

# SFPUC Alameda Creek Watershed Maguire Peaks (Grazing Unit 16) Alameda County, California



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## Acronyms

AUMs	animal unit months
AUY	animal unit year
BMPs	Best Management Practices
Cal-IPC	California Invasive Plant Council
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
EBRPD	East Bay Regional Park District
EDRR	Early Detection and Rapid Response
FR	Federal Register
Grazing Unit 16	Maguire Peaks
GU	Grazing Unit
GU-16	Maguire Peaks
GUMP	grazing unit management plan
IPM	Integrated Pest Management
NNIP	non-native invasive plant
NRCS	Natural Resources Conservation Service
PG&E	Pacific Gas & Electric Company
RDM	residual dry matter
RMP	Rangeland Management Plan
SFPUC	San Francisco Public Utilities Commission
USFWS	United States Fish and Wildlife Service
WMP	Watershed Management Plan

# 1. Introduction

## 1.1 Purpose of Grazing Unit Management Plan

This grazing unit management plan (GUMP) outlines the existing conditions and rangeland management goals for the Maguire Peaks (Grazing Unit 16 [GU-16]) lease. This document establishes management expectations between the San Francisco Public Utilities Commission (SFPUC) and the tenant for the grazing unit and guides program operations and capital improvements to achieve the SFPUC's Rangeland Management Plan (RMP) goals. This GUMP is consistent with and informed by the watershed-wide RMP, the Alameda Watershed Management Plan (WMP), and the Water Enterprise Environmental Stewardship Policy in which the SFPUC commits to proactively managing the watersheds in a manner that maintains the integrity of natural resources, restores habitats for native species, and enhances ecosystem function.

## 1.2 Rangeland Management Program

The SFPUC developed the Alameda Creek RMP to document the rangeland management program for livestock grazing for the SFPUC-owned and -managed grazing units of the Alameda Creek Watershed. The RMP establishes a rangeland management program that is consistent with plans and policies that apply to management of SFPUC watershed lands, as well as with current best practices in rangeland management.

The goals of the SFPUC rangeland management program are to:

- Protect and improve water quality;
- Preserve and enhance the health of ecological systems;
- Reduce the threat of wildland fire by decreasing fuel densities;
- Adaptively manage the RMP lands based on new information and conditions;
- Provide a basis for consistent management of the RMP lands; and
- Support an economically and ecologically sustainable grazing operation.

## 1.3 Rangeland Management Plan Objectives

To achieve these goals, the RMP outlines broad management objectives to protect water quality and natural resources. These objectives include the following:

- Maintain sufficient vegetative residual dry matter (RDM) to protect soil and water quality.
- Minimize negative impacts to sensitive aquatic habitats such as riparian and spring systems.
- Implement rangeland management practices that preserve and protect special-status species and their habitats.
- Maintain or improve native species biodiversity.
- Monitor and control non-native invasive plant (NNIP) and wildlife populations.
- Reduce the risk of introduction or spread of plant diseases, particularly from human activities.

- Reduce sediment sources to riparian habitats associated with road systems and insufficient vegetative cover.
- Reduce risk of introducing livestock- and wildlife-related pathogens into waterways of the RMP lands.

The RMP also includes the following objectives to promote effective administration of the grazing units:

- Use the results of monitoring and routine inspections to adaptively manage the RMP lands.
- Effectively communicate and implement rangeland management goals and expectations with the RMP grazing tenant(s).
- Consult with SFPUC rangeland staff and RMP grazing tenant(s) during the development of any policies that would change the management of RMP lands.
- Implement cost-sharing rangeland improvement projects between the SFPUC and its grazing tenant(s) in the RMP lands.
- Use grazing to manage wildland fuel loads.

## **2. Lease Overview**

### **2.1 Maguire Peaks Lease, Grazing Unit 16**

The Maguire Peaks grazing unit (GU-16) is located in the northern portion of the SFPUC Alameda Creek Watershed and covers approximately 2,892 acres (Figure 1). The grazing unit is bordered by Calaveras Road to the west, Highway 84 to the north, private rangeland to the northeast, San Antonio Reservoir and private rangelands to the east, East Bay Regional Park District (EBRPD) land to the southeast, and Welch Creek Road to the south. The northern portion of the grazing unit was previously under a separate lease referred to as Turner Dam, based upon the presence of Turner Dam (San Antonio Reservoir).

The northern portion of GU-16 is one of the most productive areas in the watershed.<sup>1</sup> The lessee estimates that some areas of the lease, including the Vassar Field, produce upwards of 3,000 to 4,000 pounds per acre of forage due to high rainfall associated with storm systems that move from west to east through the Sunol Valley. This rainfall pattern, combined with the presence of clayey soils with high water holding capacity, results in a higher-than-average forage production value for GU-16 as compared to rangelands located east of the lease. Surrounding land uses include rangelands, gravel mining, nursery operations, and recreational open space.

The Maguire Peaks lease is currently managed as two separate leases (described herein as Maguire Springs North and South). With the lease renewal, these leases will be combined and managed as one lease. Combined management will maximize limited cattle processing infrastructure (as there is only one existing corral between the two leases) and water (as water is limited in Maguire Springs South).

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<sup>1</sup> Koopmann, T., in-person communications with former URS Rangeland Ecologist Dina Robertson, 2012.

## 2.2 Environmental Conditions

The Maguire Peaks grazing unit consists of north-to-south- and northeast-to-southwest-trending ridges. These ridges are wide and flat, with steep west-facing hills in the western portion of the grazing unit. Elevations range from 260 feet to 1,354 feet above sea level.

The northern portion of the grazing unit is bordered by Vallecitos Creek, an intermittent to perennial stream (due to artificial flows) surrounded by willow riparian habitat. Releases into this waterway, and an associated, parallel running canal (to Vallecitos Creek and within the lease) are managed by the Alameda County Flood Control Agency. These waterways (Vallecitos Creek and the canal) are used to discharge flows to Alameda Creek during the summer; the Alameda County Flood Control Agency then diverts water from Alameda Creek for ground water recharge.<sup>2</sup> Therefore, the stream flows in Vallecitos Creek are variable and dependent on discharge schedules. A large portion of Vallecitos Creek and its associated wetlands are fenced and ungrazed as a Managed Riparian Area. In the northern portion of the grazing unit, and on a tributary to Vallecitos Creek, is Zwissig Pond (PA010), a large, in-stream perennial pond that adjoins Ranch Road and is associated with perennial wetlands and willow riparian vegetation. The areas surrounding Zwissig Pond, Vallecitos Creek, and lands in the eastern portion of the grazing unit are all part of the Zwissig Field. The Zwissig Field is separated from the Vassar Field and the adjacent field to the south (Field 3) by interior cross fencing. To the south of the Zwissig Field is the Vassar Field; this portion of the grazing unit contains a wide, relatively flat ridge with several steep-sided canyons that run west from the ridge to Calaveras Road.

Adjacent to Turner Dam and San Antonio Reservoir, there are two smaller fields (north of San Antonio Creek), known as Field 3 (larger area, southern section) and Field 4 (smaller area, farther north along the reservoir). These areas have mostly flat to moderate slopes with a few ephemeral drainages. A small mixed riparian corridor is associated with the Turner Dam spillway.

San Antonio Creek, an intermittent stream (due to artificial flows from the dam) runs west from the base of Turner Dam and eventually drains into Alameda Creek. The creek and immediate surrounding area are referred to as the San Antonio Creek Field. San Antonio Creek is fed by seepage from Turner Dam and surface runoff. It is primarily associated with sycamore alluvial woodlands but also contains willow riparian near the base of the dam. Surrounding habitats within the San Antonio Creek Field include perennial wetlands, oak savanna, and annual grassland. San Antonio Creek is fenced as a Managed Riparian Area with grazing restrictions.

Turner Dam Road borders Front Field 1 to the north, Calaveras Road to the west, approximately Turner Dam to the east, and the Hollywood Bowl Field to the south. Front Field 1 is largely grassland with some oak savanna and woodland, as well as some steeply sloped oak woodland.

The Alameda East Cottage Field runs along the steep west aspect slope along Calaveras Road. The field is mostly grassland except for oak woodland in the drainages and shrub on some steep south to west aspect slopes.

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<sup>2</sup> Gunther, A.J., J. Hagar, and P. Salop, An assessment of the potential for restoring a viable steelhead trout population in the Alameda Creek Watershed, Alameda Creek Fisheries Restoration Workgroup, February 7, 2000.

The Hollywood Bowl Field lies east of the Alameda East Cottage Field on the moderately rolling ridgeline along Maguire Springs Road. The high productivity field is predominantly grassland with a few ephemeral drainages lined with oak woodland.

The Hay Press Field is located east and south of Hollywood Bowl along an intermittent drainage to San Antonio Reservoir. The field is predominately blue oak savanna and oak woodland on the northeast aspect slopes. South Fork Apperson Creek, an intermittent stream, flows through the eastern edge of the field to San Antonio Reservoir.

The southern portion of the lease includes the Welch Creek Field along the western side of the Maguire Peaks ridgeline along Calaveras Road to Welch Creek Road. The field is mostly steep west and south aspect grassland slopes with oak woodlands in ephemeral drainages and shrub patches on exposed steep south to west aspect slopes.

### **2.3 Easements**

The Maguire Peaks grazing unit has several easements, including multiple power transmission lines, gas pipelines, and associated access roads. Overhead Pacific Gas & Electric Company (PG&E) high voltage transmission lines cross through the middle and the northwest corner of the grazing unit. The Chevron Pipeline Company has an underground gas pipeline that runs through the middle and southern portion of the grazing unit. The Department of Water Resources operates the buried South Bay Aqueduct and frequently discharges water into Vallecitos Creek. The aqueduct canal/pipeline and Vallecitos Creek are present in the northern portion of the grazing unit parallel to Highway 84. Portions of the canal are fenced and excluded from grazing. The powerlines, pipelines, and water conveyance structures are periodically inspected and maintained by each operating company or agency. Activities are not expected to have an impact on grazing operations. The Fletcher Ranch LLC has a permanent access easement on Ranch Road, which passes through the grazing unit. Other entities use Ranch Road to access adjacent lands; however, they do not have deeded access.

### **2.4 Managed Riparian Areas**

The grazing unit includes several Managed Riparian Areas (Figure 2). Originally adopted in the 2001 Alameda WMP, Managed Riparian Areas are buffers around streams that are restricted from grazing to protect water quality for both habitat and source water protection. The SFPUC's Watershed Resources Manager may approve seasonal prescribed grazing in Managed Riparian Areas to protect the watershed and natural resources, for example to reduce wildfire risk, control NNIPs, and support special-status species.

### **2.5 Grazing Operation**

At the time of writing of this document, GU-16 is grazed as two distinct grazing units separated by Turner Dam Road. This section describes the two separate grazing operations, Maguire Springs North and Maguire Springs South.

Maguire Springs North has recently been primarily managed as a year-round cow/calf operation. Cattle have been distributed within all fields of the grazing unit during this time. The tenant does not graze cattle along most of Vallecitos Creek in GU-16; the waterway was mostly fenced off in 2002 to reduce cattle use. The tenant also constructed fencing, in coordination with the SFPUC, along most of San Antonio Creek within GU-16 to exclude cattle during water releases from Turner Dam.

Maguire Springs South is a year-round cow/calf operation. Livestock are moved across the lease from the south to the north. The southern fields are less productive than the northern fields and typically run out of water in the early summer; the tenant leaves the better feed in the northern cattle processing fields (Front Fields 1 and 2), which are near the corrals that are located on the north side of San Antonio Creek in Maguire Springs North.

## 2.6 Stocking Rates

Recorded stocking rates for the two leases (Turner Dam and Maguire Peaks) from 1998 to 2015 averaged approximately 1,227 animal unit months (AUMs) or 0.9 acre per AUM (11.0 acres per animal unit year [AU]) for the Turner Dam lease and 1,197 AUM or 1.4 acres per AUM (16.6 acres per AU) for the Maguire Peaks lease.

Estimated grazing capacity and stocking rates for the Maguire Peaks grazing unit were determined using Natural Resources Conservation Service (NRCS) soil productivity rates adjusted by vegetative cover and a fall RDM target of 1,000 pounds per acre. The baseline grazing capacity for the Maguire Peaks grazing unit is 2,038 AUMs and will be adjusted annually by the SFPUC based on forage productivity, infrastructure updates, RDM levels, and vegetation condition.

## 3. Biological Conditions

### 3.1 Habitat Conditions

The Maguire Peaks grazing unit contains several drainages, which include shrub-dominated ephemeral and riparian forest-dominated perennial channels. Most riparian understories lack recruitment and some are eroded with cattle trails; older riparian trees on the upper floodplain show signs of stress, as channel incision appears to have disconnected them from the water table. Within a fenced spring area, cottonwood trees are thriving. San Antonio Creek below Turner Dam provides very little flow, and the mature sycamore woodland trees show signs of stress and mortality. Bald eagles (*Haliaeetus leucocephalus*) routinely nest in large sycamores below the dam. Small oak saplings are heavily browsed upslope of Swizzig Pond. As of April 2025, much of the water infrastructure was in need of maintenance and lacking wildlife escape ramps. The northern portion of the grazing unit is generally dominated by grassland and contains slumps along roads and in riparian areas; it lacks mature woody vegetation. Mineral feeders were placed along roads at the time of the site visit. In the southeastern quadrant of the lease, serpentine or alkali soils appear to be present and there is also a richer diversity of native forbs, such as lupine (*Lupinus* sp.), *Castilleja* sp., and California poppy (*Eschscholtzii californica*).

### 3.2 Special-Status Species

The species known to occur in the grazing unit that are subject to regulation by the State of California and the federal government are listed in Table 1. California tiger salamander (*Ambystoma californiense*) and California red-legged frog (*Rana draytonii*) use San Antonio Creek and ponds in the grazing unit for breeding and use adjacent grassland habitat for dispersal and aestivation. There have been no observations of Alameda whipsnake (*Masticophis lateralis euryxanthus*) nor foothill yellow-legged frog (*Rana boylei*) but this grazing unit includes United States Fish and Wildlife Service (USFWS) designated critical habitat for Alameda whipsnake and California red-legged frog (*Rana draytonii*) and proposed critical habitat for foothill yellow-legged frog. San Antonio Creek downstream of Turner Dam is within the limit of anadromy of the central California coast Distinct Population Segment of steelhead

(*Oncorhynchus mykiss irideus*). Steelhead is federally listed as threatened, and therefore work in the stream would be subject to regulation. This grazing unit overlaps the territories of two golden eagle (*Aquila chrysaetos*) breeding pairs, includes suitable nesting habitat, and golden eagles are frequently seen hunting in the grazing unit. A nesting pair of bald eagles has been observed along San Antonio Creek downstream of the dam and adjacent to the corrals.

**Table 1 Special-Status Species Observed in Maguire Peaks (GU-16)**

Common Name	Scientific Name	Listing Status <sup>1</sup>
<b>Wildlife/Fisheries</b>		
American badger	<i>Taxidea taxus</i>	SSC
Bald eagle	<i>Haliaeetus leucocephalus</i>	BGEPA, MBTA, FDR, SE, SP
California red-legged frog	<i>Rana draytonii</i>	FT, CH, SSC
California tiger salamander	<i>Ambystoma californiense</i>	FT, ST
Ferruginous hawk	<i>Buteo regalis</i>	MBTA, SSC
Golden eagle	<i>Aquila chrysaetos</i>	BGEPA, MBTA, SP
Short-eared owl	<i>Asio flammeus</i>	MBTA, SSC
Rainbow Trout / Central California Coast Steelhead Distinct Population Segment	<i>Oncorhynchus mykiss irideus</i>	FT
Tricolored blackbird	<i>Agelaius tricolor</i>	MBTA, ST, SSC
Western burrowing owl	<i>Athene cunicularia</i>	MBTA, SC, SSC
Western pond turtle	<i>Actinemys marmorata</i>	FPT, SSC
<b>Plants</b>		
Narrowleaf milkweed	<i>Asclepias fascicularis</i>	Host plant for the FPT monarch butterfly

<sup>1</sup> Source: California Natural Diversity Database (CNDDDB), "Special Animals List," California Department of Fish and Wildlife, Sacramento, CA, July 2025:

Federal Status:

CH = Critical Habitat

FT = Federally listed as threatened

FPT = Federally proposed for listing as threatened

Western pond turtle is proposed to be listed as threatened as of October 2023; pending finalization (88 Federal Register [FR] 68370)

Monarchs are proposed to be listed as threatened as of December 2024; pending finalization (89 FR 100662)

FDR = Federally Delisted (Recovered)

BGEPA= Bald and Golden Eagle Protection Act

MBTA = Migratory Bird Treaty Act

California (State) Status:

ST = State listed as threatened

SE = State listed as endangered

SC = State candidate for listing as endangered

SP = Fully protected. A fully protected species may not be taken or possessed at any time, except as specified in the Fish and Game Code.

SSC = California Species of Special Concern

In addition to the species in Table 1, this grazing unit has occurrences of three plant species identified by the East Bay Chapter of the California Native Plant Society (CNPS) as locally Rare, Unusual, and Significant<sup>3</sup>: California helianthella (*Helianthella californica* var. *californica*; Rank A2), Dwarf brodiaea (*Brodiaea terrestris* ssp. *terrestris*; Watch List/ Rank B-PV), and Scarlet bugler (*Penstemon centranthifolius*; Watch List/ Rank B). They are significant because in Alameda County they are in decline; reach their range limit; and/or occur in habitats that are limited, isolated, or threatened. Horned lark (*Eremophila alpestris*), a California Department of Fish and Wildlife Watch List species, has been observed in the grazing unit. These sensitive species are within the purview of the Stewardship Policy<sup>4</sup> and may be monitored and managed by SFPUC staff. Special-status species monitoring by SFPUC staff is ongoing and GUMPs are updated as new occurrences are documented.

While not a special-status species, a herd of tule elk (*Cervus canadensis nannodes*) frequent GU-16 and are known to calve in the Hay Press Field. Elk movement through the grazing unit appears to be very specific to certain areas. Elk commonly damage fencing in the grazing unit.

### 3.3 Native Vegetation Objectives

The Alameda WMP outlines general native vegetation goals that include the following:

- Protect, conserve, and enhance wetlands and riparian communities.
- Protect and restore unique, local, and/or indigenous plant species to maintain biodiversity and specialized habitat values.
- Manage grasslands and rangelands to balance, wherever possible, wildlife habitat values, the restoration of native perennial species, and the reduction of fuel loads and noxious weeds.
- Manage shrub communities to reduce fuel loads, prevent soil erosion and sedimentation, improve wildlife habitat access and use, and control invasive plants.
- Manage woodlands and forests to maintain healthy, vigorous, and diverse stands with a multiplicity of age and size classes.

Specific native vegetation strategies that apply to this grazing unit are listed in Table 2.

### 3.4 Non-Native Invasive Plants

SFPUC's Integrated Pest Management (IPM) program focuses on:

- Protecting rangeland productivity by reducing NNIPs that negatively impact forage quality; and
- Protecting high value habitat and ecosystem services by reducing the introduction or spread of NNIPs and plant pathogens.

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<sup>3</sup> Database of Rare, Unusual and Significant Plants of Alameda and Contra Costa Counties: <https://ebcnps.org/ebrrare-plant-database/>.

<sup>4</sup> San Francisco Public Utilities Commission, Water Enterprise Environmental Stewardship Policy, June 27, 2006.

**Table 2 Objectives and Strategies for Managing Native Vegetation**

Objectives from the RMP	Grazing Unit Strategy
OBJECTIVE 1: Maintain sufficient RDM to protect soil and water quality.	<ul style="list-style-type: none"> <li>Stabilize erosional slumps through seeding and/or temporary cattle exclusions (such as caging planted oaks).</li> </ul>
OBJECTIVE 2: Minimize negative impacts to sensitive aquatic habitats such as riparian and spring systems.	<ul style="list-style-type: none"> <li>Distribute mineral feeders in uplands, away from roads, riparian corridors, and mature trees.</li> <li>Repair water infrastructure and add wildlife escape ramps.</li> <li>Temporarily exclude cattle from riparian corridors or strategically protect seedlings to enhance woody recruitment.</li> <li>Use seasonal grazing in fields with riparian areas and remove when desired forage levels are achieved before the wet season.</li> </ul>
OBJECTIVE 3: Implement rangeland management practices that preserve and protect special-status species and their habitats.	<ul style="list-style-type: none"> <li>Install wildlife ramps and close spring boxes to prevent entrapment.</li> </ul>
OBJECTIVE 4: Maintain or improve native species biodiversity.	<ul style="list-style-type: none"> <li>Maintain a mosaic of habitats, including woodland, shrubland, and serpentine grassland, through grazing practices that increase recruitment of oak and sycamore species, protect mature native trees, decrease the risk of catastrophic fire, and maintain desired plant community composition and extent.</li> </ul>
OBJECTIVE 9: Use the results of monitoring and routine inspections to adaptively manage the RMP lands and meet RMP goals.	<ul style="list-style-type: none"> <li>Conduct annual monitoring of soil, vegetation, and infrastructure, and use the information to adapt rangeland management as needed.</li> <li>Utilize monitoring data to adapt rangeland management practices as needed.</li> <li>Perform routine inspections of infrastructure, including livestock water systems, roads, fencing, and corrals to document they are functioning as intended.</li> </ul>
OBJECTIVE 13: Use grazing to manage wildland fuel loads	<ul style="list-style-type: none"> <li>Prioritize water infrastructure repairs and implementation nearest Calaveras Road.</li> </ul>

RMP = Rangeland Management Plan

A reconnaissance-level survey of NNIP species was conducted in 2009 and 2020 in the watershed.<sup>5</sup> This survey was spatially limited to select areas (along roads and other places more easily reached by foot) and not all species were identifiable at the time of the surveys. In 2025, SFPUC staff conducted a survey to update occurrences and priorities for management. Table 3 lists non-native invasive plants identified in the lease during the 2009 and 2020 surveys, the 2025 staff survey, and discussions with the current tenant and SFPUC grazing manager. Species detections noted during periodic site visits may or may not have coincided with the

<sup>5</sup> Nomad Ecology, *Non-indigenous Plant Species Inventory and Mapping Alameda Watershed, Alameda and Santa Clara Counties, California*, Prepared for the SFPUC, 2009; Nomad Ecology, *2020 Alameda Watershed Invasive Plant Report*, Prepared for the SFPUC, 2020.

optimal timing to identify certain NNIP species. The table also includes the California Invasive Plant Council (Cal-IPC) rating and the invasion curve level.<sup>6</sup> The SFPUC prioritizes NNIP management actions (i.e., prevention, eradication, or containment) based on invasion curve levels 1 through 4, which depict the area infested over time.

**Table 3 Non-Native Invasive Plants Managed in Maguire Peaks (GU-16)**

Common Name	Scientific Name	GU-16 Invasion Curve Level <sup>1</sup>	Cal-IPC Rating <sup>2</sup>
Artichoke thistle	<i>Cynara cardunculus</i> subsp. <i>flavescens</i>	2	Moderate
Bermuda buttercup	<i>Oxalis pes-caprae</i>	1	High
Cape ivy	<i>Delairea odorata</i>	1	Moderate
Eucalyptus	<i>Eucalyptus</i> sp.	3	Limited
Fennel	<i>Foeniculum vulgare</i>	3	High
Fuller's teasel	<i>Dipsacus sativus</i>	1	Moderate
Harding grass	<i>Phalaris aquatica</i>	3	High
Himalayan blackberry	<i>Rubus armeniacus</i>	3	High
Jubata grass	<i>Cortaderia jubata</i>	1	Limited
Mediterranean linseed	<i>Bellardia trixago</i>	4	Moderate
Medusahead	<i>Elymus caput-medusae</i>	4	Moderate
Poison hemlock	<i>Conium maculatum</i>	3	Moderate
Purple starthistle	<i>Centaurea calcitrapa</i>	2	Moderate
Stinkwort	<i>Dittrichia graveolens</i>	3	Moderate
Tamarisk, salt cedar	<i>Tamarix parviflora</i>	1	Moderate
Tocalote	<i>Centaurea melitensis</i>	3	High
Tree tobacco	<i>Nicotiana glauca</i>	1	High
Whitetop	<i>Lepidium latifolium/ L. draba</i>	1	Moderate / High
Woolly mullein	<i>Verbascum thapsus</i>	3	Limited
Yellow starthistle	<i>Centaurea solstitialis</i>	3	High

IPM = Integrated Pest Management

SFPUC = San Francisco Public Utilities Commission

<sup>1</sup> Non-Native Invasive Plants (NNIP) Management Approach by Level on Invasion Curve:

1. Prevention: SFPUC IPM will conduct Early Detection and Rapid Response (EDRR) surveys.
2. Eradication: SFPUC IPM will treat to eradicate.
3. Containment: SFPUC IPM will treat to protect high value resources or to eradicate isolated populations.
4. Widespread: SFPUC IPM will focus on long-term management and asset-based protection.

<sup>2</sup> California Invasive Plant Council (Cal-IPC) ratings (Cal-IPC 2024) rate NNIPs based on dispersal rate and environmental impact (<https://www.cal-ipc.org/plants/inventory/>).

GU-16 has several species of NNIPs, including dense, extensive patches of stinkwort (*Dittrichia graveolens*), yellow starthistle (*Centaurea solstitialis*), medusahead (*Elymus caput-medusae*), and poison hemlock (*Conium maculatum*). These species occur primarily in areas that are or were disturbed in the past, such as pond embankments and corrals, as well as along roads,

<sup>6</sup> Department of Primary Industries, *Invasive plants and animals: policy framework*, Victoria Department of Primary Industries, Melbourne, Australia, 2010.

trails, and the reservoir edge. Localized infestations of Himalayan blackberry (*Rubus armeniacus*) and fennel (*Foeniculum vulgare*) occur along the streambanks of Vallecitos Creek and San Antonio Creek. Weed management efforts in GU-16 include widespread treatments of yellow starthistle and stinkwort, as well as targeted control of fennel and poison hemlock, which are carried out by the lessee in coordination with SFPUC staff.

To reduce NNIPs, expectations of tenants include the following:

- Attend an annual SFPUC training regarding NNIP Best Management Practices (BMPs).
- Report to SFPUC any new observations of artichoke thistle (*Cynara cardunculus* subsp. *flavescens*), purple starthistle (*Centaurea calcitrapa*), or barb goatgrass (*Aegilops triuncialis*).
- When cattle are transported onto the grazing unit, notify the SFPUC and as feasible implement appropriate BMPs such as the following:
  - Provide weed-free forage or pelletized feed (approved by the SFPUC) to cattle for at least three days before transport onto the grazing unit
  - Utilize a transitional pasture within the grazing unit
  - Decontaminate vehicles and equipment entering the grazing unit according to the SFPUC's decontamination policy

### 3.5 Nuisance Wildlife

Wild pigs (*Sus scrofa*) were commonly observed before feral pig control was implemented in 1998.

## 4. Rangeland Infrastructure

A detailed grazing infrastructure survey of the watershed was conducted from 2013 to 2015 and updated by SFPUC staff in 2025 (Figure 2). The number, condition, and location of various types of infrastructure such as barns, corrals, springs, and troughs were assessed and are summarized in this section. This section of the GUMP also outlines recommendations for rangeland improvements.

### 4.1 Roads

*Roads* – The primary access to the grazing unit is via Vallecitos Lane and Ranch Road, which are accessed from Highway 84, and Turner Dam Road, which is accessed from Calaveras Road. There is a steep dirt road that accesses the southern portion (Welch Creek Field) and eastern portion (Hay Press Field) of the grazing unit from Calaveras Road. GU-16 includes 0.2 mile of paved and 15.1 miles of unpaved vehicle-accessible roads. Vallecitos Lane, a paved road, and Ranch Road, a gravel road, run through the northern portion of the grazing unit. Turner Dam Road is a paved road located in the middle portion of the grazing unit that runs alongside San Antonio Creek below Turner Dam. Several additional unimproved roads run through the grazing unit and provide access from Ranch Road to Turner Dam Road, as well as access to power- and gas-related infrastructure. Many roads in the southern half of the grazing unit have erosion caused by the configuration of the road or another condition (gullies, cutslope and fill slope erosion, culvert failure, etc.). Primary roads, particularly in the northern portion of the grazing unit, are more frequently maintained.

*Recommendations* – A road assessment of the grazing unit conducted in 2009<sup>7</sup> contains recommendations for road maintenance in GU-16, including a prioritization of road maintenance sites, recommended BMPs, suggested road abandonments, and annual maintenance activities. The road assessment included Maguire Springs Road, Ranch Road, and Hay Press Road. Of these roads, a few sections of Maguire Springs Road and Hay Press Road were in poor condition in 2009. Although some conditions have changed since 2009, it is recommended that the SFPUC use this report as a starting point for prioritizing and implementing road maintenance in GU-16.

Additional roads in GU-16 that were not evaluated in the 2009 study include the road connecting Calaveras Road to Maguire Springs Road. This road follows a perennial drainage and is under a dense overstory; the road is often very wet during the winter and spring and is impassable. Streambank erosion is relatively severe along the road and has been caused in part by the road configuration. Rolling dips were recently installed on the road, but the road should be monitored for treatment effectiveness and further improved (as necessary) to reduce erosion and sedimentation into the waterway. It is recommended that this road be evaluated for abandonment if conditions do not improve. Additionally, ongoing routine maintenance by the grazing tenant and the SFPUC is required.

#### **4.2 Fences**

*Fences* – GU-16 has over 25 miles of perimeter and cross fencing. Perimeter fencing is present around the entire grazing unit and interior cross fencing provides separations between nearly all the fields including the Vassar Field, Zwissig Field, Field 3, Field 4, San Antonio Creek Field, Front Field 2, Alameda East Cottage Field, Hollywood Bowl, and Welch Creek Field (Figure 2).

*Recommendations* – Most of the fence lines in the grazing unit appear to be in relatively good condition. Fencing around the holding field east and north of the corrals is in poor condition and needs replacement. Fences along Managed Riparian Areas need to be inspected and repaired as needed.

#### **4.3 Corrals and Barns**

*Corrals and Barns* – GU-16 contains one corral just north of San Antonio Creek between the San Antonio Creek Field and Field 3. The corral below Turner Dam was planned and designed as a central location to serve both lease parcels (Maguire Springs North and Maguire Springs South) and tenants (Banke and Cronin) and was jointly constructed in 1999 by Banke and Cronin.<sup>8</sup> The areas adjacent to the corrals are used as holding and processing fields for GU-16. A small corral south of Turner Dam Road is in disrepair and minimally used.

*Recommendations* – The roof of corral (CO0023), including the squeeze chute, was recently replaced.

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<sup>7</sup> CDM, SFPUC technical memorandum No. 2; Watershed Road Condition Assessment and Recommended Improvements, September 2009.

<sup>8</sup> Cronin, John, grazing tenant, SFPUC Maguire Peaks Lease, in-person communication with former URS Rangeland Ecologist Dina Robertson, 2013.

#### 4.4 Water Sources

*Water Sources* – Table 4 provides a summary of the type and functionality of the water infrastructure features found within the Maguire Peaks grazing unit.

**Table 4 2013-2015 Water-Related Grazing Infrastructure Assessment Results for Maguire Peaks (GU-16)**

Infrastructure Type	Functioning	Non-Functioning	Total
Solar Pump and Panels	3	0	3
Developed Spring	3	1	4
Infiltration Pipe	0	1	1
Pond Water Supply	1	0	1
Stilling Well/Culvert	2	0	2
Stream Diversion	0	1	1
Tank	3	0	3
Trough	12	2	14

Several ephemeral and intermittent streams provide water for livestock in the winter and spring months. A heavily eroded drainage present below the emergency spillway for Turner Dam often has ponded water available for cattle in the winter and spring months; releases continue to cause erosion of this small drainage. Maguire Springs maintains some level of perennial stream flow in the steep drainage down to Calaveras Road.

Maguire Spring (SP0256) is the most productive of three other known functioning springs in the grazing unit. SP0256 fills a small tank near the spring where a pump is installed to pump water to an 8,000-gallon steel holding tank on the ridgeline that gravity feeds to three troughs in the adjacent fields and a storage tank and three troughs on EBRPD land. The small tank at SP0256 provides ease of access to the pump and reduces sediment and clogging of the pump intake. Spring SP0245 supplies water to Pond PA171. Spring SP0244 located at the bottom of an ephemeral drainage supplies water to Trough TR0024 in the Vassar Field. Spring SP0257 supplies water to Trough TR0114 adjacent to Calaveras Road in the Alameda East Cottage Field. Spring SP0139 in the Welch Creek Field near Calaveras Road was once developed to supply a bathtub, which is no longer functioning; the bathtub was replaced by two nearby troughs (TR0037 and TR0108) supplied by the Calaveras Reservoir water supply pipeline.

The San Antonio Reservoir water supply pipeline provides water to the troughs in the San Antonio Field near the corral and Front Fields 1 and 2. Two troughs (TR0125 in the Zwissig Field and TR0136 in the Vassar Field) are fed by a solar pump drawing water from Pond PA010 to a 2,500-gallon polypropylene tank (TK0017) on the ridgeline.

Sixteen ponds were identified in GU-16 between 2012 and 2015 (Table 5). Nine of these ponds provide water to cattle, six ponds either have failed embankments or are filled with sediment and no longer hold water, and one was recently identified and has not been surveyed. Five of the ponds hold 0.5 acre-feet of water or greater when at capacity. Zwissig Pond (PA010) and Pond PA035 are two of the larger ponds in the SFPUC watershed lands and are capable of holding 17 and 14 acre-feet, respectively. Headcuts are present below spillways, and erosion and sedimentation issues are typical in and around the ponds.

**Table 5 2012-2015 Pond Assessment Results for Maguire Peaks (GU-16)**

<b>Pond ID</b>	<b>Pond Condition</b>	<b>Water Source</b>
PA010	Good condition. Sediment loading from Ranch Road, north slope highly eroded, and significant gully erosion associated with spillway requiring rehabilitation.	Stream flow, surface runoff, seep
PA015	Moderate condition. Embankment appears to be in good condition. Erosion evident from old spillway. Installation of new pipe has slowed erosion. Pond recently rebuilt using EQIP funds; solar pump pumps water from pond upslope to troughs.	Stream flow, surface runoff
PA035	Moderate condition. Well vegetated with lots of aquatic plants around/ within most of the pond. Spillway has a large ~12-foot drop-off, 10 feet wide, 15 feet long.	Surface runoff
PA078	Poor condition. Spillway eroded and pond is breaching at new location on the embankment. Large gullies downslope may have lowered the water table, leading to a dry pond early in the season.	Surface runoff, possible seep
PA080	Poor condition. Pond is full of sediment and no longer holds any water. Spillway is highly eroded down to the drainage channel along the road.	Surface runoff
PA081	Good condition. Pond holds little water and likely dries out early in the season. No spillway.	Surface runoff
PA083	Good condition. Embankment and spillway have no visible signs of erosion. Pond is very silty, likely from a gully upstream of the pond. Pond area and embankment have a high concentration of invasive plant species.	Surface runoff, stream flow
PA088	Moderate condition. Headcut erosion is present both upstream and downstream of the pond. Embankment is in good condition. Pond dries out early in the season.	Surface runoff, stream flow
PA092	Poor condition. There is a lot of erosion above and below the pond. The spillway has a small amount of erosion. The pond holds little water and dries out early in the year.	Surface runoff, stream flow
PA171	Poor condition. The spillway has been breached after previous repairs were made. Erosion is minimal below the spillway. The area around the pond has a high concentration of invasive plant species.	Seep
PA177	Poor condition. The pond is full of sediment and no longer holding water. The pond may have been created from excess fill material pushed from the road.	Perennial stream flow
PA190	Poor condition. Pond has a failed embankment and no longer holds water.	Shallow concentrated flow
PA193	Moderate condition. Instream pond with a high sediment input and erosion on the spillway.	Stream flow and sheet flow
PA194	Poor condition. Instream pond that has a failed embankment.	Stream flow and sheet flow
PA225	Good condition. Seasonal pond.	Shallow concentrated flow, sheet flow
PA244	Pond has not been surveyed; it recently identified on an aerial photo.	Sheet flow

EQIP = Environmental Quality Incentives Program  
ID = identification

*Recommendations* – In order to maintain adequate water supply to cattle, the troughs and water developments (diversions and spring boxes) will need regular maintenance to ensure intakes and pipes are not clogged with sediment or debris. Infrastructure should be checked and maintained every year prior to shipping in cattle and checked for damage while in use.

Most of the pond improvements are recommended to increase capacity to provide water longer in the season and improve the distribution of available water. Zwissig Pond (PA010) was damaged in recent winter storms and is scheduled for repair in 2027.

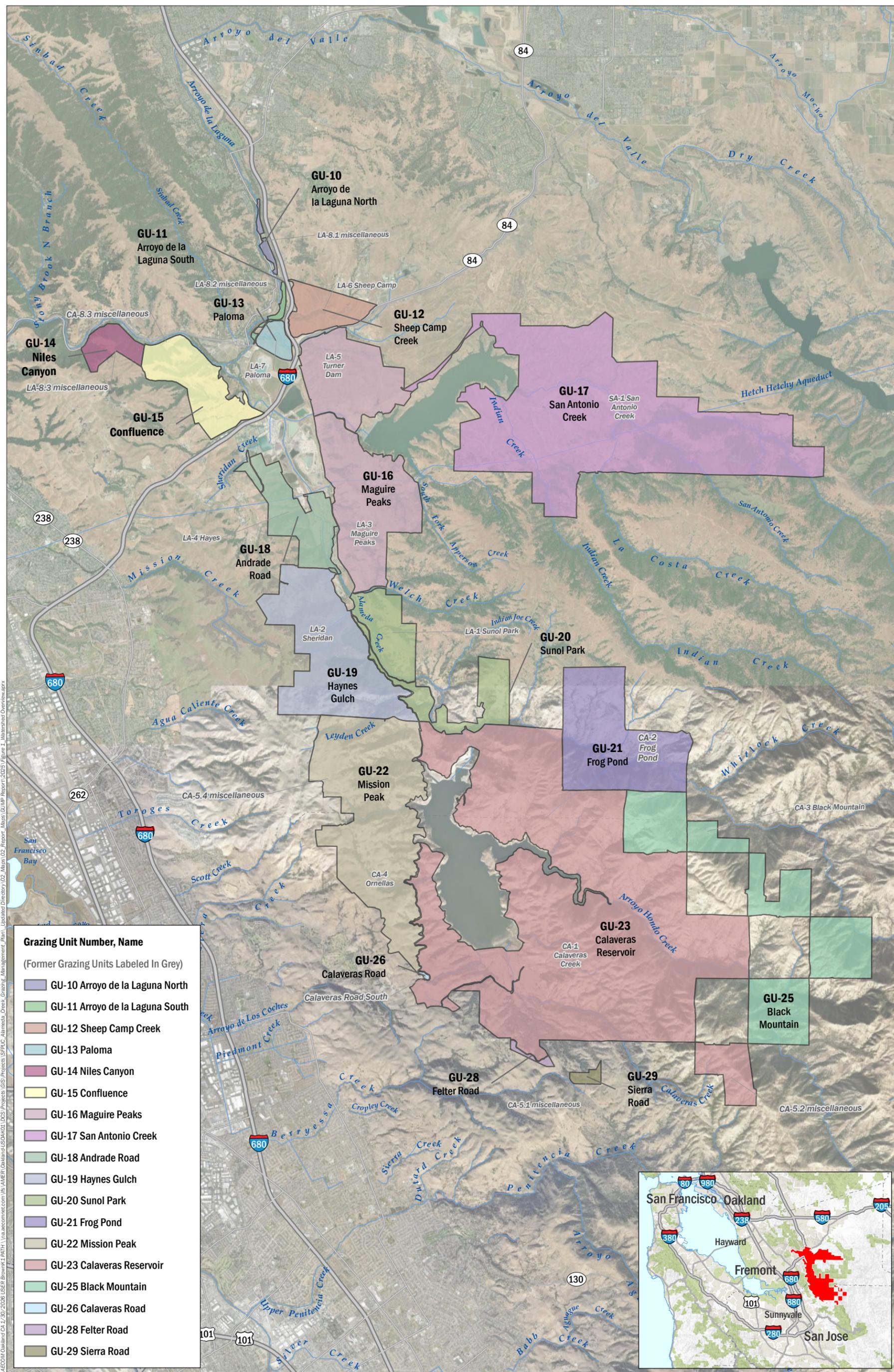
The drainage associated with the Turner Dam spillway and the outlet of Pond PA035 is highly eroded and incised. Gully erosion upwards of 12 feet deep below the spillway does not imminently threaten the pond, since the erosion is located 160 feet away from the pond, but could eventually breach the pond. Erosion and sediment control measures are recommended on this drainage to prevent the loss of Pond PA035 and reduce high sediment inputs from entering San Antonio Creek and eventually Alameda Creek. Erosion control measures in this drainage would primarily address the degradation related to releases from Turner Dam rather than grazing-related damage but would benefit grazing operations.

In addition to maintaining and repairing existing infrastructure, water distribution could be improved by extending the waterline from the Maguire Springs Tank (TK-0019) north along Maguire Springs Road and adding additional water troughs on the ridgetop in the top of the Haypress Field, Hollywood Bowl Field, and pasture along the south side of Turner Dam Road. Addition of a new trough in the Haypress Canyon from the added waterline would be beneficial as well.

## **5. Grazing Unit Management**

This GUMP outlines the existing conditions and management goals for the Maguire Peaks grazing unit to guide the long-term rangeland management of the grazing unit. Annual monitoring, inspections, and tenant meetings will be used to adapt the management based on seasonal variation and rangeland health. The SFPUC will conduct annual inspections of each grazing unit to evaluate infrastructure condition, rangeland health, and biological considerations relative to the goals of the RMP. In addition, the SFPUC will conduct rangeland monitoring, including periodic composition monitoring and RDM monitoring in specified plots. The annual inspection and monitoring data will be summarized to share with the tenant and inform the Annual Operating Plan.

Each year, the SFPUC Rangeland Management Team will meet with the tenant to review the rangeland condition, document issues, and discuss goals for the grazing unit. The Rangeland Management Team includes the Rangeland Manager, the Watershed Resources Manager, the Senior Integrated Pest Management Specialist, the Senior Biologist, and the Watershed Forester. Based on this discussion, the SFPUC will develop an Annual Operating Plan that outlines specific management objectives for the following year. The Annual Operating Plan will document current monitoring and rangeland assessment data, outline stocking rates based on forage production and rangeland condition, and summarize annual management objectives for grazing infrastructure improvements, Managed Riparian Areas, NNIP management, and environmental stewardship. The SFPUC will prioritize investments in infrastructure and operations based the RMP goals and conditions in the grazing units across the watershed.



AECOM Document CA-1-20-2026-USER Brown/PL PATH \Viasa\acornet.com\ifs\AMER\Gehlan\USD\G01\DCS\Projects\GIS\Projects\SFPUC\Alameda\_Creek\_Grazing\_Management\_Plan\Updated\_Directory\02\_Maps\02\_Report\_Maps\Map\Map\_SFPUC\_Report\_2025\Figure\_1\_Watershed\_Overview.aprx

CPAD, 2025; ESRI, 2025; SFPUC, 2025.

**Figure 1: SFPUC Alameda Creek Watershed Grazing Unit Overview**

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AECOM

SFPUC Grazing Unit Boundary  
Managed Riparian Area

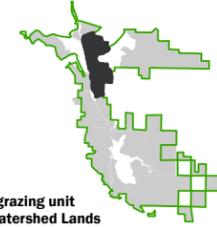
Fence  
Secondary highway  
Paved road  
Unpaved road  
Trail

Aqueduct  
Intermittent stream  
Pond

Grazing Infrastructure  
Corral  
Solar Panel  
Solar Pump  
Spring  
Stream Diversion

Tank (functioning)  
Trough (non-functioning or unknown)  
Trough (functioning)

Sources: AECOM, 2025; ESRI Imagery, 2025; SFPUC, 2025; Rangeland Conservation Science, 2025.



Location of grazing unit within SFPUC Watershed Lands

Hetch Hetchy Regional Water System  
Services of the San Francisco Public Utilities Commission

Figure 2: GRAZING UNIT 16  
MAGUIRE PEAKS

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