Appendix C

Sphere of Influence

Options for Future Updates

For

6 Water And Wastewater Service Providers

Appendix C: Sphere of Influence Options for Future Updates

Sphere of Influence Considerations

The Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 requires that LAFCo review and update the Sphere of Influence (SOI or Sphere) for each of the special districts and cities within the county. In determining the Sphere of Influence for an agency, LAFCo must consider and prepare written determinations with respect to four factors [Government Code §56425(e)]. These factors relate to the present and planned land uses including agricultural and open-space lands, the present and probable need for public facilities and services, the present capacity of public facilities and adequacy of public services, and the existence of any social or economic communities of interest in the area.

Generally, the intent of an SOI is to identify the most appropriate areas for an agency's service area in the *probable future.* Typically, LAFCo discourages inclusion of land in an agency's Sphere if a need for services provided by that agency cannot be demonstrated. Accordingly, territory included in an agency's Sphere is an indication that the probable need for services has been established, and that the subject agency has been determined by LAFCo to be the most logical service provider for the area.

Sphere of Influence Options

This Appendix presents several potential options for updating the spheres of influence (SOIs) in the future for the five water and wastewater public service providers in the Oroville Area. One private water service provider (CalWater) is also considered. The presented options are informational only, and may assist the Commission in considering future informational needs and next steps. When LAFCo moves to update an individual SOI at some future date, the Commission may also consider additional information beyond that presented herein. For example, the current status of any nearby Disadvantaged Unincorporated Communities (DUCs) will be recognized. LAFCo's process provides for a meeting/conference with each potentially affected District prior to updating a District's SOI. Additionally, the Commission will hold a public hearing and adopt written statements of fact regarding the SOI prior to adopting any updates.

<u>Summary of Significant Observations Identified in 2022 MSR</u>

- There are a total of six (6) service providers, providing water (3) and wastewater services (4) to a relatively small geographic area.
- The Oroville Area is served by three drinking water treatment plants. Additionally, a fourth, smaller, drinking water treatment plant is located in nearby Bangor.
- What reorganization options exist that are best suited to provide potable water over the long-term with the greatest efficiency and least cost?
- What reorganization options exist that are best suited to provide comprehensive sewer services over the long-term with the greatest efficiency and least cost?

- The Thermalito area has been identified as having a water affordability issue. Additionally, residents within the Cal Water Service area may face an affordability issue and future study of this factor is recommended.
- Inflow and infiltration (I&I) remains a problem for wastewater service providers.
- How do the affected sewer agencies effectively recapture/recycle the abundance of wastewater produced in the region?

Potential Future Options

Given the considerations addressed in this 2022 Water and Wastewater Services MSR for the Oroville Area, seven conceptual options have been identified on a regional basis as listed below. This section is provided for informational purposes only. When Butte LAFCo next updates a Sphere for the agencies, it may wish to consider these or other options.

1) **Retain the status quo**. The existing boundary and SOI for each agency would remain in their current configuration.

2) **One Agency**: Reorganize all public water and wastewater service systems under one agency. The City of Oroville, Lake Oroville Area PUD, South Feather Water and Power Agency, Sewage Commission – Oroville Region, and the Thermalito Water and Sewer District would be reorganized into one agency providing both water and wastewater services. Ideally, as a water service provider, CalWater-Oroville (private company) would reasonably be considered in any reorganization plan for consistency. However, as non-government agency, this component would require efforts that are not within the mission of LAFCo. Reorganization would result in the formation of a new entity which would function as an umbrella agency to oversee water and wastewater services for the entire Oroville Regional area.

3) **Two Agencies**:

   3a) Reorganize the five (or six) service providers into two agencies: a) wastewater and b) drinking water. TWSD would present an issue as it provides both services.

4) ***Only Wastewater Service Reorganization:***

   The Oroville Area currently receives wastewater service from four agencies including COOR, LOAPUD, TWSD, and SC-OR. Under this option, the provision of wastewater services would be reorganized into one agency. For example, all retail wastewater collection, conveyance, treatment, and disposal could be handled by a 'modified' SC-OR JPA in the future. A modified SC-OR would ideally include the following features:

   - SC-OR JPA reorganized to have a seven (7) member Board of Directors. Each of the seven Board Members would be a "voting" member. The three member entities (COOR, LOAPUD, TWSD) would each select two voting Board members from their respective City Council/Board of Directors. The 7th Board Member would be a "public" member selected by the other six

Board Members (similar to LAFCo). SC-OR would continue as a JPA but the internal workings of Board would be refined and personnel would be reorganized to maximize all collective resources

- The SC-OR JPA's Area of Interest would be large, and it would cover the area that SC-OR intends to serve in the future. In the future, it would be possible to transition from a JPA arrangement to a full reorganization of all sewer services under SC-OR as an independent special district.
- 4b) variant: COOR sewage collection systems west and north of the Feather River would be reorganized under the TWSD and the sewage collection system south and east of the Feather River would be reorganized into the LAOPUD. This would simplify the collection system to only two providers.

5) ***Only Drinking Water service reorganization:***

For drinking water services, under this hypothetical option, three existing water service providers would be reorganized to form one agency. It is suggested that LAFCo consider expanding the SOI of a public agency, such as SFWPA, to include the boundary area and SOI of the Thermalito Water and Sewer District and also the CalWater - Oroville service area. Ideally, as a water service provider, CalWater-Oroville (private company) would reasonably be considered in any reorganization plan for consistency. However, as non-government agency, this component would require efforts that are not within the mission of LAFCo. For this option, SFWPA is suggested as a focus because this Agency has a large modern water treatment plant that is up to date and the largest number of trained experienced employees. Over the long-term, SFWPA would be the primary water service provider in the area. SFWPA would also continue to provide hydroelectric and recreation services. Reorganizing the three providers together could result in more streamlined infrastructure and associated maintenance upkeep because only one potable water treatment plant would be needed (as compared to the current situation with three potable water treatment plants). Improved efficiency could help alleviate the water affordability issue identified for residents of Thermalito and the City of Oroville.

6) ***Add Groundwater Basin Collaboration Area into SOI's or Area of Interest:*** This option addresses the three water service providers (TWSD, CalWater, and SFWPA). Under this option LAFCo would recognize that two water service providers (TWSD and CalWater) rely upon groundwater resources to serve their customers. LAFCo would utilize existing information about the groundwater basin's geographic extent to consider whether Thermalito Water and Sewer District and CalWater-Oroville share groundwater resources through hydrologic connections with each other or with other stakeholders. This geographic extent would inform whether an agency's SOI (or Area of Interest) should be expanded or contracted to provide a focus on those portions of a Groundwater Basin, where recharge areas should be protected and/or where several other water users share this resource. For example, information from the Groundwater Sustainability Agency (GSA) Wyandotte could be considered. LAFCO should also note that this option indirectly impacts local wastewater service providers who

experience inflow and infiltration (I&I) issues because ideally storm water would be captured and utilized for groundwater recharge. In summary, this option will further study and consider details associated with the hydrology of groundwater connections and stormwater connections to determine whether any changes to a service provider's SOI or Area of Interest is necessary. A hydrological study would be recommended in association with this option.

7) **Update the SFWPA SOI to include "Place of Use"**. The State Water Board issued a water right to SFWPA and this water right is associated with a designated "Place of Use". LAFCO will map this "Place of Use" and then consider adjusting the boundaries or SOI of SFWPA to achieve consistency.

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Appendix D:

Regulatory Requirements - Municipal Water

APPENDIX D: REGULATORY REQUIREMENTS MUNICIPAL WATER

Table of Contents

SURFACE WATER RULES

Federal Regulations

U.S. Clean Water Act (1972)

The Clean Water Act (CWA) is the primary federal statute governing the protection of water quality. The EPA's implementation of this law provides a comprehensive program to protect the nation's surface waters. Under CWA Section 304, states must ensure that potable water retailed to the public meets specific standards.

Section 303(d) of the CWA requires states to identify water bodies that do not meet water quality objectives and that do not support beneficial uses. The 303(d) list includes the Feather River, Lower (Lake Oroville Dam to Confluence with Sacramento River). This section of the Feather River, Lower, identified as State Waterbody ID: CAR5192200019980817161057, is impaired for several specific uses, including cold freshwater habitat, commercial and sport fishing, municipal and domestic supply, spawning, reproduction, and/or early development, warm freshwater habitat, and wildlife habitat as shown in Table D-2, below.

Table D-2: 303(d) List Feather River, Lower

State or Tribal Nation specific designated uses	**303(d) List Status**
Agricultural Supply	Good
Non-Contact Water Recreation	Good
Water Contact Recreation	Good

Cold Freshwater Habitat	Impaired
Commercial and Sport Fishing	Impaired
Municipal and Domestic Supply	Impaired
Spawning, Reproduction, And/or Early Development	Impaired
Warm Freshwater Habitat	Impaired
Wildlife Habitat	Impaired
Migration of Aquatic Organisms	Insufficient Information
Data Source: U.S. EPA. Waterbody Report. Downloaded August 27, 2022 from <*https://mywaterway.epa.gov/waterbody-report/CA_SWRCB/CAR5192200019980817161057/2022* >.	

U.S. Safe Drinking Water Act (1974)

Under the Safe Drinking Water Act (SDWA, 42 USC Sections 300f et seq.), the U.S. EPA regulates contaminants of concern to domestic water supply. The law requires action to protect drinking water and its sources, including lakes, reservoirs, rivers, springs, and groundwater wells. Contaminants of concern relevant to domestic water supply are defined as those that pose a public health threat or that alter the aesthetic acceptability of the water. EPA drinking water standards are developed as a maximum contaminant level (MCL) for each chemical or microbe. The California Department of Public Health (CDPH) has been granted primary enforcement responsibility for the SDWA. Title 22 of the California Administrative Code establishes CDPH authority and stipulates drinking water quality and monitoring standards. Additionally, the California State Water Resources Control Board (State Water Board) Division of Drinking Water (DDW) is the primary agency responsible for the administration and enforcement of the SDWA requirements in California. In addition to the federal standards, California also imposes an MCL standard for the fuel additive MTBE and for a rice herbicide breakdown product used in the Sacramento Valley. Health violations occur when the contaminant amount exceeds the safety standard (MCL) or when water is not treated properly. Monitoring violations typically involve failure to report the results of required monitoring in a timely fashion.

State Regulations

California Water Code

The California Water Code outlines the general state authority and responsibilities over water in California. Most of the state regulations described below are codified into the California Water Code. The entire Water Code is available online at: <*http://leginfo.legislature.ca.gov/faces/codes.xhtml*>. Other state codes applicable to drinking water include the Corporations Code, Education Code, Food and Agricultural Code, Government Code, Health and Safety Code, and the Public Resources Code.

California Porter-Cologne Water Quality Control Act (1969)

The Porter-Cologne Act provides the statutory authority for the protection of water quality in California. Consistent with the Porter-Cologne Act, the State adopts water quality policies, plans, and objectives to protect the State's waters. The Act outlines the obligations of the SWRCB and nine RWQCBs to adopt and periodically update basin plans.

Water Quality Control Plan

The State Water Resources Control Board and nine RWQCBs are responsible for ensuring implementation and compliance with the provisions of the CWA and the Porter-Cologne Act. In the Oroville Area water service providers service area, the Central Valley Region has a Water Quality Control Plan for the Sacramento and San Joaquin River Basins (Basin Plan), which is a 461-page planning document., The Basin Plan sets forth water quality standards for the surface and ground waters. Additionally, groundwater recharge is identified as a beneficial use in the Basin Plan.

Urban Water Management Planning Act (1983)

The Urban Water Management Planning Act (California Water Code, Division 6, Part 2.6, Section 10610 et seq.) requires water suppliers to document water supplies available during normal, single dry, and multiple dry water years during a 20-year projection period and to document the existing and projected future water demand during a 20-year projection period. The Act applies to municipal water suppliers that serve more than 3,000 customers or provides more than 3,000 afy of water. All urban water suppliers should prepare urban water management plans (UWMPs) and update them every 5 years. The Act requires that UWMPs include a description of water management tools and options used by that entity to maximize resources and minimize the need to import water.

Senate Bill 610 and Senate Bill 221

SB 610 (now CEQA Guidelines Section 15155) amended the Water Code requirements within the CEQA process and broadened the types of information required in a UWMP. SB 221 applies within the Subdivision Map Act and allows jurisdictions to condition a tentative map such that documentation from a public water supplier regarding the availability of sufficient water supply is needed.

Water Management & Efficiency Legislation

California's Water Code contains two new laws which aims to make California more resilient to the impacts of future droughts. The legislation was approved as SB 606 (Hertzberg) and AB 1668 (Friedman), and it emphasizes efficiency and stretching existing water supplies in cities and farms. Efficient water use is the most cost-effective way to achieve long-term conservation goals and provide the water supply reliability needed to adapt to the longer and more intense droughts climate change is causing in California. Specifically, the laws call for the creation of new urban efficiency standards for indoor use, outdoor use, and water lost to leaks, as well as any appropriate variances for unique local conditions. The State Water Board will adopt these standards by regulation no later than June 30, 2022, after full and robust public and stakeholder processes. In addition, each urban retail water agency will annually, beginning November 2023, calculate its own objective based on the water needed in its service area for efficient indoor residential water

use, outdoor residential water use, commercial, industrial, and institutional (CII) irrigation with dedicated meters, and reasonable amounts of system water loss, along with consideration of other unique local uses (i.e., variances) and "bonus incentive," or credit, for potable water reuse, using the standards adopted by the Board. (DWR, 2018). Specifically, SB606 is codified as Water Code Section 10632, which requires each urban water supplier to conduct an annual water supply and demand assessment and submit an annual water shortage assessment report to DWR on or before July 1 of each year. The annual report should include information for anticipated shortage, triggered shortage response actions, compliance and enforcement actions, and communication actions consistent with the supplier's water shortage contingency plan.

California Water Conservation Act

The California Water Conservation Act (SB X7-7), enacted in November 2009, requires each urban water supplier to select one of four water conservation targets contained in California Water Code Section 10608.20 with the statewide goal of achieving a 20 percent reduction in urban per capita water use by 2020. Urban retail water suppliers are required to develop water use targets and submit a water management plan to the Department of Water Resources (DWR) by July 2011, under SBX7-7. The plan must include the baseline daily per capita water use, compliance daily per capita water use, water use target, and interim water use target.

Integrated Regional Water Management – Planning Act of 2002

Integrated regional water management (IRWM) was officially established by the State of California in 2002 through the passage of the Integrated Regional Water Management Planning Act (SB 1672). Special districts, such as water agencies, are typically separate entities with clearly defined service areas within which they have exclusive authority to provide services. However, many water agencies receive water supplies from a source that is shared with other water agencies. Projects and plans developed by one water agency may conflict with projects or plans of another agency that shares the same source of water. IRWM provides a mechanism for regional planning to reduce potential conflicts. Additionally, IRWM supports collaborative prioritization of water-related efforts in the region in a systematic way to ensure sustainable water uses, reliable water supplies, better water quality, environmental stewardship, efficient urban development, and the protection of agriculture. Various bond acts approved by California voters have provided over $1.5 billion in State funding to support and advance integrated, multi-benefit regional projects. Cities, counties, water districts, community/environmental groups, Tribes, and others across the State have worked collaboratively to organize and establish 48 regional water management groups, covering over 87 percent of the State's area and 99 percent of its population. Over the years, numerous IRWM planning grants have helped RWMGs develop, adopt and update IRWM plans to identify strategies and projects to address the unique needs and conditions of their regions. Detailed information about IRWM is available from DWR at: <*https://water.ca.gov/Programs/Integrated-Regional-Water-Management*>.

California Health and Safety Code

Water supply requirements for service connections to public water systems are established in Section 64562 of the California Health and Safety Code. Sufficient water must be available to the public water system from its water sources and distribution reservoirs to

adequately, dependably, and safely meet the total requirements of all water users under maximum-demand conditions before additional service connections can be permitted.

Recycled Water Regulations

Recycled water is regulated by the U.S. Environmental Protection Agency (EPA), the State Water Resources Control Board (SWRCB), Regional Water Quality Control Boards (RWQCB), and the CA Department of Health Services (DHS). Resolution No. 77-1 from the SWRCB allows the SWRCB and RWQCB to encourage and consider funding water reclamation projects that do not impair water rights or beneficial instream uses. Recycled water is safely used to irrigate home landscapes, vegetable gardens, parks, schoolyards, golf courses, and agriculture throughout California. However, recycled water is not for human consumption. Information about the Oroville area water service provider's recycled water program is provided in Chapters 2 to 7 of this MSR.

Title 22

Title 22 of California's Water Recycling Criteria was authored in 1975 as California's guidelines on the discharged and use of treated and recycled water. The standards require the California Department of Health Services to develop and enforce water and bacteriological treatment standards for water recycling and reuse. State discharge standards for reclaimed water and its reuse are regulated under the Water Recycling Criteria and the 1969 Porter-Cologne Water Quality Control Act.

California Water Code (Division 3, Dams and Reservoirs)

The State of California inspects dams to prevent failure in order to safeguard life and protect property. DWR Division of Safety of Dams implements this legislation.

Assembly Bill 1668

Assembly Bill 1668, Friedman, addressed water management planning and was passed in 2018. This new law requires agricultural water management plans to include "an annual water budget based on the quantification of all inflow and outflow components for the service area of the agricultural water supplier." DWR provides a handbook outlining the development of a water budget, and it is available at: https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Data-and-Tools/Files/Water-Budget-Handbook.pdf?la=en&hash=30AD0DFD02468603F21C1038E6CC6BFE32381233

Drought Resilient Communities Act

The Drought Resilient Communities Act (SB 971 [Hertzberg]) was introduced in February 2020 to strengthen drought planning for small and rural communities.

SWRCB Handbook - Microplastic Testing Policy

The State Water Resources Control Board recently published the Policy Handbook establishing a Standard Method of Testing and Reporting of Microplastics in Drinking Water to reinforce the

Health and Safety Code section 116376. The Health and Safety Code section 116376 was added as part of the Senate Bill No. 1422 (SB 1422), which was approved by the Governor and filed with the Secretary of State on September 28, 2018 (SWRCB, 2022). The State Water Board developed a two-phase approach to monitor the microplastic material in drinking water and develop an understanding of the risk via exposure. During Fall of 2022, the State Water Board planned to issue monitoring guidelines for Phase One of microplastic testing to selected public water systems.

Local Regulations

Butte County has several policies related to water quality, including its General Plan. The County Environmental Health Department also aims to ensure drinking water is safe. The City of Oroville General Plan also contains several policies related to public services and health of the natural environment.

RULES GOVERNING GROUNDWATER

The California Water Code indicates groundwater law applies to underground water not flowing in known and definite channels. Whereas "surface waters and subterranean streams flowing through known and definite channels" (Water Code § 1200.) are legally classified as surface water. Groundwater is subject to California's constitutional requirement that all water used be put to reasonable and beneficial use. There are two types of groundwater rights in California: overlying rights and appropriative rights. Overlying rights are similar to riparian rights with surface water. Appropriative groundwater rights are similar to surface water appropriative right (Burch, 2005).

Overlying Rights for Groundwater

In California, property overlying a groundwater basin has entitlements to the percolating groundwater of the basin beneath the lands for reasonable beneficial uses on the overlying land. This entitlement is equal and correlative with respect to other property owners within the same groundwater basin exercising their respective rights; that is, each property owner is entitled to a reasonable share of the available groundwater. (Katz v. Walkinshaw (1903) 141 Cal. 116.) As a result, one property owners' rights do not have priority over any other property owner, regardless of when the rights are exercised. The quantity attributed to the water entitlement is a function of the number of parties rightfully producing the available water (Burch, 2005).

Although overlying property owners can extract as much groundwater as is reasonably needed for use on overlying land; during times of reduced groundwater supply, each overlying property owner must reduce extractions proportionately (Wright v. Goleta Water District (1985) 174 Cal. App.3d 74,84.). Overlying groundwater rights are generally superior to appropriative rights. (City

of Pasadena v. City of Alhambra (1949) 33 Cal.2d 908, 926. See Hutchins, The California Law of Water Rights (1956) p. 441 et seq.)

Appropriative Right to Groundwater

If there is surplus groundwater, it may be appropriated for use on non-overlying land. An appropriative right to groundwater is a right to use groundwater outside of the groundwater basin or for public service in communities overlying the basin, as long as enough water is left to meet all overlying landowner needs. *(Tehachapi-Cummings County Water Dist.* v. *Armstrong* (1975) 49 Cal.App.3d 992, 1000 n.6, 1001.) There are three basic types of groundwater appropriators:

1. strangers to the groundwater basin (who do not own or use groundwater on overlying lands) who act to appropriate available groundwater;
2. overlyers who use all or a portion of their groundwater on lands that do not overlie the groundwater basin; or
3. an overlying municipality that extracts available groundwater for municipal purposes (Burch, 2005).

The South Feather Water and Power Agency studied within this MSR is an overlying municipal service provider that does not extract available groundwater for municipal purposes. However, the Thermalito Water and Sewer District does rely on groundwater.

Overlyers have priority above appropriators, and priority follows the rule of "first in time, first in right." *(City of Pasadena* v. *City of Alhambra, supra,* 33 Cal.2d at p. 926.) Earlier appropriative users have priority over later appropriative users. If a groundwater basin is overdraft, such that **groundwater** use exceeds the amount of recharge into an aquifer, no appropriative rights can be acquired except by prescription. (*City of Pasadena* v. *City of Alhambra, supra*, 33 Cal.2d at pp. 926-27; *City of Los Angeles* v. *City of San Fernando, supra*, 14 Cal.3d at p. 278.)

Sustainable Groundwater Management Act (SGMA)

Effective in 2015, the Sustainable Groundwater Management Act (SGMA) codified Assembly Bill No. 1739 and Senate Bill Nos. 1168 and 1319, which require local regions to create a groundwater sustainability agency (GSA) and adopt groundwater management plans. Under the SGMA, DWR designated groundwater basins in the State as high, medium, low, or very low priority for purposes of groundwater management. This Act requires local regions to create a GSA and to adopt groundwater management plans for groundwater basins or subbasins that are designated as medium or high priority.

There is a GSA within or near Oroville area water service providers called the Wyandotte Creek Subbasin. The Wyandotte Creek GSA considered adopting the Wyandotte Creek GSP on December 16, 2021. Visit *https://www.wyandottecreekgsa.com/* for meeting details and information on GSP development and adoption. In addition, two other GSAs are in proximity to the Oroville Area, including the Vina Subbasin and the Butte Subbasin, as described on the County's website at: <*https://www.buttecounty.net/waterresourceconservation/Sustainable-Groundwater-Management-Act* >.

Local Groundwater Rules

Permits for Wells: The Butte County Environmental Health Department requires a permit prior to the installation of a well. This permit process is intended to ensure the protection of natural resources from a health and safety perspective.

Other Groundwater Rules

Adjudicated Basins: In some areas of California, groundwater basins are managed pursuant to rules established in an adjudication of groundwater rights. An adjudication is a court proceeding that establishes the relative rights of all parties claiming an interest in the water source. In these equitable proceedings, the court usually maintains continuing jurisdiction, supervising, through a special master or watermaster, the use of water from the adjudication basins (Burch, 2005). CA DWR keeps track of adjudicated basins in California as described on their website at: <https://water.ca.gov/Programs/Groundwater-Management/SGMA-Groundwater-Management/Adjudicated-Areas >. The groundwater basin areas within or near Butte County are not currently adjudicated.

Water Quality Regulation: As is the case with surface water, various federal statutes control the use of water from groundwater basins. These statutes deal primarily with the discharge of pollutants but may also regulate the pumping of groundwater (Burch, 2005).

Springs: When the flow of a spring naturally becomes part of the flow of a stream system which extends beyond the property on which the spring arises, rights to use are obtained as either riparian or appropriative surface water rights. When the flow does not naturally leave the land upon which it arises, the flow is exclusively owned by the owner of the land and can be used on that land for reasonable, beneficial purposes (Burch, 2005).

Butte County Regulations Regarding Groundwater

In 1996 the voters of Butte County passed measure G, "An ordinance to protect the groundwater resources in Butte County." The measure was codified in Chapter 33 of the Butte County Code. In 1997, upon the recommendation of the Butte County Water Commission, the Board of Supervisors (Board) established the Water Division of the Department of Agriculture. In 1999 the Water and Resource Conservation Department (DWRC) was formed and moved, along with staff, out of the Agriculture Department. The DWRC's mission is "To manage and conserve water and other resources for the citizens of Butte County." A primary function of this Department is Groundwater Elevation Monitoring (Butte Superior Court, 2015).

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Appendix E:

Public Water Systems in Butte County

Appendix E: Public Water Systems in Butte County

There are **95** public water systems providing drinking water and/or irrigation water in *Butte County*. Drinking water comes from aquifers, streams, rivers, and lakes. Under the federal Safe Drinking Water Act, EPA sets standards for drinking water quality and with its partners implements various technical and financial programs to ensure drinking water safety. Details about public water systems in Butte County can be found on the U.S. Environmental Protection Agency website at: https://mywaterway.epa.gov/community/Thermalito,%20CA,%20USA/drinking-water. Below is a list of the **95** public water systems serving *Butte County*.

CAL-WATER SERVICE CO.-CHICO
Public Water System Population Served: 104,908
Drinking Water System Source: Ground Water

SFWP-MINERS RANCH
Public Water System Population Served: 22,780
Drinking Water System Source: Surface Water

BUTTE-GLENN COMMUNITY COLLEGE DIST
Public Water System Population Served: 18,000
Drinking Water System Source: Ground Water

CAL-WATER SERVICE CO.-OROVILLE
Public Water System Population Served: 10,698
Drinking Water System Source: Surface Water

DEL ORO WATER CO.-PARADISE PINES
Public Water System Population Served: 10,513
Drinking Water System Source: Ground Water

THERMALITO WATER & SEWER DIST
Public Water System Population Served: 10,154
Drinking Water System Source: Surface Water

GRAY LODGE CHECK STATION
Public Water System Population Served: 8,000
Drinking Water System Source: Ground Water

CITY OF GRIDLEY
Public Water System Population Served: 7,246
Drinking Water System Source: Ground Water

PARADISE IRRIGATION DISTRICT
Public Water System Population Served: 4,600
Drinking Water System Source: Surface Water

CITY OF BIGGS
Public Water System Population Served: 1,805
Drinking Water System Source: Ground Water

DURHAM IRRIGATION DISTRICT
Public Water System Population Served: 1,561
Drinking Water System Source: Ground Water

PALERMO BIBLE FAMILY CHURCH
Public Water System Population Served: 1,000
Drinking Water System Source: Ground Water

CHICO COMMUNITY GUILD
Public Water System Population Served: 800
Drinking Water System Source: Ground Water

DEL ORO WATER CO.-LIME SADDLE MARINA
Public Water System Population Served: 792
Drinking Water System Source: Surface Water

GRIDLEY GRILL & CRAB SHACK
Public Water System Population Served: 750
Drinking Water System Source: Ground Water

PLEASANT VALLEY BAPTIST CHURCH
Public Water System Population Served: 600
Drinking Water System Source: Ground Water

DWR-MONUMENT HILL RESTROOMS
Public Water System Population Served: 593
Drinking Water System Source: Ground Water

DEL ORO WATER CO.-STIRLING BLUFFS
Public Water System Population Served: 514
Drinking Water System Source: Surface Water

CHICO EASTSIDE LITTLE LEAGUE
Public Water System Population Served: 500
Drinking Water System Source: Ground Water

FARM LABOR HOUSING
Public Water System Population Served: 460
Drinking Water System Source: Ground Water

DINGERVILLE USA PARK
Public Water System Population Served: 447
Drinking Water System Source: Ground Water

BUTTE CREEK ESTATES MUTUAL WATER CO
Public Water System Population Served: 399
Drinking Water System Source: Ground Water

PLEASANT GROVE MHP
Public Water System Population Served: 327
Drinking Water System Source: Ground Water

BIDWELL PARK GOLF COURSE
Public Water System Population Served: 325
Drinking Water System Source: Ground Water

DEL ORO WATER CO.-MAGALIA
Public Water System Population Served: 297
Drinking Water System Source: Ground Water

LAKE MADRONE WATER DISTRICT
Public Water System Population Served: 297
Drinking Water System Source: Ground Water

MANZANITA ELEMENTARY SCHOOL
Public Water System Population Served: 295
Drinking Water System Source: Ground Water

GOLDEN FEATHER MHP
Public Water System Population Served: 275
Drinking Water System Source: Ground Water

ALMOND GROVE MOBILE PARK
Public Water System Population Served: 250
Drinking Water System Source: Ground Water

LUNDBERG RICE PRODUCTS
Public Water System Population Served: 240
Drinking Water System Source: Ground Water

MOUNTAIN VIEW MHC LLC
Public Water System Population Served: 230
Drinking Water System Source: Ground Water

GRAN MUTUAL WATER CO
Public Water System Population Served: 200
Drinking Water System Source: Ground Water

SILVER DOLLAR FAIRGROUNDS
Public Water System Population Served: 195
Drinking Water System Source: Ground Water

FOOTHILL SOLAR COMPANY
Public Water System Population Served: 180
Drinking Water System Source: Ground Water

KEEFER CREEK ESTATES
Public Water System Population Served: 160
Drinking Water System Source: Ground Water

LIBERTY 1ST WARD MEETING HOUSE
Public Water System Population Served: 151
Drinking Water System Source: Ground Water

YOUTH WITH A MISSION-SPRINGS OF LIVING W
Public Water System Population Served: 150
Drinking Water System Source: Ground Water

BOY SCOUTS OF AMERICA-CAMP LASSEN
Public Water System Population Served: 150
Drinking Water System Source: Ground Water

PARADISE ADVENTIST CHURCH
Public Water System Population Served: 150
Drinking Water System Source: Ground Water

FOREST RANCH CHARTER SCHOOL
Public Water System Population Served: 146
Drinking Water System Source: Ground Water

RIVER REFLECTIONS RV & CAMPGROUND
Public Water System Population Served: 125
Drinking Water System Source: Ground Water

SIERRA MOON WATER COMPANY
Public Water System Population Served: 120
Drinking Water System Source: Ground Water

FEDEX GROUND
Public Water System Population Served: 120
Drinking Water System Source: Ground Water

CONCOW ELEMENTARY SCHOOL
Public Water System Population Served: 115
Drinking Water System Source: Ground Water

PSEA CAMP - DESABLA
Public Water System Population Served: 108
Drinking Water System Source: Ground Water

DURHAM DAYTON INDUSTRIAL PARTNERS-PRO PA
Public Water System Population Served: 102
Drinking Water System Source: Ground Water

MERRY MOUNTAIN MUTUAL
Public Water System Population Served: 100
Drinking Water System Source: Ground Water

DOWN RANGE INDOOR TRAINING CENTER
Public Water System Population Served: 100
Drinking Water System Source: Ground Water

DAUTERMAN WELL
Public Water System Population Served: 100
Drinking Water System Source: Ground Water

DEL ORO WATER COMPANY - BUZZTAIL DIST.
Public Water System Population Served: 99
Drinking Water System Source: Ground Water

BERRY CREEK SCHOOL
Public Water System Population Served: 95
Drinking Water System Source: Ground Water

FOREST RANCH MUTUAL WATER SYSTEM
Public Water System Population Served: 92
Drinking Water System Source: Ground Water

SFWP - SLY CREEK CAMPGROUND
Public Water System Population Served: 85
Drinking Water System Source: Ground Water

SMUCKER NATURAL FOODS
Public Water System Population Served: 85
Drinking Water System Source: Ground Water

BAMBI INN
Public Water System Population Served: 80
Drinking Water System Source: Ground Water

BERRY CREEK COMMUNITY SERVICE DIST
Public Water System Population Served: 77
Drinking Water System Source: Ground Water

HUMBOLDT WOODLANDS MUTUAL
Public Water System Population Served: 75
Drinking Water System Source: Ground Water

SFWP - STRAWBERRY CAMPROUND
Public Water System Population Served: 75
Drinking Water System Source: Ground Water

OROVILLE MOBILE HOME PARK
Public Water System Population Served: 74
Drinking Water System Source: Ground Water

SFWP-BANGOR
Public Water System Population Served: 73
Drinking Water System Source: Surface Water

SPRING VALLEY SCHOOL
Public Water System Population Served: 70
Drinking Water System Source: Ground Water

NORD COUNTRY SCHOOL
Public Water System Population Served: 66
Drinking Water System Source: Ground Water

RICHVALE ELEMENTARY SCHOOL
Public Water System Population Served: 63
Drinking Water System Source: Ground Water

FALLING ROCK RV PARK
Public Water System Population Served: 52
Drinking Water System Source: Ground Water

FRANCIS PROPERTY MANAGEMENT
Public Water System Population Served: 51
Drinking Water System Source: Ground Water

BLUE OAK TERRACE MUTUAL
Public Water System Population Served: 50
Drinking Water System Source: Ground Water

HUMBOLDT HIGHLANDS MUTUAL
Public Water System Population Served: 50
Drinking Water System Source: Ground Water

MEADOWBROOK OAKS
Public Water System Population Served: 50
Drinking Water System Source: Ground Water

DURHAM PARK
Public Water System Population Served: 50
Drinking Water System Source: Ground Water

WILD GOOSE DUCK CLUB
Public Water System Population Served: 50
Drinking Water System Source: Ground Water

G & J PROPERTIES
Public Water System Population Served: 50
Drinking Water System Source: Ground Water

COHASSET INDUSTRIAL PARK
Public Water System Population Served: 47
Drinking Water System Source: Ground Water

FOREST KNOLLS MUTUAL WATER CO
Public Water System Population Served: 46
Drinking Water System Source: Ground Water

SUNSET MOULDING CHICO
Public Water System Population Served: 45
Drinking Water System Source: Ground Water

MOUNTAIN VILLAGE HOMEOWNER'S ASSOC
Public Water System Population Served: 40
Drinking Water System Source: Ground Water

CRAIN PARK WATER SYSTEM
Public Water System Population Served: 40
Drinking Water System Source: Ground Water

PG&E: PHILBROOK DAM
Public Water System Population Served: 40
Drinking Water System Source: Ground Water

LLANO SECO RANCHO
Public Water System Population Served: 40
Drinking Water System Source: Ground Water

FEATHER RIDGE ESTATES WATER CO
Public Water System Population Served: 37
Drinking Water System Source: Ground Water

FEDEX FREIGHT, INC. CHI
Public Water System Population Served: 37
Drinking Water System Source: Ground Water

FOREST VILLAGE LLC
Public Water System Population Served: 34
Drinking Water System Source: Ground Water

GOLDEN OAKS MOBILE ESTATES
Public Water System Population Served: 34
Drinking Water System Source: Ground Water

HARTLEY MUTUAL WATER SYSTEM
Public Water System Population Served: 31
Drinking Water System Source: Ground Water

BUTTE MEADOWS CAMP
Public Water System Population Served: 30
Drinking Water System Source: Ground Water

CHERRY HILL CAMPGROUND
Public Water System Population Served: 30
Drinking Water System Source: Ground Water

SIERRA NEVADA BREWING CO.
Public Water System Population Served: 30
Drinking Water System Source: Ground Water

RIVER ONE RV PARK
Public Water System Population Served: 26
Drinking Water System Source: Ground Water

BIGGERS GLEN MUTUAL WATER CO
Public Water System Population Served: 25
Drinking Water System Source: Ground Water

FOREST RANCH MOBILE PARK
Public Water System Population Served: 25
Drinking Water System Source: Ground Water

CHICO ROD & GUN CLUB
Public Water System Population Served: 25
Drinking Water System Source: Ground Water

EATHER RIVER SCHOOL
Public Water System Population Served: 25
Drinking Water System Source: Ground Water

HONCUT ELEMENTARY SCHOOL
Public Water System Population Served: 25
Drinking Water System Source: Ground Water

PG&E - TABLE MOUNTAIN
Public Water System Population Served: 25
Drinking Water System Source: Ground Water

ROBINSON'S CORNER MHP
Public Water System Population Served: 20
Drinking Water System Source: Ground Water

L. C. HUNTING CLUB
Public Water System Population Served: 10
Drinking Water System Source: Ground Water

Appendix G: Wastewater Regulations

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REGULATIONS FOR WASTEWATER SYSTEMS

Both state and federal regulatory authority exists for the control of water quality in surface waters of California. Under the Clean Water Act (CWA), the Environmental Protection Agency (EPA) regulates municipal and industrial effluent discharges to navigable waters through the issuance of National Pollutant Discharge Elimination System (NPDES) permits. The basic approach used in both state and federal processes is 1) to designate beneficial uses to be protected, 2) to set water quality objectives that are protective of the most sensitive uses, and 3) to control municipal, industrial, and other sources to meet these objectives.

Federal Wastewater Treatment Regulations

Clean Water Act

The Clean Water Act (33 U.S.C. § 1251 et seq.) is the federal law that governs and authorizes water quality control activities by the EPA. Pursuant to federal law, the EPA has published water quality regulations under Volume 40 of the Code of Federal Regulations (40 CFR). The CWA regulates water pollution through two different and supplementary approaches:

- Water quality and technology-based standards; and
- Section 303 of the CWA requires states to adopt water quality standards for all surface waters of the United States.

The two approaches to regulating water pollution are implemented through discharge permits, which contain mass or concentration-based effluent limits for the pollutants in the permittee's wastewater. These approaches are applied to pollutant dischargers through the implementation of the national wastewater discharge permitting program set up under the CWA. The CWA established national goals to eliminate pollutant discharges to navigable waters and to assure that all navigable waters would be fishable and swimmable.

National Pollutant Discharge Elimination System (NPDES)

The NPDES permit system was established under section 402 of the CWA to regulate municipal and industrial discharges to surface waters of the United States. The discharge of wastewater to surface waters is prohibited unless an NPDES permit has been issued, which allows that discharge. Each NPDES permit contains limits on allowable concentrations and/or mass emissions of pollutants contained in the discharge. Under the NPDES program, dischargers are required to monitor and provide reports on compliance with their permit limits. These reports, formally titled Discharge Monitoring Reports (DMRs), are submitted to the appropriate regulatory agency, and they describe water quality data and analysis. The regulatory agency or any interested citizen can review this data to determine whether or not the discharger has complied with its NPDES permit requirements and, if appropriate, pursue action to enforce compliance.

Stormwater: Areas within Butte County are subject to the NPDES stormwater permit regulations and are subject to the Municipal Regional Stormwater NPDES Permit, Phase II Small Municipal Separate Storm Sewer System (MS4) General Permit (Order No. 2013-0001-DWQ). This Permit regulates the discharge of stormwater runoff from the municipal separate storm sewer systems ("MS4s") and other designated stormwater discharges from municipalities and flood management agencies throughout Butte County. The purpose of the stormwater permitting program is to prevent pollution in local waterways. Stormwater can adversely impact avian, aquatic, and plant life in receiving waters and can cause serious human health impacts. For example, high mercury

levels can make regular consumption of fish unsafe. Urban stormwater runoff is one of the largest sources of pollution in the USA. Additional details on Butte County's stormwater management can be found on their website at <*https://www.buttecounty.net/publicworks/Services/Stormwater-Program/Stormwater_Program_Butte* >.

Enforcement of NPDES guidelines and permits in the western portion of Butte County falls within the jurisdiction of the Central Valley Regional Water Quality Control Board (CV RWQCB) and is subject to review by the EPA Regional Administrator [EPA Pacific Southwest (Region 9)]. In addition, the RWQCB regulates activities involving discharges to land or groundwater from diffused sources. A Report of Waste Discharge must be filed with the Central Valley RWQCB to obtain a Waste Discharge Requirement (WDR) for these types of non-surface water discharge.

Congress amended the CWA in 1987 to include non-point source pollutants. Non-point source pollutants are often chemicals from lawns or gardens, automobile residues, urban runoff, or household cleaning agents or compounds. Non-point source pollution can also include runoff from agricultural uses. Most non-point source pollutants enter the wastewater stream and the water supply in large quantities and sudden surges, largely due to storm events. Although the EPA has established NPDES requirements for stormwater, control of this type of pollution has proven to be difficult and could require upgrades to existing wastewater treatment plants. In November 2020, the State Water Resources Control Board submitted its 2020-2025 Nonpoint Source Implementation Plan, which was subsequently approved by the EPA. The Implementation Plan identifies a set of targeted performance measures and describes NPS Program activities from 2020 through 2025. The Regional Water Quality Control Boards is working with local agencies to implement the Nonpoint Source Program. These regulations may further affect the wastewater agencies in Butte County, especially those with high storm water infiltration rates.[1]

Section 303(d) Impaired Waters List and TMDLs

Under Section 303(d) of the CWA, states are required to develop lists of water bodies which will not attain water quality objectives after implementation of required levels of treatment by point source dischargers (municipalities and industries) (40 C.F.R. §130.7(b)(4)). For example, the EPA and RWQCB have placed a few water bodies located in Butte County on the 303(d) list including:

the Feather River, Lower (Lake Oroville Dam to Confluence with Sacramento River). This section of the Feather River, Lower, identified as State Waterbody ID: CAR5192200019980817161057, is impaired for several specific uses, including cold freshwater habitat, commercial and sport fishing, municipal and domestic supply, spawning, reproduction, and/or early development, warm freshwater habitat, and wildlife habitat as described in Appendix D. Activities within Butte County that have been identified to contribute to water quality degradation include grading and other construction activities, agricultural uses, confined animals, urban runoff, sewage and other wastewater from treatment plants, industrial sources, and recreation. See Central Valley RWQCB website at:
<*https://www.waterboards.ca.gov/water_issues/programs/water_quality_assessment/#impaired* > for additional details.

[1] State Water Resources Control Board. Nonpoint Source Pollution (NPS) Control Program. www.waterboards.ca.gov/water_issues/programs/nps.

National Toxics Rule

The EPA established the National Toxics Rules (NTR) to create numeric criteria for priority toxic pollutants for California and 13 other states and territories that were not in complete compliance with the CWA. For California, the NTR established water quality standards for protection of aquatic life and/or human health for 36 pollutants for which water quality criteria exist, but which were not covered under California's statewide water quality regulations.

California Toxics Rule

The Clean Water Act (33 U.S.C. § 1251 et seq.) is the federal law that governs and authorizes water quality control activities by the EPA. Pursuant to federal law, the EPA has the NTR. There are 126 constituents listed in the California Toxics Rule (CTR) criteria, which include the previously issued NTR criteria for California. Some of the key elements of the CTR include:

- Amended numeric standards for 30 toxic pollutants and added new criteria for 8 toxic pollutants to protect aquatic life and human health uses for water bodies.
- Dissolved-based standards for most trace metals and endorsement of the use of translator mechanisms for determination of local metals objectives.
- Provisions for compliance schedules to provide time for permittees to meet the new toxics standards.
- Provisions for mixing zones when calculating toxic constituent effluent limitations.
- Use of interim effluent limits to provide time for dischargers to take actions to meet final limits.

The EPA promulgated numeric water quality criteria for priority toxic pollutants and other water quality standards for waters in the State of California pursuant to section 303(c)(2)(B) of the CWA if those pollutants could be reasonably expected to interfere with the designated uses of states' waters. Although California had adopted numeric criteria for priority toxic pollutants in 1992, the courts ordered California to rescind these water quality control plans in 1994 and the new water quality criteria rule, known as the California Toxics Rule (CTR), temporarily replaced the standards adopted in 1991. The CTR established:

- Ambient aquatic life criteria for 23 priority toxics;
- Ambient human health criteria for 57 priority toxics; and
- Compliance schedule provision.

Under the CTR, various regional water quality control boards will issue compliance schedules for new or revised NPDES permit limits based on the federal criteria when certain conditions are met. Currently, each basin plan, as prepared by the regional water quality control board, contains a water quality criterion that all waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. This has been contested by local jurisdictions all over California since it is expected to add significantly to the cost of wastewater treatment.

EPA contends that since California is implementing EPA's current regulations, the CTR will not impose any incremental costs and that the water quality criterion does not directly create economic impacts. EPA staff notes that California has some discretion to develop mechanisms that could result in more flexibility for local areas (e.g., site-specific criteria, phased TMDL program).

For Butte County, the Central Valley RWQCB does not require a separate and specific CTR permit. RWQCB determined that three years of CTR monitoring data did not measure CTR pollutants in concentrations that resulted in receiving water violations, thus Board eliminated the CTR priority pollutant monitoring requirement. The wastewater agencies that discharge to surface waters were required to complete a number (depending on whether discharger is major or minor, municipal or industrial) of rounds of sampling under the CTR.

California Wastewater Treatment Regulations

CA Water Code

The California Water Code is the principal state regulation governing the use of water resources within the State of California. This law controls, among other issues, water quality protection and management and management of water-oriented agencies. Division 7 of the California Water Code, commonly referred to as the Porter-Cologne Act, is the principal mechanism for the regulation of water quality and pollution issues within California. This act established a regulatory program to protect the water quality and beneficial uses of all state waters. The Porter-Cologne Act also established the State Water Resources Control Board and California Regional Water Quality Control Boards (RWQCB) as principal state agencies responsible for water quality control. The SWRCB has divided California into nine regions, with Butte County located in the Central Valley RWQCB, Region 5.

The Porter-Cologne Act grants the SWRCB and regional offices broad powers to protect water quality and is the primary vehicle for implementation of California's responsibilities under the federal CWA. These broad powers include the authority and responsibility to adopt plans and policies, to regulate discharges to surface and groundwater, to regulate waste disposal sites, and to require cleanup of hazardous materials and other pollutants. The Porter-Cologne Act also includes reporting requirements for unintended discharges of any hazardous substance, sewage, or oil/petroleum product.

The Central Valley RWQCB, as with all other regional boards, must formulate and adopt a water quality plan for its region, which must conform to the Porter-Cologne Act. The Porter-Cologne Act also provides that a regional office, such as the Central Valley RWQCB, may include within its regional plan water discharge prohibitions applicable to local conditions, areas, and types of waste. The regional offices are also authorized to enforce discharge limitations, take actions to prevent violations, and conduct investigations about the quality of any of the waters of the State. Civil and criminal penalties are applicable to persons who violate the requirements of the Porter-Cologne Act or SWRCB/RWQCB orders.

The Porter-Cologne Act also requires dischargers of fill and dredged material to all waters of the State be regulated. Additional protections are provided for wetlands, special aquatic sites, and headwaters because these waterbodies have high resource value, are vulnerable to filling, and are not protected by other programs. The Central Valley RWQCB CWA Section 401 program is involved with the protection of special-status species and the regulation of hydromodification impacts. The RWQCB encourages watershed-level analysis and protection because some

functions of wetlands, riparian areas, and headwater streams–including pollutant removal, flood water retention, and habitat connectivity–are expressed at the watershed or landscape level. (Central Valley RWQCB, 2019).

Other state agencies with jurisdiction or involvement in water quality regulation in California include the Department of Public Health (DPH) for drinking water regulations and water reclamation criteria, the Department of Pesticide Regulation, the Department of Fish and Game, and the Office of Environmental Health and Hazard Assessment.

Assembly Bill 885

Legislation (AB 885 by Hannah-Beth Jackson) passed in 2000 requires SWRCB to adopt regulations for the permitting and operation of septic systems. The law establishes a process for developing statewide performance standards for on-site wastewater treatment systems (OWTS) (aka septic tanks). Furthermore, the bill directs the SWRCB to adopt regulations or standards for on-site septic systems by 2004 to consider minimum operating requirements, including construction, siting, and performance requirements. The SWRCB also has specific requirements for OWTS adjacent to impaired waters. These standards apply to newly constructed systems, replaced, pooling to the surface, or can impair public health and safety.

In 2018, the SWRCB adopted Resolution No. 2018–0019, which amends the Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems (OWTS). This resolution amends resolution 2012–0032, adopted in 2012, authorizes subsurface disposal of domestic wastewater, and establishes minimum requirements for the permitting, monitoring, and operation of OWTS for protecting beneficial uses of waters of the State. Butte County Environmental Health is the local permitting authority that ensures compliance with all applicable State and local regulatory requirements for the installation and repair of OWTS. Butte County has adopted a Wastewater Ordinance as described on their website at: <*https://www.buttecounty.net/publichealth/Environmental-Health/LandUse_Wastewater/WastewaterProgram*>.

Statewide General Waste Discharge Requirements

A consistent, statewide regulatory approach to address sanitary sewer overflows (SSOs) is provided by the SWRCB's adopted Statewide General Waste Discharge Requirements (WDRs) for Sanitary Sewer Systems (SSS), Water Quality Order No. 2006–0003 (Sanitary Sewer Systems WDR) in 2006. The Sanitary Sewer Systems WDR requires public agencies that own or operate sanitary sewer systems to develop and implement Sewer System Management Plans and report all SSOs to the State Water Board's online SSO database. The SSO database was queried for each wastewater service provider studied in this MSR. Oroville Area wastewater service providers have completed their Sewer System Management Plans as described in this MSR.

California Storm Drainage & Flood Control Regulations

Section 10561 of the Water Code addresses runoff recapture and requires that State and local agencies regulating stormwater diversion systems to identify opportunities for capturing that runoff -- including summer season runoff -- for some form of reuse.

Local Wastewater Regulations

Butte County has policies and procedures consistent with the Central Valley RWQCB recommendation for connection to a public wastewater system in urbanized areas. Specifically, in relation to new development in the unincorporated area, the County implements its Improvement Standards that provide minimum standards applied to all site improvements, private and public works, as well as improvements to be installed within existing rights-of-way and easements. The County's Improvement Standards, originally approved in 2006 and updated in 2020, describe standards for connection to public sewer systems such that:

> When a subdivision is located within a reasonable distance of an existing, operating, and available public or community sewage system, and it is practical and feasible to sewer the proposed subdivision by connecting to said system, the subdivider shall be required to sewer the proposed subdivision to said system. Sewer mains, lift stations, and other related facilities located within the subdivision and/or necessary to connect said subdivision to the public or community system shall be designed and installed in accordance with the standards of the governing board of the public or community sewer system. All such facilities shall be operated and maintained by the public or community sewer entity unless a separate public entity is established for that purpose. No final map shall be approved until the required facilities are installed and accepted by the public entity or until the public entity advises the Board of Supervisors in writing it holds a bond adequate to insure the installation of required facilities. If it is NOT practicable and feasible to sewer a subdivision by connecting to an existing public or community sewer system, or if such system is unable to provide the subdivision with sewer service, the subdivider may provide for sewer service by the development of a community sewer system with treatment and disposal facilities. When a subdivider proposes to develop such a community sewer system, he must:
>
> a. Provide for the establishment of a public entity empowered and adequate to maintain and operate the system.
> b. Obtain discharge requirements from the Regional Water Quality Control Board. (Source: Butte County, 2006, as updated 2020).

Butte County's On-Site Wastewater Systems Ordinance was adopted by the Board of Supervisors on March 10, 2010, and became effective May 12, 2016. This Ordinance is incorporated into the Butte County Code as Chapter 19, and it requires that an Onsite Wastewater Treatment Systems (OWTS) receiving a projected flow over 10,000 gallons per day be referred to California Regional Water Quality Control Board (RWQCB), Central Valley Region for waste discharge requirements (Butte County, 2016).

As described in Chapters 2 to 7 of this MSR, wastewater service providers have requirements related to the provision of sewer service. Specifically, parcels must be within District boundaries to be eligible for service. Any parcel that is currently outside District boundaries may apply for annexation, provided that the parcel is contiguous with current District boundaries.

Wastewater Solids Regulations

Solids generated at a wastewater treatment facility comprise screenings, grit, primary or raw sludge (PS), and secondary or waste-activated sludge (WAS). The screenings and grit are typically dewatered and disposed of in a landfill. Sludge generated by a wastewater treatment facility is defined as biosolids once beneficial use criteria, as determined by compliance with EPA regulations, have been achieved through stabilization processes. Stabilization processes are described as those that help reduce pathogens and reduce vector attraction.

Several federal, State and local regulations are in place that influence whether biosolids from municipal wastewater treatment plants can be reused or disposed of. Increased concerns and debate over biosolids disposal and its associated environmental impacts have led to more stringent revisions and amendments for many of these regulations. Continuing changes in regulations affecting biosolids management make a flexible management program essential.

Federal, State, and local agencies are responsible for regulating biosolids beneficial reuse/disposal. The authority of each agency varies based on the beneficial reuse/disposal methods employed. However, overall guidelines are established by the EPA. These guidelines are, in turn, implemented by state and local governments. Many state and local agencies in California have developed additional rules, guidelines, and criteria for biosolids management.

In order to implement the long-term biosolids permitting program required by the Water Quality Act of 1987, the EPA initiated two rule makings. The first rulemaking established requirements and procedures for including biosolids management in NPDES permits, procedures for granting state biosolids management programs primacy over federal programs, or for federal programs to implement biosolids permits if a state so chooses.

The second rulemaking proposed to regulate and control biosolids permitting was 40 CFR Part 503, Standards for the Use and Disposal of Sewage Sludge. This rule addresses three general categories of beneficial reuse/disposal of biosolids, including:

- Land application of sewage sludge for beneficial use of organic content;
- Surface disposal of biosolids in a monofill, surface impoundment, or other dedicated site; and
- Incineration of sewage sludge with or without, auxiliary fuel.

Future Regulatory Considerations

This section provides insight into the future regulatory considerations that may affect Butte County sewer systems' effluent discharges. Identifying future regulatory trends is critical for the following reasons:

- Developing treatment scenarios and alternatives;
- Planning for process and layout requirements for future regulatory compliance; and
- Making budget considerations for major design and construction projects.

Identifying future pollutants of concern (POCs), such as metals, nutrients, and/or pathogens, will help to develop alternatives that are flexible and can be easily expanded or upgraded to treat future POCs. For example, planning may include reserving space in the site layout for nutrient reduction, tertiary filtration, advanced oxidation, or an alternative disinfection method that would provide treatment for future POCs.

Nutrients, including nitrogen and phosphorus, are the leading cause of impairments to the nation's surface waters and, as a result, are receiving greater regulatory scrutiny regarding their contribution to the overall quality of the nation's receiving waters. Although appropriate amounts of nutrients are vital for the health and proper functioning of water bodies, excessive nutrient concentrations can cause water quality degradation.

Nationwide Nutrient Criteria

In November 2007, the National Resources Defense Council (NRDC) filed a petition with the EPA to require that nutrient removal be included in the definition of secondary treatment. The petition stated that "there are many [biological processes] which can achieve total phosphorus levels of 1.0 milligrams per liter (mg/L) as a monthly average, and a total nitrogen of 6 to 8 mg/L as an annual average" (NRDC et al, 2007).

In response to the petition by NRDC, the National Association of Clean Water Agencies (NACWA) wrote to the EPA in February 2008, September 2009, and June 2010, urging the EPA to deny the petition to modify the secondary treatment regulations for several legal, technical, and political reasons including but not limited to the potentially exorbitant cost to publicly owned treatment works and the inappropriateness of establishing national limits for local and regional water quality issues (NACWA, 2008; NACWA, 2009). In October 2009, the EPA stated they were actively analyzing the data and information to prepare a report and preliminary response to the NRDC petition. They stated they would consider NACWA, other stakeholders, and all information carefully before taking action on the NRDC petition (U.S. EPA, 2009a).

Due to the scientific uncertainties associated with the development of numeric nutrient criteria and the magnitude of the expected costs of compliance, nutrient water quality policies are very controversial and have sparked several legal actions across the country. The State of Florida has become the initial focus of environmental groups' efforts to push the EPA to develop federal numeric nutrient criteria to be imposed on the states. The EPA has agreed to a consent decree in the environmental suit and has made a determination that numeric nutrient standards are necessary for Florida. Proposed criteria for total nitrogen and total phosphorus were released in January 2010. The EPA withdrew federal water quality standards (WQS) applicable to waters of the State of Florida in 2014 because Florida adopted— and EPA approved— relevant numeric nutrient criteria (NNC).

State of California Nutrient Numeric Endpoints

In addition to the increasingly stringent regulation of nutrients, there is a trend towards increasing regulation of emerging microconstituents and bioaccumulative pollutants in treated effluent discharges.

Microconstituents and Bioaccumulative Constituents

Microconstituent, also referred to as "contaminants of emerging concern" (CECs) by the EPA Office of Water, are substances that have been detected in surface waters and the environment and may potentially cause deleterious effects on aquatic life and the environment at relevant concentrations. Microconstituents include:

- Persistent organic pollutants (POPs) such as polybrominated diphenyl ethers (PBDEs; used in flame retardants, furniture foam, plastics, etc.) and other organic contaminants.
- Pharmaceuticals and personal care products (PPCPs), including a wide suite of human prescribed drugs, over-the-counter medications, bactericides, sunscreens, and synthetic musks.
- Veterinary medicines such as antimicrobials, antibiotics, anti-fungals, growth promoters, and hormones.
- Endocrine-disrupting chemicals (EDCs), including synthetic estrogens and androgens, naturally occurring estrogens, as well as many other compounds capable of modulating normal hormonal functions and steroidal synthesis in aquatic organisms.
- Nanomaterials such as carbon nanotubes or nano-scale particulate titanium dioxide.

Bioaccumulative constituents are substances taken up by organisms at faster rates than the organisms can remove them. As a result, these constituents accumulate in the organism and the food chain and can remain in the environment for long periods of time. Mercury, polychlorinated biphenyls (PCBs), and dioxins are some bioaccumulative constituents that are being increasingly regulated.

Monitoring requirements for these trace pollutants are increasing, including requirements to analyze constituents at lower detection limits. It is likely that water quality criteria followed by new effluent limits will be added to permits. Implementation of CEC standards is not expected to be imminent as the EPA is currently focused on assessing the potential impact CECs have on the environment and human health.

The State Water Resources Control Board (SWRCB) is in the process of developing statewide policies for nutrients. The SWRCB held a scoping meeting in October 2011 to seek input on content for a proposed Nutrient Numeric Endpoint (NNE) framework and policy for inland surface waters.

Biostimulatory Substances Objective and Implementation of Biological Integrity

The existing statutes and regulations are in various forms, such as regional narrative or numeric nutrient objectives, an objective in the State Ocean Plan, water quality orders, and TMDLs, which were adopted or are under development by various Regional Water Boards. Currently, there are approximately 32 TMDLs statewide which list nutrients as toxicants or eutrophication-related effects on beneficial uses.

The State Water Resources Control Board (State Water Board) is proposing to adopt a statewide water quality objective for biostimulatory substances along with a program of implementation as an amendment (Biostimulatory Substances Amendment or project) to the Water Quality Control Plan for Inland Surface Water, Enclosed Bays and Estuaries of California (ISWEBE Plan). The Biostimulatory Substances Amendment could include a statewide numeric objective or a statewide narrative objective (with a numeric translator) and various regulatory control options for point and non-point sources.

It is anticipated that a comprehensive program to implement the water quality objective for biostimulatory substances will be established in three phases as three amendments to the ISWEBE Plan. Each phase would reflect implementation unique to three different water body types. If the Biostimulatory Substances Amendment establishes a numeric water quality objective, rather than a narrative water quality objective, then potentially each subsequent phase would also establish a new numeric water quality objective. The latter depends on whether the numeric water quality objective is developed from factors unique to the different types of waterbodies. The Biostimulatory Amendment would be the first phase, applicable to wadeable streams. The second phase will focus on lakes, and the third phase will focus on estuaries, enclosed bays, and non-wadeable rivers.

This project will also now include a water quality control policy to establish and implement biological condition assessment methods, scoring tools, and targets aimed at protecting the biological integrity in wadeable streams (SWRCB, 2017).

California State Recycled Water Policy

The SWRCB adopted a Recycled Water Policy (RW Policy) in 2009 and updated it in 2018 to establish more uniform requirements for water recycling throughout the State and to streamline the permit application process in most instances[2]. The RW Policy includes a goal for the State to increase the use of recycled water from 714,000 acre-feet per year (afy) in 2015 to 1.5 million afy by 2020 and to 2.5 million afy by 2030. It also includes goals for stormwater reuse and conservation and potable water offsets by recycled water. The onus for achieving these mandates and goals is placed on both recycled water purveyors and potential users. Since the recycled water project permit process is streamlined, projects will not be required to include a monitoring component. If any regulations arise from new knowledge of risks associated with CECs, then projects will be given compliance schedules. New regulations are not expected to arise in the imminent future (SWRCB, 2018).

[2] Details are at the State Water Board website at www.swrcb.ca.gov/water_issues/programs/water_recycling_policy/.

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Appendix I

Description of Feather River Watershed Near Oroville, CA

Table of Contents

Introduction - Feather River Watershed

The Feather River is the largest river in the Sierra Nevada. The Feather River is the primary watercourse that influences the communities studied in this MSR. The Feather River begins at its headwaters near the town of Chester to the north and the upper part of the Feather River has four tributaries:

- North Fork
- Middle Fork
- South Fork
- West Branch

All these tributaries join at their confluence in Lake Oroville and from there the mainstream river flows into the Sacramento River.

The highest elevation of the watershed is in the eastside foothills at 3,700 ft msl. The lowest elevation is at the confluence of the Sacramento River at 20 ft msl. Management issues associated with the watershed are drought, water quality, habitat preservation, and risks from local hazards such as wildland fires or floods. Water quality is an issue of concern because the Lower Feather River is listed on the Clean Water Act Section 303(d) list of impaired water bodies for temperature, diazinon, chlorpyrifos, mercury, and unknown toxicity. Constituents of concern for groundwater are nitrate, total dissolved solids, and several other chemical constituents. The lower Feather River Watershed provides both groundwater supply and surface water supply to local farmers, water districts, and other water uses. Other environmental services provided by the watershed include soil fertility and recreation. The River also plays an important role in flood management, hydroelectric power production, water quality, and the health of fisheries downstream (as far as the Sacramento/San Joaquin River Delta). It is important to note that historically the local watersheds were managed by the native Maidu American Indians, who successfully managed local water resources, fisheries, and forests for many generations. The Berry Creek Rancheria of Maidu Indians of California continue to reside in and have facilities in the Oroville area. The Oroville area has a mediterranean climate with the average annual precipitation for the area at 29.83 inches and the average temperature at 61.6° F (NRCS, et.al., 2006).

Drinking water suppliers in the Oroville Area harvest water from the water cycle where it is utilized by residents and visitors. The three water services providers (TWSD, SFWPA, and Cal Water Oroville) are heavily dependent upon local precipitation and are drought sensitive. Treating drinking water generates some limited quantity of backwash which is cleaned and returned to ponds or other drainages. After local residents, workers, and visitors utilize the municipal water supply, it is collected into sewage pipes and transported for treatment at the SCOR wastewater treatment plant. After undergoing extensive treatment, the wastewater is then discharged into the Feather which then travels into the Sacramento River. Sludge is hauled away. Storm water runoff from local non-permeable surfaces travel down the storm drain system and eventually drains into local streams and the Feather River.

Watershed Basics

A watershed is the area of land that drains into a body of water such as a river, lake, stream, or bay. In the Feather River watershed, all water eventually drains into the Feather River. The watershed includes surface water in streams, rivers, lakes, ponds, and the groundwater in local aquifers. The drinking water that comes out of our taps comes from all these sources. Watersheds are shaped by the natural contours of the land: hills and valleys. Think of a watershed as a basin, formed by the highest ridges surrounding a network of streams. Every raindrop falling inside these high points drains into the watershed.

Natural ecological processes support the production of clean water within local watersheds. For example, intact forests create airborne particles which support raindrop formation. Forests also retain soil moisture, which reduces fire intensity and extent. Oak woodlands, riparian forests, and other vegetated habitats maintain hydrological processes that recharge subsurface aquifers and surface water flows. Protection of the natural habitat within watersheds will sustain yields of clean water, agricultural and forestry products, and provide more opportunities for nature-based recreation, reduced pollution treatment costs, and other economic returns. Agriculture also plays an important role within local watersheds. Timber landowners, farmers, ranchers, and other private landowners have deep knowledge about the land and rivers. Farmers are some of the best protectors of biodiversity in California.

Forest, meadows, and wetland ecosystems in a watershed naturally filter and replenish water. What we do on the land and in our homes, yards, businesses, schools, parks, and communities has the potential to affect the health of our watershed and the quality of our drinking water. Watersheds are a key component of the natural hydrologic cycle. Each watershed has specific and unique geomorphic, hydrologic, and ecological characteristics. Watershed systems are best viewed as holistic natural systems. Watersheds are important not merely for the creeks and rivers that flow within them, but also for the ecosystem services provided by the flora (including forests), fauna and soils. To have a dependable and quality water supply, it is critical that local communities be good stewards of local watersheds.

Water Cycle

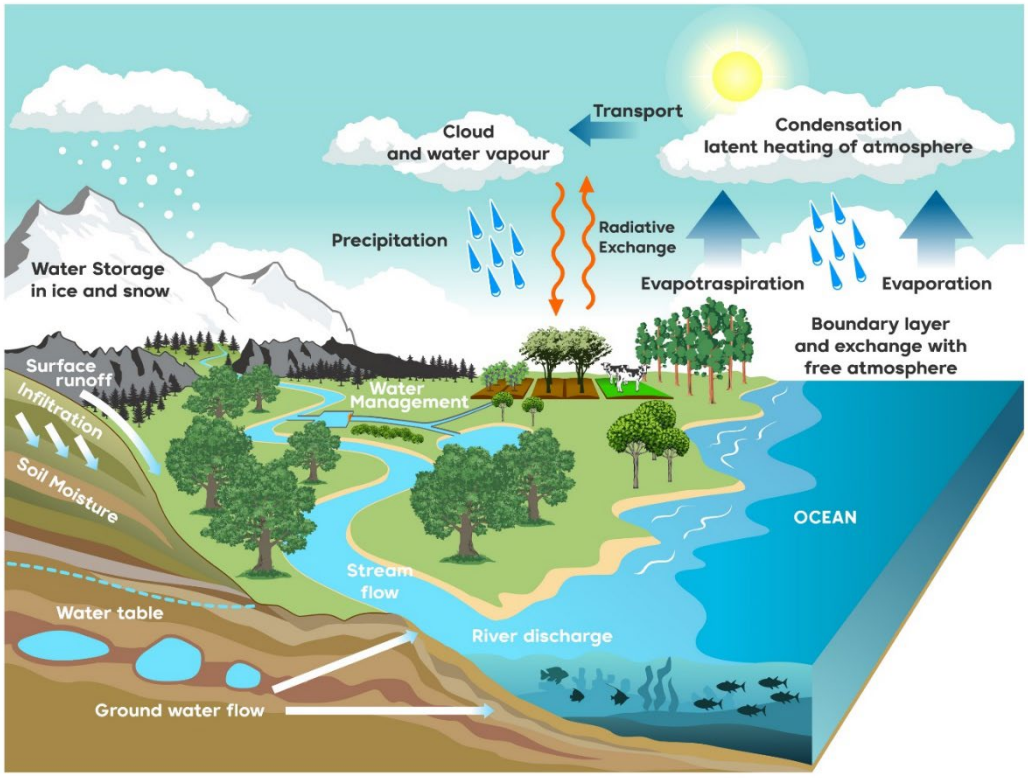


Figure A-I-1:

Water is part of the natural hydrologic cycle, which is part of Earth's ancient operating system.

The hydrologic cycle involves Earth's land, oceans, and atmosphere. The cycling of water involves processes known as precipitation, evaporation, evapotranspiration, and condensation. Ultimately, the ocean is a vital part of the water cycle, considering that it holds approximately 97% of the total water on Earth (NASA, n.d.). Evaporation occurs when a heat source causes water, found on a body of water, to alter from a liquid to a gas state and results in water vapor that undergoes condensation. Evaporation occurs on various water sources on Earth, but mainly on the ocean. Condensation is the process by which molecules of water vapor in the air become liquid (NASA, n.d.). Then, precipitation, which is the product of condensation, falls out of an atmospheric cloud. Precipitation takes the form as rain, snow, sleet, and other forms. On land, the precipitation of water allows for the development of runoff or the infiltration of water into the soil to form groundwater. Additionally, the water that reaches land undergoes evapotranspiration which is the process that involves water transfer from land to the atmosphere. The water cycle is a system that is energized by the sun and involves the continuous exchange of moisture between the ocean, the atmosphere, and the land (NASA, n.d.).

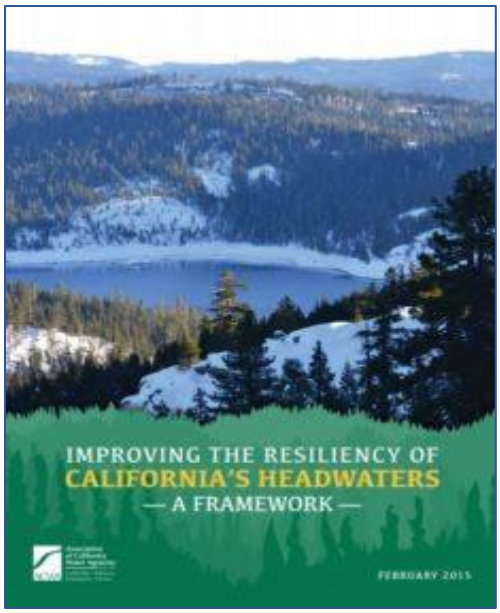
Connected to Sacramento/San Joaquin Watershed

The Feather River eventually drains into the Sacramento River and therefore is an important part of the greater Sacramento/San Joaquin watershed. The greater Sacramento/San Joaquin watershed is comprised of water that drains from the entire western slope of the Sierra, the eastern slope of the Coast Ranges and the south- and west-facing drainages of Mount Shasta and Lassen Peak. Water in the Sacramento/San Joaquin rivers flows through the Delta, into San Francisco Bay, and out through the Golden Gate. This

natural system is massive and geographically diverse, including some of the highest mountains and the largest agricultural valleys on the continent.

Watershed Management

Water districts, sewer districts, private property owners, public land management agencies, stormwater management experts, environmental specialists, land-use planning regulators, and communities all play an integral part in watershed management. Land managers and property owners within the watershed often collaborate to protect watershed health and water quality. The Plumas National Forest manages much of the upper Feather River watershed. The U.S. Forest Service is an example of an agency that recognizes that watershed conditions and health is crucial to their mission. PG&E is another key water and land management organization in the watershed. A great deal of the water routing, accessibility, and infrastructure is controlled by PG&E.



Ideally watershed management would be aimed at creating and implementing plans, programs and projects to sustain and enhance watershed functions that affect the plants, animals, and human communities within the watershed boundary. Features of a watershed that agencies seek to manage to include water supply, water quality, drainage, stormwater runoff, water rights and the overall planning and utilization of watersheds.

The Northern California Water Association (NCWA) is a group comprised of water districts, water companies, small towns, rural communities, and landowners that utilize both surface and groundwater resources in the Sacramento Valley. NCWA's Board of Director's and staff aim to safeguard water supplies in the Sacramento Valley. They provide constructive advocacy in the pursuit of solutions to resolve California's most perplexing water problems. NCWA represents the entire Sacramento Valley, which extends from Sacramento to north of Redding, and between the crests of the Sierra Nevada and the Coast Range. NCWA regularly publishes an updated and informative blog here: https://norcalwater.org/blog/

In February 2015, the Association of California Water Agencies (ACWA) developed Improving the Resiliency of California's Headwaters – A Framework, which makes specific recommendations designed to create more resilient water resources through effective headwaters management.

Developed by ACWA's Headwaters Framework Working Group, the policy document details the role that headwaters play in California's water management system, outlines the benefits of healthy headwaters, identifies current challenges, and provides a brief history of the headwaters management.

The Water Education Foundation has developed a booklet to show the value of water, and the importance of the Sierra Nevada region in providing water for California. The information is based on the report *Looking to the Source: Watersheds of the Sierra Nevada by the Water Education Foundation*.

Integrated water management plans and activities are often sponsored by local non-profit organizations. A collaborative effort across agency, government, and NGOs is essential for proper stewardship on a watershed-wide basis. In 2006 the Integrated Regional Watershed Management Plan for the Northern Sacramento Valley was published here: https://norcalwater.org/efficient-water-management/efficient-water-management-regional-sustainability/regional-planning/irwmp/

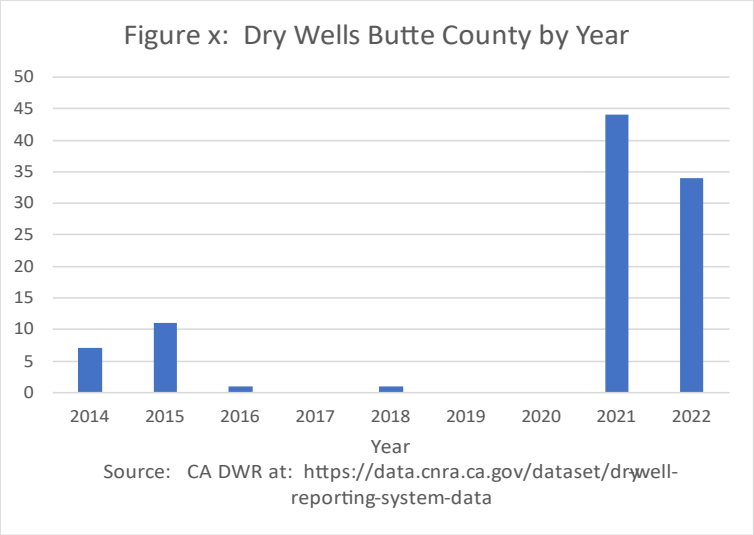
Butte County has a range of hydrologic and geographic features. Human water systems are linked to natural watersheds. Residents of Butte County have developed a range of water infrastructure designed to optimize modern human use of water as listed in Table A-I-1 below.

Table A-I-1: Butte County Water Infrastructure	
Number of Domestic Wells	12,853
Number of People on Domestic Wells	65,018
Number of Community Water Systems	48
Number of Groundwater Sustainability Agencies	18
Number of Sub-Basins	8
Number of Disadvantaged Communities	11
Number of Severely Disadvantaged Communities	4
Median Household Income	$46,516 (+/- 1,130)
Percentage of Renters	40.99 %
Linguistic Isolation	2.33 %
Number of Households	28,359
Number of Drought Impacted Domestic Wells, 100% Drought Scenario	20
Total Cost to Retrofit Drought Impacted Wells, 100% Drought Scenario	$253,740

Data Source: Community Water Center Drinking Water Tool, 2021 https://drinkingwatertool.communitywatercenter.org/ca-water/?z=9&y=39.72508&x=-121.57293&l=&r=afamer%2Cafamer%2Cafamer&v=county&q=50&a=

Approximately 65,018 people in Butte County depend on domestic water wells which rely on groundwater. In Butte County, between the years 2014 to 2022, there were a total of 98 wells that were reported "dry" to the DWR database. In the year 2022, a total of 34 dry wells were reported and 11 of these reports derived from the Oroville area. As seen in Figure A-I-2, the year 2021 had the greatest number of reported dry wells. The years 2017, 2019, and 2020 did not have reported dry wells. The wells are primarily used for households, but some are used for schools and agricultural purposes. From the database query, it is evident that many of the wells are no longer producing water, or their pumps are not functioning properly (DWR, 2022).

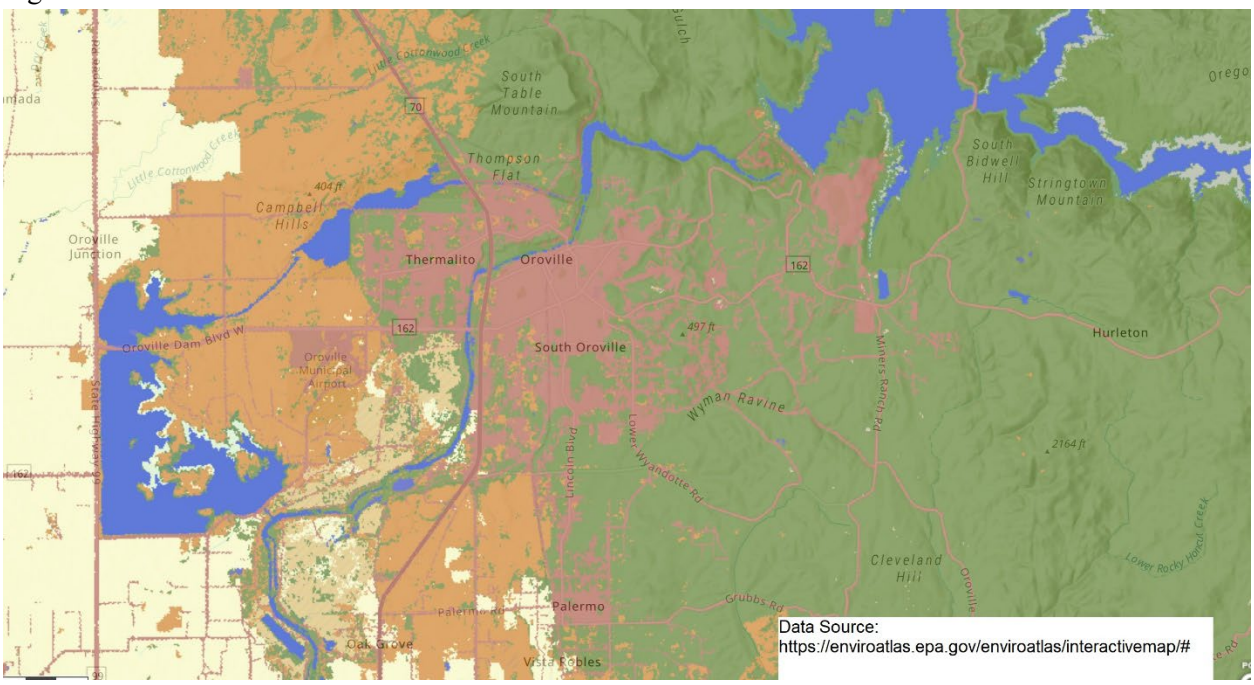
Figure A-I-2: Dry Wells in Butte County



Water is often viewed as only a commodity which is bought, sold, and transferred. As a commodity, water is utilized for drinking water, agricultural irrigation, and hydropower production. However, considering watershed systems from a holistic viewpoint is useful to highlight the linkage between water production and the water cycle, climate, and all the other aspects of natural systems.

Management of local watershed and water supply is most important to support residents of cities and rural communities. Urban areas in the Oroville area are especially dependent upon a clean water supply and these urbanized areas within and near the City of Oroville are shown in "pink" in Figure A-I-3, below.

Figure A-I-3: Urbanized areas



Larger-Scale Watersheds

Lake Oroville/Upper Feather River Watershed

The Lake Oroville/Upper Feather River Watershed has a total area of approximately 532 square miles (340,699 acres). The North Fork of the Feather River originates in northern California, in the Lassen Volcanic National Park. It flows south into Lake Oroville, where it joins the south and middle forks of the Feather River. Oroville Dam, constructed in 1968, houses six power generation units and four additional units in the Thermalito Power Plant. The Thermalito Forebay and Afterbay are holding reservoirs located downstream of Lake Oroville; they allow water released from Lake Oroville to generate power during established peak periods and to be pumped back into the lake during off-peak periods. Other smaller creeks in the watershed flow into Lake Oroville, including the Cirby and Concow Creek, which initially join to flow into the Concow Reservoir upstream of Lake Oroville.

Lower Feather River Watershed

Directly downstream of Lake Oroville is the start of the Lower Feather River Watershed. The Lower Feather travels south downstream 60 miles to enter the Sacramento River at Verona. There are several major groundwater subbasins in the vicinity and groundwater plays an important part in the delivery of water to agricultural lands. the Oroville Dam was constructed during the years 1961 to 1968 and it created Lake Oroville which is a key part of the State Water Project. Lake Oroville provides drinking and irrigation water for central and southern California. The cost/benefit tradeoff associated with Lake Oroville is that river flows are now highly regulated for water supply and flood control through releases at Oroville Dam. This means that a portion of the River's natural variability has been lost and native fish populations and riparian habitat have declined. The Lower Feather River Watershed contains important agricultural areas, provides recreational opportunities, and supports key fishery resources. In the future, local land managers foresee stakeholder concerns about the conversion of farmland to urban use, increased demands on water supply, protection of water quality. The Lower Feather River is listed on the Clean Water Act Section 303(d) list of impaired water bodies for temperature, chlorpyrifos, diazinon, mercury, and unknown toxicity. Constituents of concern for groundwater are total dissolved solids, nitrate, and several other individual chemical constituents. Surface and groundwater quality is a concern for both fisheries and agricultural supply use. The map shown in Figure A-I-4 below shows the spatial distribution of watershed planning areas in Butte County. The next map, Figure A-I-5, shows the sub-watershed boundaries in relation to the Sewerage Commission of Oroville Region (SC-OR) which is an agency studied in this MSR.

Description of Sub-Watersheds

Streams and creeks form naturally smaller sub-areas that contribute to the greater Feather River watershed. The following paragraphs describe some of these small sub-areas.

South Fork of the Feather River

The combined South Fork Feather River/Slate Creek watershed is an expansive watershed within the Sierra Nevada Mountain Range, covering approximately 100,814 acres, or 158 square miles. The South Fork Feather River watershed headwaters originate at an elevation of 7,457 feet and are bounded by the volcanic Cascade Range to the north, the Great Basin to the east, the Sacramento Valley to the west, and higher portions of the Sierra Nevada to the south. The upper watershed is ruggedly mountainous, bisected by deep canyons in the eastern third of the watershed. The central third of the watershed is a transition zone. Principal tributaries include Lost Creek, and the upper portion of Slate Creek, a tributary of the North Fork Yuba River (which contributes to the South Fork Feather River watershed by way of a tunnel through the Gibsonville Ridge). This watershed falls within the jurisdictions of four adjacent counties: Plumas County, Butte County, Sierra County, and Yuba County. (Data source: Draft Environmental Impact Report –Golf Resort at Lake Oroville).

Butte Creek Watershed

The Butte Creek watershed is approximately 809 square miles (162,199 acres) in size. Butte Creek originates in the Lassen National Forest at over 7,000 feet in elevation. Butte Creek travels through canyons, through the northwestern region of Butte County, and then through the valley, entering the floor near Chico. Butte Creek enters the valley section of the watershed near Chico, and then travels approximately 45 miles before it enters the Sacramento River. Several levees were constructed along Butte Creek by the US Army Corps of Engineers during the 1950s. The levees extend for over 14 miles along the Butte Creek channel. The mean monthly flow near Chico is 417 cfs, with peak flow occurring mid-February averaging 826 cfs. September typically sees the lowest flows, averaging 119 cfs. Downstream from Chico, instream flows typically range from 5 to 25 cfs during irrigation season. For additional information on the Butte Creek Watershed, please refer to this document: *California State University, Chico. Butte Creek Watershed Project Existing Conditions Report. 2000*.

Dry Creek/Cherokee Canal

The Cherokee Watershed has an area of approximately 261 square miles (167,053 acres). The Cherokee Canal was originally constructed to protect agricultural land from mining debris. The canal now serves as an irrigation drainage canal. Dry Creek becomes Cherokee Canal northeast of Richvale. The Gold Run and Cottonwood Creeks join the Cherokee Canal upstream of the Richvale Road crossing. Cherokee Canal eventually enters Butte Creek near the southwestern corner of Butte County, south of Highway 162.

Figure A-I-4: Spatial Distribution of Watershed Planning Areas in Butte County

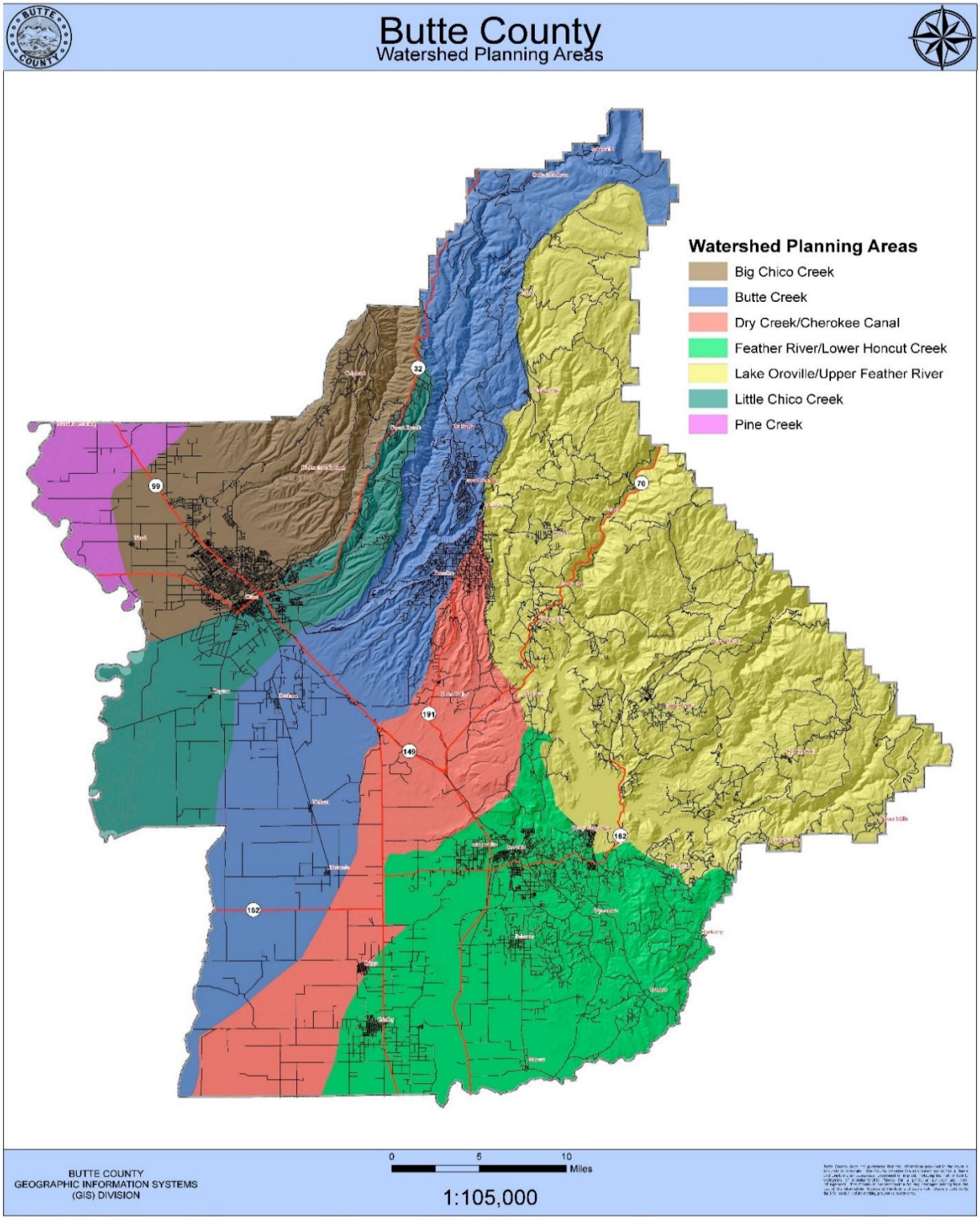
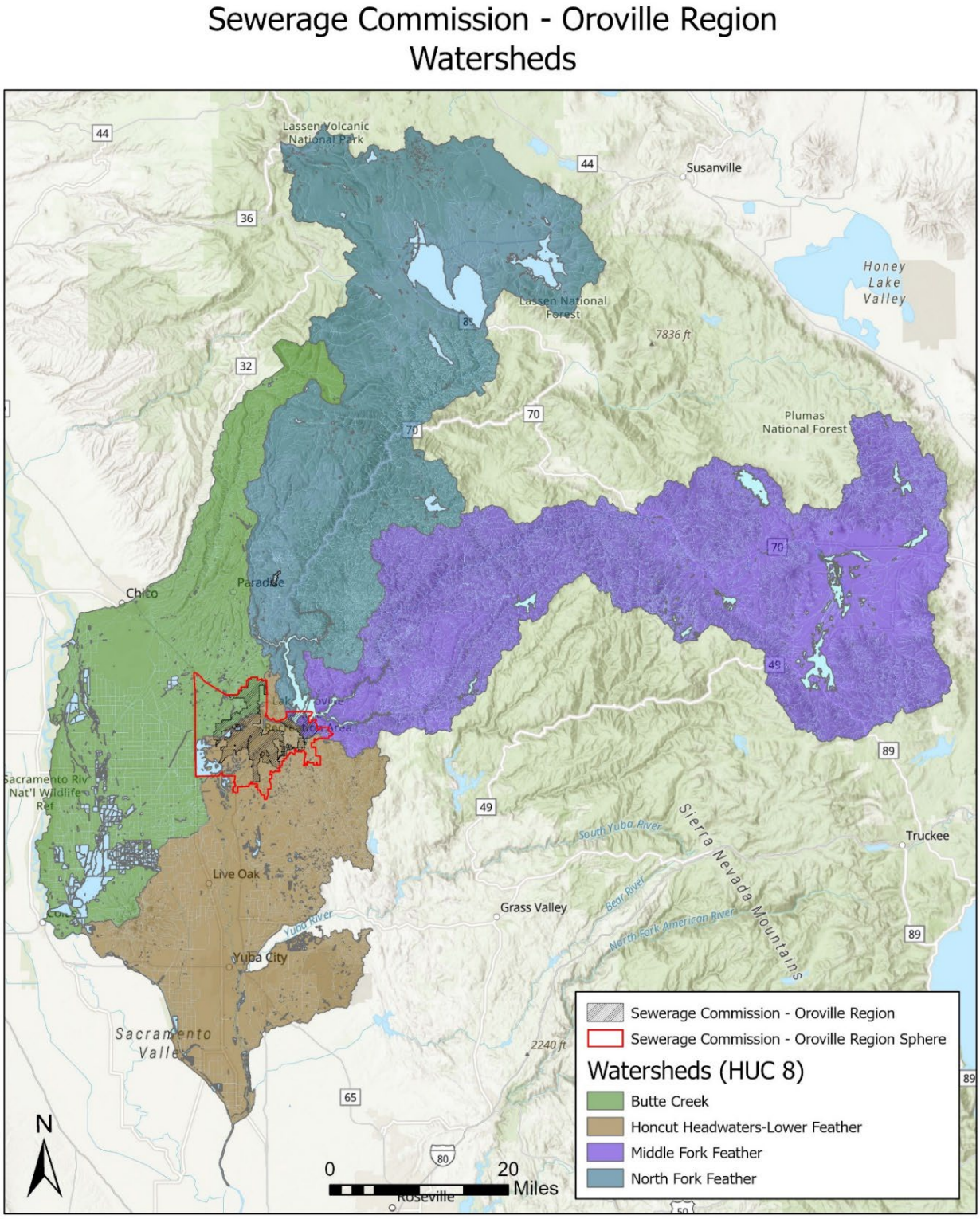


Figure A-I-5: Watershed Boundaries in Relation to the Sewerage Commission of Oroville Region (SC-OR)



Source: Esri, HERE, Garmin, SafeGraph, FAO, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, Esri, CGIAR, USGS, Butte County LAFCo GIS

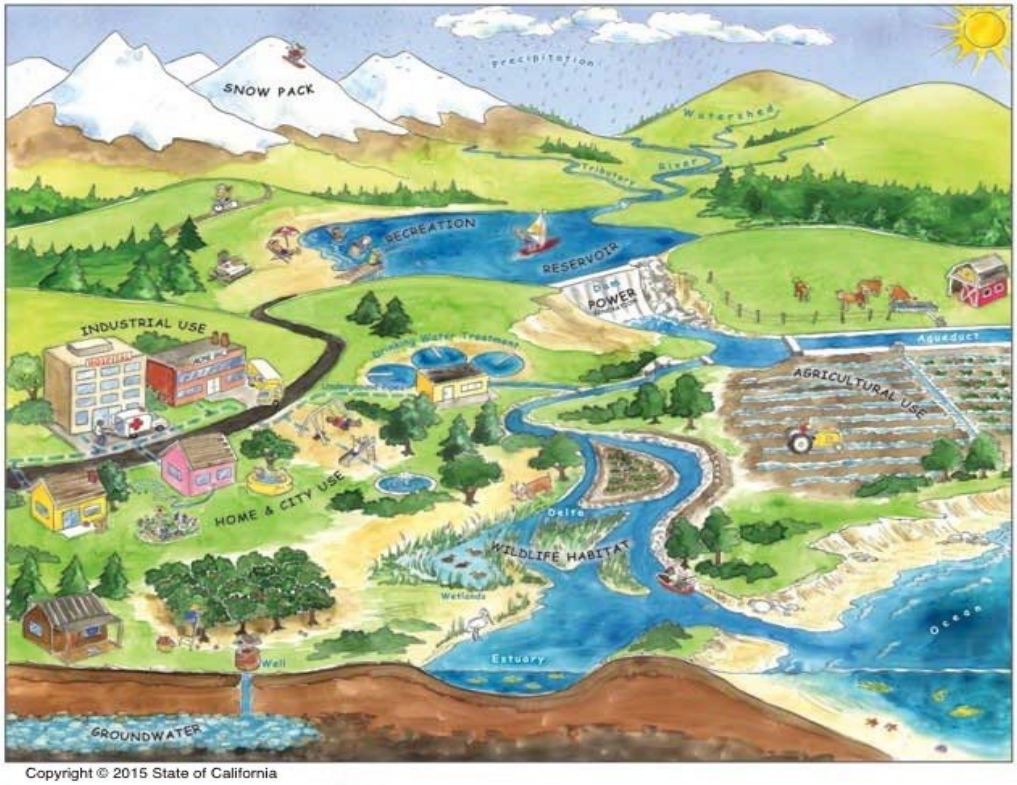
Feather River/Lower Honcut Creek Watershed

The Feather River/Lower Honcut Creek Watershed has a total area of approximately 280 square miles (178,925 acres). After the Feather River flows through the Oroville Dam, it enters the City of Oroville and continues south, joining with the Yuba River at Marysville and Yuba City, and eventually the Sacramento River. The Feather River/Lower Honcut Creek Watershed also contains another Dry Creek, unrelated to the Dry Creek in the Cherokee Watershed. This Dry Creek is located within the City of Oroville, contains three tributaries that join, and has a main channel that ends within the City of Oroville. Wyman Ravine, which originates south of the City of Oroville, drains the southern portion of the watershed, and flows into Honcut Creek. The north, middle, and south of Honcut Creek drain both the Lake Oroville/Upper Feather River Watershed and the Feather River/Lower Honcut Creek Watershed. The south fork of Honcut Creek forms the southern border of Butte County.

Infrastructure in the Watershed

The Feather River watershed surrounding the Oroville Area contains a diverse array of infrastructure designed to support both natural functions and human communities. A snapshot of some of this infrastructure is described in the following paragraphs. The CA Department of Water Resources prepared Figure A-I-6 to depict a typical northern California community that supplies water to the State Water Project. Lake Oroville is a key piece of the State Water Project.

Figure A-I-6: Typical Community Near State Water Project Infrastructure

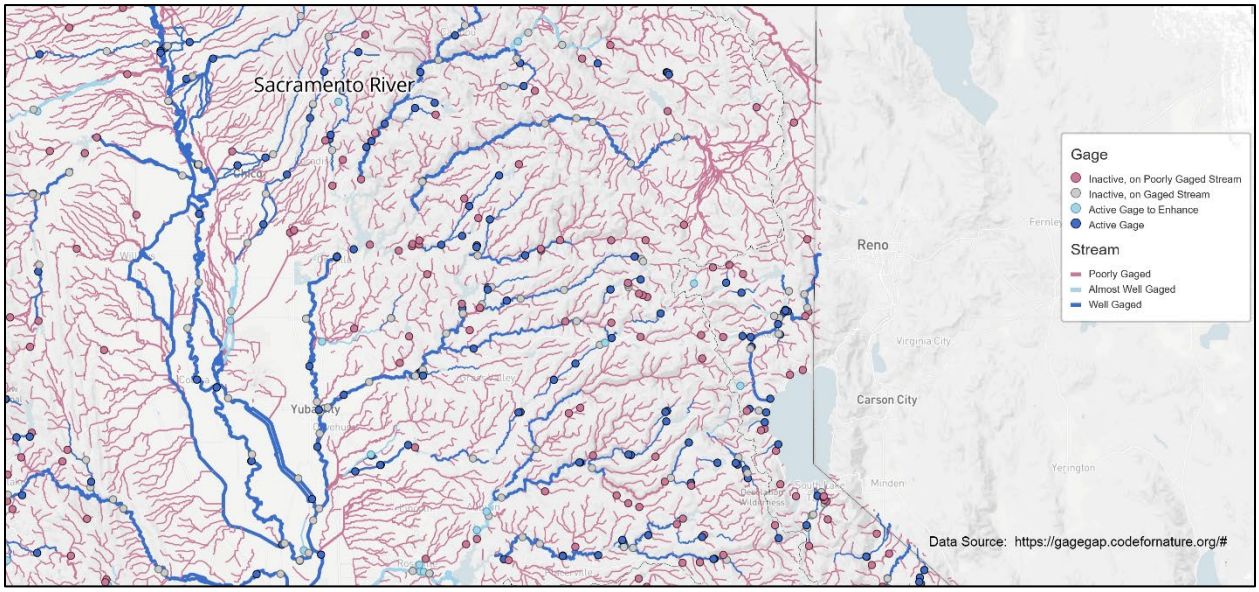


Streamflow Gages

It is important for water districts in California to understand the monitoring of surface water because it is the primary source of water for many. California has a highly engineered water system which moves millions of gallons of water from north to south and east to west. However, surprisingly little is known about how much water is moving through our streams at any given time. As our climate becomes increasingly erratic, tracking water flow becomes more critical. California's gage network overall is quite large — there are over 3,600 locations in California where stream gages have been active at some point; however, funding and staffing to maintain and upkeep many of the gages have been lost.

The Nature Conservancy and its partners utilized GIS to collect existing data on gages. With multiple databases (CDEC, USGS, NSIP, NWIS, NOAA), they tested for duplicates (while retaining attributes from multiple sources), crosswalk attributes, and collected information that is present on websites but not readily available for download. Using scripts, data scraping, and conversations with current data managers, they compiled the most comprehensive database of gages in California with over 4,000 records. A screenshot of the GIS map is shown in Figure A-I-7, below. Readers can access the full interactive web map here: <https://gagegap.codefornature.org/#>. In the Oroville area, the Feather River has several operating gages as depicted by the blue dots on Figure A-I-7. However, many of the smaller tributaries that feed into the river do not have actively working gages as depicted by red and grey dots in Figure A-I-7.

Figure A-I-7: Analysis of California's Stream Gage Network

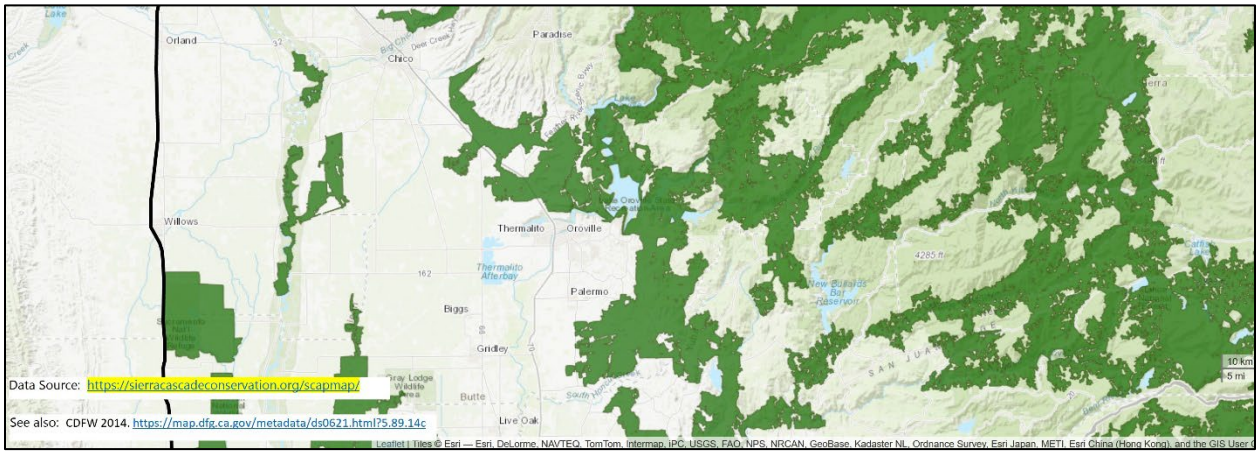


Green Infrastructure - Natural Blocks:

Although the City of Oroville is urbanized, it is surrounded by natural blocks of land. Figure A-I-8 depicts large, relatively natural habitat blocks, that support native biodiversity (Natural Landscape Blocks) and areas essential for ecological connectivity between them. This coarse-scale map was based primarily on the concept of ecological integrity, rather than the needs of a particular species. The watershed near Oroville benefits from existing open space. In Figure A-I-8, below, the green areas represent land that is managed

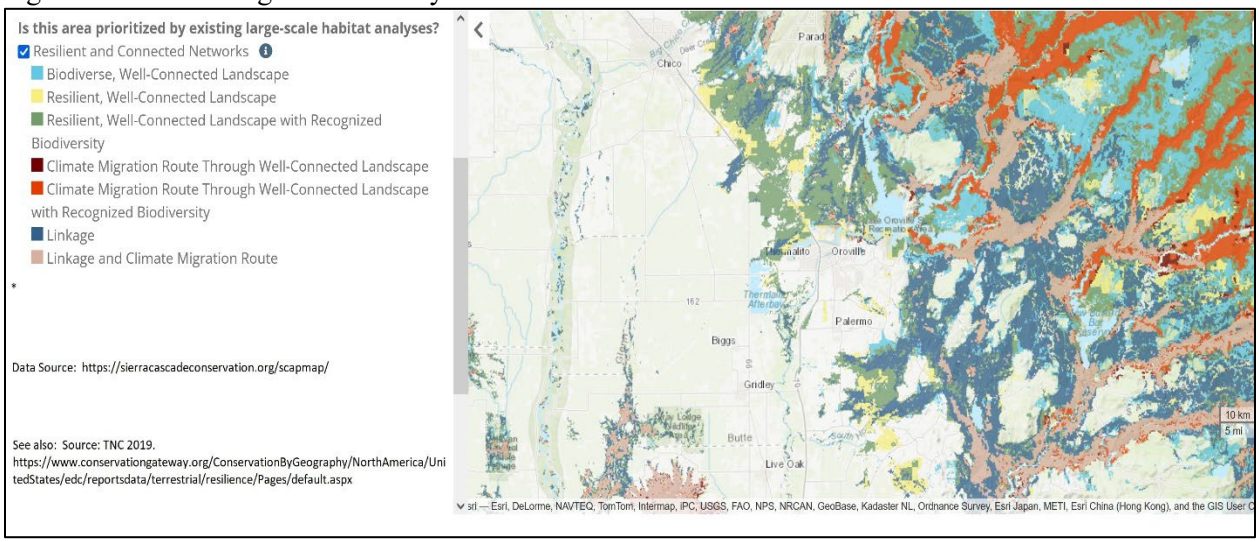
for the purpose of protecting natural resources. (Source: SCLTC n/d. and see also CDFW 2014. https://map.dfg.ca.gov/metadata/ds0621.html?5.89.14c

Figure A-I-8: Existing Large-Scale Habitat Analysis



Species diversity is site specific in the Oroville area with some areas having high biodiversity and other areas low biodiversity. The watershed hosts a diverse array of vegetation. The watershed also provides habitat for amphibians, aquatic macroinvertebrates, birds, fish, mammals, plants, and reptiles. Figure A-I-9 brings together resilience, permeability, and diversity to develop a connected network of sites that both represents the full suite of geophysical settings and has the connections and networks necessary to support the continued rearrangement of species in response to change. Source: SCLTC, n/d. and see also CDFW 2018. https://map.dfg.ca.gov/metadata/ds2769.html?5.84.09

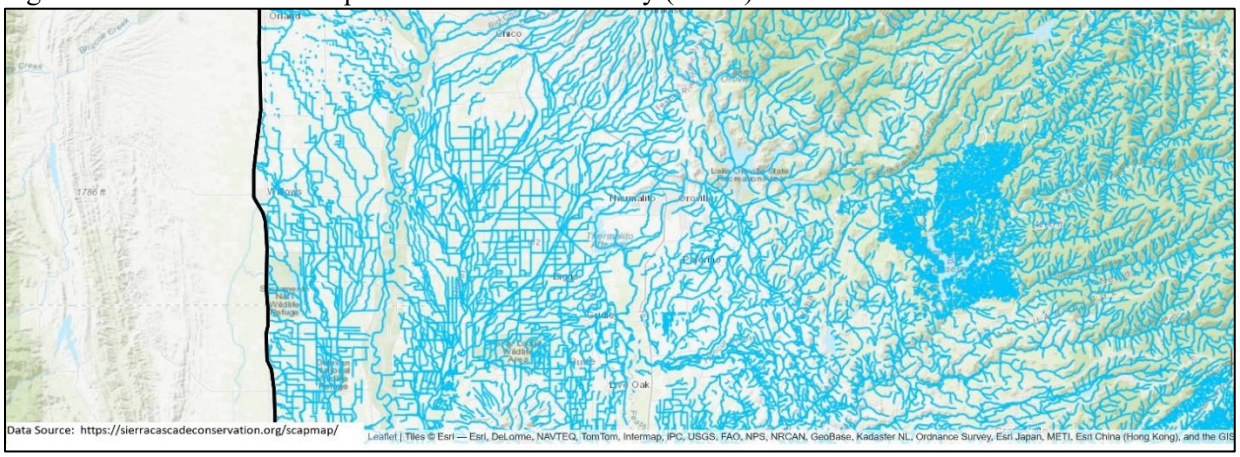
Figure A-I-9: Existing Habitat Analysis



Rivers and Streams

There is an extensive network of rivers and streams in the Oroville area. Figure A-I-10 below depicts the California Aquatic Resources Inventory (CARI) Streams: The current version of CARI is a compilation of local, regional, and statewide aquatic GIS datasets into a seamless, statewide coverage of aquatic resources that employs a common wetland classification system. Source: SCLTC, n/d. and see also CDFW 2017. https://map.dfg.ca.gov/metadata/ds2836.html?5.92.26

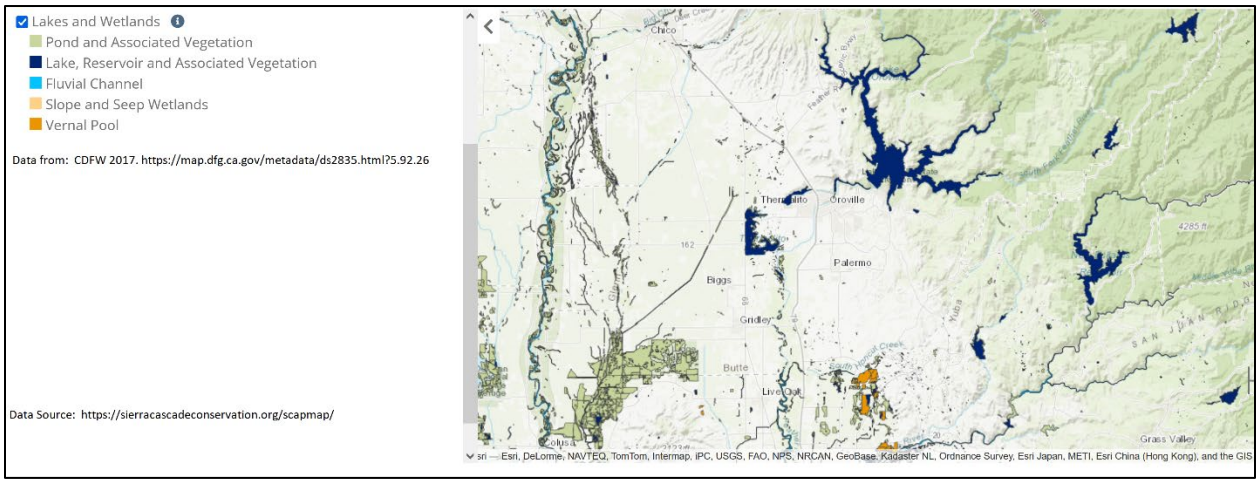
Figure A-I-10: California Aquatic Resources Inventory (CARI) Streams



Lakes

The lakes within the watershed are highlighted in dark blue in the following Figure A-I-11. The map is derived from the California Aquatic Resources Inventory (CARI) Wetlands. The current version of CARI is a compilation of local, regional, and statewide aquatic resource GIS datasets into a seamless, statewide coverage of aquatic resources that employs a common wetland classification system. The area surrounding Oroville has several types of aquatic features including ponds, lakes, reservoirs and associated vegetation, fluvial channels, slope and seep wetlands, and vernal pools. Source: SCLTC, n/d. and see also CDFW 2017. https://map.dfg.ca.gov/metadata/ds2835.html?5.92.26

Figure A-I-11: Lakes

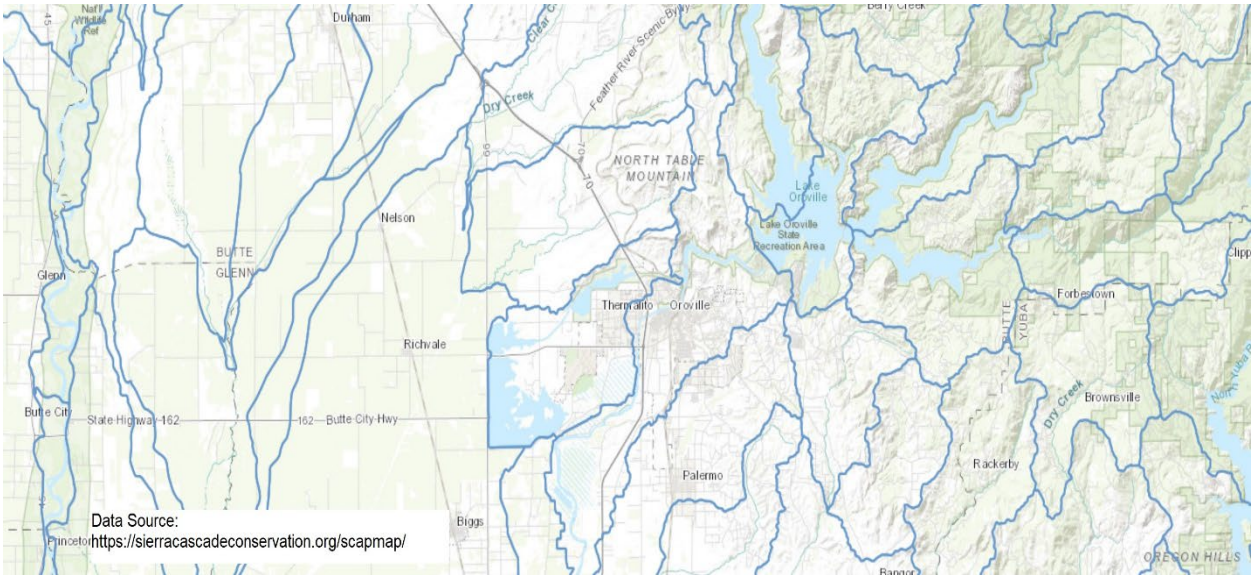


Sub-Watersheds

The National Hydrography Data Plus High Resolution (NHD Plus HR) provides delineation of HUC8 Watersheds and HUC12 Watersheds as shown in Figures A-I-12 and A-I-13 below.

Figure A-I-12: HUC-8 Watersheds

Figure A-I-13: HUC-12 Watersheds



For each of the watersheds depicted in the sub-watershed maps shown above, a profile is provided below in table format. Each table contains information specific to a watershed. Due to space limitations, only two profile samples are provided in Tables A-I-2 and A-I-3 below.

Table A-I-2: Profile of Honcut Headwaters-Lower Feather	
Location	39.5202, -121.5088
County	Butte County
Species Biodiversity	Very High
Terrestrial Significant Habitats	Very High
Freshwater Conservation Blueprint	Freshwater Conservation Blueprint Area
CNDDB-Tracked Elements	bald eagle, Butte County meadowfoam, California black rail, California red-legged frog, chinook salmon - Central Valley spring-run ESU, foothill yellow-legged frog, green sturgeon, steelhead - Central Valley DPS, tricolored blackbird, vernal pool fairy shrimp, and vernal pool tadpole shrimp
Vegetation	Blue Oak-Foothill Pine
Rivers and Streams	8.3 linear miles within 1 mile radius
Watershed (HUC-8)	18020159 Honcut Headwaters-Lower Feather

Data Source: Sierra Cascade Land Trust Council at:
https://sierracascadeconservation.org/scapmap/

Table A-I-3: Profile of Honcut Headwaters-Lower Feather Watershed	
Location	39.4980, -121.6029
County	Butte County
Species Biodiversity	Moderate
Terrestrial Significant Habitats	Very High
Freshwater Conservation Blueprint	Freshwater Conservation Blueprint Area
CNDDB-Tracked Elements	bald eagle, bank swallow, California black rail, chinook salmon - Central Valley spring-run ESU, slender Orcutt grass, steelhead - Central Valley DPS, Swainson's hawk, tricolored blackbird, valley elderberry longhorn beetle, vernal pool fairy shrimp, vernal pool tadpole shrimp
Vegetation	Annual Grass
Rivers and Streams	2.7 linear miles within 1 mile radius
Watershed (HUC-8)	18020159 Honcut Headwaters-Lower Feather
Watershed (HUC-12)	180201590201 Thermalito Afterbay
Flood Hazard	Area of minimal Flood Hazard
Soil Carbon Storage	0 Metric tons CO2/hectare
Aboveground Carbon Storage	0 Metric tons CO2/hectare
Wildfire Hazard Potential	Moderate
Burn Probability	1-in-1,000 to 1-in-464
Future Land Use 2050	Suburban
Park Access	20.0 people per square mile
CalEnviroScreen Score	81
Indigenous Traditional Territory	Koyom:k'awi (Konkow) Mechoopda Maidu
Agricultural Land (FMMP)	Urban and Built-Up Land

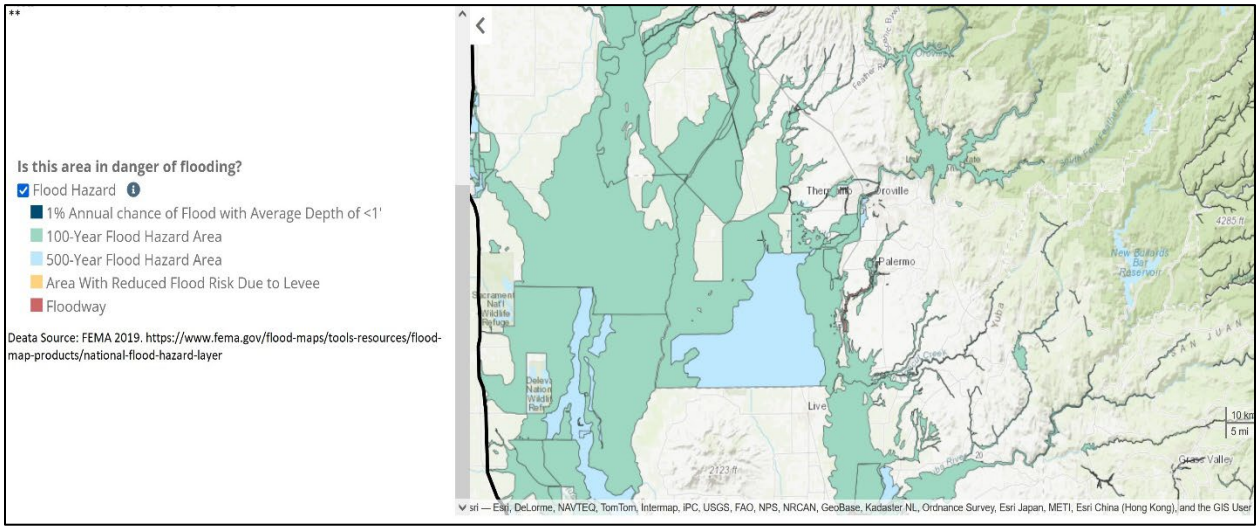
Data Source: Sierra Cascade Land Trust Council at:
https://sierracascadeconservation.org/scapmap/

Hazards and Planning Factors

Flooding

The 100-year floodplain in the Oroville area tends to follow the Feather River. The FIRM Database depicts flood risk information and supporting data used to develop the risk data. The primary risk classifications used are the 1-percent-annual-chance flood event, the 0.2-percent-annual-chance flood event, and areas of minimal flood risk. The FIRM Database is derived from Flood Insurance Studies (FISs), previously published FIRMs, flood hazard analyses performed in support of the FISs and FIRMs, and new mapping data, where available. Source: SCLTC, n/d. and see also FEMA 2019. https://www.fema.gov/flood-maps/tools-resources/flood-map-products/national-flood-hazard-layer

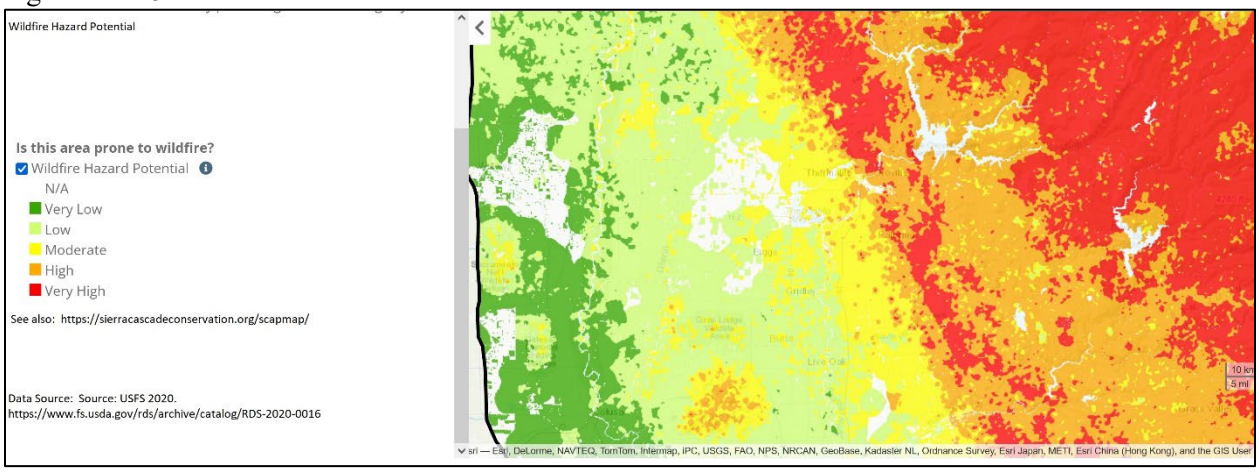
Figure A-I-14: Flood Risk



Wildfire Hazards

The Wildfire Hazard Potential is an index that quantifies the relative potential for wildfires that may be difficult to control, and it is used as a measure to help prioritize where fuel treatments may be needed. The City of Oroville's Wildfire Hazard Potential is rated as moderate and the surrounding areas are rated as high potential for wildfire as shown in Figure A-I-15, below. (Source: SCLTC, n/d. and see also USFS 2020. https://www.fs.usda.gov/rds/archive/catalog/RDS-2020-0016)

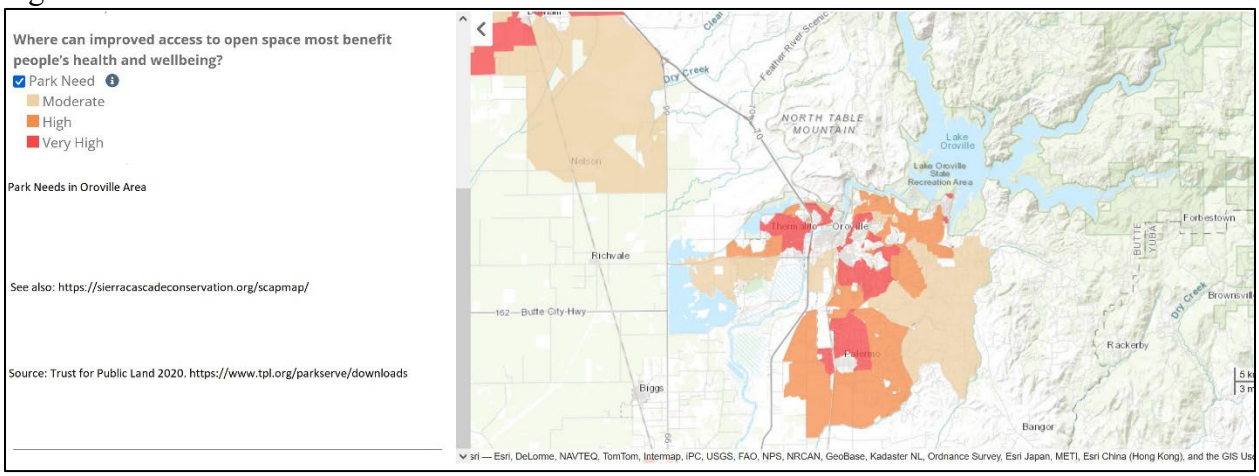
Figure A-I-15: Wildfire Hazard Potential



Park Needs

The City of Oroville and the Feather River Park and Red District provide several parks in the City of Oroville. However, the outlying areas surrounding Oroville may lack access. The Trust for Public Land (TPL) Park Access identifies block groups that do not have access to a park within a 10-minute walk. The area analyzed is limited to census designated places. Source: Trust for Public Land 2020. https://www.tpl.org/parkserve/downloads

Figure A-I-16: Park Needs in the Oroville Area

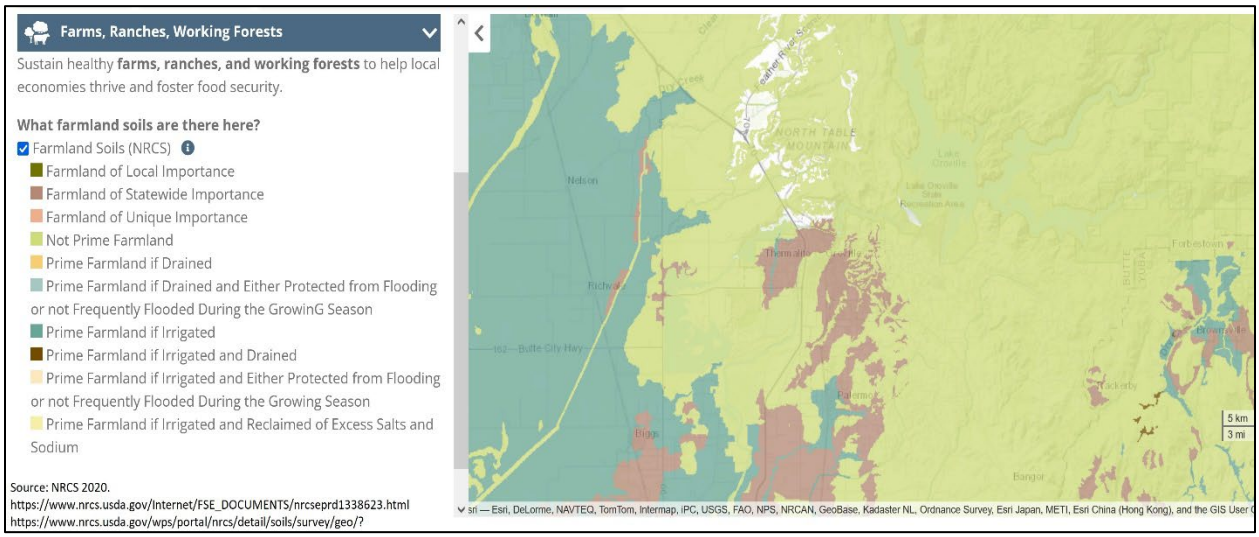


Farmland Soils:

The Oroville area has many different soil types as shown in Figure A-I-17, below. Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited for food, feed, fiber, forage, and oilseed crops. Near the City of Oroville, most existing farmland is utilized for grazing. West of the City of Oroville, prime farmland and unique farmland exist. (Source: SCLTC, n/d. and see also NRCS

2020. https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcseprd1338623.html https://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/survey/geo/?cid=nrcseprd1464625)

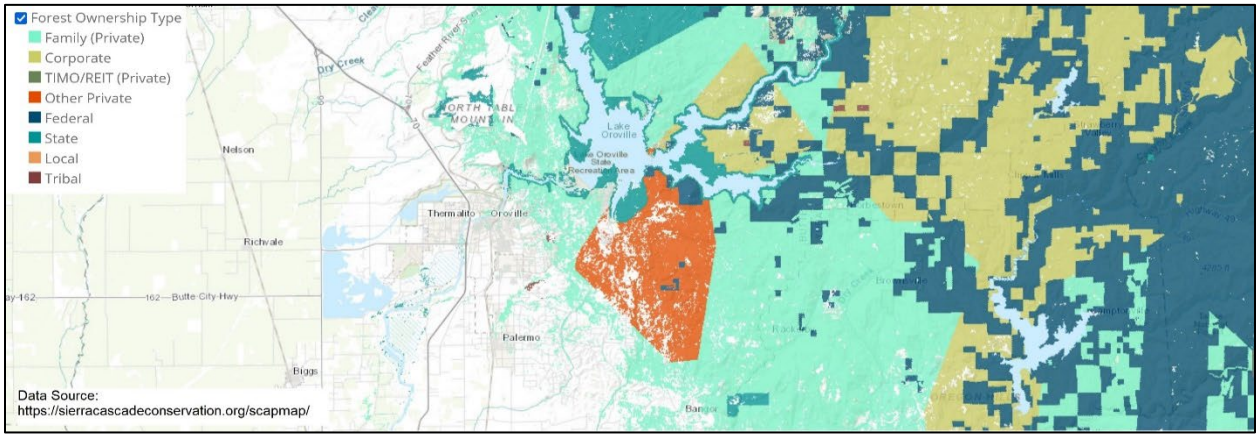
Figure A-I-17: Farmland Soils



Forests

Ponderosa pine forests are located East of Oroville. Timberland forests may be owned by private families, corporations, or TIMO/REIT. Other forests are managed by the U.S Forest Service. A geospatial dataset depicts ownership patterns of forest land across the conterminous United States. Eight ownership categories are modeled, including three public ownerships: federal, state, and local; four private categories: family, corporate, Timber Investment Management Organization (TIMO) and Real Estate Investment Trust (REIT), and other private (including conservation organizations and unincorporated associations); and Native American tribal land. The data are modeled from Forest Inventory and Analysis (FIA) points from 2012-2017 and the most up-to-date publicly available boundaries of federal, state, and tribal lands. The "red" area in Figure A-I-18 below is classified as "Other Private". (Source: SCLTC, n/d. and see also USFS 2020. https://www.fs.usda.gov/rds/archive/catalog/RDS-2020-0044)

Figure A-I-18: Forests



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APPENDIX J:

FLOOD RISK IN OROVILLE

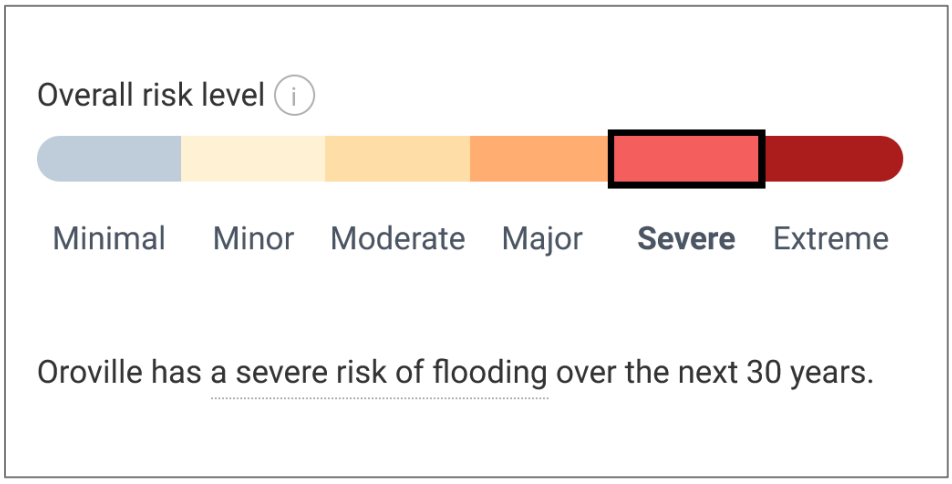
Appendix J: Flood Risk in Oroville

First Street Foundation, the science and technology nonprofit that developed the First Street Foundation Flood Model and created Flood Factor, has released the first ever nationwide community level flood resilience report titled "*The 3rd National Risk Assessment: Infrastructure on the Brink*", highlighting the flood risk over a 30 year period for every city and county across the conterminous United States. The report calculates the risk of five key dimensions of community risk: residential properties, roads, commercial properties, critical infrastructure, and social infrastructure. Based on the findings from this new study, the flood risk profile for the City of Oroville is described below.

Flood risk overview for Oroville

There are **1,464** properties in Oroville that have **greater than a 26% chance** of being severely affected by flooding over the next 30 years. This represents **20%** of all properties in the City. In addition to damage on properties, flooding can also cut off access to utilities, emergency services, transportation, and may impact the overall economic well-being of an area. Overall, **Oroville has a severe risk of flooding** over the next 30 years, which means flooding is likely to impact day to day life within the community.

Figure J-1: Risk Level

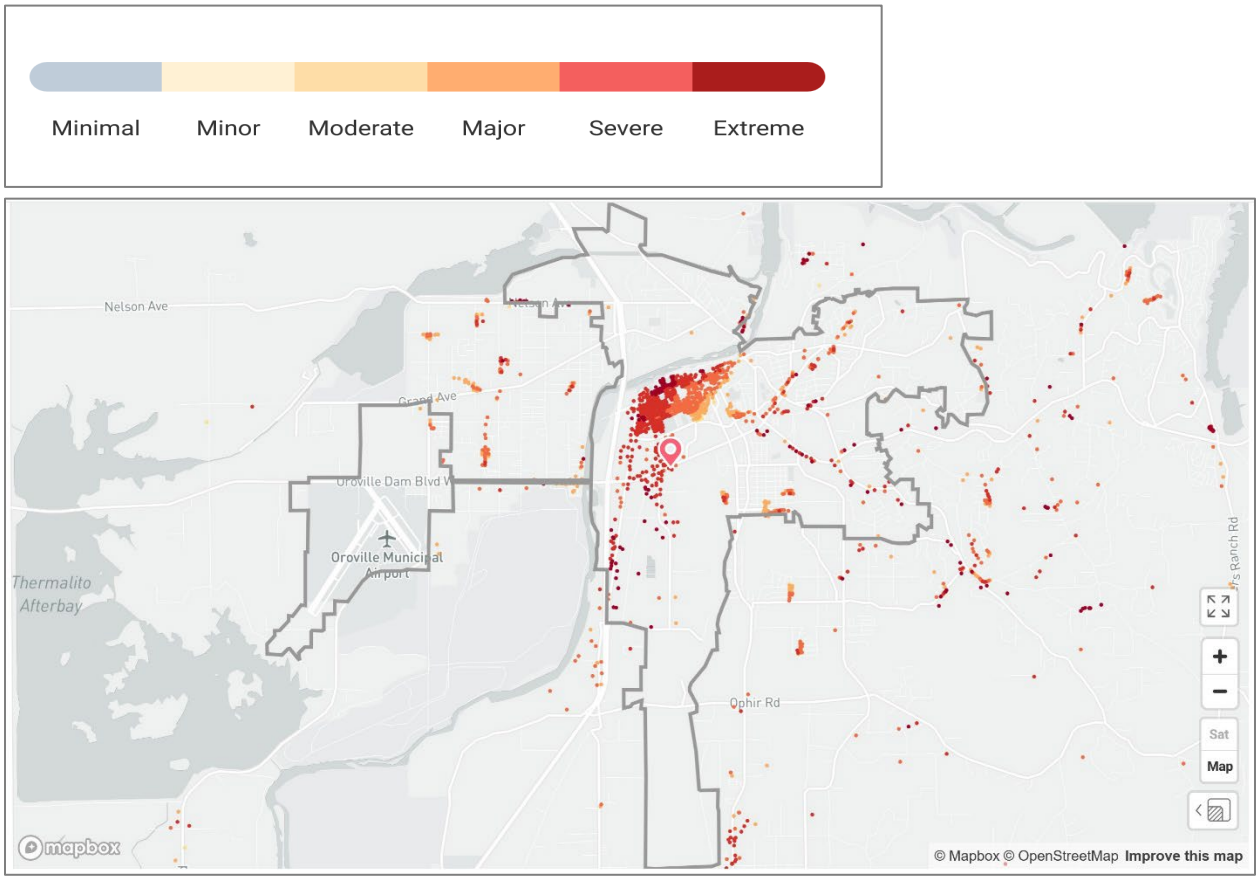


The overall flood risk assessment for Oroville was based on the risk of 5 categories: properties, businesses, roads, infrastructure and social. Each metric is graded on a 6-point scale, and combined to form the overall risk as shown in Figure J-1. This risk level considers risk over a 30-year period to account for the changing climate.

Figure J-2: Five Categories of Risk

The flood risk is spatially distributed in a patchy pattern such that some neighborhoods in Oroville have much higher flood risk as compared to others as shown in the map, Figure J-3, Map of Risk below.

Figure J-3: Map of Risk



There are solutions to protect Oroville

Communities that adapt to higher risks can limit damage and lower flood insurance costs. Oroville is already investing in flood risk reduction projects, but more may be needed. 9,758 properties located within the boundaries of the City of Oroville are at least partially protected by local flood risk reduction measures, known as adaptation.

Lowering flood risk starts with higher standards

Some places plan to a higher standard (a "500 year" standard) that lowers the number of properties at severe risk. Protecting homes to this level would reduce the risk to the **1,464** severely affected properties by 77%.

Table J-1: Chance of Floods

Flood Event	% chance of flooding in a given year	% chance of flooding over 30 years
100 year	1%	26%
500 year	.02%	6%

Flood risks vary by depth and likelihood.

Deeper floods from major events, like hurricanes, are less likely to occur, but cause greater damage than more shallow flood events, like heavy rains.

Table J-2: Projected flood risk					
Flooding likelihood	0.2%	1%	5%	20%	50%
# of Properties impacted	1,762	1,418	1,081	35	0

Figure J-4:

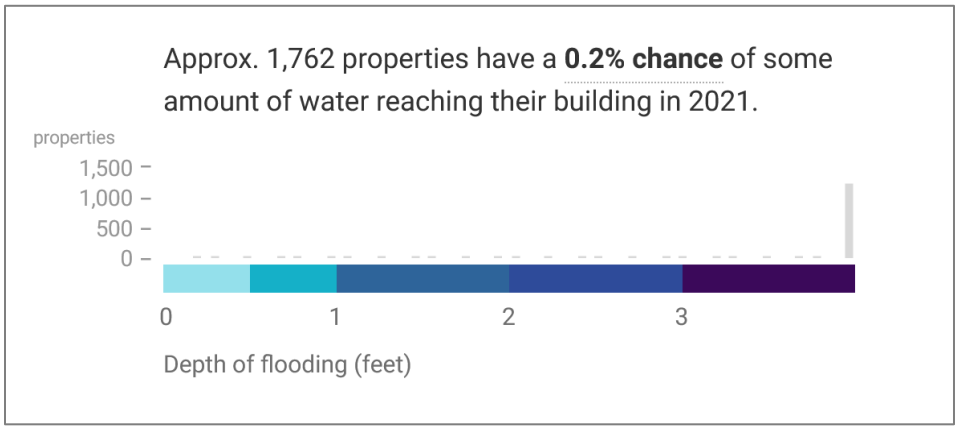
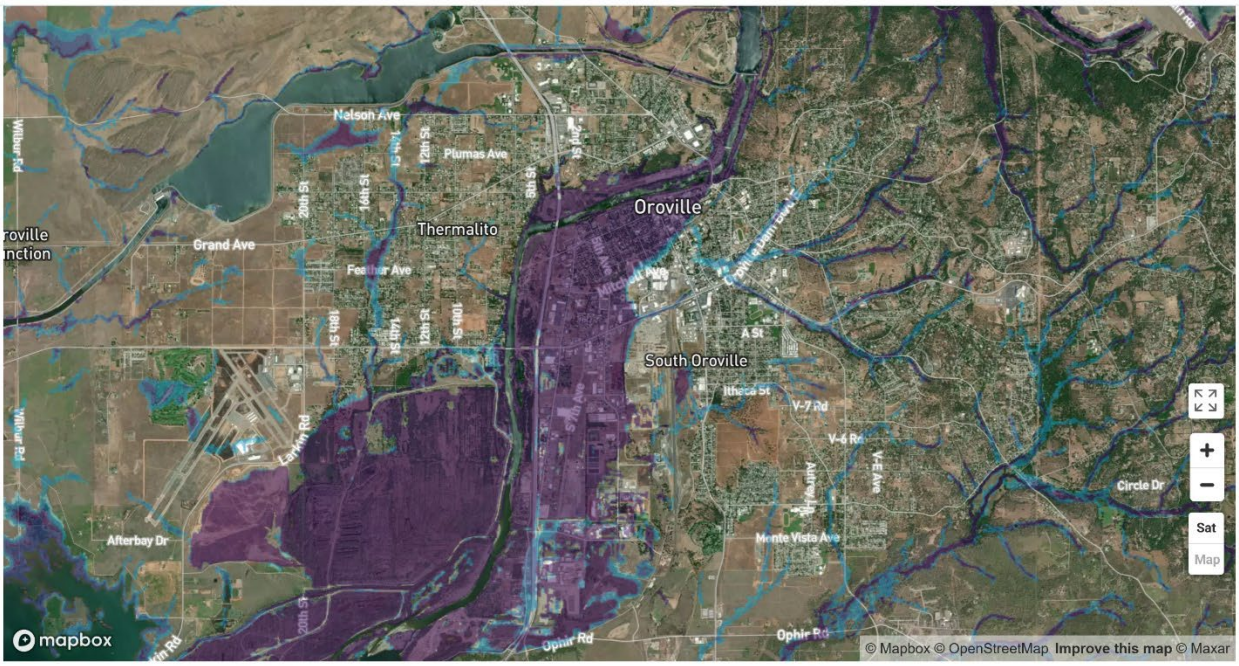


Figure J-5: Depth of Flooding



Solutions can protect Oroville.

Individuals, mayors, governors, and Congress can work together to build protections before flooding, build back stronger after flooding, and create plans that future-proof communities.

Flood risks are increasing because of the environment.
A changing environment means higher seas, new weather patterns, and stronger storms. As the atmosphere warms, there is more evaporation and more water available when it rains. A warmer atmosphere also means warmer oceans, which can intensify flooding from hurricanes and offshore storms.

About this Flood Risk Analysis
Flood Factor is a free online tool created by the nonprofit First Street Foundation that makes it easy for Americans to find their property's risk of flooding and understand how flood risks are changing because of a changing environment.

Flood Factor was created to make the most cutting-edge flood science:

- Accessible to all
- Available at the property level
- Easy to understand

First Street Foundation aims to quantify and communicate America's flood risk. By making flood risk data freely available for all, individuals and communities can prepare for and mitigate risks before they become a reality. The creation of Flood Factor required an unprecedented partnership of more than 80 world-renowned scientists, technologists and analysts working towards a unified goal: creating the First Street Foundation National Flood Model, the first publicly available, peer-reviewed model to consider changes in the environment and show how property-level flood risks change over time as a result.
The model calculates any location's probability of flooding from the four major flood types: rain, riverine, tidal events, and storm surge. The model further incorporates high-precision elevation data and local adaptation measures like seawalls and levees into its flood projections, validates against modeled historic floods, and then analyzes and maps the combined flood risk. First Street Foundation supports scientific collaboration and data transparency, and created Flood Factor to make its peer-reviewed research on these risks freely available to all. Flood Factor simplifies flooding so every American can find their risk, understand the science, and make informed decisions to prepare for the future.

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Appendix K

Water and Wastewater Recommendations from American Society of Civil Engineers

Appendix K: Water and Wastewater Recommendations from American Society of Civil Engineers

Introduction

The American Society of Civil Engineers (ASCE) was founded in 1852 and is the nation's oldest engineering society. ASCE represents more than 150,000 members of the civil engineering profession in 177 countries. In the California, the chapter of ASCE published a report entitled "Report Card for California's Infrastructure". An excerpt from this report is provided in the following pages. Readers are invited to view the full-report on the ASCE website as listed in the bibliography provided on the next page.

Drinking Water: Recommendations To Raise The Grade

Recommendations related to potable water supply and associated infrastructure are listed below.

- ADDRESS AGING INFRASTRUCTURE NEEDS. As water rates are usually set by locally elected boards and commissions that generally run on low water rate platforms, there is a need for additional consumer education on the current funding needs and the negative impacts of further delaying action to facilitate fair and appropriate water rates needed to fund infrastructure improvements for all water systems statewide.
- CONTINUE TO MAKE CONSERVATION A CALIFORNIA WAY OF LIFE. The Water Conservation Act of 2009 requires a 20% reduction in urban per capita water use by December 31, 2020. Though a great start, more can and must be done. Key areas of future focus include expanded development of sustainable water supplies at the regional level and agricultural water use efficiency.
- INCREASE REGIONAL SELF RELIANCE AND INTEGRATED WATER MANAGEMENT ACROSS ALL LEVELS OF GOVERNMENT. The State's Integrated Water Management Planning program is a 21st century approach that supports regionally driven, multi benefit projects that increase regional self-reliance and sustainable practices. Funding for the program should be expanded to foster improved alignment between land use and water, provide assistance to disadvantaged communities, and support better use of local water supplies such as recycling, stormwater capture, and desalination.
- ACHIEVE THE CO EQUAL GOALS FOR THE DELTA. The co-equal goals of the Delta Stewardship Council are to provide a more reliable water supply for California and to protect, restore and enhance the Delta ecosystem. Implementation must start on the Delta Plan, including California EcoRestore, which will restore more than 30,000 acres of critical Delta habitat.

- MANAGE AND PREPARE FOR DRY PERIODS. Temporary shortages caused by extended, severe dry periods will become more frequent with climate change. Effective management of water resources through all hydrologic conditions will reduce impacts of shortages and lessen costs of response actions. Among the necessary steps to secure more reliable water supplies is updating dam and delivery operations to respond to extreme conditions. This will require continued improvement in water forecasting and cooperation among agencies.

Wastewater: Recommendations To Raise The Grade

- Make risk-based decisions on capital improvements, maintenance, and operations (i.e. – implement asset management programs).
- The State of California should continue to provide loans and grant funding for the repair and rehabilitation of wastewater collection and treatment systems, as well as reuse projects.
- The State of California should continue to implement indirect and direct potable reuse regulations.
- Implement an education program at the state and local level about what a wastewater treatment plant is, what kind of wastes it can treat, as well as what impact wastes have on the sewer pipes such as grease and flushable wipes, etc. Continue educational programs on how to identify a sewer overflow and who to call if such an event occurs.
- Continue advancements in water reuse/recycling. Expand recommendation on re-use/recycling

Bibliography

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##

Appendix L
Housing in the Oroville Area

Appendix L
Housing in the Oroville Area

The State of California has a well-documented housing shortage which increases the price of housing (LA Times, 2022). New home construction is complex due to factors such as land costs, materials, labor availability, financing for developers, and interest rates on mortgages for homeowners. The provision of a range of housing types in the Oroville Area is a topic of conversation within the community. City and County planning officials generally aim to balance considerations around costs, quality of life, and housing shortage in the community. One question that has been raised in the Oroville Area is whether sewer or municipal water infrastructure capacity might be a limiting factor constraining new development in the area.

POPULATION

The existing and projected population in the Oroville area is described in this MSR in Chapters 1 to 7. Appendix A provides details on the existing population in Butte County, and Appendix B describes the population in the City of Oroville. Appendix H describes the economy of Butte County and contains references and links to more detailed economic information.

AFFORDABLE HOUSING

The Housing Authority of the County of Butte (HACB) is a non-profit public agency incorporated in 1946. HACB's mission is to assist low- and moderate-income residents of Butte and Glenn Counties to secure and maintain high quality affordable housing. HACB utilizes funding provided by the U.S. Department of Housing and Urban Development and the USDA Rural Development. Low-income families, seniors and disabled individuals are eligible for subsidized housing as described on their website at: < *http://www.butte-housing.com*>.

California's most recent eight-year housing plan, which ended in 2014, shows that Oroville and BCAG identified a need for 2,363 new housing units. However, only 300 were actually built. This represents a build rate of only 13 percent of what is needed (LA Times, 2022).

BUTTE AREA COUNCIL OF GOVERNMENTS

In Butte County, the Butte County Association of Governments (BCAG) describes how many new homes are needed across four income levels: very low, low, moderate, and above-moderate. This is intended to allow all cities and counties to receive their fair share of growth. Local governments utilize their Housing Elements to show they've zoned enough land for the new housing. Then, the Housing Element is sent to the State who must sign off on those plans.

CITY OF OROVILLE – 2022-2030 HOUSING ELEMENT

The City of Oroville's 2022-2030 Housing Element was adopted by the City Council on July 19, 2022. The document can be found at this link: <*https://www.orovillehousingelement.com/_files/ugd/5c8158_041024f4c66544918855ffd6cc4a1cbc.pdf*>. The updated Housing Element covers the eight-year period from June 2022 to June 2030. This update will provide the City of Oroville with a plan to "…promote the production of safe,

decent, and affordable housing for all of its residents" (City of Oroville, 2022). The previous Housing Element in June 2014 was adopted during a time of reduced funding, primarily due to the elimination of Redevelopment Agencies (RDA) (City of Oroville, 2022). Due to the lack of funding, the City was unable to provide rehabilitation assistance to multi-family units (City of Oroville, 2022). The new Housing Element highlights new goals and visions that address the City of Oroville's housing needs. The housing needs were established through the assessment of various data sources, which then allowed the development of Goals, Policies, and Actions. A Site Inventory and infrastructure assessments established that the City has the necessary infrastructure to support the new development of units found in the Site Inventory (City of Oroville, 2022). According to the 2022-2030 Housing Element, the City 2030 General Plan, municipal code, and design guidelines greatly reinforce community character and safety. The Regional Housing Needs Allocation for the City of Oroville, 2022-2030, suggests that 625 new residential units will be needed prior to the year 2030 (COOR, 2022).

BUTTE COUNTY PUBLIC REVIEW DRAFT 2022-2030 HOUSING ELEMENT

Butte County released the Public Review Draft of the 2022-2030 Housing Element in June 2022. The document can be found at this link: <*https://www.buttecounty.net/Portals/10/Docs/GP2040/BUTTECOUNTY_2022-2030_Housing_Element_Public_Review_Draft_June%202022.pdf?ver=2022-06-01-105242-350*>. The document highlights the goals, policies, and actions that the County of Butte will follow as it develops new housing, rehabilitates, and preserves throughout the eight-year planning period (County of Butte, 2022). The previous 2014-2022 Housing Element provided a basis for programs, including the completion of zoning ordinance amendments, completion of rezone efforts, and the completion of the Butte County Homeless Continuum of Care Homeless Count Report. Between 2010-2021, the number of households within the Unincorporated Area decreased due to events such as the 2018 Camp Fire and the 2020 North Complex Fire. During this period, the population decreased from 83,758 to 59,414 (County of Butte, 2022). This decrease in Unincorporated Area residents resulted from people moving to local cities. The Unincorporated Area lacks multi-family options, limiting housing affordability overall. It is indicated that in the Unincorporated Area there were "…approximately 67 percent of households earning 30 percent or less of the AMI spent more than 30 percent of their income on housing costs, with 58 percent of households that spent more than 50 percent of their income on housing costs experiencing severe housing cost burdens" (County of Butte, 2022). The Regional Housing Needs Allocation (RHNA) for the County has mandated that the Unincorporated Area develop 3,782 units that suffice all income categories (County of Butte, 2022).

BUILDING HOMES AND JOBS ACT

California's legislature approved the Building Homes and Jobs Act (SB 2, 2017), administered by the California Department of Housing and Community Development (CA HCD). CA HCD allocates SB 2 Planning Grants that provide Funding and technical assistance to local governments in California to help cities and counties prepare, adopt, and implement plans and process improvements that streamline housing approvals and accelerate housing production. Details regarding SB 2 Planning Grants can be found on this website: <*https://www.hcd.ca.gov/sb-2-*

planning-grants >. This MSR was funded through a SB 2 Planning Grant in cooperation with Butte County, Butte LAFCO, and CA HCD.

CALIFORNIA HOUSING ACT (SB 9)

Effective January 1, 2022, Senate Bill 9 (SB 9) was designed to provide new ways to increase housing supply options in urban areas. Property owners in many single-family zones now have the option to build a secondary dwelling unit on their current property or subdivide their land into two separate entities and possibly construct a total of three new units (in addition to the existing single-family home). Several other rules apply, and property owners are encouraged to contact their city planning department for additional details. Ultimately, SB 9 may encourage additional infill development.

California Middle Class Housing Act

California Middle Class Housing Act [Senate Bill 6 (Caballero)] was passed by the California Legislature on Aug. 29, 2022. This new law takes effect on July 1, as *Governor Newsom signed it.* If the project proponents commit to providing both prevailing wage *and* more costly "skilled and trained workforce" requirements for project labor then *under this law, underutilized commercial space (i.e. retail, office, and parking lots) can be converted into housing* without needing rezoning approval. SB 6 projects may be either a 100-percent residential project or a mixed-use project where at least 50 percent of the square footage is dedicated to residential uses. SB 6 projects are not exempt from CEQA but need not provide any affordable housing. Project proponents must also comply with the laws lot size requirements, location requirements, and must be consistent with any applicable and approved sustainable community strategy. This law aims to provide expedited development to convert vacant buildings and parking lots into homes for middle- and working-class families.

Affordable Housing and High Road Jobs Act

Assembly Bill (AB) 2011 (Wicks), the Affordable Housing and High Road Jobs Act of 2022, was approved by the California Legislature. This new law was approved by Gov. Gavin Newsom and becomes effective on July 1, 2023. This legislation aims to unlock the potential for housing production on sites currently zoned and designated for commercial or retail uses.

AB 2011 creates a CEQA-exempt, ministerial approval process for multifamily housing developments on sites within a zone where office, retail or parking are the principally permitted use. AB 2011 projects must pay prevailing wages to construction workers and meet other labor standards. The law provides for slightly different qualifying criteria:

1) for 100-percent affordable projects, and
2) for mixed-income projects located commercial corridors.

SEWAGE CAPACITY

The wastewater treatment plant operated by SC-OR (Chapter 5) bases sewer utility capacity on equivalent residential dwelling units (EDUs). EDUs can be considered metaphorically analogous to the allotment of shares that LOAPUD, TWSD, and COOR have in the SC-OR JPA WWTP. The capacity of local wastewater service providers to provide service to existing and newly constructed homes is described in this MSR in Chapters 2 to 7.

MUNCIPAL WATER INFRASTRUCTURE

Municipal water service is provided by the following service providers:

- Cal Water, a private company, described in Appendix Q.
- Thermalito Water and Sewer District, a local public agency described in Chapter 7.
- South Feather Water and Power Agency, a local public agency described in Chapter 6.

AFFORDABILITY OF UTILITIES (INCLUDING WATER AND SEWER)

In California, there are a number of well-established affordability programs based on household income data, including:

- California Alternate Rates for Energy (CARE);
- Family Electric Rate Assistance Program (FERA);
- Federal Low Income Home Energy Assistance Program (LIHEAP);
- Low Income Energy Efficiency Program (LIEE); and
- California LifeLine Program.

Welfare and social service experts can provide details about eligibility and the application process for these programs.

OTHER FINANCING OPPORTUNITIES

Oroville contains a federally recognized "Opportunity Zone," as shown on the map in Figure M-1, below. Opportunity Zones are census tracts that are economically-distressed communities where new investments may, under certain conditions, be eligible for preferential federal tax treatment or preferential consideration for federal grants and programs as described at this website: <*https://www.opzones.ca.gov/*>.

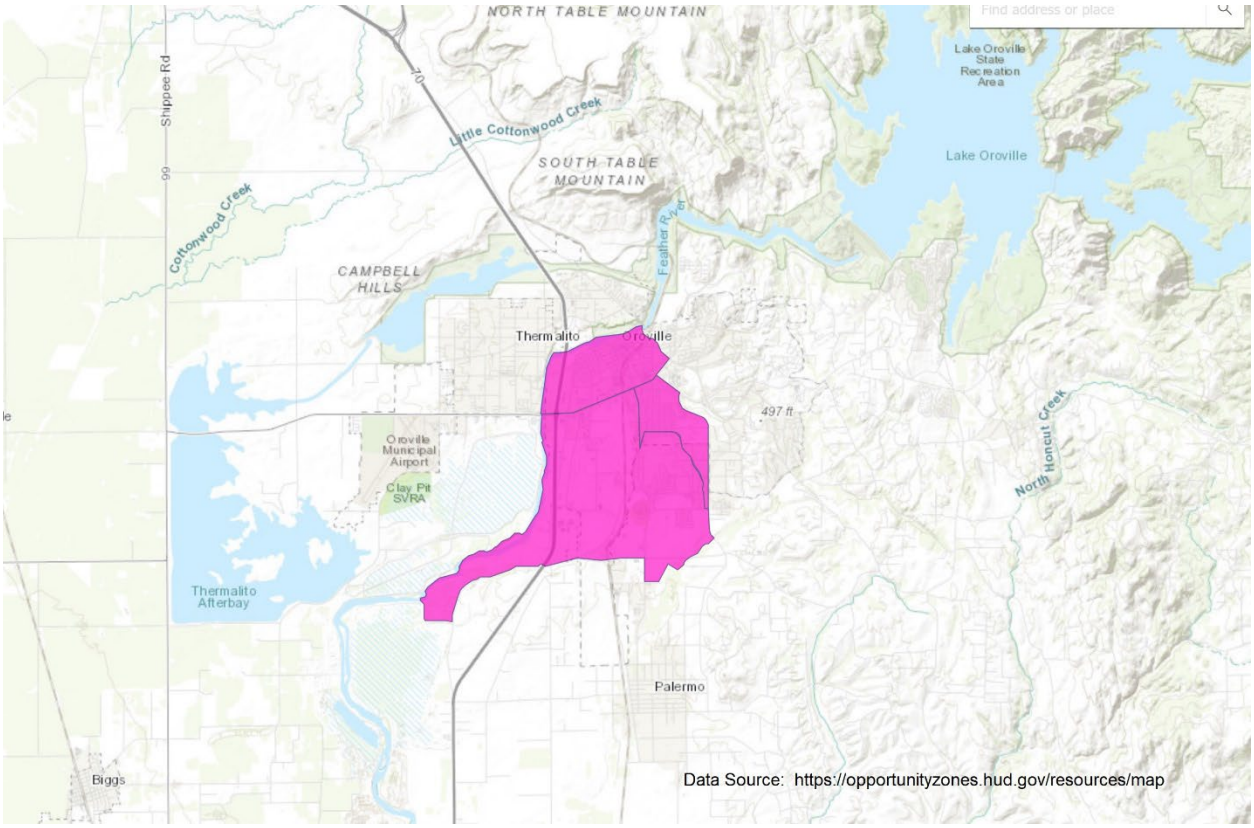

Figure M-1: Federal Opportunity Zone

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Attachment:

- Butte County 2021 Affordable Housing Needs Report