

8 WATER RESOURCES ELEMENT



*A clean, safe, and reliable water supply is critical to Butte County's environment and economy.
Photo courtesy of Tovey Giezentanner, General Plan 2030 Citizens Advisory Committee member.*

Water is one of Butte County's most important natural resources. Precipitation, surface water, and groundwater contribute to Butte County's residential, commercial, agricultural, environmental, habitat, and recreational uses. Population growth, continued water demands from agricultural and industrial uses, and water needs for environmental uses are all crucial needs that compete for the county's water supply.

The Water Resources Element provides information about water supply, water quality, stormwater management, and water service in Butte County. This Element contains goals, policies, and actions designed to protect, maintain, and restore water resources and adapt to drought and other related climate change impacts. Issues related to drought and flood are also addressed in the Health and Safety Element.

This Element is organized into two sections:

- ◆ **Background Information.** Provides a brief overview of the existing water supply and water demands in Butte County and how they are currently managed. An expanded discussion about Butte County’s water resources is available in Chapter 12 (Water Resources) of the Butte County General Plan 2040 Setting and Trends Report.
- ◆ **Goals, Policies, and Actions.** Provides additional guidance to the County related to decisions about water resources.

A. Background Information

Butte County is in the Sacramento River Hydrological Region, which includes the Sacramento River, the longest river system in the State of California and its tributaries, including, but not limited to, the Pit, Feather, Yuba, Bear, and American Rivers. The Sacramento River Hydrological Region is the main water supply for much of California’s urban and agricultural areas. Major water supplies in the region are provided through surface water storage reservoirs.

1. Water Sources

The primary water source in the Sacramento River Hydrological Region, including Butte County, is surface water provided through surface storage reservoirs, which serve 69 percent of the county water needs. Groundwater provides about 30 percent of the water supply for urban and agricultural uses in the Sacramento River Hydrological Region. Based on the 2016 Butte County Water Inventory and Analysis Report, approximately 95 percent of developed water use is for irrigated agriculture and managed wetlands, with the remaining five percent for developed lands.¹

a. Surface Water

Surface water resources in Butte County lie within the Sacramento River watershed. Primary waterways include the Feather River and its several branches and the Sacramento River, which forms the county’s western boundary, as well as Butte Creek and Big Chico Creek. The majority of the surface water supply used by Butte County residents and businesses originates in the Feather River watershed, accumulates in Lake Oroville, and is primarily used for agriculture. Local irrigation districts’ surface water rights are provided through the California water rights priority system, which recognizes the right to the use of water based on a first-in-time, first-in-line basis.

¹ Butte County, *Water Inventory & Analysis Report*, 2016.



Lake Oroville. Photo courtesy of Tony Rushing, General Plan 2030 Citizens Advisory Committee member.

Prior to the development of the Oroville Dam, Butte County negotiated with the State of California to receive an allocation of water for growth and future needs within the county as a State Water Project Contractor. Butte County sells a portion of their State Water Project Table A allocation to the Del Oro Water Company and California Water Company – Oroville. In addition, Butte County has long-term lease agreements with other State Water Project Contractors for portions of any surplus Table A allocation. These agreements are set to expire in 2031.

b. Groundwater

A majority of residential water supply in incorporated portions of the county is extracted from groundwater basins. The availability of groundwater in an area depends largely upon its geologic, hydrologic, and climatic conditions. In Butte County, reserves of groundwater are found in the thick sedimentary deposits of the Sacramento Valley Groundwater Basin. Groundwater can also be found in more limited amounts in mountainous areas of the county within fractures of volcanic, metamorphic, and granitic rock.

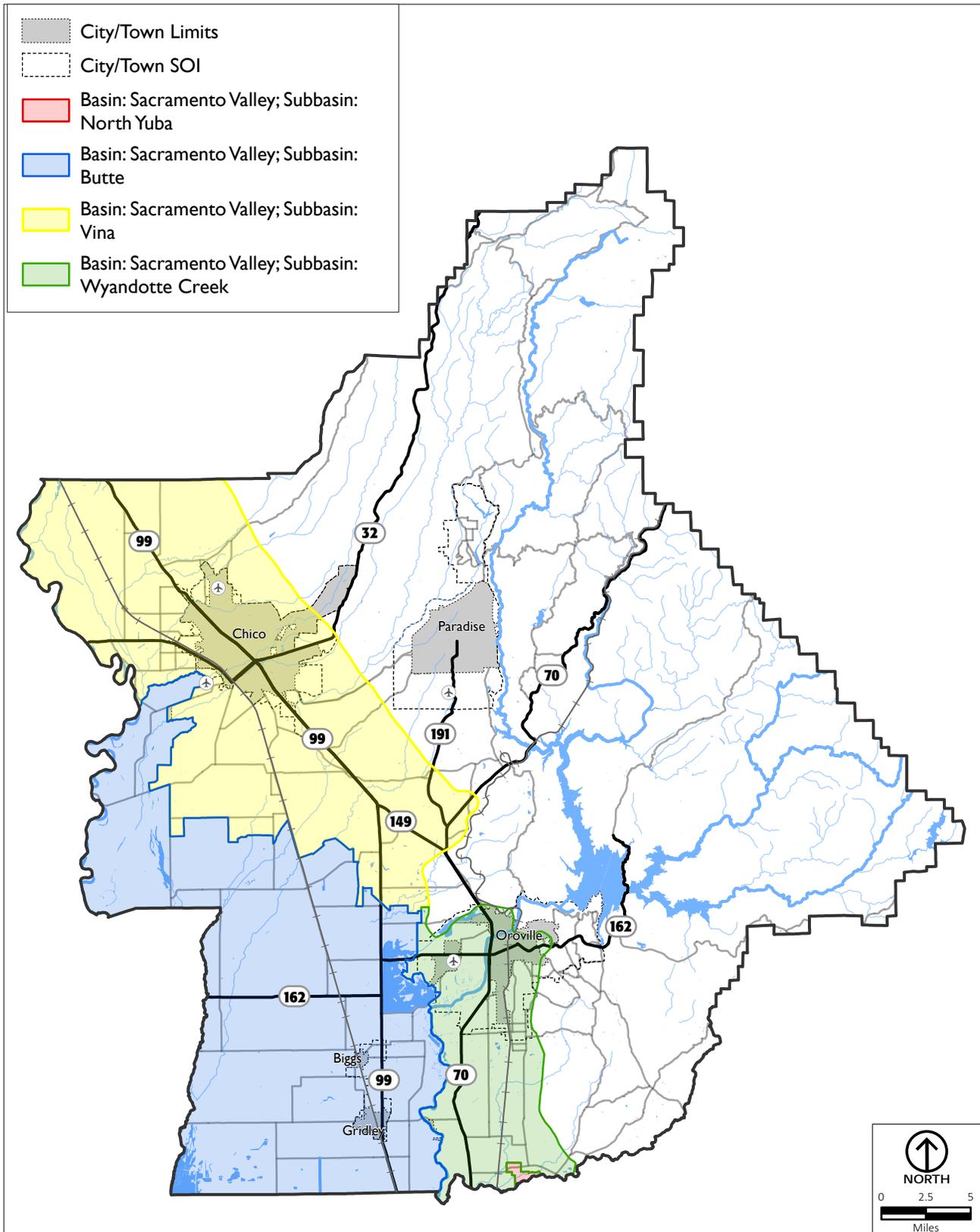
Groundwater is stored in the pore spaces between particles of granular soil and rock materials, and in the joints and fractures of consolidated rocks. In coarse-grained material, such as sand and gravel, pores are more interconnected than those of clay or silt, facilitating the free movement of water. Fine-grained materials, such as clay and silt deposits, impede groundwater movement and do not readily yield water. Consolidated rocks provide storage space in their joint and fracture systems, which allow for groundwater movement and water yield. Only where wells directly intercept major joints or fractures do these aquifers provide dependable water sources.

Figure W-1 maps the groundwater basin and subbasins found within the western portions of Butte County.

The major sources of groundwater recharge in Butte County are percolation of rainfall, infiltration from streams, subsurface inflow, and deep percolation of applied irrigation water in agricultural areas.

Throughout a large portion of Butte County, freshwater reportedly extends to a depth of 1,060 feet below the ground surface, though groundwater levels can change due to extraction and natural processes. Change in groundwater storage depends on the annual rate of groundwater extraction and the annual rate of groundwater recharge, which can commonly fluctuate within a given year and from year to year. During periods of drought, groundwater in storage typically declines, but it increases during periods of above normal precipitation. Groundwater storage also declines during the summer as groundwater is extracted for municipal and agricultural use and recovers as extraction slows and seasonal precipitation increases recharge. Groundwater level declines on the order of 10 to 20 feet since 2004 have been observed in some areas of the county, primarily in the Vina subbasin over recent years, and are likely driven mainly by drought conditions leading to reduced deep percolation (potential recharge) and increased groundwater pumping.

The Butte County Department of Water and Resource Conservation has monitored groundwater quality since 2002 in response to the Butte County Groundwater Conservation Ordinance, Chapter 33 of the Butte County Code, which is described in detail in Section A.3. Butte County will continue monitoring water quality to evaluate for evidence of saline intrusion, as required by the Groundwater Conservation Ordinance and as described in the Groundwater Sustainability Plans.



Source: Butte County, 2021; California Natural Resources Agency, 2021; ESRI, 2020; PlaceWorks, 2021.

FIGURE W-1
GROUNDWATER BASINS AND SUBBASINS

Coliform bacteria, solvents, and salts have contributed to water quality problems in the county. In the past, there have been excessive levels of coliform bacteria or nitrates entering the groundwater in the Chico and Paradise areas. Failed septic systems, or too many septic systems in a concentrated area, have been identified as probable causes. Surface water quality is also at risk from potential chemical spills, such as occurred in 1991 as a result of a train derailment on the upper Sacramento River. In addition, a number of chemicals are known to be released from hazardous waste sites within the county. An adequate supply of water of a quality suitable for all uses requires water quality management. Pollution abatement, waste treatment, efficient use of water, recycling of industrial water for reuse, and reservoir release to increase low stream flows are widely used management techniques.

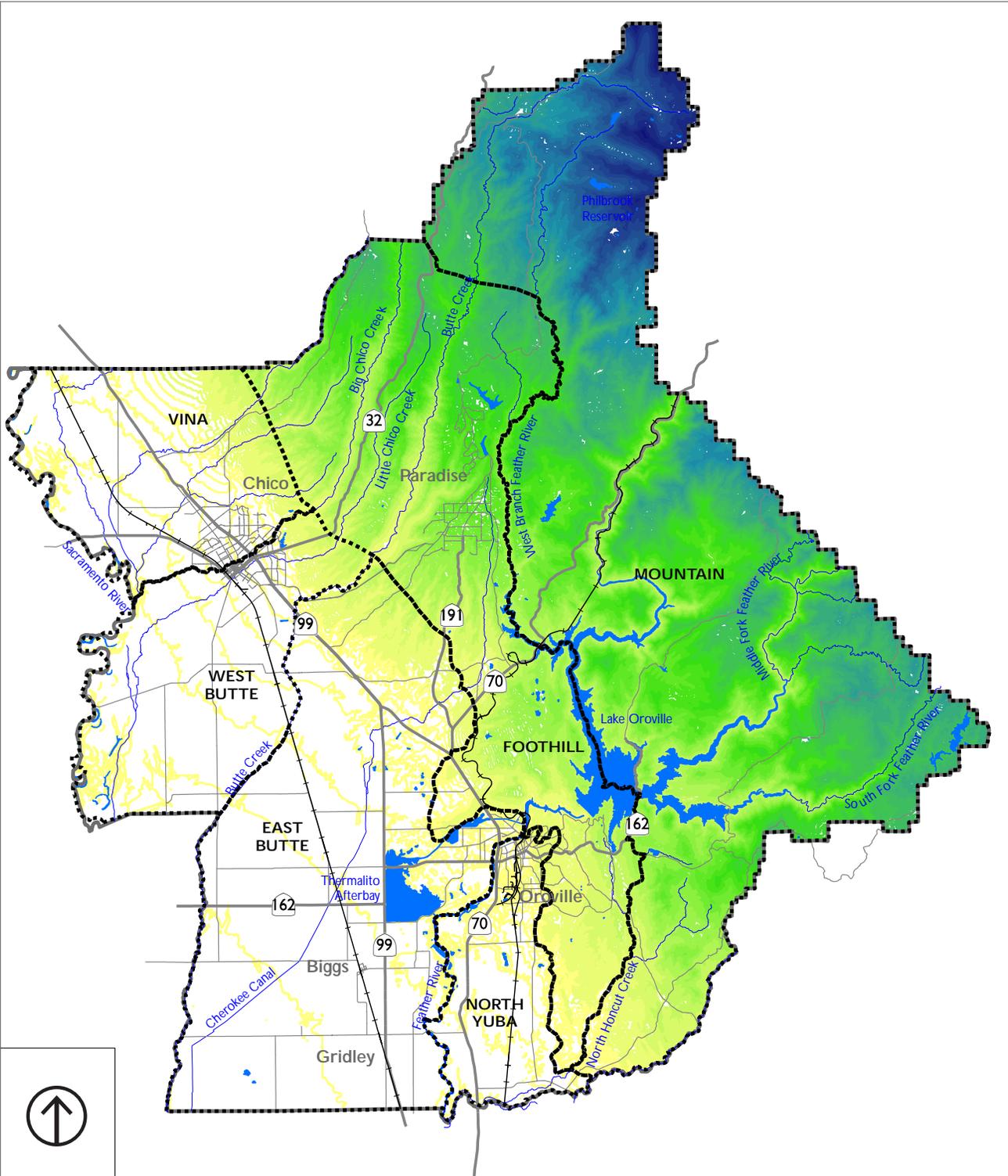
2. Water Supply and Demand

In 2016, the County updated its comprehensive inventory of the county's water resources and evaluated its overall water supply and demand. The 2016 Butte County Water Inventory and Analysis Report provided an estimate of water supply and demand for the major water users in the county: irrigated lands and wetlands, developed lands, and non-irrigated lands. For purposes of the analysis, the county was divided into six water inventory units (Vina, West Butte, East Butte, North Yuba, Foothill, and Mountain) based on hydrologic basins and water sources. The six units are mapped in Figure W-2.

Key findings of the report on water supply and demand include the following:

- ◆ Approximately 95 percent of developed water use is for irrigated agriculture and managed wetlands, with the remaining 5 percent for developed lands.
- ◆ Almost all irrigated agriculture and managed wetlands water use and the majority of developed water use occurs on the valley floor; however, surface water and groundwater supplies are critical to Foothill and Mountain inventory unit populations.
- ◆ Supplies are distributed throughout the county in the same pattern as demands, with the most water going to the West Butte inventory unit (62 percent), followed by East Butte (21 percent), Vina (11 percent), and North Yuba (6 percent).
- ◆ On average, there is no water supply shortfall.

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Source: PlaceWorks, Butte County General Plan 2030 Setting & Trends Report, 2007.

Figure W-2
WATER INVENTORY UNITS

3. Butte County Water Resource Management Efforts

Butte County is involved in many ongoing efforts to protect and conserve its water resources. This section discusses organizations, processes, and programs the County is involved with that aim to manage its water resources quality and supply.

a. County Departments

◆ **Butte County Department of Water and Resource Conservation (BCDWRC).** The mission of the BCDWRC is to manage and conserve water and other resources for the citizens of Butte County. BCDWRC is involved in a wide range of activities focused on water resources monitoring and planning. BCDWRC is responsible for implementing some of the key water resource planning documents, coordinating the activities of the Water Commissions, overseeing various water advisory groups, and supporting regional water resource management efforts. The BCDWRC also provides support for implementation of Chapter 33, the Groundwater Conservation Ordinance. BCDWRC is also involved in developing and expanding the well-monitoring grid. Other important roles include: management of Butte County's 27,500 acre-feet of State Water Project allocation and California Department of Water Resources contracts and long-term lease agreements, including those the County holds with Del Oro Water Company, California Water Service Company, and other State Water Project Contractors for portions of any surplus Table A allocation; assessing countywide water supply and demand from current and future users; implementing the County's Drought Preparedness and Mitigation Plan (Drought Preparedness Plan) and overseeing the Drought Task Force; participating in watershed planning activities with local and regional water resources management groups; representing the County as a member agency of both the Vina Subbasin and Wyandotte Creek Subbasin Groundwater Sustainability Agencies (GSA) and serving as staff for the Butte GSA within the Butte Subbasin; and managing BCDWRC's work on the Sustainable Groundwater Management Act (SGMA).

◆ **Butte County Public Health Department, Environmental Health Division (EH).** EH's mission includes protecting the environment for the benefit of current and future generations through public education guidance and regulatory oversight. EH supports the state's goal of preserving and enhancing the quality of California's water resources. EH enforces state laws related to drinking water through the County's Public Water Systems Program and also has regulatory oversight over private wells. EH is also responsible for protecting water resources by regulating the storage of hazardous materials, the proper disposal of wastewater, and the proper disposal of all solid wastes within Butte County.

b. Boards, Commissions, and Advisory Groups

- ◆ **Butte County Water Commission.** The Water Commission meets monthly to discuss water issues in the county and provide recommendations to the Board of Supervisors for actions related to water resources, including the development of water policies. There are nine members of the Water Commission who serve four-year terms. Water Commissioners are appointed by the Butte County Board of Supervisors. With support from their seven-person Technical Advisory Committee, the Water Commission monitors and informs the Board of Supervisors of state and federal legislation and water policies. The Water Commission reviews water resource concerns, defines problems, recommends solutions, and provides a venue for public input on water issues separate from the Board of Supervisors.
- ◆ **Wastewater Advisory Committee (WAC)** - The WAC is composed of stakeholders from the on-site wastewater industry, Board of Realtors, building industry, engineers specializing in environmental consultation, and Butte County residents. The WAC members work toward the following objectives:
 - Development and maintenance of the On-Site Wastewater Manual;
 - Application of new on-site collection, treatment, conveyance, and dispersal technology;
 - Development and oversight of a system for ensuring that on-site wastewater systems are appropriately operated, maintained, and monitored;
 - Maintenance of Butte County Code Chapter 19 and the On-Site Wastewater Manual; and
 - Development and maintenance of policies, practices, and procedures to improve protection of public health and delivery of customer service pertaining to the implementation of Butte County Code Chapter 19 and the On-Site Wastewater Manual.
- ◆ **Drought Task Force.** In 2004, the Butte County Board of Supervisors adopted the Drought Preparedness and Mitigation Plan through Resolution 04-200. A major element of the Drought Preparedness and Mitigation Plan was the creation of the Drought Task Force (DTF). Through the DTF, the Board of Supervisors receives recommendations on current conditions and actions that the County should take to minimize the impacts of drought and ensure a long-term sustainable supply of water during all hydrologic conditions. The BCDWRC is responsible for leading the DTF.

- ◆ **Technical Advisory Committee.** The purpose of the Butte County Water Technical Advisory Committee (TAC) is to work in cooperation with the Butte County Water Commission to develop a County-wide groundwater monitoring program by advising the Water Commission in areas requiring technical expertise. In addition, the TAC provides expertise for the use, maintenance, and protection of all water resources throughout the county. The TAC consists of seven members nominated by the Butte County Water Commission, and appointed by the Board of Supervisors. Each member of the TAC must have substantial expertise in water management or hydrology. There is no definite term of appointment.
- ◆ **Water Well Advisory Group.** The Water Well Advisory Group is composed of stakeholders that represent well drillers and pump contractors, and it makes recommendations for revisions to Chapter 23B of the Butte County Code, Water Wells. The group also provides recommendations on development and maintenance of the Well Construction Manual and implementation of new well construction and technology.

c. Ordinances, Plans, and Programs

- ◆ **Butte County Groundwater Conservation Ordinance (Chapter 33).** In November 1996, Butte County voters approved the Groundwater Conservation Ordinance, which is intended to conserve groundwater by regulating water transfers outside of the county that have a groundwater component. Under this ordinance, a permit is required for both exportation of groundwater outside the county and groundwater pumping as a substitute for surface water exported outside the county. A permit for this type of water transfer outside of the county would be denied if the proposed activity would adversely affect the groundwater resources in the county, including causing or increasing overdraft of the groundwater; causing or increasing saltwater intrusion; exceeding the safe yield of the aquifer or related subbasins within the county; causing subsidence; or resulting in uncompensated injury to overlying groundwater users or other users. Additionally, the Groundwater Conservation Ordinance requires the County to monitor groundwater levels quarterly, monitor evidence of subsidence and saline intrusion, and report to the Board of Supervisors annually on basin conditions.

- ◆ **Butte County Code, Section 19.** The purpose of this Code section is to:
 - Protect public health and the environment by protecting ground and surface water quality.
 - Establish an administrative framework allowing the adoption of science-based standards for design, construction, installation, operation, maintenance, monitoring, replacement, alteration, enlargement, repair, and abandonment of on-site wastewater treatment, conveyance, and dispersal systems.
 - Provide for compliance and enforcement of a comprehensive on-site regulatory program.
 - Ensure compliance with applicable standards, laws, and guidelines as adopted, and/or modified by the State of California, Water Resources Control Board, or the Central Valley Regional Water Quality Control Board (RWQCB).

- ◆ **Butte County Code, Section 23B.** The purpose of this Code section is to provide minimum procedures for the proper construction of water wells and for the proper destruction of abandoned wells to ensure that water obtained from wells within the county will be suitable for the intended use and that wells constructed or abandoned will not cause pollution or impairment of the quality of the groundwater within the county. This Code section also attempts to reduce potential well interference problems to existing wells and potential adverse impacts to the environment that could be caused by the construction of new wells or the repair or deepening of existing wells.

- ◆ **Groundwater Modeling.** The BCDWRC manages a detailed hydrologic model of the groundwater basin that was developed by the Butte Basin Water Users Association in the 1990s. Since its original development, the groundwater model has been updated several times, including transitioning it to the modeling code IWFM-2015, which is widely used throughout the state, and updating inputs on the hydrogeologic system and water budget to support development of Groundwater Sustainability Plans. It is used to develop water budgets for the local implementation of SGMA; evaluates the effects on the aquifer system of groundwater withdrawal, climate change, and land use changes; and serves as a comprehensive water resources planning tool for the three groundwater subbasins within Butte County (Vina, Wyandotte Creek, and Butte). Modeling can or has been used to evaluate the impact of transfers, artificial recharge projects, increased pumping from urban expansion, and wetland projects, as well as the effects of long-term drought conditions and climate change.

- ◆ **Northern Sacramento Valley Regional Water Management Group and Integrated Regional Water Management (IRWM) Plan.** Butte County participates in an MOU with the Counties of Colusa, Glenn, Tehama, Shasta, and Sutter to promote regional coordination, collaboration, and communication about many shared water resources. This group developed and implements the Northern Sacramento Valley Integrated Regional Water Management Plan (NSV IRWM Plan), a collaborative effort to enhance coordination of the water resources in the region. IRWM involves multiple agencies, stakeholders, tribes, individuals, and groups to address water-related issues and offer solutions that can provide multiple benefits to the region. Representatives of the six counties are working in partnership with community stakeholders, tribes, and the public to identify the water-related needs of the region, informing the development and identification of goals, objectives, projects, and programs to be included in the NSV IRWM Plan.
- ◆ **Upper Feather River Integrated Regional Water Management Plan (UFR IRWM Plan).** The UFR IRWM Plan is an innovative, stakeholder-driven collaboration among local government, tribes, watershed groups, and interested partners in the headwaters of the Feather River. The UFR IRWM region encompasses 3,604 square miles of the northern Sierra Nevada and includes all of Plumas County and portions of Sierra, Butte, Lassen, and Yuba Counties. The watershed extends from the California/Nevada border to the Oroville Dam and from Mount Lassen to Sierra Valley. The collective streams, rivers, lakes, and reservoirs of the watershed flow into Lake Oroville, which is the principal storage facility for the State Water Project that delivers water to approximately two-thirds of California’s population. The UFR IRWM Plan was unanimously adopted by the Regional Water Management Group on November 18, 2016. The Plan is compliant with 2016 Proposition 1 IRWM Standards, thereby establishing regional eligibility for Proposition 1 IRWM grant funding.
- ◆ **Groundwater Sustainability Plans.** In 2014, the passing of SGMA created the requirements for governments and water agencies of high- and medium-priority basins to bring groundwater basins into sustainable yield and avoid undesirable results for groundwater users.² Butte County overlies the Butte, Vina, and Wyandotte Creek subbasins, which are subject to SGMA. Consistent with SGMA, the Groundwater Sustainability Agencies (GSAs) in each of the subbasins adopted the corresponding Groundwater Sustainability Plans (GSPs) in December 2021.

² Basin priority is based on factors such as current and projected population, amount of water supply wells, amount of irrigated acreage, degree of reliance on groundwater, and documented groundwater impacts like saltwater intrusion, overdraft, and subsidence. There are no low- or very low-priority basins in Butte County.

Upon adoption of the GSP for each subbasin, the County's Groundwater Management Plan (adopted in 2004) is no longer in effect.

- ◆ **Butte County Integrated Water Resources Plan (IWRP).** The IWRP (adopted in 2005) was developed based on input from local stakeholders to improve water management and resource components, including the former AB 3030 Groundwater Management Plan (GMP 2004), former Chapter 33A Groundwater Basin Management Objectives, and the Drought Preparedness and Mitigation Plan. The IWRP provided recommendations for water management policies, as well as programs and projects to implement those policies. The policies focused on local water resource issues and cooperative water management with other entities. The IWRP set the stage for many of the County's water planning efforts.
- ◆ **Drought Preparedness and Mitigation Plan.** The BCDWRC maintains the Butte County Drought Preparedness and Mitigation Plan (Drought Plan), adopted by the Butte County Board of Supervisors to protect the county from the effects of drought and prepare appropriate responses. The purpose of the Drought Plan is to provide an efficient and systematic process for Butte County that results in a short- and long-term reduction in drought impacts to the citizens, economy, and environment in Butte County. To facilitate water resource planning, it is necessary to understand the effects of and prepare for drought. The Drought Plan includes Butte County's drought background; an institutional framework to approach drought; a monitoring plan; a response and mitigation plan to help with the reliability of water supply for other California communities when resources are available; and a discussion of water transfers during a drought. Actions are identified that lead to a long-term sustainable supply of water during all hydrologic conditions.
- ◆ **Small Water System Program.** The EH Small Water Systems Program is designated as the Local Primacy Agency (LPA) responsible for the enforcement of state and federal regulations. These regulations are designed to ensure that small public water systems deliver safe, adequate, and dependable (potable) drinking water. The LPA oversees all public water systems with less than 200 service connections and is involved with permitting, inspection, and water quality monitoring. EH has approximately 90 small public water systems serving subdivisions, mobile home parks, schools, and businesses.
- ◆ **Land Use Program.** The EH Land Use Program looks at wastewater design and installation, well siting and permits, land divisions, use permits, and other related projects that involve septic systems and wells.

In addition to these resource management efforts, the County coordinates closely with federal and state agencies, urban water agencies, irrigation districts, water districts, advocacy groups, and other non-profit organizations.

4. Water Service Providers

Much of Butte County's residential, commercial, and agricultural water needs are met through a network of local water providers, including municipal water departments, private water companies, irrigation districts, and community service districts. Local water companies and water districts manage domestic water supply in the county. This water supply includes water for drinking, residential, and commercial uses. A significant portion of domestic water is obtained through private residential wells.

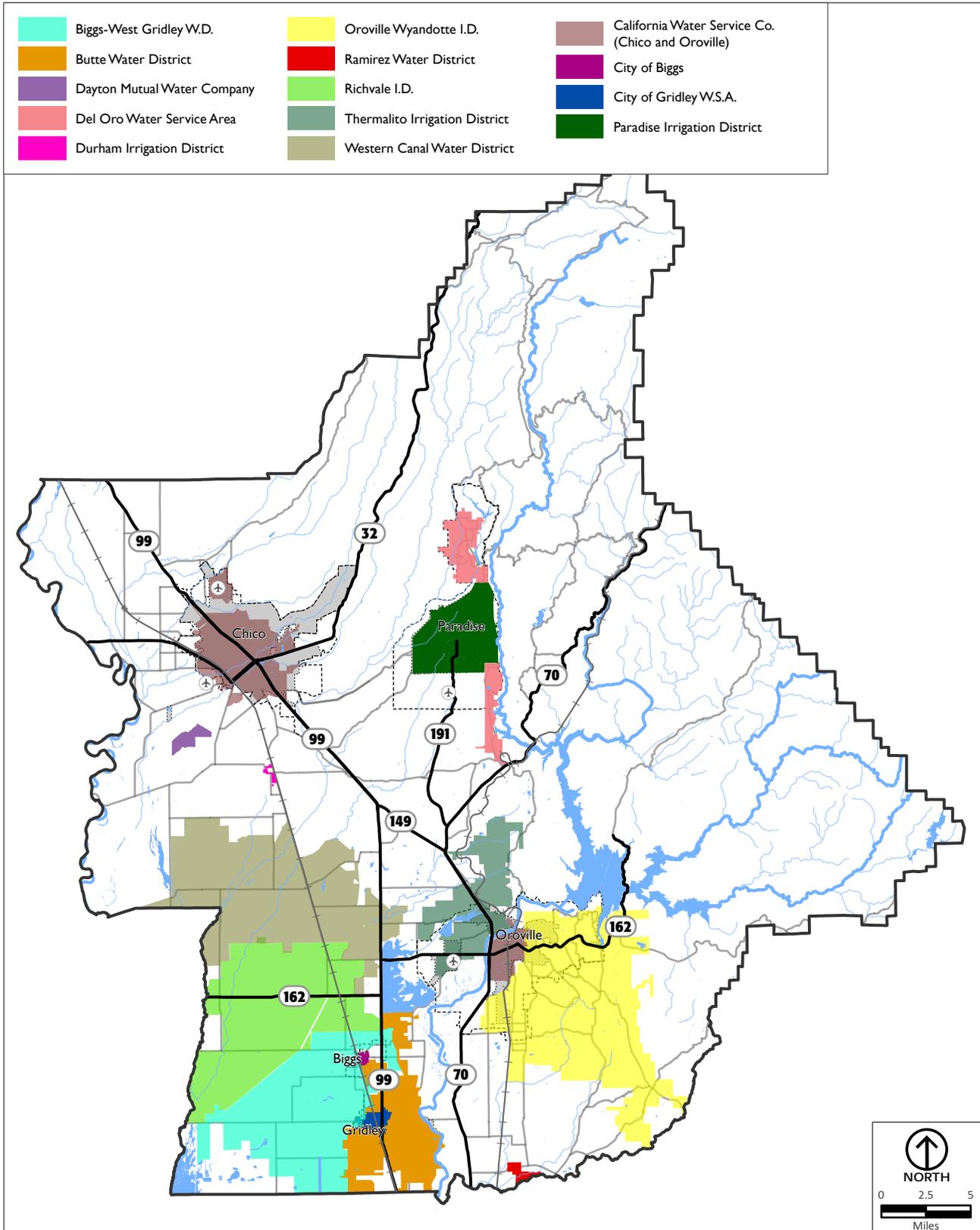


South Feather Water and Power Agency's Kelly Ridge Powerhouse penstock. Photo courtesy of the Butte County Department of Development Services.

Municipal water departments, such as the Cities of Gridley and Biggs, provide water service to municipal residents, generally distributed in pipes along roads in the service area. Mutual water companies are private corporations that perform water supply and distribution functions similar to public water districts, such as Cal Water Service Company. Investor-owned utilities may also be involved in water supply activities, sometimes as an adjunct of hydroelectric power development. Irrigation districts are designed to ensure delivery of sufficient water supplies for agricultural uses, though they may serve some residential and commercial uses.

Figure W-3 maps the service area boundaries of the various public water systems and irrigation districts in Butte County, which include municipal water companies, mutual water companies, investor-owned utilities, and irrigation districts.

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Source: Butte County, 2021; ESRI, 2020; National Hydrology Database, 2020; PlaceWorks, 2021.

FIGURE W-3
WATER PROVIDERS AND SERVICE AREA BOUNDARIES

5. Water Storage Facilities

In contrast to the limited number of natural lakes in the county, there are numerous human-made impoundments, which store a portion of the county's abundant surface water supply, while also providing flood protection. Oroville Dam and reservoir on the Feather River is the second-largest water storage facility in California and is the initial and largest reservoir of the State Water Project. Water stored in Lake Oroville serves many users, both within the county and beyond, including users in southern California. In addition to Lake Oroville, other water storage facilities in Butte County include the Thermalito Afterbay, Thermalito Forebay, Paradise Reservoir, and Magalia Reservoir, as well as a number of other surface water storage reservoirs.

6. Stormwater Management

The State Water Resources Control Board (SWRCB) regulates water quality in California to protect the environment and public health and to properly allocate water resources. One of the main ways that the SWRCB and the Clean Water Act can ensure that stormwater will not contain pollutants is through the National Pollutant Discharge Elimination System (NPDES) permit. The NPDES regulates stormwater discharges from three main sources: Municipal Separate Storm Sewer Systems (MS4), construction activities, and industrial activities. All three sources require different NPDES permits to regulate and enforce mitigation measures within specific physical boundaries before stormwater is discharged. This prevents harmful pollutants from running off into local, state, and federal surface waters, such as lakes, streams, and rivers.

Butte County, the Town of Paradise, and the Cities of Chico and Oroville have their own traditional SWRCB Small Phase II MS4 Programs. Additionally, within Butte County, California State University Chico and the Silver Dollar Fairground have their own non-traditional MS4 Programs with the State. Each MS4 permit holder has their own management plans for stormwater and associated discharges.

In addition, Butte County has adopted a Stormwater Management and Discharge Ordinance that allows the County to enforce water pollution prevention to limit detrimental stormwater discharges. The Stormwater Ordinance can be found in Chapter 50 of the Butte County Code and further implements the County's MS4 Permit. The Stormwater Ordinance limits discharges into the County storm drain system, natural surface waters, and water courses, and requires the implementation of best management practices to prevent the discharge of pollutants to the maximum extent practical. The County has the authority to inspect, monitor, and enforce implementation of best management practices and prohibit illicit discharges.

7. Streambank Stability and Riparian Resources

Streambank instability is a potential hazard along rivers and streams in Butte County. A streambank may be considered unstable if the slopes surrounding the stream are excessively steep and present a potential landslide hazard or if erosion is occurring at a relatively high rate. Seismically-induced ground shaking also poses a threat to streambank stability, especially in areas where surrounding slopes are steep or where there is a large standing body of water below. Fire-related erosion can also lead to streambank instability when protective vegetation that anchors the land surrounding streams and in the watershed is lost to fire.



Concow Reservoir. Photo courtesy of the Butte County Department of Development Services.

Human activity and development are other important causes of streambank instability. Best management practices have been developed and environmental regulations adopted to stabilize the banks, and to minimize near and in-channel disruptions of streams and rivers in Butte County.

Riparian habitats are considered sensitive natural communities and should be given special consideration because they provide several important ecological functions, including streambank stabilization, water quality maintenance, and essential habitat for wildlife and fisheries resources. The Health and Safety and Conservation and Open Space Elements also discuss other issues associated with erosion, streambank stability, and riparian resources.

B. Goals, Policies, and Actions**Goal W-1 Maintain and enhance water quality.**Policies

- W-P1.1 County planning and programs shall be integrated with other watershed planning efforts, including best management practices, guidelines, and policies of the Central Valley Regional Water Quality Control Board (CVRWQCB) and local Groundwater Sustainability Plans.
- W-P1.2 The County shall cooperate with state and local agencies in efforts to identify and eliminate or minimize all sources of existing and potential point and non-point sources of pollution to ground and surface waters, including, but not limited to, illegal cannabis grows, burn scars, groundwater recharge, leaking fuel tanks, discharges from storm drains, auto dismantling, dump sites, sanitary waste systems, parking lots, roadways, and logging and mining operations.
- W-P1.3 Regulations that protect water quality from the impacts of agricultural and industrial activities shall be maintained.
- W-P1.4 Where appropriate, new development shall be Low-Impact Development (LID) that minimizes impervious area, minimizes runoff and pollution, and incorporates best management practices.
- W-P1.5 Educational programs and outreach shall be continued to promote water quality protection and limit pollution from pesticides and nutrients.
- W-P1.6 Agriculture, logging, mining, recreational vehicle use, and other open space uses shall follow best management practices to minimize erosion and protect water resources.*
- W-P1.7 The County supports conversion from septic systems to public sewer service, where feasible.
- W-P1.8 The County supports the establishment of a system for proper disposal of expired medications.

Actions

- W-A1.1 Support the expansion of the monitoring and reporting efforts of Butte County's Department of Water and Resource Conservation.
- W-A1.2 Develop standards to determine where Low Impact Development (LID) techniques are appropriate.

Goal W-2 Ensure an abundant and sustainable water supply to support all uses in Butte County.

Policies

- W-P2.1 The County supports solutions to ensure the sustainability of community water supplies.
- W-P2.2 The County may continue the Six-County Memorandum of Understanding (MOU) with Colusa, Glenn, Tehama, Shasta, and Sutter Counties, continue participation in the local GSAs and Groundwater Advisory Boards, and continue to support the Northern Sacramento Valley and Upper Feather River Integrated Regional Water Management and local Groundwater Sustainability Plans.
- W-P2.3 Water resources shall be planned and managed in a way that relies on sound science, data, and public participation.
- W-P2.4 The County's State Water Project allocation (27,500 acre-feet) should be fully utilized within Butte County when technically and economically feasible to maximize the benefit and value to Butte County by prioritizing use within the county.
- W-P2.5 The expansion of public water systems to areas identified for future development in the General Plan land use map is encouraged.
- W-P2.6 The development and maintenance of innovative water treatment systems to clean and disinfect water is encouraged.
- W-P2.7 The Butte County Water Commission and the Department of Water and Resource Conservation shall continue to be important partners in the water resource planning process.

- W-P2.8 The County supports Area of Origin and County of Origin water rights, the existing water right priority system, and the authority to make water management decisions locally to meet the county's current and future needs, thereby protecting Butte County's communities, economy, and environment.
- W-P2.9 Applicants for new major development projects, as determined by the Department of Development Services, shall demonstrate adequate water supply to meet the needs of the project, including an evaluation of potential cumulative impacts to surrounding groundwater users and the environment in accordance with local Groundwater Sustainability Plans.*
- W-P2.10 The use of surface water to support the economic development of agriculture is encouraged.
- W-P2.11 Landscaping projects shall use native plants that will continue to be viable in the area under long-term drought conditions.
- W-P2.12 The County shall ensure that there are adequate water supplies for fire protection services.

Actions

- W-A2.1 Participate in the implementation and update of Groundwater Sustainability Plans to ensure the sustainability of water resources within the county.
- W-A2.2 Cooperate with local water purveyors to seek funds to conduct a study to evaluate options to convey or exchange the County's State Water Project Table A allocation to areas in the county not currently served by this source.
- W-A2.3 Develop criteria to implement Policy W-P2.9, including thresholds for the size of development project that triggers the need for an analysis of water supply and standards to demonstrate adequate water supply and evaluate impacts to surrounding groundwater users.

Goal W-3 Protect and manage groundwater resources in Butte County.

Policies

- W-P3.1 Groundwater transfers and substitution programs shall be locally regulated to protect the sustainability of the County's economy, communities, and ecosystems.
- W-P3.2 The County shall protect groundwater recharge and groundwater quality when considering new development projects.*

Actions

- W-A3.1 Continue to seeks funding for and participate in efforts to conduct comprehensive, countywide mapping of water resources and groundwater recharge areas.
- W-A3.2 Evaluate gaps in existing federal, state, and local standards, and develop additional standards as needed to preserve groundwater resources and protect groundwater quality.
- W-A3.3 Seek funds and develop programs that improve the scientific understanding of regional aquifer systems and potential factors related to the sustainability of the county's water resources.

Goal W-4 Support coordination between Groundwater Sustainability Agencies in Butte County.

Policies

- W-P4.1 The County shall work cooperatively with the Groundwater Sustainability Agencies in the three subbasins in Butte County to support implementation of the Sustainable Groundwater Management Act to ensure the County has sustainable water supplies.
- W-P4.2 The County supports working towards Sustainable Groundwater Management Act implementation to ensure the sustainability of groundwater resources, including groundwater levels, groundwater quality, and avoidance of land subsidence, and supports programs that rely on management at the local level, use sound scientific data, and

ensure compliance, where consistent with the County’s goals and policies.

W-P4.3 Public information and involvement should be encouraged in the groundwater sustainability planning, collaboration, and coordination process.

W-P4.4 The County shall consult applicable Groundwater Sustainability Plans and local groundwater management agencies when making decisions that could impact groundwater resources.

Actions

W-A4.1 Coordinate regionally with Groundwater Sustainability Agencies and other counties to develop data analysis and approaches to protect local beneficial uses and users of groundwater.

<p>Goal W-5 Promote water conservation as an important part of a long-term and sustainable water supply.</p>

Policies

W-P5.1 Agricultural and urban water use efficiency shall be promoted.

W-P5.2 The County shall coordinate with local Resource Conservation Districts, the Natural Resource Conservation Service, the Northern Sacramento Valley and Upper Feather River Integrated Water Management groups, Butte County Groundwater Sustainability Agencies, and local special districts to ensure consistent and effective water conservation measures and messaging.

W-P5.3 The County should work with municipal and industrial water purveyors or users to implement water conservation policies and measures, including recycling and reuse.

W-P5.4 Opportunities to recover and uses treated wastewater for beneficial purposes shall be promoted and encouraged.

W-P5.5 The use of captured water and reuse of grey water for non-potable uses shall be encouraged.

- W-P5.6 New development projects shall adopt best management practices for water use efficiency and demonstrate specific water conservation measures.*
- W-P5.7 County facilities shall adopt water conservation measures and when appropriate retrofit existing facilities to improve water conservation.

Actions

- W-A5.1 Increase participation in water conservation programs to reduce water use throughout Butte County.
- W-A5.2 Provide education and increase awareness about water conservation and protection.

Goal W-6 Protect water quality through effective stormwater management.

Policies

- W-P6.1 New development projects shall identify and adequately mitigate their water quality impacts from stormwater runoff.*
- W-P6.2 The use of permeable surfaces and rainwater catchment/retention systems shall be allowed and encouraged to enhance groundwater recharge.
- W-P6.3 Temporary facilities shall be installed as necessary during construction activities to adequately treat stormwater runoff from construction sites.*
- W-P6.4 Stormwater collection systems shall be installed concurrently with construction of new roadways to maximize efficiency and minimize disturbance from construction activity.
- W-P6.5 Stormwater channels should be managed in a way that produces co-benefits, such as supporting recharge, improving water quality, providing recreation areas, and reducing flood risk.

Actions

- W-A6.1 Continue outreach activities to inform residents and workers that illegal discharge into storm drains negatively impacts groundwater and surface water quality, such as through “No Dumping” markers and the Keep Chico Clean project.

Goal W-7	Improve streambank stability and protect riparian resources.
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Policies

- W-P7.1 Any alteration of natural channels for flood control shall retain and protect riparian vegetation to the extent possible while still accomplishing the goal of providing flood control. Where removing existing riparian vegetation is unavoidable, the alteration shall allow for reestablishment of vegetation without compromising the flood flow capacity.
- W-P7.2 Where streambanks are already unstable, as demonstrated by erosion or landslides along banks, tree collapse, or severe in-channel sedimentation, proponents of new development projects shall prepare a hydraulic and/or geomorphic assessment of on-site and downstream drainageways that are affected by project area runoff.*

Goal W-8	Improve resiliency of water supplies and related infrastructure impacted by climate change, including natural disasters such as wildfire, drought, and flooding.
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Policies

- W-P8.1 The County shall pursue immediate local, state, and federal funding for small community water systems that have been damaged or impacted by climate change.
- W-P8.2 The County shall coordinate with local water suppliers to provide water to residents impacted by drought through such means as water filling stations, water storage tanks at homes, and coordination with water haulers.

- W-P8.3 The County shall coordinate with the owners of water recreation sites to begin offering alternative forms of recreation that are less dependent on water levels, such as hiking, mountain biking, horseback riding, and picnicking.
- W-P8.4 The County shall support efforts by rice growers and other farmers to adopt drought- and flood-tolerant rice and other crop varieties as they become available and suitable to meet market demand.

Actions

- W-A8.1 Integrate climate change into water supply projections and management.
- W-A8.2 Partner with local water and irrigation agencies and special districts to implement and support drought-response policies.
- W-A8.3 Work with the University of California Cooperative Extension, Butte County Farm Bureau, and other agriculture organizations to develop methods to improve water-use efficiency in the agricultural sector.
- W-A8.4 Maintain and implement the Drought Preparedness and Mitigation Plan in coordination with other applicable County planning documents and current legislation.
- W-A8.5 Monitor and report drought-related impacts and provide direct resources to and serve as an educational hub for those impacted by drought.
- W-A8.6 Help residents and small community water systems throughout the county prepare for drought by upgrading water treatment capacities and water storage and conveyance infrastructure.