and easements	Watershed environmental easement and land purchase program
<i>Communications Management</i>	
Community outreach Interdepartmental coordination	
<i>Financial Management</i>	
Operating and capital budgeting processes	



# 3.0 Mokelumne Watershed Land Use Management Goals, Strategies, and Objectives

## 3.1 Introduction

*“Protect the public health of its customers by serving high quality water from the best available source in preference to reliance on additional treatment.”*

The MWMP is designed to comply with and support existing District policy established for the watershed or that affects land use or activities in the watershed. These policies include:

Policy 9.04, “Watershed Management and Use,” established September 2007, which states:

*“It is the policy of the East Bay Municipal Utility District to: Acquire, protect and manage watershed land supporting District reservoirs, in a manner which assures the District’s water supply is maintained. Also, to ensure that watershed lands are maintained in accordance with the District’s primary objective of providing high quality drinking water and managed in accordance with District environmental principles.”*

The policy also directs implementation of the Mokelumne and East Bay Watershed Master Plans.

Policy 7.10, “Source Water Quality,” established in July 2006, states that it is the policy of the District to:

*“Protect the public health of its customers by serving high quality water from the best available source in preference to reliance on additional treatment.”*

The policy sets the overarching goal of the District to maintain or improve existing water quality by eliminating or reducing the potential for contaminant migration to water supply sources.

Additional policies related to the MWMP include Policy 9.01, Fire Control and Fuels Management on Watershed Lands (February 2001); Policy 7.04, Access to District Property (September 2005); Policy 7.05, Environmental Responsibility (October 2004); Policy 4.21, Land Sales – Use of Funds (December 2006); and Policy 7.13, Security (January 2007).

While the MWMP remains subordinate to these policies, it serves as an umbrella document for the development and implementation of focused land use management plans that prescribe how District policy will be implemented to achieve the District’s land use management goals. The MWMP also supports and informs other District water supply initiatives such as the 2040 Water Supply Management Plan by providing data that would need to be considered during development of future water supply alternatives.

## 3.2 Overview of Mokelumne Watershed Land Use Direction

In conformance with District policy and consistent with the format of the 2006 Strategic Plan, the MWMP establishes land use goals, strategies, and objectives for each of the watershed management areas and sub-areas.

The land use goals represent the desired outcome of District programs and activities within each sub-area. The strategies represent the direction or course that will be pursued to achieve the goals. The objectives to be achieved through implementation of each strategy are also summarized. The goals, strategies, and objectives identified support the District's mission to:

- Protect water quality
- Protect natural resources
- Exercise fiscal responsibility

All land use activities are conditioned on achieving these three overarching goals. Several of the strategies include development of detailed management plans based on further study and evaluation of watershed land use practices. These plans will improve District watershed management practices through application of adaptive management principles and the ongoing collection and evaluation of water quality, natural resource, and financial data for District-owned lands.

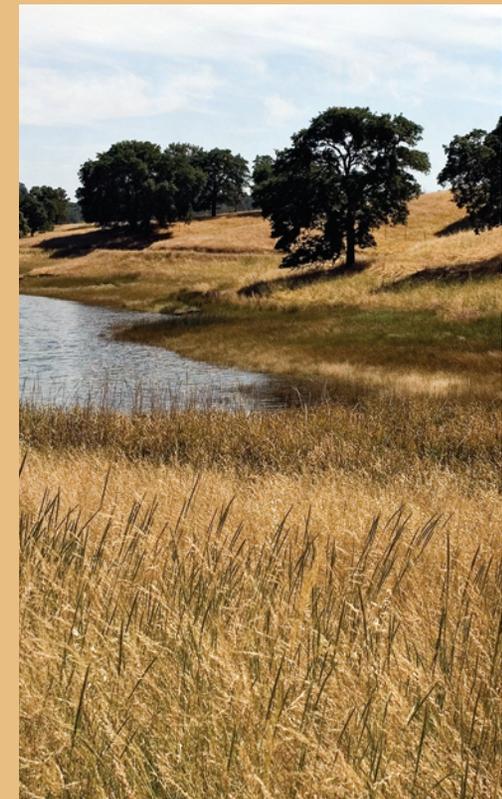
These plans, identified during the Mokelumne land use and facilities assessment process, include:

- Recreation plan
- Mobilehome park management plan
- Ecological integrity/natural resources plan
- Fire management plan

- Water quality monitoring program
- Infrastructure management plan
- Rangeland management plan
- Financial management plan

Metrics, measures, and indicators to assess organizational progress in achieving the goals are not included in this document because they will evolve as these plans are completed and land use management practices are adjusted in response. The monitoring guidelines, however, outline the processes used to select appropriate management and performance indicators to assess organizational performance in achieving goals and to document the impact of watershed land use decisions.

Implementation of the MWMP is a collaborative effort of multiple District operating departments. Primary responsibility lies with the Natural Resources Department, although significant support and coordination with Operations and Maintenance, Finance, and Engineering is required. Senior management, with support from the Mokelumne watershed, recreation, and operating work units, provides direction on the prioritization of the strategies outlined below, through the business planning process.



## 3.3 Natural Resource Management Area

### Rangeland Management

#### Goals:

*Employ sustainable rangeland management practices*

*Maintain existing undeveloped open space by limiting development within the Mokelumne hydrologic watershed boundaries*

Strategy 1: Prepare and implement a Mokelumne Watershed Rangeland Management Plan.

#### Objectives

1. Permit grazing by domestic livestock (cattle, horses, llamas, and goats) for the primary purpose of fuel reduction.
2. Develop pasture-specific goals for residual dry matter that reflect fuel reduction goals and protect against erosion.
3. Describe best management practices (BMPs), based on sound science, for protection of water quality and ecological integrity.
4. Identify infrastructure requirements by pasture and provide for construction and maintenance through mechanisms established in the annual grazing permits with lessees or through the District's Mokelumne Watershed Infrastructure Master Plan and associated Capital Improvement Program (CIP).
5. Employ sustainable grazing practices such as pasture rotation, and seasonal and managed grazing in buffer zone areas and highly vulnerable lands.
6. Maintain or improve the health of the rangeland resources by using appropriate indicators/metrics that measure the ecological integrity of the rangeland.
7. Expand the GIS system to include key attributes of grazed lands and track the condition of these lands over time.
8. Continue to prepare annual grazing plans for each lease. Plans must identify each pasture/parcel, outline the BMPs to be employed, and describe any monitoring activities to be implemented. Each plan should specifically address water quality protection, residual fuel goals, and invasive species control.
9. Recognize the importance and value of the relationship between grazing and maintenance of open space. Support the economic viability of grazing lands within the hydrologic watershed in order to maintain them as undeveloped open space. Encourage development of grazing plans on rangeland not owned by the District but grazed in conjunction with District land, if this land is within the Mokelumne hydrologic watershed. Support and encourage open dialogue and communications for the sharing of interests, ideas (resource management, BMPs) and concerns with property owners within the Mokelumne hydrologic watershed.
10. Update grazing leases to reflect fuel reduction goals and BMPs along with other elements that further District sustainable grazing goals.
11. Enlist a Certified Rangeland Manager (licensed professional) to help review and prepare leases, grazing plans, and rangeland restoration plans for District-owned lands.
12. Form a grazing focus group to help develop the rangeland management plan and provide a forum for discussion of issues associated with implementation of the grazing program.
13. Reference related plans and programs such as fire, integrated pest management, ecological integrity programs, and landownership and easement programs.

Strategy 2: Develop partnerships with research institutions, industry groups, and organizations to further the science of sustainable rangeland practices on District watershed lands through collaborative projects and in-kind grants and services.

### Objectives

1. Further the body of scientific knowledge of the impacts of grazing on water quality and ecological health, with a focus on protection of potable water supplies.
2. Facilitate public participation and stakeholder engagement on the issue of rangeland management using scientifically defensible analysis.
3. Help guide development of rangeland monitoring programs within the District watershed lands.



## 3.3 Natural Resource Management Area

### Fire Management

#### **Goal:**

*Provide fire suppression, hazard mitigation, and fire prevention to protect watershed lands and water quality and prioritize the protection of life and property*

Strategy 1: Prepare and implement a Mokelumne Watershed Fire Management Plan.

#### **Objectives**

1. Establish fire management units (FMUs); identify strategic fuel-break networks, firebreaks, road access, and predicted containment areas for wildfires in each FMU on watershed property and threat areas outside District property boundaries.
2. Continue to use grazing to control fuels and reduce fire risk and coordinate with activities described in the rangeland management plan.
3. Identify and plan for new or enhanced access routes for fire suppression based on topography and risk of ignition within each FMU.
4. Document BMPs for fire prevention, hazard reduction, and fire suppression, referencing related plans and programs such as rangeland management and ecological integrity.
5. Document the current fire rating system based on weather and fuel moisture conditions, and criteria for implementing watershed use restriction during periods of high fire danger incorporating the remote automated weather station.
6. Outline restoration activities to be implemented after a fire based on the characteristics of the burned area, such as size, intensity of burning, vegetation, slope, etc.
7. Recognize fire as a natural ecological process and incorporate prescribed burns and other methods such as firewood/fuel removal, downed fuel and brush removal, and habitat creation into the fire plan as techniques to achieve vegetative management goals and fire hazard reduction on District-owned lands and reference related plans and programs as appropriate such as the ecologic integrity plan.
8. Estimate potential impacts to water quality from fire and provide for post-fire monitoring as part of the water quality program.
9. Develop and implement a public education program in coordination with other fire agencies on fire prevention and safety, including materials for recreation visitors, neighbors surrounding District property, and others conducting work or otherwise present in the watershed.
10. Continue to participate in local fire-safe councils and other planning organizations for fire response and information exchange.
11. The Mokelumne Watershed Fire Management Plan will serve as a reference document for the existing annual fire response plans and the fire atlas.

Strategy 2: Develop partnerships with research institutions and organizations to further the science of wildfire prevention, suppression, and land restoration.

### Objectives

1. Further the body of scientific knowledge of the impacts of fire on water quality and ecologic integrity.
2. Help guide development of appropriate fire management practices in the watershed.
3. Leverage District resources to protect the watershed and surrounding communities.



## 3.3 Natural Resource Management Area

### Ecological Integrity

#### Goals:

*Ensure the integrity and maintain the natural functioning of the Mokelumne ecosystem through protection of existing aquatic, riparian, and upland habitats and prioritizing the restoration, maintenance, and enhancement of native plant and animal communities*

*Improve District knowledge of the watershed ecosystem through natural resource inventory and the formalized collection and evaluation of ecological measures, metrics, and indicators*

*Support the recovery of species listed under the Endangered Species Act*

Strategy 1: Develop and implement an Ecological Integrity Plan for management of watershed natural resources.

#### Objectives

1. Inventory and map natural resources within the watershed and maintain that information on a GIS-based data system.
2. Identify habitat and/or vegetative communities (ethno-botanical resources) that are culturally linked to Native American populations.
3. Assess the current ecological condition of the watershed by using a standardized, GIS-based classification of communities; identifying key ecological attributes and indicators that reflect composition, structure, and function; identifying practical metrics with ratings and thresholds; and providing a matrix by which the indicators/metrics are rated and integrated into an overall assessment of the ecological integrity of the watershed.
4. Utilize the assessment of watershed ecological integrity to identify areas that require a management response to improve ecological integrity, such as pest management and habitat restoration.
5. Identify specific management activities to maintain and/or enhance ecological integrity of the watershed.
6. Coordinate watershed research efforts with research institutions and organizations to the extent possible.

Strategy 2: Partner with research institutions and organizations both to expand local watershed knowledge and to advance the state of the science in watershed management.

#### Objectives

1. Leverage District resources by partnering with third-party scientific resources to increase District knowledge of watershed ecology and function.
2. Provide opportunities for research and technical training to EBMUD staff.
3. Increase District expertise and industry standing in watershed management.

Strategy 3: Enter into formal agreements, such as a Safe Harbor Agreement, with the US Fish and Wildlife Service, the California Department of Fish and Game, and/or the California Association of Resource Conservation Districts.

### Objectives

1. Support the recovery of species listed under the Endangered Species Act occurring or potentially occurring on District watershed lands through prescriptive management activities that result in a net conservation benefit to those species.
2. Provide regulatory mechanisms that facilitate District watershed management.
3. Establish protocols for planning and implementing routine maintenance and construction operations within the watershed (e.g. culvert replacement, road maintenance, fire break mowing and tilling, and pipeline construction).
4. Support efforts to inventory and monitor endangered and threatened species habitat and communities and provide for routine monitoring of the health of these sensitive communities.

Strategy 4: Enhance the existing Integrated Pest Management Program to include invasive terrestrial and aquatic plant and animal species control and management.

### Objectives

1. Identify invasive species present in the watershed, the size and location of infestations, and means by which infestations spread and are controlled.
2. Identify any differing standards for the various land use categories.
3. Identify the BMPs to reduce spread of infestations by species.
4. Identify BMPs to preclude introduction of species in the watershed.
5. Evaluate BMPs relative to their potential water quality impact; prioritize their use based on geographic location within the watershed and potential for water quality or ecological impacts.



## 3.3 Natural Resource Management Area

### Water Quality Management

#### Goals:

*Manage the watershed to ensure drinking water meets or exceeds all source water quality goals and that all beneficial uses are protected*

*Manage the watershed and its aquatic ecosystems to protect human health, support economic and recreational activities, and provide healthy habitat for fish, plants, and wildlife*

Strategy 1: Prepare and implement a watershed water quality monitoring program to integrate requirements of various ongoing regulatory and voluntary monitoring programs.

#### Objectives

1. Meet requirements of source water protection monitoring.
2. Support development and deployment of a centralized water quality database.
3. Provide data for development of a quantitative hydrologic and water quality model of Pardee and Camanche Reservoirs to protect all beneficial uses.
4. Assess the impact of reservoir operations on water quality and ecologic health, particularly the effect of reservoir fluctuations on sedimentation and riparian communities.

