



Annex M Paradise Recreation and Park District

M.1 Introduction

This Annex details the hazard mitigation planning elements specific to Paradise Recreation and Park District (PRPD or District), a new participating jurisdiction to the 2019 Butte County Local Hazard Mitigation Plan (LHMP) Update. This Annex is not intended to be a standalone document but appends to and supplements the information contained in the Base Plan document. As such, all sections of the Base Plan, including the planning process and other procedural requirements apply to and were met by the District. This Annex provides additional information specific to PRPD, with a focus on providing additional details on the risk assessment and mitigation strategy for the District.

M.2 Planning Process

As described above, the PRPD followed the planning process detailed in Chapter 3 of the Base Plan. In addition to providing representation on the Butte County Hazard Mitigation Planning Committee (HMPC), PRPD formulated its own internal planning team to support the broader planning process requirements. Internal planning participants, their positions, and how they participated in the planning process are shown in Table M-1. Additional details on plan participation and PRPD representatives are included in Appendix A.

Table M-1 Paradise Recreation and Park District Planning Team

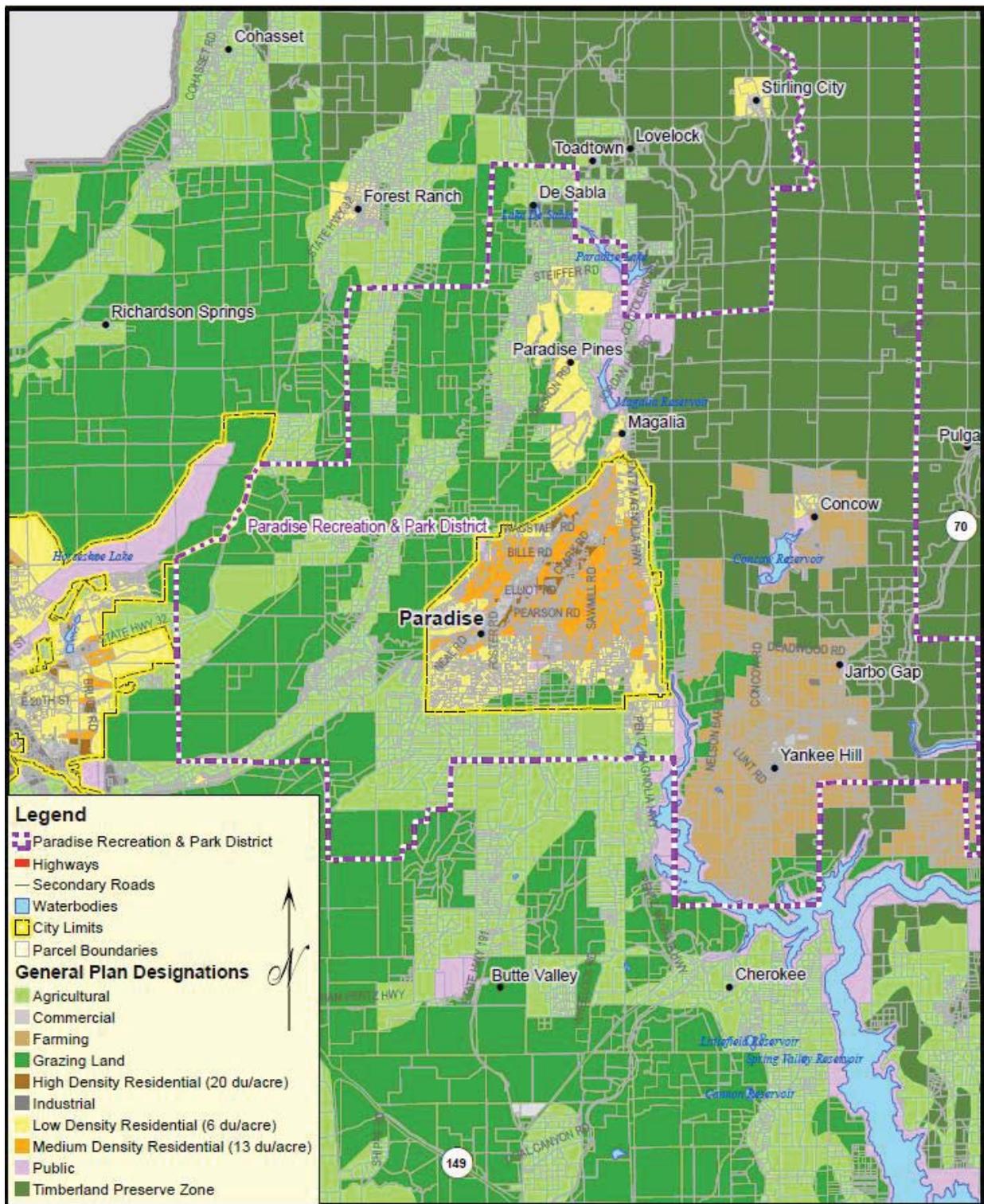
Name	Position/Title	How Participated
Dan Efseaff	District Manager	Hazard ID Tables were filled out. Attended meetings. Provided information specific to the District regarding hazards. Reviewed Drafts. Provided comments on annex.
Mark Cobb	Park Supervisor	Provided input and reviewed District Annex
Colleen Campbell	Administrative Assistant II	Updated Hazard ID tables and other information
Jeff Dailey	Recreation Supervisor	Provided input and reviewed District Annex
Sunny Quigley	Administrative Assistant	Updated Hazard ID tables and other information, assembled comments on draft.
Kristi Sweeney	Assistant District Manager	Reviewed LHMP District Annex

Source: PRPD

M.3 District Profile

The community profile for the PRPD is detailed in the following sections. Figure M-1 displays a map and the location of the District within Butte County.

Figure M-1 Paradise Recreation and Park District



Source: PRPD

M.3.1. Overview and Background

The PRPD was established as an independent special district in 1948 to provide recreational facilities and programs to residents of the Paradise Ridge Community and surrounding area (the Town of Paradise itself was incorporated in 1979). The District is located in north-central Butte County, with all but small portions of it lying between the parallel stretches of State Highway 32 and State Highway 70 (as shown above on Figure M-1). The District's western boundary is contiguous with parts of the City of Chico's eastern boundary. The District consists of approximately 106,096 acres (165 square miles) and serves a population of approximately 41,200. It encompasses the Town of Paradise, Butte Creek Canyon, and the unincorporated communities of Magalia/Paradise Pines and Concow/Yankee Hill. It also includes portions of four school districts: Chico Unified School District, Paradise Unified School District, Golden Feather Union Elementary School District, and Oroville Union High School District.

M.4 Hazard Identification

PRPD's planning team identified the hazards that affect PRPD and summarized their location, extent, frequency of occurrence, potential magnitude, and significance specific to the District (see Table M-2).

Table M-2 Paradise Recreation and Park District – Hazard Identification Assessment

Hazard	Geographic Extent	Probability of Future Occurrences	Magnitude/Severity	Significance	Climate Change Influence
Climate Change	Extensive	Likely	Catastrophic	High	–
Dam Failure	Limited	Occasional	Limited	Medium	Medium
Drought & Water shortage	Extensive	Highly Likely	Critical	Medium	High
Earthquake	Significant	Occasional	Limited	Medium	Low
Floods: 100/200/500 year	Significant	Occasional	Critical	Low	Medium
Floods: Localized Stormwater	Limited	Highly Likely	Limited	Medium	Medium
Hazardous Materials Transportation	Limited	Occasional	Limited	Medium	Low
Invasive Species: Aquatic	Limited	Occasional	Negligible	Low	Low
Invasive Species: Pests/Plants	Extensive	Highly Likely	Limited	Low/ Medium	Low
Landslide, Mudslide, and Debris Flow	Limited	Likely	Limited	Medium	Medium
Levee Failure	Limited	Occasional	Limited	Low	Medium
Severe Weather: Extreme Heat	Extensive	Highly Likely	Critical	Medium	High
Severe Weather: Freeze and Winter Storm	Significant	Highly Likely	Critical	Medium	Medium
Severe Weather: Heavy Rain and Storms (Hail, Lightning)	Significant	Highly Likely	Critical	Medium	Medium
Severe Weather: Wind and Tornado	Extensive	Highly Likely	Limited	Medium	Low
Stream Bank Erosion	Limited	Highly Likely	Limited	Low	Low
Volcano	Significant	Occasional	Critical	Low	Low
Wildfire	Extensive	Highly Likely	Catastrophic	High	High
<p>Geographic Extent Limited: Less than 10% of planning area Significant: 10-50% of planning area Extensive: 50-100% of planning area</p> <p>Probability of Future Occurrences Highly Likely: Near 100% chance of occurrence in next year, or happens every year. Likely: Between 10 and 100% chance of occurrence in next year, or has a recurrence interval of 10 years or less. Occasional: Between 1 and 10% chance of occurrence in the next year, or has a recurrence interval of 11 to 100 years. Unlikely: Less than 1% chance of occurrence in next 100 years, or has a recurrence interval of greater than every 100 years.</p> <p>Magnitude/Severity Catastrophic—More than 50 percent of property severely damaged; shutdown of facilities for more than 30 days; and/or multiple deaths Critical—25-50 percent of property severely damaged; shutdown of facilities for at least two weeks; and/or injuries and/or illnesses result in permanent disability Limited—10-25 percent of property severely damaged; shutdown of facilities for more than a week; and/or injuries/illnesses treatable do not result in permanent disability Negligible—Less than 10 percent of property severely damaged, shutdown of facilities and services for less than 24 hours; and/or injuries/illnesses treatable with first aid</p> <p>Significance Low: minimal potential impact Medium: moderate potential impact High: widespread potential impact</p> <p>Climate Change Impact: Low: Not likely to increase the probability of this hazard. Medium: Is likely to increase the probability of this hazard. High: Is very likely to increase the probability of this hazard.</p>					

M.5 Hazard Profile and Vulnerability Assessment

The intent of this section is to profile the PRPD's hazards and assess the District's vulnerability separate from that of the Planning Area as a whole, which has already been assessed in Sections 4.2 Hazard Profiles and 4.3 Vulnerability Assessment in the Base Plan. The hazard profiles in the Base Plan discuss overall impacts to the Planning Area and describes the hazard problem description, hazard extent, magnitude/severity, previous occurrences of hazard events and the likelihood of future occurrences. Hazard profile information specific to the District is included in this Annex. This vulnerability assessment analyzes the property and other assets at risk to hazards ranked of medium or high significance specific to the District. For more information about how hazards affect the County as a whole, see Chapter 4 Risk Assessment in the Base Plan.

M.5.1. Hazard Profiles

Each hazard vulnerability assessment in Section M.5.3, includes a hazard profile/problem description as to how each medium or high significant hazard affects the District and includes information on past hazard occurrences. The intent of this section is to provide jurisdictional specific information on hazards and further describe how the hazards and risks differ across the Planning Area.

M.5.2. Vulnerability Assessment and Assets at Risk

This section identifies PRPD's total assets at risk, including values at risk, populations at risk, critical facilities and infrastructure, natural resources, and historic and cultural resources. Growth and development trends are also presented for the District. This data is not hazard specific but is representative of total assets at risk within the District.

Assets at Risk and Critical Facilities

This section considers the PRPD's assets at risk, with a focus on key District assets such as critical facilities, infrastructure, and other District assets and their values. With respect to PRPD assets, the majority of these assets are considered critical facilities as defined for this Plan. Critical facilities are defined for this Plan as:

Any facility, including without limitation, a structure, infrastructure, property, equipment or service, that if adversely affected during a hazard event may result in severe consequences to public health and safety or interrupt essential services and operations for the community at any time before, during and after the hazard event.

Table M-3 lists particular critical facilities and other PRPD assets identified by the PRPD planning team as important to protect in the event of a disaster. PRPD's physical assets, valued at over \$13 million, consist of the buildings and infrastructure to support PRPD's operations.

Table M-3 Paradise Recreation and Park District Critical Facilities, Infrastructure, and Other District Assets

Name of Asset	Facility Type	Replacement Value	Hazard Info
Terry Ashe Recreational Center	Recreation Center, Main Office, Playground, Activity Rooms, Basketball	\$3,958,253.00	Wildfire
Paul Byrne Aquatic Park	Picnic Areas, Playground, Fishing, Swimming, Activity Room, Barbeque, Volleyball, Horseshoe	\$4,843,651.00	Drought, Localized flooding, Wildfire
Moore Road Park	Equestrian, Baseball/ Softball, Ropes Course	\$866,206.00	Wildfire
Bille Park	Picnic Areas, Playgrounds, Hiking, Horseshoes	\$1,585,935.00	Wildfire
Coutolenc Park	Primarily unimproved park with Hiking, Archery	\$15,322.00	Wildfire
Paradise Memorial Park	Museum	\$1,500,00.00	Wildfire
Crain Memorial Park	Picnic Area	\$200,000.00	Localized flooding, Wildfire
Oak Creek Natural Area	Natural area	Undeveloped	Localized flooding, Wildfire
Drendle Circle	Small undeveloped land	Undeveloped	Wildfire
Paradise High School and Mountain Ridge Middle School	Baseball/Softball, Basketball, Volleyball	Shared agreement with PUSD, part of their schools	Wildfire
Mallan Lane	Maintenance Shop, Equipment, Vehicles	\$581,518.00	Localized flooding, Wildfire.
Lakeridge Circle	Natural Area (Undeveloped Park)	\$100,000	Wildfire
Concow Pool	Swimming Pool and restroom	\$1,000,000	Drought, Localized flooding, Wildfire

Source: PRPD

The District noted that wind events can affect heavily treed parks. Data on the value of these parks was unavailable.

Natural Resources

PRPD has a variety of natural resources of value to the District. These natural resources parallels that of the Town of Paradise and vicinity. Information can be found in Section 4.3.1 of the Base Plan and in Section E.5.2 of the Town of Paradise Annex.

Historic and Cultural Resources

PRPD has a variety of historic and cultural resources of value to the District. These historic and cultural resources parallels that of the Town of Paradise and vicinity. Information can be found in Section 4.3.1 of the Base Plan and in Section E.5.2 of the Town of Paradise Annex.

Growth and Development Trends

Prior to the Camp Fire, the District grew along with the Town of Paradise and unincorporated areas of Butte County. Growth slowed in the 2000s, and the District expected yearly growth rates of 1.1% between 2006 and 2030, according to the PRPD Municipal Service Review Update. The Camp Fire decimated populations in the Paradise area in 2018.

Future Development

PRPD has no control over future development in areas serviced by the District. Due to the Camp Fire, future development in the District is uncertain.

District development is guided by a Master Management Plan. The current plan was completed in 2010 with an update completed in 2016 that carries it through 2024. However; the District will start the process in 2020 to account for new needs after the Camp Fire.

Because of grant funding cycles and other resources, the District is pursuing the development of new facilities and acquisitions for parks. In addition, the District is likely to take on new roles and management of facilities as partners assess their roles and resources.

M.5.3. Vulnerability to Specific Hazards

This section provides the vulnerability assessment for those hazards identified above in Table M-2 as high or medium significance hazards. Impacts of past events and vulnerability of PRPD to specific hazards are further discussed below (see Section 4.1 Hazard Identification in the Base Plan for more detailed information about these hazards and their impacts on the Butte County Planning Area).

An estimate of the vulnerability of the District to each identified priority hazard, in addition to the estimate of risk of future occurrence, is provided in each of the hazard-specific sections that follow. Vulnerability is measured in general, qualitative terms and is a summary of the potential impact based on past occurrences, spatial extent, and damage and casualty potential. It is categorized into the following classifications:

- **Extremely Low**—The occurrence and potential cost of damage to life and property is very minimal to nonexistent.
- **Low**—Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal.
- **Medium**—Moderate potential impact. This ranking carries a moderate threat level to the general population and/or built environment. Here the potential damage is more isolated and less costly than a more widespread disaster.

- **High**—Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past.
- **Extremely High**—Very widespread with catastrophic impact.

Climate Change

Likelihood of Future Occurrence—Likely

Vulnerability—Medium

Hazard Profile and Problem Description

Climate change is the distinct change in measures of weather patterns over a long period of time, ranging from decades to millions of years. More specifically, it may be a change in average weather conditions such as temperature, rainfall, snow, ocean and atmospheric circulation, or in the distribution of weather around the average. While the Earth’s climate has cycled over its 4.5-billion-year age, these natural cycles have taken place gradually over millennia, and the Holocene, the most recent epoch in which human civilization developed, has been characterized by a highly stable climate – until recently.

Location and Extent

Climate change is a global phenomenon. It is expected to affect the whole of the County and the District. There is no scale to measure the extent of climate change. Climate change exacerbates other hazard, such as drought, extreme heat, flooding, wildfire, and others. The speed of onset of climate change is very slow. The duration of climate change is not yet known, but is feared to be tens to hundreds of years.

Past Occurrences

The District Planning Team noted no past occurrences of climate change but did note that the strength of storms does seem to be increasing and the temperatures seem to be getting hotter.

Vulnerability and Impacts to Climate Change

The APG: Defining Local and Regional Impacts focuses on understanding the ways in which climate change can affect a community. According to this APG, climate change impacts (temperature, precipitation, sea level rise, ocean acidification, and wind) affect a wide range of community structures, functions and populations. These impacts further defined by regional and local characteristics are discussed by secondary impacts and seven sectors found in local communities: Public Health, Socioeconomic, and equity impacts; Ocean and Coastal Resources; Water Management; Forest and Rangeland; Biodiversity and Habitat; Agriculture; and Infrastructure.

The APG: Understanding Regional Characteristics identified the following impacts specific to the Northern Central Valley region in which the Butte County Planning Area is part of:

- Temperature increases – particularly nighttime temperature
- Reduced precipitation
- Flooding – increase flows, snowmelt, levee failure

- Reduced agricultural productivity (e.g., nut trees, dairy)
- Reduced water supply
- Wildfire in the Sierra foothills
- Public health and heat
- Reduced tourism

Climate change will likely increase the cost of maintaining facilities as the area deals with greater fluctuations and larger events.

Assets at Risk

The District noted that all of its parks shown on Table M-3 would have turf at risk from climate change and extreme heat events resulting from it.

Future Development

The District is committed to several measures to account for Climate Change. For example, the District will consider climate to assess the plants used for reforestation and landscaping; invest in water conservation measures; utilize natural light when feasible; and consider WUI standards on construction of new facilities. The District also has a role in providing shelter in place facilities and the strategic location of new parks to provide buffers and multiple functions.

Dam Failure

Likelihood of Future Occurrence—Occasional
Vulnerability—Medium

Hazard Profile and Problem Description

Dams are manmade structures built for a variety of uses including flood protection, power generation, agriculture, water supply, and recreation. When dams are constructed for flood protection, they are usually engineered to withstand a flood with a computed risk of occurrence. For example, a dam may be designed to contain a flood at a location on a stream that has a certain probability of occurring in any one year. If prolonged periods of rainfall and flooding occur that exceed the design requirements, that structure may be overtopped or fail. Overtopping is the primary cause of earthen dam failure in the United States.

Location and Extent

Oroville Dam is located at a lower elevation than the District, and in the unlikely event that a dam failure occurred at this location, the District would not be inundated. Approximate District borders and dam inundation areas can be seen on Figure M-2, Figure M-3, and Figure M-4.

The greater threat to the PRPD is from the Paradise Dam and Magalia Dam located on Little Butte Creek, both of which are owned by the Paradise Irrigation District. Due to their location and proximity to the District, both of these dams are high hazard dams (meaning they have the potential to impact property and possibly injure or kill people should the dam break). The District Planning Team noted that while the

District and its facilities lie outside of the Concow Dam inundation area, the District's parks would be logical places for people displaced by the dam failure to congregate.

Figure M-2 Paradise Recreation and Park District – Extremely High Hazard Dam Inundation Areas

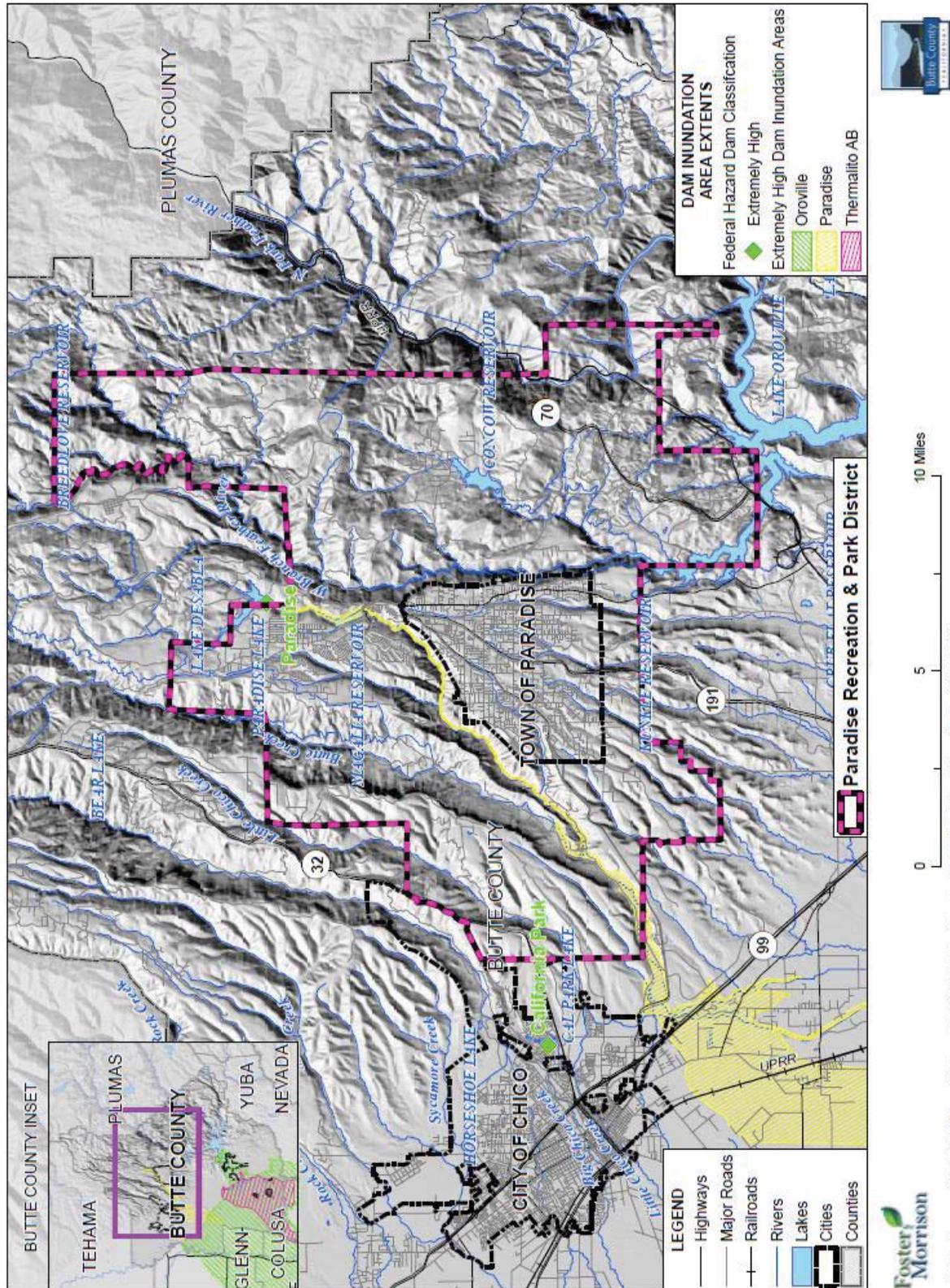


Figure M-3 Paradise Recreation and Park District – High Hazard Dam Inundation Areas

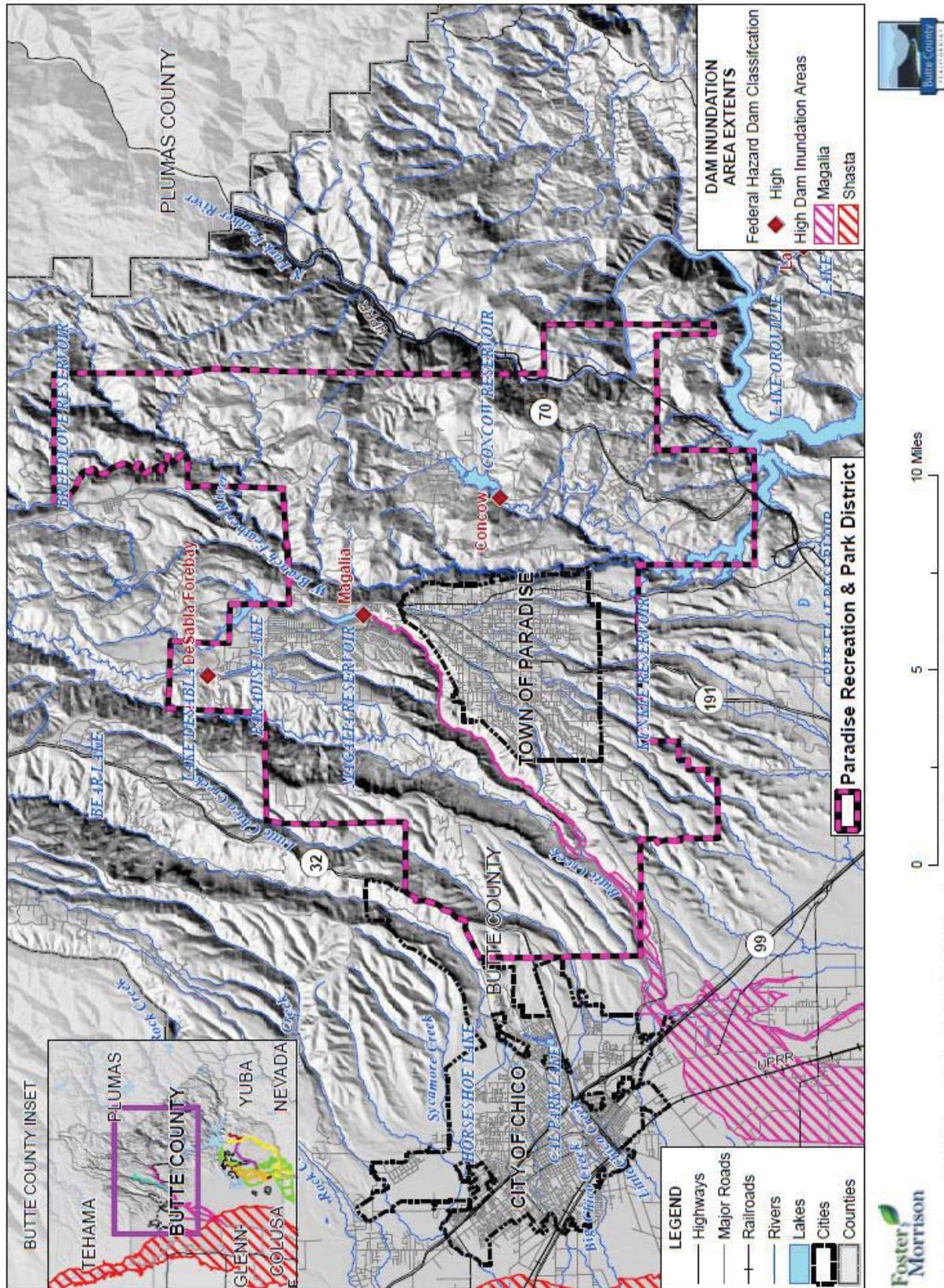
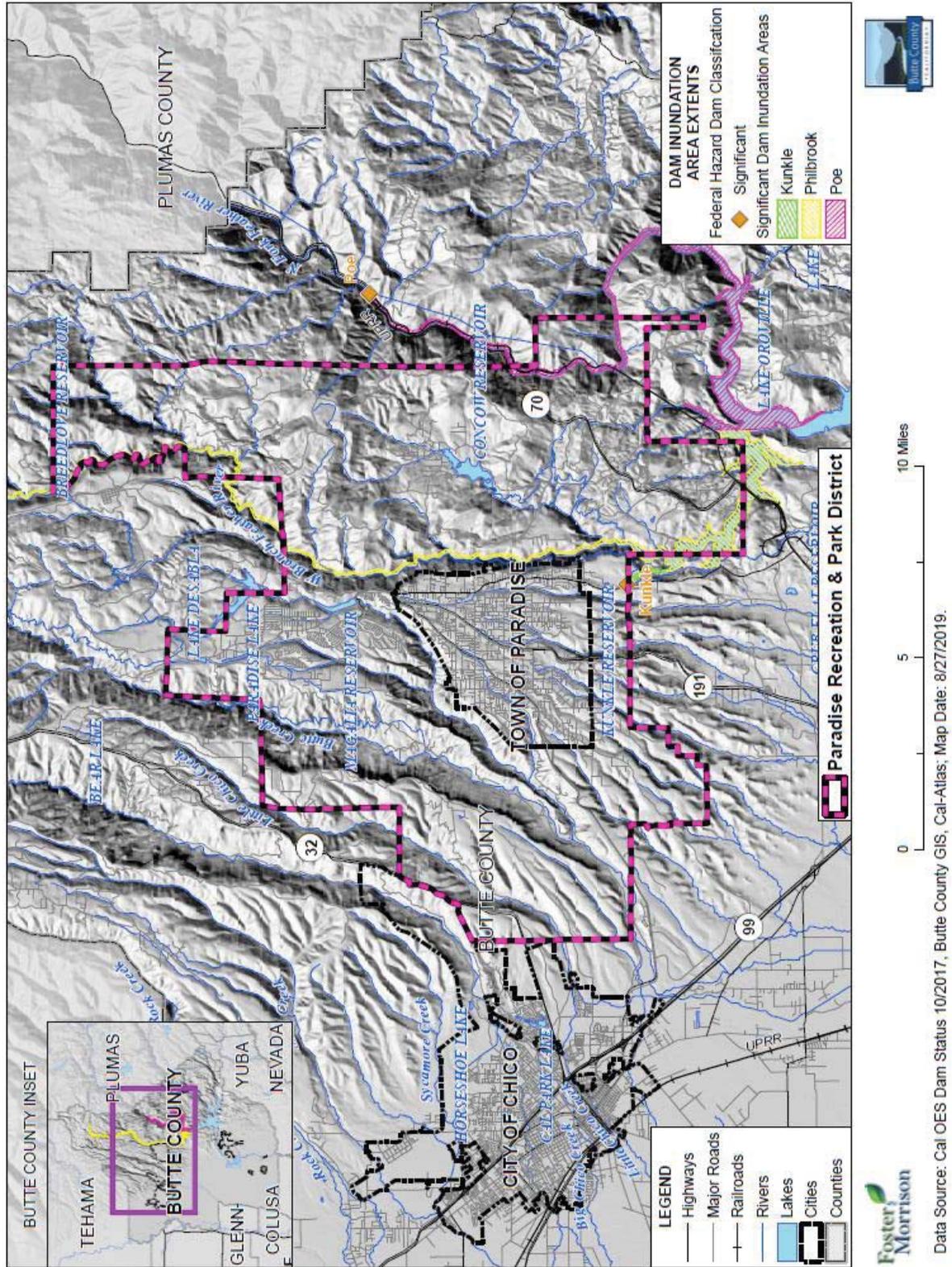


Figure M-4 Paradise Recreation and Park District – Significant Hazard Dam Inundation Areas



Past Occurrences

There has been no history of failure of either of these two dams, Paradise and Magalia, which have the potential to impact the District.

Vulnerability and Impacts to Dam Failure

Dam failure flooding can occur as the result of partial or complete collapse of an impoundment. Dam failures often result from prolonged rainfall and flooding. The primary danger associated with dam failure is the high velocity flooding of those properties downstream of the dam.

Dam failure flooding presents a threat to life and property, including buildings, their contents, and their use. Large flood events can affect crops and livestock as well as lifeline utilities (e.g., water, sewerage, and power), transportation, jobs, tourism, the environment, and the local and regional economies. Impacts to the PRPD from dam failure include damage to property, facilities, and park lands.

Dam failure of the two dams of concern to the District, Paradise and Magalia, would affect mainly those living in the canyon, and would likely have a limited effect on the Town of Paradise and the PRPD.

Magalia Dam has been identified by the Division of Safety of Dams as at risk to failure in the event of significant seismic activity. In the event of such failure floodwater would cause significant damages in the Little Butte Creek and Butte Creek Canyons and the District and exceed the capacity of the downstream Butte Creek levees. The Town of Paradise would be affected since the water treatment plant and the 42-inch supply line that provides drinking water for the residents in the community could be severely damaged since it is located at the downstream toe of the dam. The primary access road to the Pines Community would be eliminated and impact 10,000 residents. Reconstruction of the damaged facilities would be difficult, cause a significant water outage, take many months to restore, and the repair costs would be very high.

In a 1992 study of Magalia Dam it was concluded that the upstream slope of the dam was found to have inadequate stability under seismic loading conditions. In 1997 in response to this concern, the DSD required the water storage in the reservoir to be decreased to 800 acre-feet. If stabilized, the capacity of Magalia Reservoir could be restored to 2,570 acre-feet. The change in water level elevation from 2,225 feet when full, was lowered to the current restricted operating level of 2,199 feet, or a reduction of 26 change feet. Each year the DSD conducts a dam inspection and the District prepares a “Surveillance Report”, with assistance from the URS Corporation.

In 2004, the Paradise Irrigation District constructed a diversion structure above Magalia Reservoir and a pipeline to the water treatment plant. This improvement will supply water to the treatment plant during any reconstruction of Magalia Dam, or the widening of Skyway across Magalia Dam. In addition, the County did preliminary engineering on a project to widen the Skyway’s two lanes to four lanes across Magalia Dam. The Paradise Irrigation District’s preferred alternative for the widening project involves stabilizing the dam and would permit the restoration of the design water level behind Magalia Dam.

Impacts from dam failure in the District include loss of life and injury. Facilities, infrastructure, and park lands in the District could be at risk to dam failure. Programs run by the District would also be affected by dam failure.

Assets at Risk

The District Planning Team noted no specific facilities at risk.

Future Development

District facility sites are reviewed for hazards before they are sited. Dam failure is unlikely to affect siting of future District facilities, as little of the District is affected by dam failure.

Drought & Water Shortage

Likelihood of Future Occurrence–Highly Likely

Vulnerability–Medium

Hazard Profile and Problem Description

Drought is a gradual phenomenon. Although droughts are sometimes characterized as emergencies, they differ from typical emergency events. Most natural disasters, such as floods or forest fires, occur relatively rapidly and afford little time for preparing for disaster response. Droughts occur slowly, over a multi-year period, and it is often not obvious or easy to quantify when a drought begins and ends. s

Location and Extent

As discussed in the Base Plan, drought and water shortage are regional phenomenon. The whole of the County, as well as the whole of the PRPD, is at risk. Drought has a slow speed of onset and a variable duration. Drought can last for a short period of time, which does not usually affect water shortages. Should a drought last for a long period of time, water shortage becomes a larger issue.

Past Occurrences

Since drought is a regional phenomenon, past occurrences of drought for the PRPD are the similar to those for the County. Those past occurrences can be found in Section 4.2.8 of the Base Plan.

Vulnerability and Impacts to Drought and Water Shortage

Based on historical information, the occurrence of drought in California, including in the PRPD, is cyclical, driven by weather patterns. Drought has occurred in the past and will occur in the future. Periods of actual drought with adverse impacts can vary in duration, and the period between droughts is often extended. Although an area may be under an extended dry period, determining when it becomes a drought is based on impacts to individual water users. The vulnerability of the PRPD to drought is District-wide, but impacts may vary and include reduction in water supply and an increase in dry fuels. The increased dry fuels result in an increased fire danger.

The most significant qualitative impacts associated with drought in the planning area are those related to water intensive activities such as wildfire protection, municipal usage, commerce, tourism, and recreation. Voluntary conservation measures are typically implemented during extended droughts. A reduction of electric power generation and water quality deterioration are also potential problems. Drought conditions

can also cause soil to compact and not absorb water well, potentially making an area more susceptible to flooding.

Assets at Risk

All District properties are at risk from this threat. The District lands may be at risk from drought affecting park vegetation (landscaping or managed forests), pumps, or facilities suffering water shortages. Water levels in District managed water bodies will impact recreational activities. Water based recreational programs (swimming, kayaking, etc.) may be canceled or impacted.

Future Development

The District will invest in water conservation measures and low water native plants and other xeriscape options. For improved water quality and infiltration, we will explore the use of bio-swales and pervious concrete where reasonably feasible.

Earthquake and Liquefaction

Likelihood of Future Occurrence—Occasional

Vulnerability—Medium

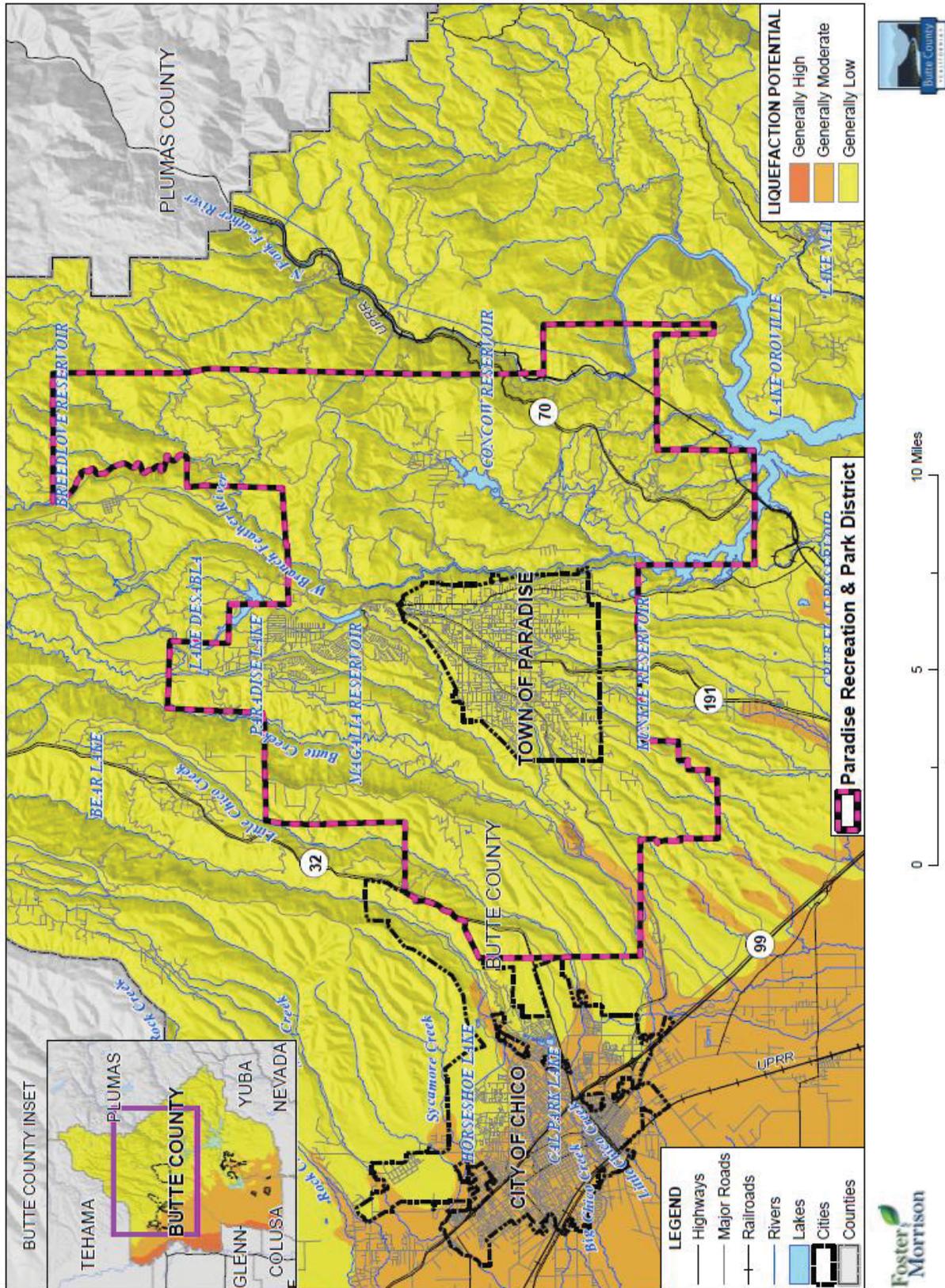
Hazard Profile and Problem Description

The State of California has identified five areas of critical seismic concern including surface ruptures, ground shaking, ground failure, tsunamis, and seiches. Each of these is caused by earthquake activity thereby creating hazards for life and property, which has the potential anywhere in California. Paradise and the PRPD is not at risk for tsunamis or seiches due to its inland location and the absence of nearby large bodies of water. Due to the proximity of the District to the Cleveland Hills Fault, the District is at risk to an earthquake occurring on this fault. These earthquakes can cause liquefaction within the District. Liquefaction is a process whereby soil is temporarily transformed to a fluid formed during intense and prolonged ground shaking.

Location and Extent

Since earthquakes are regional events, the whole of the District is at risk to earthquake. Hazus earthquake analysis was performed for the region, and is discussed in Section 4.3.6 of the Base Plan. Paradise and the surrounding area are located in a region of relatively low to moderate risk of earthquake occurrence. Additionally, the District is at limited risk to liquefaction from earthquake shaking. A map of liquefaction potential and approximate District locations is shown on Figure M-5 and shows the District with a Low liquefaction potential.

Figure M-5 Paradise Recreation and Park District – Liquefaction Potential Areas



The amount of energy released during an earthquake is usually expressed as a magnitude and is measured directly from the earthquake as recorded on seismographs. An earthquake's magnitude is expressed in whole numbers and decimals (e.g., 6.8). Seismologists have developed several magnitude scales, as discussed in Section 4.2.10 of the Base Plan. Earthquake and liquefaction both have a short onset period, and the duration of shaking and liquefaction is short as well.

Past Occurrences

As shown in the Base Plan, only the 1975 5.7 magnitude Oroville earthquake that resulted in a federal disaster declaration has occurred in the County. The HMPC noted no other past occurrences of earthquakes or liquefaction that affected the District in any meaningful way.

Vulnerability and Impacts to Earthquake

Earthquake vulnerability is primarily based on population and the built environment. Urban areas in high seismic hazard zones are the most vulnerable, while uninhabited areas are less vulnerable. The primary impacts of concern are life safety and property damage.

Ground shaking is the primary earthquake hazard. Many factors affect the survivability of structures and systems from earthquake-caused ground motions. These factors include proximity to the fault, direction of rupture, epicentral location and depth, magnitude, local geologic and soils conditions, types and quality of construction, building configurations and heights, and comparable factors that relate to utility, transportation, and other network systems. Ground motions become structurally damaging when average peak accelerations reach 10 to 15 percent of gravity, average peak velocities reach 8 to 12 centimeters per second, and when the Modified Mercalli Intensity Scale is about VII (18-34 percent peak ground acceleration), which is considered to be very strong (general alarm; walls crack; plaster falls).

Seismic events can have particularly negative effects on older buildings constructed of unreinforced masonry (URM), including materials such as brick, concrete and stone. The Uniform Building Code (UBC) identifies four seismic zones in the United States. The zones are numbered one through four, with Zone 4 representing the highest level of seismic hazard. The UBC establishes more stringent construction standards for areas within Zones 3 and 4. All of California lies within either Zone 3 or Zone 4. Butte County is within the less hazardous Zone 3. There are not URM or soft story buildings in the District.

Impacts to the District included damage to facilities and parks. General damages to structures and roads could occur if shaking or liquefaction was bad enough.

Assets at Risk

The District Planning Team noted that the maintenance shop could possibly be affected by earthquake shaking.

Future Development

The District will continue to follow California Building Codes and best practices when siting and constructing new District facilities. Vulnerable and sensitive equipment will be secured.

Localized Flooding

Likelihood of Future Occurrence–Highly Likely

Vulnerability–Medium

Hazard Profile and Problem Description

Localized flooding and other issues caused by severe weather events, primarily heavy rains and severe storms, are an annual occurrence in the District. Normally storm floodwaters are kept within defined limits by a variety of storm drainage and flood control measures. Occasionally, extended heavy rains result in floodwaters that overwhelm the drainage system. Primary concerns include impacts to infrastructure that provides a means of ingress and egress throughout the community.

Location and Extent

The Town of Paradise and areas of the District are subject to localized flooding. The extent of localized flooding is usually measured in volume, velocity, and depths of flooding. Expected flood depths in the District vary by location. Flood durations in the District tend to be short to medium term, or until either the storm drainage system can catch up or flood waters move downstream. Localized flooding in the District tends to have a shorter speed of onset, especially when antecedent rainfall has soaked the ground and reduced its capacity to absorb additional moisture. Areas of concern for the District can be found in Table M-4.

Table M-4 PRPD – Road List of Localized Flooding Problem Areas

Road Name	Flooding	Pavement Deterioration	Washout	High Water	Landslide/ Mudslide	Debris	Downed Trees
Skyway	X	X	X	X	X	X	X
Forest Service Road		X					X
Concow Road	X	X	X	X			
Dogtown Road	X	X	X	X	X	X	X
Coutolenc Road	X	X	X	X	X	X	X
Honey Run and Centerville Roads (which would cut off access to areas where the District runs programs)	X	X	X	X	X	X	X

Source: PRPD

Past Occurrences

The District Planning Team noted no specific past occurrence of localized flooding that affected the District’s facilities. They did note that localized flooding occurs each year, but is mostly a nuisance that causes travel issues for District staff.

Vulnerability and Impacts to Localized Flood

Localized flooding occurs throughout the District primarily during the winter and spring months during periods of heavy rains. Localized flooding can cause road closures, pavement deterioration, washouts, landslides/mudslides, debris areas, and downed trees. The amount and type of damage or flooding that occurs varies from year to year and storm to storm, depending on the quantity of runoff. Heavy rains may produce ponding around storm drains and in low lying areas, but these events are short in duration and do not typically cause property damage.

The drainage patterns of the Paradise area and District reflect the uniqueness of its location on a gently sloping ridge surface. The Paradise area is dominated by a somewhat continuous overland runoff flow which is organized into local rills or depressions as the runoff is collected. The Paradise area is divided into fairly distinct drainage basins.

The drainage systems often coincide with groundwater seeps and springs which serve to increase the moisture availability beyond the intermittent flows directly related to storm runoff. Consequently, the drainage depressions and their downslope channels are often thickly vegetated.

As these areas are developed, the undergrowth and grass cover are often removed, and channels are randomly excavated to suit the individual owner's or developer's interest. Often when this takes place, either through lack of knowledge, lack of funds or indifference, the resulting channel is inadequate in capacity and poses a real possibility of promoting damage. While the soils and subsoils of the Paradise area do not markedly aggravate the runoff situation, they also do not prove to be highly permeable. This often results in localized flooding which can be exacerbated by such land use activities as grading operations, vegetation clearance, inattention to storm runoff from construction sites during the peak winter rainfall period, large-scale paving and the lack of a collection system for storm waters. Storm runoff arrives at the principal drainage channels through overland flow for most of the Paradise area. Very few collector systems have been constructed and the primary form of collection has been through roadside ditches.

Impacts to the District from localized flood include possible damage to facilities and infrastructure. Localized flooding can also affect transportation routes that District personnel must take to get to District facilities.

Assets at Risk

The District Planning Team noted that no assets are at risk to localized flooding, but localized flooding can affect District Personnel as they travel to and from work, and to and from District facilities.

Future Development

Future development is unlikely to be affected by localized flooding.

Hazardous Materials Transportation

Likelihood of Future Occurrence—Occasional

Vulnerability—Medium

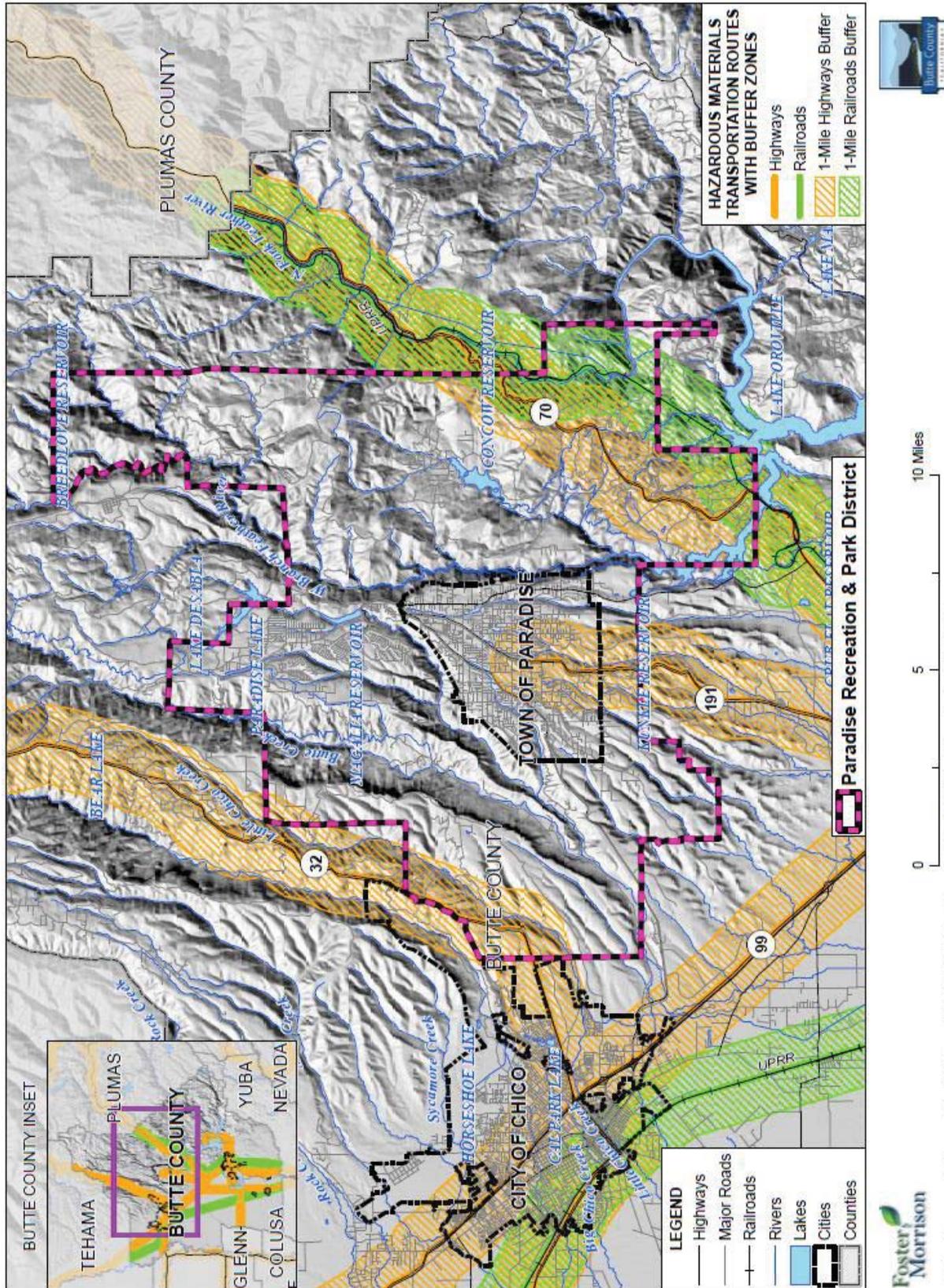
Hazard Profile and Problem Description

The release of hazardous materials during a transportation related incident is a concern to the Butte County Planning Area and the PRPD. The significance of environmental or human exposure to a hazardous materials release depends on the type, location, and quantity of the material. Hazardous materials can be present in any form; gas, solid, or liquid. Environmental or atmospheric conditions can influence hazardous materials if they are uncontained. A release or spill of bulk hazardous materials could result in fire, explosion, toxic cloud or direct contamination of water, people, and property. The effects may involve a local site or many square miles. Health problems may be immediate, such as corrosive effects on skin and lungs, or be gradual, such as the development of cancer from a carcinogen. Damage to property could range from immediate destruction by explosion to permanent contamination by a persistent hazardous material.

Location and Extent

In the PRPD, a hazardous materials transportation event is most likely to occur along Highway 191, as shown in Figure M-6. Trucks and rail cars that use these transportation corridors commonly carry a variety of hazardous materials including gasoline, other petroleum products, and other chemicals known to cause human health problems. As such, the speed on onset of hazardous materials spill is short. The duration of the event depends on multiple factors, including the type and amount of material spilled, and the volatility of the chemical spilled.

Figure M-6 Paradise Recreation and Park District – Hazardous Materials Routes



Past Occurrences

The District Planning Team noted no specific past occurrences where the District facilities were affected.

Vulnerability and Impacts to Hazardous Materials Transportation

It is often quite difficult to quantify the potential losses from human-caused hazards. While the facilities impacted by a specific event have a tangible dollar value, loss from a human-caused hazard can inflict an even greater toll on a community, both economically and emotionally. The impact to the District and District assets will vary from event to event and depend on the type, location, and nature of the specific hazardous material incident.

Impacts from hazardous materials transportation spills vary by location and severity of any given event and will most likely only affect the immediate area of the District where the spill occurred. Impacts in the District include damage to properties, facilities, and infrastructure. Life safety can also be an issue during larger spills. The District runs childcare and sports programs, which could be affected during a hazardous materials spill.

Assets at Risk

While the Terry Ashe Recreation Center, Moore Road Park, and Aquatic Park are the most vulnerable because they attract the most people on a regular basis and are relatively close to main roads, all other park properties may be impacted by a hazardous materials spill. Programs or events at other partner facilities (i.e. schools or other parks) that attract the most people near transportation routes may also be vulnerable.

Future Development

The District requires that each facility have a plan for emergency and evacuation protocols which will respond to this hazard.

Landslide, Mudslide, and Debris Flow

Likelihood of Future Occurrence–Likely

Vulnerability–Medium

Hazard Profile and Problem Description

According to the California Geological Survey, landslides refer to a wide variety of processes that result in the perceptible downward and outward movement of soil, rock, and vegetation under gravitational influence. Common names for landslide types include slump, rockslide, debris slide, lateral spreading, debris avalanche, earth flow, and soil creep. Landslides may be triggered by both natural and human-induced changes in the environment that result in slope instability.

Location and Extent

Areas in and around the PRPD where topography changes are at risk to landslide. The legend Figure M-7 shows the measurement system that the California Geological Survey uses to show the possible magnitude

of landslides. It is a combination of slope class and rock strength. The speed of onset of landslide is often short, especially in post-wildfire burn scar areas, but it can also take years for a slope to fail. Landslide duration is usually short, though digging out and repairing landslide areas can take some time.

The District noted that nearly all of its parks are located adjacent to or near steep areas.

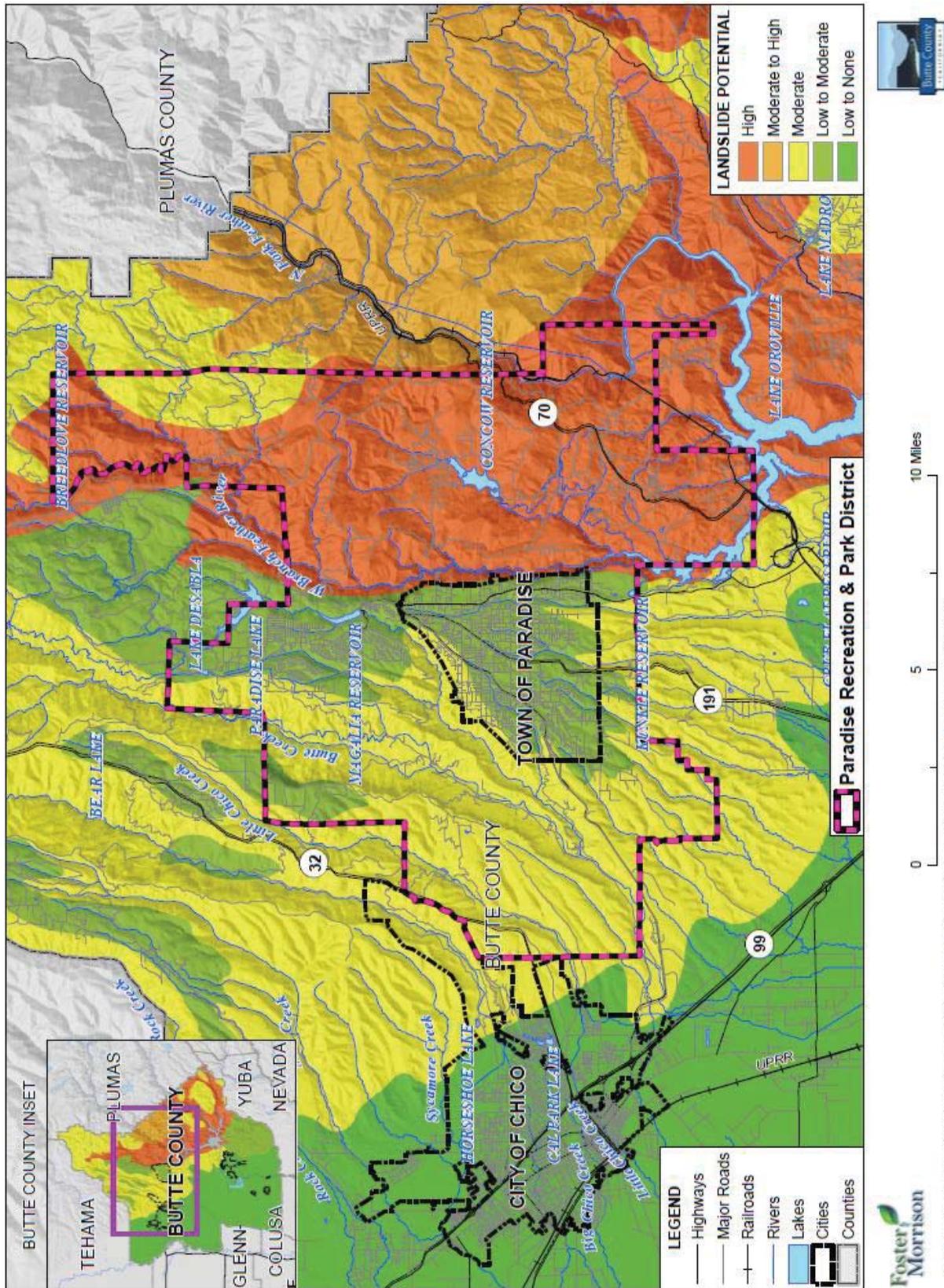
Past Occurrences

The District Planning Team could not find specific past landslides that affected the District. However, they did note that there is evidence of small slides at Coutolenc and Bille Park that would have damaged existing roads or trails. They also noted that they were surprised that Butte Creek Canyon is not a higher risk.

Vulnerability and Impacts to Landslide

Landslide potential is influenced by a number of factors, including geology, water influences, and topography. There is potential for landslides in the foothill portions of the community. Landslide potential in the District is approximated on Figure M-7. It is noted that detailed analysis of the complex interrelationships between the governing factors is needed to predict the stability of a specific area, and detailed on-site investigations are recommended to assess site-specific risks. Seismic shaking can greatly increase landslide potential.

Figure M-7 Paradise Recreation and Park District - Landslide Potential Areas



Impacts

Impacts in the District from landslide include property and facility damage, and damage to park lands. Roads can also be impacted and create issues to District personnel as they travel around the District.

Assets at Risk

Parks with steep hills are at risk, and the assets they contain.

Future Development

The District requires that each facility have a plan for emergency and evacuation protocols which will respond to this hazard.

Severe Weather: Extreme Heat

Likelihood of Future Occurrence–Highly Likely

Vulnerability–Medium

Hazard Profile and Problem Description

Extreme heat happens in Butte County and the PRPD each year. According to information provided by FEMA, extreme heat is defined as temperatures that hover 10 degrees or more above the average high temperature for the region and last for several weeks. Heat kills by taxing the human body beyond its abilities. According to the US Center for Disease Control, in a normal year, about 658 Americans succumb to the demands of summer heat. One of the most significant concerns with extreme heat is with vulnerable populations such as the elderly and low-income populations who might not be able to stay cool during extreme heat events. Extreme heat can also affect the operations of utilities and critical infrastructure, such as the PRPD. And in the Butte County planning area extreme heat can contribute to wildfire conditions and risk.

Location and Extent

Extreme heat events occur on a regional basis. The speed of onset and the duration of extreme heat events can vary. Extreme heat can occur in any location of the County and the District, though it is more prevalent in the lower elevations of the County. Extreme heat occurs throughout the Planning Area primarily during the summer months. Heat emergencies are often slower to develop, taking several days of continuous, oppressive heat before a significant or quantifiable impact is seen. Heat waves do not strike victims immediately, but rather their cumulative effects slowly take the lives of vulnerable populations.

Past Occurrences

The District Planning Team note that since extreme heat is a regional phenomenon, events that affected the County also affected the District. Those past occurrences were shown in the Base Plan in Section 4.2.2.

Vulnerability and Impacts to Extreme Heat

Extreme heat happens in the Butte County Planning Area each year. Extreme heat may overload demands for electricity to run air conditioners in homes and businesses during prolonged periods of exposure and presents health concerns to individuals outside in the temperatures. Extreme heat may also be a secondary effect of droughts or may cause drought-like conditions. For example, several weeks of extreme heat increases evapotranspiration and reduces moisture content in vegetation, leading to higher wildfire vulnerability for that time period even if the rest of the season is relatively moist. Extreme heat can also affect the agricultural industry. Extreme heat normally does not impact structures.

During extreme heat events, District field staff will be impacted with limited work hours or exposure to heat. The District may have to cancel programming events or have facilities that may be used, either formally or informally, as cooling centers.

Assets at Risk

Pools and indoor recreation assets are at risk to this hazard.

Future Development

The District requires that each facility have a plan for emergency and evacuation protocols which will respond to this hazard. The District will look at the potential for features that may make facilities more appealing as a cooling center. The District is looking at funding sources for backup generators (and at least the wiring to allow for portable ones).

Severe Weather: Freeze and Winter Storm

Likelihood of Future Occurrence–Highly Likely

Vulnerability–Medium

Hazard Profile and Problem Description

According to the National Weather Service (NWS) and the Western Regional Climate Center (WRCC), extreme cold often accompanies a winter storm or is left in its wake. Winter storms in the District can include freezing temperatures, snow, and ice. Prolonged exposure to cold can cause frostbite or hypothermia and can be life-threatening. Infants and the elderly are most susceptible. Pipes may freeze and burst in homes or buildings that are poorly insulated or without heat.

Location and Extent

Freeze and winter storms are regional issues, meaning the entire District is at risk to freeze and winter storm. While there is no scale (i.e. Richter, Enhanced Fujita) to measure the effects of freeze, temperature data from the County from the WRCC indicates that there are 21.8 days that fall below 32°F in eastern Butte County, with no days falling below 0°F. Freeze has a slow onset and can be generally be predicted in advance for the County. Freeze events can last for hours (in a cold overnight), or for days to weeks at a

time. Snowfall is measured in snow depths. It is rare for snow to fall, and even rarer that snow accumulates in the District. Snowfall has an onset that is similar to freeze in the District.

Past Occurrences

The Planning Team noted that since freeze and winter storm is a regional phenomenon, events that affected the upper elevations of the County also affected the District. Those past occurrences were shown in the Base Plan in Section 4.2.3.

Vulnerability and Impacts to Freeze and Storm

The District experiences temperatures below 32 degrees during the winter months. The temperature moves to the teens in rather extreme situations. Snow and ice can occur in the District. These winter conditions can cause downed trees and power lines, power outages, accidents, and road closures. District facilities can be affected by loss of electricity.

Assets at Risk

All facilities are at risk from power outages that occur during these events.

Future Development

The District requires that each facility have a plan for emergency and evacuation protocols which will respond to this hazard. District facilities will be engineered to accommodate recommended snow loads for roofs and examined for the potential for appropriate electrical wiring for generators.

Severe Weather: Heavy Rain and Storms

Likelihood of Future Occurrence–Highly Likely

Vulnerability–Medium

Hazard Profile and Problem Description

Storms in the PRPD occur annually and are generally characterized by heavy rain often accompanied by strong winds and sometimes lightning and hail. Approximately 10 percent of the thunderstorms that occur each year in the United States are classified as severe. A thunderstorm is classified as severe when it contains one or more of the following phenomena: hail that is three-quarters of an inch or greater, winds in excess of 50 knots (57.5 mph), or a tornado. Heavy precipitation in the District falls mainly in the fall, winter, and spring months.

Location and Extent

Heavy rain events occur on a regional basis. Rains and storms can occur in any location of the District. All portions of the District are at risk to heavy rains. Most of the severe rains occur during the winter months. There is no scale by which heavy rains and severe storms are measured. Magnitude of storms is measured often in rainfall and damages. The speed of onset of heavy rains can be short, but accurate weather prediction mechanisms often let the public know of upcoming events. Duration of severe storms

in California, Butte County, and the District is often short, ranging from minutes to hours. In some cases, rains can continue for days at a time. Information on precipitation extremes can be found in Section 4.2.4 of the Base Plan.

Past Occurrences

According to historical hazard data, severe weather is an annual occurrence in the District.

Vulnerability and Impacts to Heavy Rains and Storms

According to historical hazard data, severe weather is an annual occurrence in the District. Damage and disaster declarations related to severe weather have occurred and will continue to occur in the future. Heavy rain and severe storms are the most frequent type of severe weather occurrences in the District. Wind and lightning often accompany these storms and have caused damage in the past. Hail is rare in the District.

Actual damage associated with the primary effects of severe weather have been limited. It is the secondary hazards caused by weather, such as floods that have had the greatest impact on the District. Impacts to property, critical facilities (such as utilities), and life safety are expected. The risk and vulnerability associated with these secondary hazards are discussed in the localized flood section of this Annex.

Assets at Risk

All District assets are potentially affected by this hazard.

Future Development

The District will stay in compliance with building codes in the future to mitigate this hazard.

Severe Weather: Wind and Tornado

Likelihood of Future Occurrence—Highly Likely

Vulnerability—Medium

Hazard Profile and Problem Description

High winds can cause significant property and crop damage, threaten public safety, and have adverse economic impacts from business closures and power loss. High winds, as defined by the NWS glossary, are sustained wind speeds of 40 mph or greater lasting for 1 hour or longer, or winds of 58 mph or greater for any duration. These winds may occur as part of a seasonal climate pattern or in relation to other severe weather events such as thunderstorms.

Tornadoes and funnel clouds can also occur during these types of severe storms. Tornadoes are another severe weather hazard that, though rare, can affect areas in the Valley in the Butte County Planning Area, primarily during the rainy season in the late fall and early spring. Tornadoes form when cool, dry air sits on top of warm, moist air. Tornadoes are rotating columns of air marked by a funnel-shaped downward extension of a cumulonimbus cloud whirling at destructive speeds of up to 300 mph, usually accompanying a thunderstorm.

Tornadoes are rare in the upper elevations and are not considered to be a threat to the District.

Location and Extent

The entire Planning Area and the District is subject to significant, non-tornadic (straight-line), winds. Each area of the County is at risk to high winds. Magnitude of winds is measured often in speed and damages. These events are often part of a heavy rain and storm event but can occur outside of storms. The speed of onset of winds can be short, but accurate weather prediction mechanisms often let the public know of upcoming events. Duration of winds in California is often short, ranging from minutes to hours. The Beaufort scale is an empirical measure that relates wind speed to observed conditions at sea or on land. Its full name is the Beaufort wind force scale. It can be seen in Section 4.2.5 of the Base Plan.

Tornadoes, while rare, can occur at any location in the County. The areas in the Valley in the County tend to be at greater risk than the areas in the foothills and at elevation. Prior to February 1, 2007, tornado intensity was measured by the Fujita (F) scale. This scale was revised and is now the Enhanced Fujita scale. Both scales are sets of wind estimates (not measurements) based on damage. The new scale provides more damage indicators (28) and associated degrees of damage, allowing for more detailed analysis and better correlation between damage and wind speed. It is also more precise because it considers the materials affected and the construction of structures damaged by a tornado. These scales are shown in Section 4.2.5 of the Base Plan. Speed of onset of tornadoes is short, as are their durations.

Past Occurrences

According to historical hazard data, high winds are an annual occurrence in the District.

Vulnerability and Impacts to Wind and Tornado

The District is subject to potentially destructive straight-line winds. High winds are common throughout the area and can happen during most times of the entire year and outside of a severe storm event. Straight line winds are primarily a public safety and economic concern. Windstorms can cause damage to structures and power lines which in turn can create hazardous conditions for people. Debris flying from high wind events can shatter windows in structures and vehicles and can harm people that are not adequately sheltered.

Impacts to the District from wind include direct damage to District facilities. When high winds occur during red flag days and during wildfires, they can spread fires very quickly and impact District facilities and lands. This was the case during the 2018 Camp Fire.

Wildfire impacts are discussed in the wildfire vulnerability below.

Assets at Risk

All District buildings as well as all of the trees in the parks are at risk to this hazard.

Future Development

The District will stay in compliance with building codes in the future to mitigate this hazard.

Wildfire

Likelihood of Future Occurrence–Highly Likely

Vulnerability–Extremely High

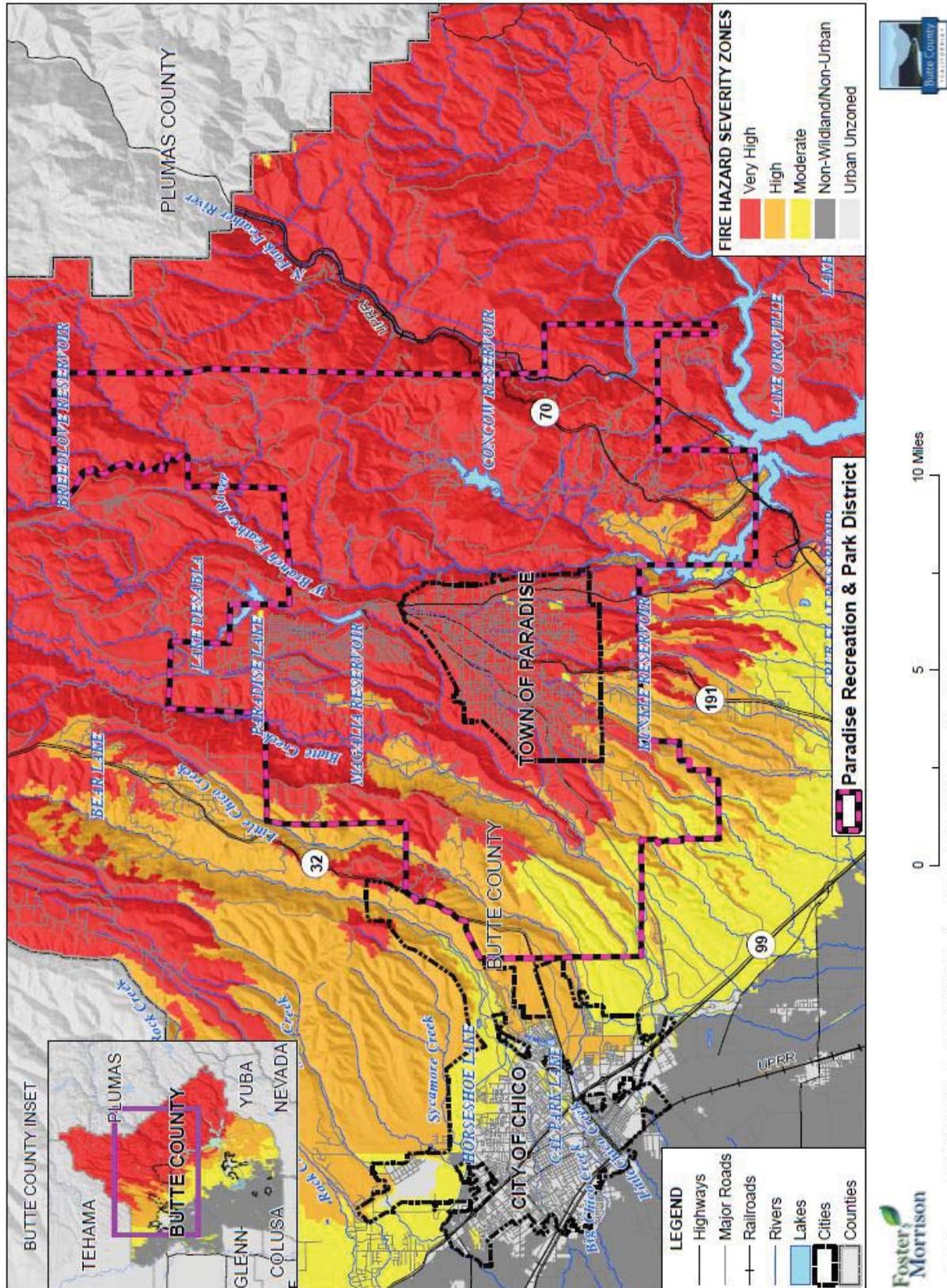
Hazard Profile and Problem Description

Wildland fire is an ongoing concern for the PRPD. Generally, the fire season extends from early spring through late fall of each year during the hotter, dryer months. Fire conditions arise from a combination of high temperatures, low moisture content in the air and fuel, accumulation of vegetation, and high winds. Throughout California, communities are increasingly concerned about wildfire safety as increased development in the foothills and mountain areas and subsequent fire suppression practices have affected the natural cycle of the ecosystem. While the fire season was considered to be predominantly May through October, it has now become a year around concern. Complicating the issue, PG&E shutdowns can occur during red flag days, which affects the District.

Location and Extent

CAL FIRE has defined areas of greater wildfire risk through Fire Hazard Severity Zones (FHSZ). The District lies in the Moderate, High, and Very High FHSZs. District boundaries and FHSZs are shown on Figure M-8.

Figure M-8 Paradise Recreation and Park District – Fire Hazard Severity



Data Source: CAL FIRE (Adopted SRA 11/2007 - fhssz06_3_4, Draft 9/2007 - c4fhssz06_1),
Butte County GIS, Cal-Atlas, Map Date: 8/27/2019.

Wildfires tend to be measured in structure damages, injuries, and loss of life as well as on acres burned. Fires can have a quick speed of onset, especially during periods of drought. Fires can burn for a short period of time or may have durations lasting for a week or more.

Past Occurrences

All District facilities suffered major to minor damage during the 2018 Camp Fire. Losses included the complete loss of the District Shop facility and equipment, millions of board feet of timber (and the creation of hazard trees), playgrounds, picnic tables, smoke damage, and other damage. While estimates are still assessed, the District suffered approximately \$4-7M in direct damages. Loss of revenue from property taxes, program income, and experienced staff amounts to a much greater amount over the next 10-20 years.

In addition, because resources are spread throughout the County the District has suffered less catastrophic losses during smaller events and need to be vigilant in safety and mitigating this hazard.

Vulnerability and Impacts to Wildfire

Risk and vulnerability to the Butte County Planning Area and the District from wildfire is of significant concern, with some areas of the planning area being at greater risk than others. High fuel loads in the planning area, along with geographical and topographical features, create the potential for both natural and human-caused fires that can result in loss of life and property. These factors, combined with natural weather conditions common to the area, including periods of drought, high temperatures, low relative humidity, and periodic winds, can result in frequent and sometimes catastrophic fires. During the May to November fire season, the dry vegetation and hot and sometimes windy weather, combined with continued growth in the WUI areas, results in an increase in the number of ignitions. Any fire, once ignited, has the potential to quickly become a large, out-of-control fire. As development continues throughout the Planning Area, especially in these interface areas, the risk and vulnerability to wildfires will likely increase.

The District is not immune to numerous types of wildland and WUI fires and any one of them may accelerate into a large interface wildfire such as the Camp Fire. Such a situation could lead to evacuation of large portions of the population and the potential for significant loss of property, structures, and land.

Compounding the problem is the lack of ingress and egress roads in Paradise. Due to the sheer volume of people that can be affected at one time by a wildland fire, a number of potential traffic flow problems exist. These are further complicated by the existence of only one north route out of town; only four south routes out of town, two of which could easily be affected by a single fire; and only three through east-west streets.

Wildfires can cause short-term and long-term disruption to the County and the District, as evidenced by the Camp Fire in Paradise and the resultant decrease in housing stock and the population in Paradise. Fires can have devastating effects on watersheds through loss of vegetation and soil erosion, which may impact the County by changing runoff patterns, increasing sedimentation, reducing natural and reservoir water storage capacity, and degrading water quality. Fires may result in casualties and can destroy buildings and infrastructure.

Although the physical damages and casualties arising from wildland-urban interface fires may be severe, it is important to recognize that they also cause significant economic impacts by resulting in a loss of function

of buildings and infrastructure. In some cases, the economic impact of this loss of services may be comparable to the economic impact of physical damages or, in some cases, even greater. Economic impacts of loss of transportation and utility services may include traffic delays/detours from road and bridge closures and loss of electric power, potable water, and wastewater services. Fires can also cause major damage to power plants and power lines needed to distribute electricity to operate facilities.

Assets at Risk

As evidenced by the Camp Fire, all District assets are at risk to wildfire.

Future Development

The District will abide by current building code standards for public buildings, but will also consider a variety of best practices and building techniques to minimize the threat of fire in Wildland Urban Interface (WUI) areas. These include building codes and materials, landscape practices, and the inclusion of ample defensible space. The District will consider the use of non-wood utility poles or undergrounding of electrical conduit.

In addition, because of the important of buffers in WUI areas, the District will consider vegetation management, road connectivity, shelter (or safer) in place areas, and other measures which may mitigate the effects of some wildfire events.

M.6 Capability Assessment

Capabilities are the programs and policies currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. This capabilities assessment is divided into five sections: regulatory mitigation capabilities, administrative and technical mitigation capabilities, fiscal mitigation capabilities, mitigation education, outreach, and partnerships, and other mitigation efforts.

M.6.1. Regulatory Mitigation Capabilities

Table M-5 lists regulatory mitigation capabilities, including planning and land management tools, typically used by local jurisdictions to implement hazard mitigation activities and indicates those that are in place in the District.

Table M-5 Paradise Recreation and Park District – Regulatory Mitigation Capabilities

Plans	Y/N Year	Does the plan/program address hazards? Does the plan identify projects to include in the mitigation strategy? Can the plan be used to implement mitigation actions?
Comprehensive/Master Plan	Y 2016	Plan will begin an update in 2020, we anticipate it to include the addressing of hazards, and mitigation projects and some actions.
Capital Improvements Plan	Y	Yes, in Annual Budget. Includes a variety of projects that as mitigation funding is received will be included in the project list.
Economic Development Plan	N	

Local Emergency Operations Plan	Y	Each facility has a plan
Continuity of Operations Plan	N	
Transportation Plan	N	
Stormwater Management Plan/Program	N	Some new facilities will likely have stormwater management folding into the design
Engineering Studies for Streams	N	
Community Wildfire Protection Plan	N	While the District does not have a specific plan, we are working with a variety of agencies, such as CALFIRE and the Butte County Fire Safe Council to support their efforts.
Other special plans (e.g., brownfields redevelopment, disaster recovery, coastal zone management, climate change adaptation)	Y	The District will develop management plans for each property, and this will likely include a hazard management section, especially for fire and climate adaptation.
Building Code, Permitting, and Inspections		
	Y/N	Are codes adequately enforced?
Building Code	N/A	
Building Code Effectiveness Grading Schedule (BCEGS) Score	N/A	
Fire department ISO rating:	N/A	
Site plan review requirements	N/A	
Land Use Planning and Ordinances		
Zoning ordinance	N/A	
Subdivision ordinance	N/A	
Floodplain ordinance	N/A	
Natural hazard specific ordinance (stormwater, steep slope, wildfire)	N/A	
Flood insurance rate maps	N/A	
Elevation Certificates	N/A	
Acquisition of land for open space and public recreation uses	N/A	
Erosion or sediment control program	N/A	
Other		
How can these capabilities be expanded and improved to reduce risk?		
The District seeks partnerships to strengthen the community response, resistance, and resiliency. We expect these to mature over the next few years.		

Source: PRPD

M.6.2. Administrative/Technical Mitigation Capabilities

Table M-6 identifies the District staff/roles responsible for activities related to mitigation and loss prevention in the District.

Table M-6 Paradise Recreation and Park District – Administrative and Technical Mitigation Capabilities

Administration	Y/N	Describe capability Is coordination effective?
Planning Commission	N	We receive some coordination from land use agencies.
Mitigation Planning Committee	N	
Maintenance programs to reduce risk (e.g., tree trimming, clearing drainage systems)	Y	The District has mutual aid agreements with the Town of Paradise for road clearing. These agreements should be expanded to other agencies and other hazards.
Mutual aid agreements	Y	The District has mutual aid agreements with the Town of Paradise for road clearing. These agreements should be expanded to other agencies and other hazards.
Other		
Is staffing adequate to enforce regulations? Is staff trained on hazards and mitigation? Is coordination between agencies and staff effective?		
Staff	Y/N FT/PT	
Chief Building Official	N/A	
Floodplain Administrator	N/A	
Emergency Manager	N/A	
Community Planner	N/A	
Civil Engineer	N/A	
GIS Coordinator	N/A	
Other		
Technical		
Warning systems/services (Reverse 911, outdoor warning signals)	Y	District has internal procedures for sending SMS messages to staff. District owns an electronic sign on Skyway that can be utilized for emergency information if we are notified.
Hazard data and information	N	
Grant writing	Y	
Hazus analysis	N	
Other		
How can these capabilities be expanded and improved to reduce risk?		
Increased coordination with other agencies to understand the District’s capacity and potentially establish a more formal role during ICS events.		

Source: PRPD

M.6.3. Fiscal Mitigation Capabilities

Table M-7 identifies financial tools or resources that the District could potentially use to help fund mitigation activities.

Table M-7 Paradise Recreation and Park District – Fiscal Mitigation Capabilities

Funding Resource	Access/ Eligibility (Y/N)	Has the funding resource been used in past and for what type of activities? Could the resource be used to fund future mitigation actions?
Capital improvements project funding	Y	Acquisition and development of parks and facilities.
Authority to levy taxes for specific purposes	Y	Authority to levy taxes for specific purposes – like other non-enterprise special districts, needs a ballot measure (or rely on other legislative bodies. In the future, the District may consider an increased assessment to support services, maintenance, and capital projects.
Fees for water, sewer, gas, or electric services	N	
Impact fees for new development	Y	The District has Impact fees for new and expanded developments. In the last Nexus Study, the District Board opted for fees, well below the amount recommended for new acquisitions, development, and repairs. These fees have not accumulated enough in recent decades to support much activity and the District remains reliant on Grants to make substantial improvements.
Storm water utility fee	N	
Incur debt through general obligation bonds and/or special tax bonds	Y	The District has not used these instruments in the recent past.
Incur debt through private activities	N	
Community Development Block Grant	N	
Other federal funding programs	Y	The District has applied and in the process of applying for a variety of funds.
State funding programs	Y	The District has applied and in the process of applying for a variety of funds.
Other	Y	. The District may develop income from facility rental and program income. We may also be able to take on fee for service for maintenance of facilities or implementation of recreational programming. The District is developing a donation and volunteer program.
How can these capabilities be expanded and improved to reduce risk?		
Since the District will lose significant revenue from taxes associated with the Camp Fire, it will be important for the District to develop other funding streams and financing options.		

Source: PRPD

M.6.4. Mitigation Education, Outreach, and Partnerships

Table M-8 identifies education and outreach programs and methods already in place that could be/or are used to implement mitigation activities and communicate hazard-related information. More information can be found below the table.

Table M-8 Paradise Recreation and Park District – Mitigation Education, Outreach, and Partnerships

Program/Organization	Yes/No	Describe program/organization and how relates to disaster resilience and mitigation. Could the program/organization help implement future mitigation activities?
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	N	
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Y	The District runs a number of camps and educational programs and partners with other groups to get out information.
Natural disaster or safety related school programs	N	
StormReady certification	N	
Firewise Communities certification	N	
Public-private partnership initiatives addressing disaster-related issues	Y	The District is working with a variety of organizations to develop long-term recovery and healing efforts for youth in the community to limit the impact of Adverse Childhood Experiences.
Other		
How can these capabilities be expanded and improved to reduce risk?		

Source: PRPD

The District partners with School Districts, Chico State, Butte College, Fire Safe Councils and other Districts on mitigation related items.

M.6.5. Other Mitigation Efforts

PRPD has many other ongoing mitigation efforts and past projects that include the following:

- The District is working on a Healing Through Nature program that will to develop long-term recovery and healing efforts for youth in the community to limit the impact of Adverse Childhood Experiences and associated negative health and behavior outcomes.
- The District is also very active in exploring the potential of strategically located parks and Community Facilities to create healthy communities, improve fire safety, create buffers with improved connections to existing roads to improve emergency response and egress, parks peppered throughout the Community may provide life-saving shelter locations during critical emergencies. Well-designed

community facilities will provide essential community-building opportunities for residents and staging areas and base of operations for emergency personnel.

M.7 Mitigation Strategy

M.7.1. Mitigation Goals and Objectives

Paradise Recreation and Park District adopts the hazard mitigation goals and objectives developed by the HMPC and described in Chapter 5 Mitigation Strategy.

M.7.2. Mitigation Actions

The planning team for the District identified and prioritized the following mitigation actions based on the risk assessment. Background information and information on how each action will be implemented and administered, such as ideas for implementation, responsible office, potential funding, estimated cost, and timeline are also included. The following hazards were considered a priority for purposes of mitigation action planning:

- Climate Change
- Dam Failure
- Drought and Water Shortage
- Floods: Localized Stormwater
- Hazardous Materials Transportation
- Landslide, Mudslide, and Debris Flow
- Severe Weather: Extreme Heat
- Severe Weather: Freeze and Winter Storm
- Severe Weather: Heavy Rain and Storms
- Severe Weather: Wind and Tornado
- Wildfire

It should be noted that many of the projects submitted by each jurisdiction in Table 5-4 in the Base Plan benefit all jurisdictions whether or not they are the lead agency. Further, many of these mitigation efforts are collaborative efforts among multiple local, state, and federal agencies. In addition, the countywide public outreach action, as well as many of the emergency services actions, apply to all hazards regardless of hazard priority. Collectively, this multi-jurisdictional mitigation strategy includes only those actions and projects which reflect the actual priorities and capacity of each jurisdiction to implement over the next 5-years covered by this plan.

Multi-Hazard Actions

Action 1. Enhance and Add (Property Acquisition or Easements) for Existing Parks to Improve Fuels Management, Road Connectivity and Access and Recreation

Hazards Addressed: Multi-hazard (Climate Change, Dam Failure, Drought, Earthquake and Liquefaction, Flood, Hazardous Materials Transport, Landslide, Severe Weather, and Wildfire)

Goals Addressed: 1, 2, 3, 4, 5, 7, 9

Issue/Background: Park land was purchased as properties became available. As park use increased, and Park uses and building codes evolved, some properties could benefit from property additions that would allow for better public and emergency access, more integrated vegetation management, and creating better road connectivity (either adding roads for regular access or service roads or paths that can be used during emergencies. An example of this issue is Oak Creek Park which only has limited access across private property.

Project Description: Make priority acquisitions to improve emergency and public access, expand recreation, and improve comprehensive fuels and fire management near developed (Bille Park, Moore Road, and Terry Ashe Recreation Center) and undeveloped or wildland (Coutolenc, Lakeridge, Noble, and Oak Creek) park properties.

Priority will be given to properties that allow for future connections of exist roads, multiple points of park access, or development of access areas emergency vehicle turn-arounds and parking. Includes an acquisition or securing an easement to allow emergency access and create defensible space on back side of the Terry Ashe Recreation Center and adjoining County Property.

As these parks are developed, the District will consider elements to make these areas safer evacuation areas or for emergency staging locations.

Other Alternatives: No action.

Existing Planning Mechanisms through which Action will be Implemented: Regular project and proposal development, park acquisitions and projects. Coordination with Town of Paradise and Butte County.

Responsible Office: Paradise Recreation and Park District

Priority (H, M, L): High

Cost Estimate: \$5,000,000

Potential Funding: State and federal grants

Benefits (avoided Losses): Reduced risk from wildfire and other hazards to District property. Better ingress and egress when natural hazards occur. Potential evacuation and staging areas during emergencies. Risk reduction to adjoining properties over current uses.

Schedule: Within 5 years

Action 2. *Develop a Community Buffer (Rim and Watershed) Park Feasibility Study and Plans and Complete Initial Acquisitions.*

Hazards Addressed: Multi-hazard (Climate Change, Dam Failure, Drought, Earthquake and Liquefaction, Flood, Hazardous Materials Transport, Landslide, Severe Weather, and Wildfire)

Goals Addressed: 1, 2, 3, 4, 5, 7, 9

Issue/Background: Development and land use planning in past decades do not reflect our current understanding of fire and best management practices. Many Californians are living in places that are unsafe and becoming more dangerous with climate change.

The Camp Fire was the most destructive wildfire in California's history, killing 85 people and destroying nearly 14,000 homes. The Camp Fire aftermath has allowed for the rethinking of community needs. One of these issues is a lack of buffers on the Wildland Urban Interface (WUI). Properties on the edge of communities on steep or upwind areas pose a threat to other structures during wildfires. Community deficiencies in amenities may contribute to a poorer response during an emergency event or in the recovery.

The lack of well-managed open space (defensible space for the entire community), improved street (and trails) network, identified shelter in place locations, and community centers that can serve multiple purposes, means that Butte County is less-well prepared for mitigating future disasters.

Heavily developed steep and creekside areas pose additional risks associated with landslide, flood, and earthquake damage and park use of these areas may reduce the community's risk of damage.

Project Description: Project will develop a study to incorporate science and land-use tools to examine the potential for a wildfire risk-reduction buffer (WRRB) to reduce wildfire risks. The project will include a literature review to examine the scientific and empirical evidence for wildfire risk reduction to communities with buffers of natural vegetation or greenbelts; design elements that would retain the protective function of the space; and identify data gaps for land uses to minimize wildfire risk to communities. The project will also use Paradise, CA as a model to design a wildfire risk-reduction buffer (WRRB) that will include a prioritization rubric to guide the strategic acquisition of land and quantify any additional benefits provided by the buffer. In addition, the District will examine the feasibility, barriers, and opportunities of such an approach.

Other Alternatives: No action

Existing Planning Mechanisms through which Action will be Implemented: This is a new planning mechanism but may help support and inform future Town of Paradise and Butte County planning efforts.

Responsible Office: PRPD potentially a host of partners including Chico (CSUC), Cal Poly, San Luis Obispo, CALFIRE, CDPR, PRFSC, BSFC, Town of Paradise, The Nature Conservancy, California State University, Northern California Regional Land Trust, University of California, Davis (UCD), neighboring landowners.

Priority (H, M, L): High

Cost Estimate: \$200,000 (planning)

Potential Funding: Private funding and State or Federal grants (especially with hazard mitigation).

Benefits (avoided Losses): If implemented, risk reduction associated with fire (both to District assets as well as to the Community).

Schedule: Within 5 years

Action 3. *Acquire Land and Develop the Camp Fire Park and Community Buffer (Sunrise/Sunset Rim and Watershed) Parks.*

Hazards Addressed: Multi-hazard (Climate Change, Dam Failure, Drought, Earthquake and Liquefaction, Flood, Hazardous Materials Transport, Landslide, Severe Weather, and Wildfire)

Goals Addressed: 1, 2, 3, 4, 5, 7, 9

Issue/Background: The Camp Fire aftermath has allowed for the rethinking of community needs. One of these issues is a lack of buffers on the Wildland Urban Interface (WUI). Properties on the edge of communities on steep or upwind areas pose a threat to other structures during wildfires. Community deficiencies in amenities may contribute to a poorer response during an emergency event or in the recovery.

The lack of well-managed open space (defensible space for the entire community), improved street (and trails) network, identified shelter in place locations, and community centers that can serve multiple purposes, means that the District is less-well prepared for mitigating future disasters.

Heavily developed steep and creekside areas pose additional risks associated with landslide, flood, and earthquake damage and park use of these areas may reduce the community's risk of damage.

Project Description: Healthy buffers with improved connections to existing roads will improve emergency response and provide the community with increased confidence that well-managed lands will enable safer homes to develop in appropriate areas.

Strategically located parks peppered throughout the Community will improve the quality of life and health of residents and may provide life-saving shelter locations during critical emergencies.

Well-designed community facilities will provide essential community-building opportunities for residents and staging areas and base of operations for emergency personnel.

The Camp Fire Park acquisition (approximately 20-40 acres) will support this action. The Camp Fire Park may be a standalone project, depending on the outcome of the Feasibility Study. However, it may become part of a larger park buffer system. Implementation of a park buffer will provide a model for best practices for vegetation management, construction, and fire prevention. For example, a Sunrise Rim Park on the east end of Paradise could connect dead-end roads, simplify the service footprint for the town and utilities, and serve as a weather station and potential operations station during red-flag or fire events. This greenspace could also provide the economic backbone for commercial or agricultural ventures.

Other Alternatives: No action

Existing Planning Mechanisms through which Action will be Implemented: Park planning and proposal process and coordination with Town of Paradise and Butte County.

Responsible Office: PRPD

Priority (H, M, L): High

Cost Estimate: \$4,500,000 (initial acquisition) and \$6,000,000 (development)

Potential Funding: Private funding, State and federal grants

Benefits (avoided Losses): Plan would help reduce risk to District assets as well as to the residents who use them.

Schedule: Within 5 years

Action 4. Acquire and Develop Community Centers and Sport Fieldhouse/Auditorium Complex

Hazards Addressed: Multi-hazard (Climate Change, Dam Failure, Drought, Earthquake and Liquefaction, Flood, Hazardous Materials Transport, Landslide, Severe Weather, and Wildfire)

Goals Addressed: 1, 2, 3, 4, 5, 7, 9

Issue/Background: Local communities have few areas for flexible space to serve as emergency staging or evacuation areas, or to push into community services. The facility could serve as a community cooling station. One issue that arose after the Camp Fire was a lack of areas in which residents could get cleaned up (some people were bathing in local creeks and lakes). This District has few community amenities to support large public meetings and for social connection and well-being.

Project Description: Project would provide for the funding and development of property for a Paradise Fieldhouse that may serve as a regional and active lifestyle center. We are working with a non-profit that would provide for a substantial contribution to the construction of the Fieldhouse if a viable site is secured. The site will be designed as a flexible space to accommodate a variety of public meetings, services, support social interactions, and serve as a staging area.

Other Alternatives: No action

Existing Planning Mechanisms through which Action will be Implemented: District planning efforts.

Responsible Office: PRPD, Ever Body Healthy Body, TOP, Gold Nugget Museum, Developmental youth and adult services, various youth organizations.

Priority (H, M, L): High

Cost Estimate: \$6,000,000 - 10,000,000.

Potential Funding: Private investment, State or Federal grants, Local funds. Facility Fees.

Benefits (avoided Losses): Location could serve as a shelter for displaced persons during any County emergency.

Schedule: Within 5 years

Action 5. *Develop Magalia Park (Lakeridge) and Community Center.*

Hazards Addressed: Multi-hazard (Climate Change, Dam Failure, Drought, Earthquake and Liquefaction, Flood, Hazardous Materials Transport, Landslide, Severe Weather, and Wildfire)

Goals Addressed: 1, 2, 3, 4, 5, 7, 9

Issue/Background: The Camp Fire aftermath has allowed for PRPD and the Magalia residents to rethink community needs. Whereas Paradise was the center of PRPD's operation, the loss of over 90% of structures has dramatically changed that reality and prompted us to focus on Magalia and the Upper Ridge.

The Community has clearly articulated the need for community space, evacuation options (including safe shelter), and the expansion of the park.

The community has few areas for flexible space to serve as emergency staging or evacuation areas, or to provide community services. The facility could also serve as a community cooling station. Magalia has no public parks and no public-owned community buildings to support public meetings or for social connection and well-being.

The Camp Fire damaged several community resources and the District would like to develop parks and programs in this underserved community.

Project Description: The Magalia/Lakeridge Community Center and Park will transition from the forest into open fields, fire-resistant park amenities and landscaping into the more urbanized area of the community. This will allow for a larger buffer and transition between the wildland and urban interface. The park will be developed as an evacuation center and with shelter in place folded into the design.

The wildland area will provide fuels reduction, trails rehabilitation, invasive plant removal, and climate sensitive replanting efforts. The park that will provide new recreation opportunities and community gathering place that this Community has never known. The facility will utilize energy and water conservation and water quality measures and provide demonstrations to the public on building, water management, and a drought resistant native plant demonstration garden.

The development of strategically located parks will enhance healthy recreation opportunities, improve fire safety, and provide economic opportunities. Healthy buffers with improved connections to existing roads will improve emergency response and provide the community with increased confidence that well-managed lands will enable safer homes to develop in appropriate areas.

Other Alternatives: No action

Existing Planning Mechanisms through which Action will be Implemented: Park planning and proposal process and coordination with Butte County.

Responsible Office: PRPD, schools, private landowners, or associations, public land managers in Magalia.

Priority (H, M, L): High

Cost Estimate: \$4,500,000 to \$7,000,000

Potential Funding: Private investment, State or Federal grants, Local funds. Facility Fees.

Benefits (avoided Losses): Fire risk reduction, evacuation and staging center, fuels reduction.

Schedule: Within 5 years

Action 6. Concow and Yankee Hill Community Center

Hazards Addressed: Multi-hazard (Climate Change, Dam Failure, Drought, Earthquake and Liquefaction, Flood, Hazardous Materials Transport, Landslide, Severe Weather, and Wildfire)

Goals Addressed: 1, 2, 3, 4, 5, 7, 9

Issue/Background: The Community has few options for community space or meetings, evacuation options (including safe shelter), and housing of governmental services. The community has few areas for flexible space to serve as emergency staging or evacuation areas, or to provide community services. The facility could also serve as a community cooling station.

Project Description: Project would provide a welcome center for the Feather River Canyon, meeting space, sports facilities, government offices, evacuation and emergency staging area, along with outdoor recreational opportunities, and potentially space for commercial ventures or concessionaires. Additional funds could secure existing open space property.

Other Alternatives: No action

Existing Planning Mechanisms through which Action will be Implemented: Park planning and proposal process and coordination with Butte County

Responsible Office: PRPD, schools, public agencies, business, Butte and potentially Plumas Counties.

Priority (H, M, L): High

Cost Estimate: \$3,500,000

Potential Funding: State and federal grants

Benefits (avoided Losses): Location could serve as a shelter for displaced persons, provide county services, and provide community meeting space to support resilient communities.

Schedule: Within 5 years

Action 7. Butte Creek Canyon Park Expansion and Development

Hazards Addressed: Multi-hazard (Climate Change, Dam Failure, Drought, Earthquake and Liquefaction, Flood, Hazardous Materials Transport, Landslide, Severe Weather, and Wildfire)

Goals Addressed: 1, 2, 3, 4, 5, 7, 9

Issue/Background: Butte Creek Canyon is subject to wildfires, dam failure, and flooding. Currently, the community has few options for areas for community gathering, and the area is subject to frequent trespass and overuse. Prior to the Camp Fire, the Honey Run Bridge was an iconic feature of Butte County.

Project Description: While our partner, the Honey Run Covered Bridge Association (HRCBA) is committed to rebuild the bridge and small private park, Butte Creek Canyon has long suffered from limited Butte County Paradise Recreation and Park District Annex M-43 Local Hazard Mitigation Plan Update September 2019.

Public access to the creek causing unregulated trespass, trash dumping, and damage to resources along this important salmon-bearing stream. PRPD seeks to develop a park to address these issues and potentially enhance access to the bridge. Phase I will develop a plan and environmental compliance for a managed park (either acquired by fee title or transfer or a land partner with the CSUC, California Department of Fish and Wildlife, or the Bureau of Land Management) to provide public access and needed amenities, solve trespass and trash issues along Butte Creek, and provide managed recreation and educational opportunities. The plan would identify priorities that protect resources important to salmon habitat. May be combined with Phase II (acquisition or development of agreement) and Phase III (construct basic park amenities and begin operation). Savings from Phases may be applied to the next phase.

Other Alternatives: No action

Existing Planning Mechanisms through which Action will be Implemented:

Responsible Office: PRPD, HRCBA and other Butte Creek Canyon Groups; Butte County, State, and Federal agencies; and CSUC.

Priority (H, M, L): High

Cost Estimate: Approximately, \$1,000,000 (Phase I - \$150,000; Phase II - \$4,000,000. Phase III – 900,000).

Potential Funding: State and federal grants

Benefits (avoided Losses): Depending on the location, the park could serve as an evacuation area if roads are damaged during a flood event. The park could serve as a staging area for fire crews.

Schedule: Within 5 years

Action 8. *Extend Butte County Rail Trail project and Expand Fuels Management Projects*

Hazards Addressed: Wildfire

Goals Addressed: 1, 2, 3, 4, 5, 7, 9

Issue/Background: The Camp Fire revealed several lessons that may be expanded to help mitigate issues in the future. For example, some areas that received pre-treatment of fuels (i.e. around Paradise Lake) slowed the expansion of the fire. Although not designed as such, the old Butte County Railroad provided a good baseline for firefighters and fire-fighters stopped the spread of Camp Fire along this railway in the Sterling City area.

Project Description: Use funding to purchase rail easements and develop as multi-purpose trail (recreation, fuels management, and emergency vehicle access) on the historic Butte County Railroad that originally ran from Sterling City to Chico.

Segments of the railway in Paradise (Yellowstone Kelly Trail) and Chico (Comanche Creek Trail) have already been secured and developed. Some sections may be connected via undergrounding of utilities and other related projects. Project would connect Paradise to Sterling City and could be phased from 1) Paradise to Paradise Lake (major sections already in public ownership), 2) Paradise Lake to Lovelock, 3) Lovelock to Sterling City (each section about 5 miles). Future phases could connect the existing rail trails in Paradise and Chico (10 miles). The development of a trails concept plan would lay out the steps and vision of the trail. The trail would connect to other existing trails, providing a boost to local tourism, and expand the successful efforts to manage vegetation along the east side of Paradise Lake.

Other Alternatives: No action

Existing Planning Mechanisms through which Action will be Implemented: Park planning and proposal process and coordination with Butte County

Responsible Office: PRPD, PRFSC, BSFC, CCC, TOP, Butte County, PID, neighboring landowners.

Priority (H, M, L): High

Cost Estimate: \$500,000 for first phase, \$1,500,000 for following phases.

Potential Funding: State and federal grants, volunteer and private funding.

Benefits (avoided Losses): Reduced risk to wildfire by managing vegetation along the east side of Paradise Lake.

Schedule: Within 5 years

Action 9. *Anticipated watershed protection projects and enhancement of recreation resources*

Hazards Addressed: Wildfire, Climate Change

Goals Addressed: 1, 2, 3, 4, 5, 7, 9

Issue/Background: Dead trees create a larger fuel load in and around the District.

Project Description: Use funding to remove hazard trees, reduce fuel loads and mitigate the potential for future fire damage, protect and improve trails, replace damaged pumphouse and well, and install erosion control measures at forested areas of parks managed as wildland areas (roughly 400 acres).

Other Alternatives: No action

Existing Planning Mechanisms through which Action will be Implemented: None

Responsible Office: PRPD, Paradise Ridge Fire Safe Council (PRFSC) and Butte Safe Fire Council (BSFC), California Conservation Corps (CCC), neighboring landowners

Priority (H, M, L): High

Cost Estimate: \$200,000

Potential Funding: State and federal grants

Benefits (avoided Losses): Reduced risk to wildfire to District facilities.

Schedule: Within 5 years

Action 10. Economic Development, Watershed Protection, and Restoration and Fire Protection Camp

Hazards Addressed: Multi-hazard (Climate Change, Drought, Flood, Landslide, and Wildfire)

Goals Addressed: 1, 2, 3, 4, 5, 7, 9

Issue/Background: Post-fire left a landscape scarred from the fire and more prone to erosion. The debris left provides additional fuel sources for future events. Other than the CCC and volunteers, there is a need for other labor options to maintain forests over time.

Project Description: Build on partnerships with existing academic and landowner education programs to develop a program to educate landowners, students and young adults, and members of workforce programs.

The program will provide insight into the latest academic studies and provide practical skills in forest management, restoration, prescribed burns, erosion control measures, invasive plant removal, fuel reduction, trail building and development (for recreation and emergency access), and other recreation and watershed-related projects according to land manager prescriptions. Public ownership lands would be a priority but coordinated projects that meet public goals would be considered, especially those that involve fee for service activities. While for landowners a series of workshops and workdays will be beneficial, we envision the program for CCC or other youth to be an extended program and provide short term employment. After training, members of the crew would be paid for 6 months to work on a variety of local projects. The long-term goal of the project is to establish a local program that will serve the community and important resource goals.

Other Alternatives: No action

Existing Planning Mechanisms through which Action will be Implemented: None

Responsible Office: PRPD, CALFIRE, CSU Chico Research Foundation, University of California Cooperative Extension; Fire Safe Councils (PRFSC and BSFC), Butte County Resource Conservation District, the California Conservation Corps (CCC) and other workforce development groups

Priority (H, M, L): Medium

Cost Estimate: Program \$500,000 for 3 years (estimate requires additional refinement).

Potential Funding: State and federal grants

Benefits (avoided Losses): Reduced risk to wildfire to Community and District facilities and forests.

Schedule: Within 5 years

Action 11. Study of Land-use and Appropriate Park Development in the Concow/Yankee Hill/Feather River Canyon Region

Hazards Addressed: Multi-hazard (Climate Change, Dam Failure, Drought, Flood, Landslide, Severe Weather, and Wildfire)

Goals Addressed: 1, 2, 3, 4, 5, 7, 9

Issue/Background: Because of the geographical position and high winds during certain events, improved management of the Pulga/Concow region will be critical to mitigate the potential for uncontrolled wildfire in the area.

Project Description: As it deals with issues beyond Parks, we would support a study to develop strategies for land-use, ownership, vegetation management, strategic planning, and the potential for public private partnerships. In addition, the area has a dearth of community facilities and infrastructure. May be combined with Actions 2 and 6. Park facilities and community facilities could help foster improved services to citizens, improve community connectivity, and safety. Properly located, the facilities may serve as a gateway or even museum for tourism in the Feather River Canyon.

Other Alternatives: No action

Existing Planning Mechanisms through which Action will be Implemented: Park planning and proposal process and coordination with Butte County

Responsible Office: PRPD along with other partners

Priority (H, M, L): High

Cost Estimate: Study \$100,000

Potential Funding: State and federal grants

Benefits (avoided Losses): Property protection, life safety

Schedule: Within 5 years

Action 12. Examine District Facilities for preparedness and roles during emergencies

Hazards Addressed: Multi-hazard (Climate Change, Dam Failure, Drought, Flood, Landslide, Severe Weather, and Wildfire)

Goals Addressed: 1, 2, 3, 4, 5, 7, 9

Issue/Background: The Camp Fire demonstrated the lack of suitable local facilities and preparedness for events. District shop and contents were destroyed during Camp Fire.

Project Description: District will examine public facilities for generator retrofits, suitability as cooling centers and other improvements (i.e. showers) that may help the area support evacuees or community meeting space. Develop new shop and facilities to protect investment and provide tools that may be useful during disaster and rebuild. Fortify building to meet WUI standards and best practices.

Other Alternatives: No action

Existing Planning Mechanism(s) through which Action Will Be Implemented: PRPD planning

Responsible Office/Partners: PRPD

Project Priority: Medium

Cost Estimate: \$500,000

Benefits (Losses Avoided): Provide evacuation and cooling center

Potential Funding: Local, State, and Federal funds

Timeline: Within 5 years

Action 13. Develop Community Programs to Improve Resiliency

Hazards Addressed: Multi-hazard (Climate Change, Drought, Earthquake and Liquefaction, Flood, Landslide, Severe Weather, and Wildfire)

Goals Addressed: 1, 2, 3, 4, 5, 7, 9

Issue/Background: Post Camp Fire the Community suffers from a collective emotional and mental health issues (stress, Post-Traumatic Stress Disorders (PTSD), sleepless nights, family conflicts). Addiction and other issues are of great concern throughout the community. This is now a community even more in need with the loss of emergency room, mental health, and even dental service. Not all of those needs are fulfilled through existing services and programs.

Project Description: The District is working on innovative programs for youth and other citizens in developing facilities, programs, and classes that will help people heal and become more resilient for the next disaster. We will work with partners on new programs and partnerships, and more fully utilizing facilities that provide social and outdoor experiences.

Other Alternatives: No Action.

Existing Planning Mechanism(s) through which Action Will Be Implemented: New District planning efforts

Responsible Office/Partners: PRPD and a variety of other service providers

Cost Estimate: \$100,000 annually

Benefits (Losses Avoided): Improved community mental health and ability to withstand future disasters

Potential Funding: Federal, State, local and nonprofit funding

Timeline: Within 5 years

Project Priority: High

Action 14. Invasive Plants

Hazards Addressed: Invasive plants

Goals Addressed: 1, 2, 3, 4, 5, 7, 9

Issue/Background: Invasive plants are likely to move into new areas as a result of the Camp Fire and the transport of materials and equipment in the area.

Project Description: Develop a vegetation management plan for each property. Initiate a volunteer program with equipment to remove invasive plants. Support educational efforts for landowners and coordinated efforts with the Butte County Weed Management Area.

Other Alternatives: No action

Existing Planning Mechanism(s) through which Action Will Be Implemented: Coordination with other entities.

Responsible Office/Partners: PRPD and a variety of partners, especially the Butte County Resource Conservation District.

Cost Estimate: \$50,000 annually

Benefits (Losses Avoided): Spread of noxious weeds, water conservation, fire resistance, and retention of wildlife habitat, reduction of long-term maintenance costs.

Potential Funding: Federal, State and Local. In-kind services

Timeline: Within 5 years

Project Priority: Low