

VISION

In 2030, the City of Chico is an active leader in protecting the environment through preservation and enhancement of open space, natural resources, and agriculture. The City has recognized the importance of protecting the natural landscape for intensive and non-intensive recreation by making natural areas and outdoor recreation opportunities accessible to the entire community, which benefits public health and contributes to a sense of well-being. The urban forest thrives, with the preservation of heritage and street trees as well as the continued planting of new street trees. Greenways along urban creeks with multi-purpose paths have expanded the network of trails throughout Chico. The community enjoys clean water for consumption and recreation, and the air is clean and measurably healthy.

INTRODUCTION

The Open Space and Environment Element focuses on the preservation and enhancement of the natural environment and limiting the adverse effects on environmental resources from General Plan build-out.

Chico residents place a high value on scenic open spaces, fertile agricultural lands, clean water, and fresh air. The preservation and enhancement of these natural resources is a significant part of the sense of place for Chico residents and is thus an essential component of the General Plan. This element supports the management of natural resources and the conservation of open space and sensitive habitats. Various funding mechanisms, community involvement, and public/private partnerships will be necessary to implement this element.

This element provides context and sets goals and policies for the use and acquisition of open space, and protection of biological resources, air quality, water resources and agriculture. This element establishes City policies on the protection of natural resources. Due to the breadth of information covered in this element, the chapter is organized into sections addressing the following seven topics:

- Biological Resources
- Open Space
- Water Resources and Water Quality
- Air Quality
- Agricultural Resources
- Mineral Resources
- Urban Forest

This element works in conjunction with the Land Use Element to describe how the City will advance the land use objectives of the General Plan while maintaining the natural resources of the City. It also complements the Safety Element, which outlines a framework to protect



people and property from natural hazards, and the Sustainability Element which prioritizes actions that preserve and protect environmental resources. For Bidwell Park, the City's largest open space land holding, the City relies on the Bidwell Park Master Management Plan to direct management decisions and to protect resources. This element guides and supports a variety of related plans as referenced throughout the chapter. Where appropriate, cross-references are provided to alert the reader to the applicable policies or actions in other elements of this Plan.

ISSUES AND CONSIDERATIONS

This section of the element identifies and addresses key open space and environmental issues raised during the outreach efforts for the General Plan Update. Policy guidance is found in the goals, policies, and actions section of this element. An explanation of specialized terms can be found in the General Plan Glossary (**Appendix A**).

BIOLOGICAL RESOURCES

The Planning Area is rich in biological resources, and residents place significant value on protecting the area's natural environment. This element recognizes known locations of sensitive, threatened, or endangered species and requires that they be protected consistent with local, state and federal guidelines. The General Plan acknowledges limits to urban expansion in areas containing sensitive biological resources and calls for City participation in regional planning efforts to preserve sensitive species and habitat.

OPEN SPACE



In and around Chico there is an abundance of open space, park land, stream corridors and unique habitats. Open space provides habitat and movement corridors for wildlife, as well as recreational, educational, aesthetic and other quality of life benefits to the community. Open space within and around the city is a defining characteristic of Chico. This element protects open space by calling for stream and agricultural buffers, retaining the Greenline, and directing efforts to acquire, maintain, and manage open space preserves and greenways.

WATER RESOURCES

The landscape of Chico is defined by its creeks and watercourses. Protecting the quantity and quality of water for public health and aquatic life is critical to a healthy community. The primary issues related to water quality in the City and Planning Area are urban storm water runoff, groundwater contamination from septic tanks, infiltration of urban storm water runoff, and pollutants from dry cleaning and industrial uses. This element establishes policy



direction to reduce water quantity and quality impacts from urban development through treatment of storm water runoff, protection of watercourses, and water conservation efforts. This element addresses the need to protect surface and groundwater quality and groundwater recharge areas by supporting the use of National Pollution Discharge Elimination System standards and implementing the Nitrate Compliance Plan which expedites connections to the City's waste disposal and treatment system to reduce the use of septic tanks.

AIR QUALITY

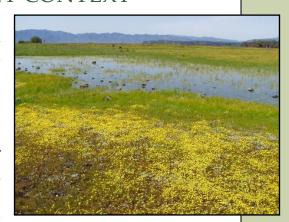
Clean air is a basic need for most living organisms. Due to natural physiographical, meteorological, and human-induced factors, the air quality in the Planning Area does not meet all state and federal air quality standards. Wood burning has been identified as a major source of PM_{2.5} pollution in the area during the winter months, which raises serious health concerns. During the summer months, the City has experienced non-attainment levels of ozone pollution, much of which travels to the area from urban areas to the south and southwest. One of the ways this General Plan attempts to minimize local air pollution is through planning that reduces reliance on automobiles. The Plan focuses on maintaining a compact urban form and a multi-modal approach to transportation that allows greater choices for mobility throughout the community. This element advances local, regional and State air quality improvement efforts by requiring consistency with air quality regulations, encouraging the use of low emission and renewable energy sources and emerging clean air technologies, and directing City action to reduce wood burning and other major pollutant emissions.

OPEN SPACE AND ENVIRONMENT CONTEXT

This section of the element provides important context information on six topics relevant to the Open Space and Environment goals, policies, and actions.

BIOLOGICAL RESOURCES

The Planning Area includes a rich and diverse range of biological resources. The most notable natural habitat types include annual grassland, riparian woodland, permanent wetland, vernal pools/seasonal wetlands, and



valley oak woodlands. Many of these habitats deserve special consideration due to their limited distribution, particular sensitivity, or the presence of one or more rare, threatened, or endangered species.

A number of species listed as rare, threatened or endangered by state or federal agencies are known to occur within the Planning Area. Notable species include Butte County meadowfoam, Valley Elderberry Longhorn beetle, hairy orcutt and slender orcutt grasses, Greene's tuctoria, Chinook salmon, and the yellow-billed cuckoo. Other sensitive species of

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regional importance include Butte County checkerbloom, Swainson's hawk, Giant Garter snake, and various anadromous fish. **Figure OS-1** shows sensitive habitats that support a majority of the special status species in the Planning Area.

Cross reference Table LU-2 Impacts to biological resources are regulated by a number of State and Federal agencies, and must be considered and mitigated as part of project review under the California Environmental Quality Act. In addition to meeting State and Federal requirements, the Land Use Element establishes land use designations and a special overlay to address open space and sensitive habitat areas as follows:

- Primary Open Space POS
- Secondary Open Space SOS
- Resource Constraint Overlay RCO

The Primary and Secondary Open Space land use designations, which are defined in **Table LU-2 of the Land Use Element**, identify areas that are intended for resource protection, intensive, or non-intensive open space uses. The Resource Constraint Overlay designation identifies areas that are known to have sensitive resources that would limit the potential for urban development but which are not currently protected as open space preserves.

Butte Regional Habitat Conservation Plan and Natural Community Conservation Plan

The Butte Regional Habitat Conservation Plan and Natural Community Conservation Plan, under preparation by the Butte County Association of Governments in consultation with local jurisdictions, is a voluntary plan that will provide comprehensive species, wetlands, and ecosystem conservation. The Plan will contribute to the recovery of endangered species



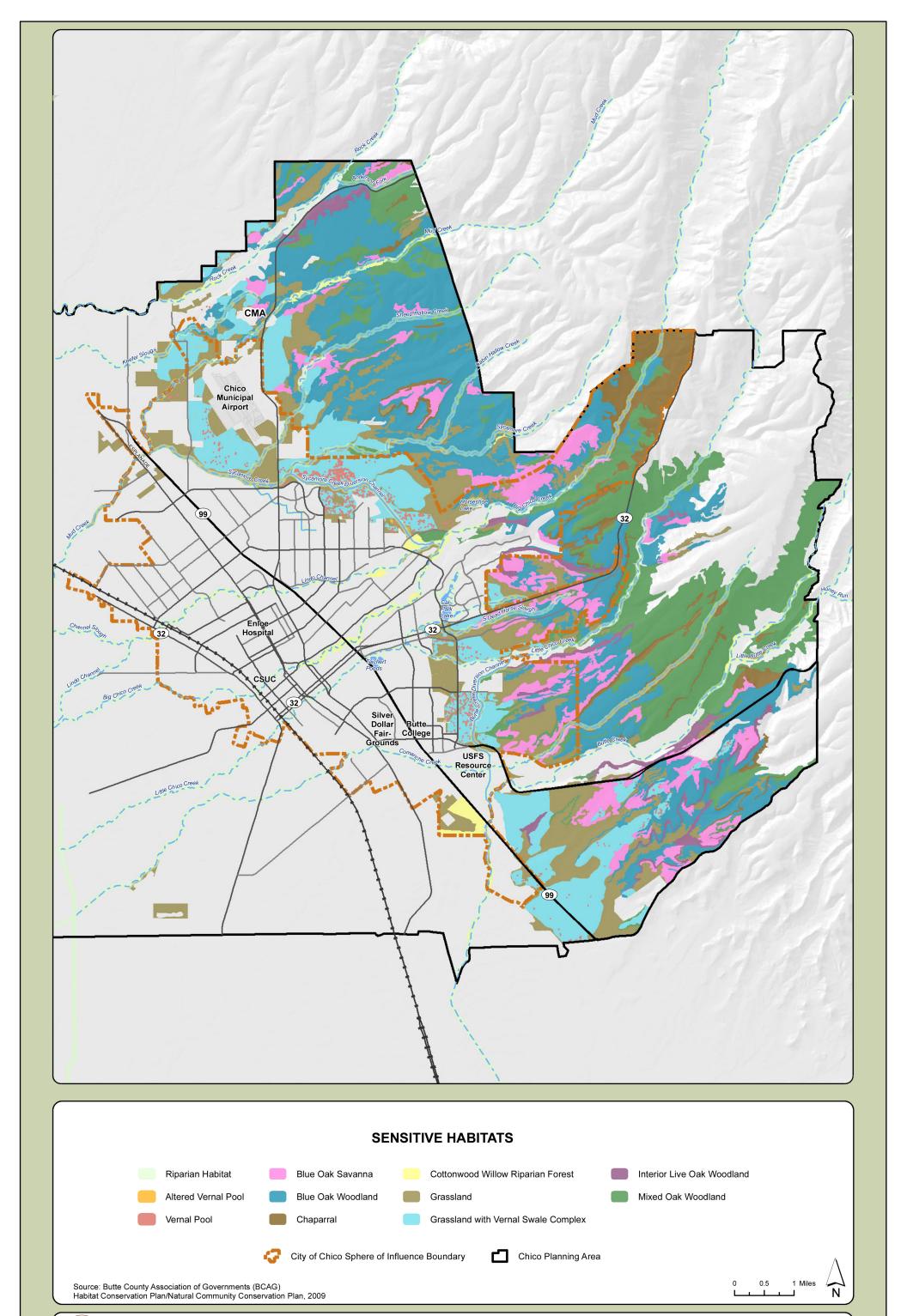
within Butte County and provide a more streamlined process for environmental permitting for individual projects.

OPEN SPACE

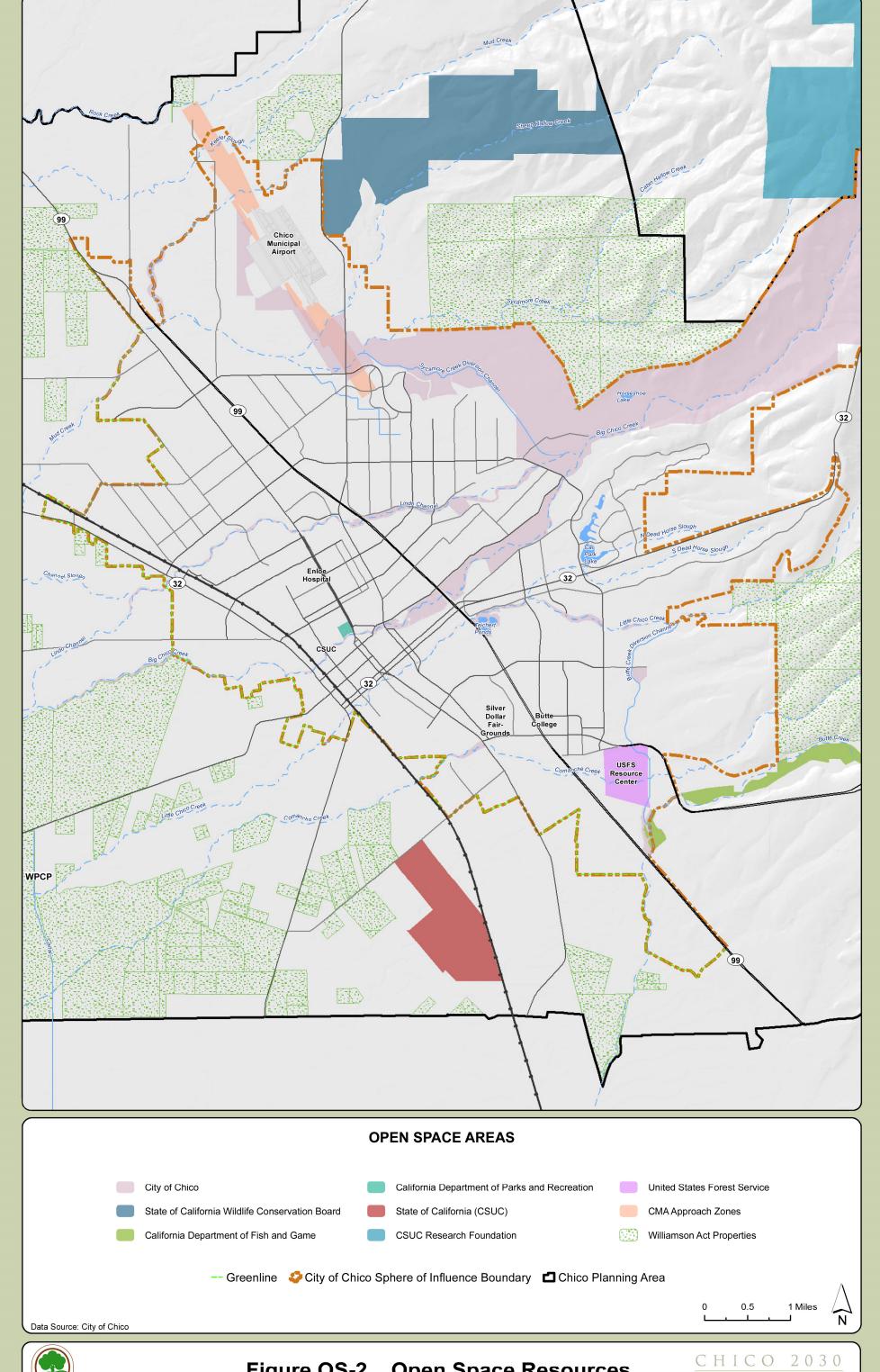
The City owns significant open space resources, including Bidwell Park, which provides an exceptional open space corridor that runs throughout the community and into the foothills. In addition, a number of agencies and organizations own and manage open space in and around Chico. **Figure**

OS-2 shows protected open space resources within the Planning Area. Currently, there is no coordinated approach to acquire, manage, and connect open space areas. In some cases, adequate funding is not available for property maintenance and management. Examples of the City's open space assets include Bidwell Park, Foothill Park Preserve, Bidwell Ranch, Teichert Ponds, Lindo Channel, and the Comanche Creek Greenway.

Policies found in this element, as well as the Land Use and Parks, Public Facilities and Services Elements, seek to protect, enhance, increase, and manage the City's open space resources.











WATER SUPPLY AND WATER QUALITY

The State Water Resources Control Board has jurisdiction over nine Regional Boards, whose charge it is to maintain water quality. The Chico Planning Area is located within the Sacramento Valley Basin which falls under the control of the Central Valley Regional Water Quality Control Board. The Water Quality Control Plan for this basin was revised by the Board in 2007. **Figure OS-3** shows surface water in the Planning Area.

The protection of water quality and water supply is important for public health, biological resources, and aquatic life. The primary regulatory mechanism for the discharge of pollutants into water is the National Pollutant Discharge Elimination System (NPDES) permit program, which is designed to protect water quality by regulating point sources of pollutants.

The Tuscan aquifer is the primary groundwater reservoir underlying and providing municipal and agricultural water to the Planning Area. The groundwater supply is

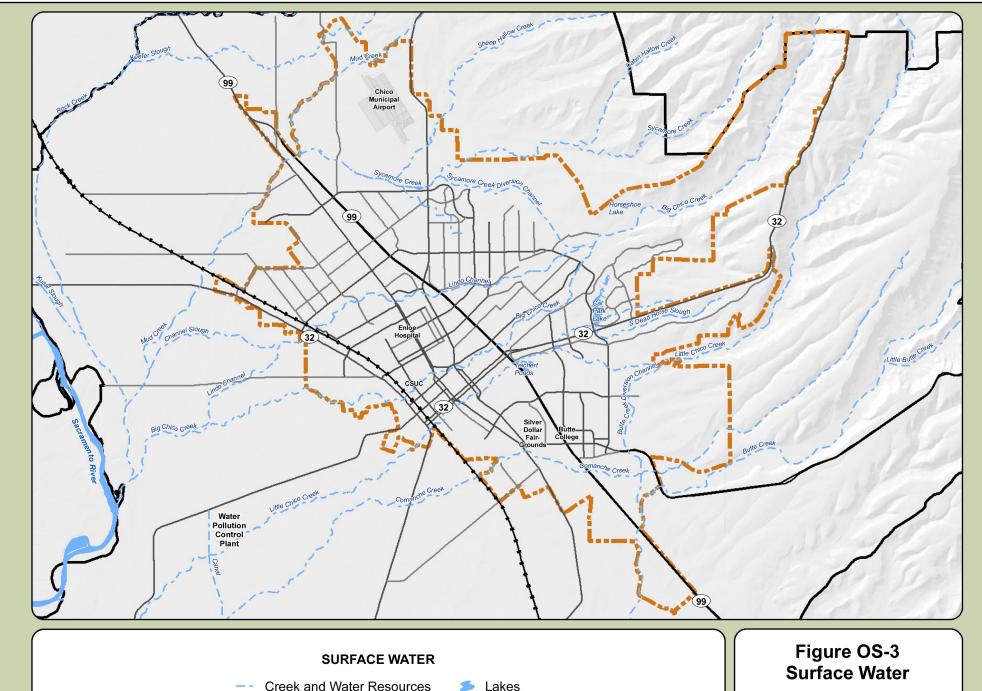


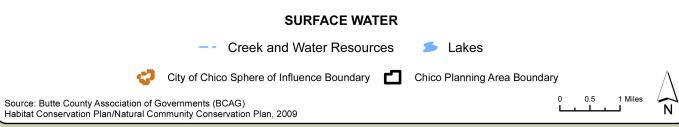
largely recharged by infiltration in the foothills located east of Chico, from Big Chico and Little Chico Creeks, Lindo Channel, and to a lesser extent from precipitation throughout the area. The California Water Service Company (Cal Water), the City's water supplier, has adopted a Water Master Plan (WMP) which analyzes the aquifer's supply. The WMP concludes that no substantial overdraft of the aquifer is currently occurring within the Planning Area. In addition, Butte County continually monitors the groundwater basin and maintains a series of monitoring and test wells located throughout the County to provide information on water supply.

AIR QUALITY

Clean air is a critical environmental resource. The combination of a growing urban center, winter wood burning, local and regional agricultural operations, local topographical and meteorological conditions, and the use of carbon-based fuels for industry, transportation and heating have a negative effect on the City's air quality.

The Planning Area is located in the Northern Sacramento Valley Air Basin (NSVAB) and air quality is locally regulated by the Butte County Air Quality Management District (BCAQMD). The BCAQMD is charged with the responsibility for developing and implementing the planning, regulation, enforcement, technical innovation, and education on air quality issues. The NSVAB has been categorized as "moderately non-attainment" for ozone and particulate matter (PM), which means that the region is not meeting state or federal standards for these air pollutants. Butte County is currently in a non-attainment status with respect to the state ozone, PM10, and PM2.5 standards, as well as the federal 8-hour ozone standard.









Traditional air quality management strategies have focused on controlling stationary sources or pollutants, primarily from manufacturing operations, and reducing motor vehicle emissions through technological advancements. This element, like others in the General Plan, supports an urban development pattern and a circulation system that will reduce reliance on automobile travel, and thus help to improve local and regional air quality.

AGRICULTURAL RESOURCES

Agriculture has helped to shape the City, and continues to be a major component of the local and regional economy. While few agricultural operations continue within the City, substantial operations exist just outside of the City limits, within the Planning Area. The City has respected a firm boundary between urban and rural uses on the community's western edge, known as the Greenline, for over thirty years. Land to the west of the City and the Greenline is almost exclusively agricultural, while much of the land to the north and east of the City is used for grazing. **Figure OS-4** shows local agricultural resources and the Greenline boundary.

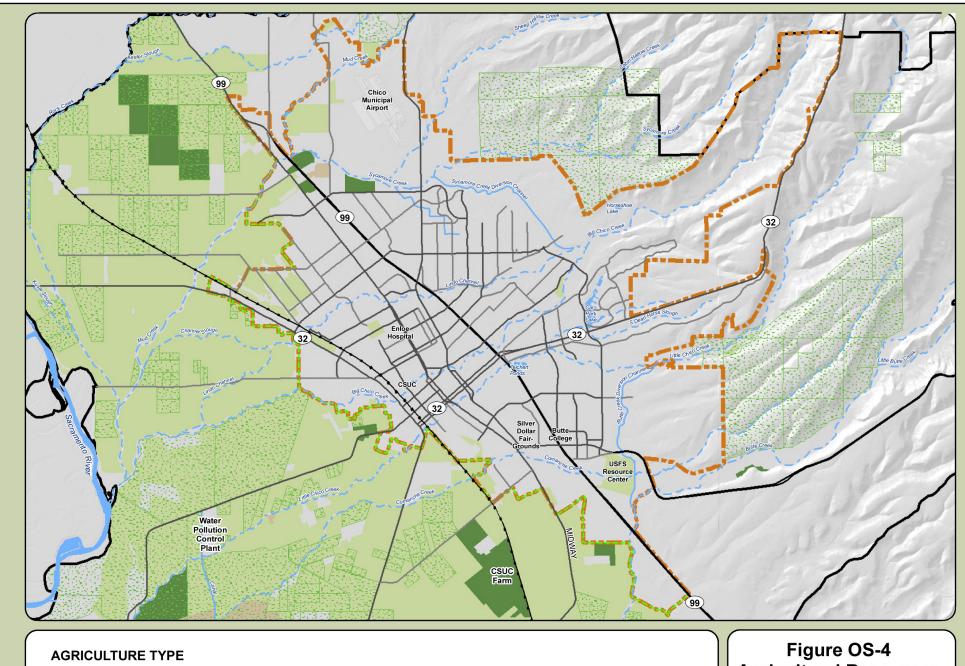


URBAN FOREST

The term "Urban Forest" refers to the abundance of trees found in the City. Chico's urban forest provides an aesthetic community benefit, energy savings from its shade canopy, areas of refuge from warm summer temperatures, and increased foraging and nesting locations for flora and fauna.



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Agricultural Resources





GOALS, POLICIES, AND ACTIONS

- Goal OS-1 Protect and conserve native species and habitats.
- Goal OS-2 Connect the community with a network of protected and maintained open space and creekside greenways.
- Goal OS-3 Conserve water resources and improve water quality.
- Goal OS-4 Improve air quality for a healthy City and region.
- Goal OS-5 Preserve agricultural resources for the production of local food and the maintenance of Chico's rural character.
- Goal OS-6 Provide a healthy and robust urban forest.

BIOLOGICAL RESOURCES

- Goal OS-1: Protect and conserve native species and habitats.
 - Policy OS-1.1 (Native Habitats and Species) Preserve native species and habitat through land use planning, cooperation, and collaboration.
 - ▲ Action OS-1.1.1 (Development/Preservation Balance) Direct development to appropriate locations consistent with the Land Use Diagram, and protect and preserve areas designated Open Space and areas that contain sensitive habitat and species.
 - ▲ Action OS-1.1.2 (Regional Conservation Planning) Actively participate in regional conservation planning efforts, in particular the Butte County Habitat Conservation Plan process, sponsored by the Butte County Association of Governments, which seeks the preservation of habitat areas needed for the ongoing viability of native species.
 - ▲ Action OS-1.1.3 (Sustainable Community Strategy) In support of AB 32, work with the Butte County Association of Governments to implement the Sustainable Community Strategy (SB 375), which directs smart-growth development to urbanized areas.
 - ▲ Action OS-1.1.4 (Community Collaboration) Consult with conservation groups to identify sites and projects for fund-raising and volunteer participation in public education, enhancement, maintenance, and protection of natural resources within the City's Sphere of Influence.

Cross reference LU-2.5.1

Cross reference LU-1.1.2



- ▲ Action OS-1.1.5 (Control Invasive Species) Prioritize efforts to remove nonnative species within Bidwell Park and other City greenways, and condition new development adjacent to Bidwell Park and greenways to protect native species and habitat from the introduction of invasive species.
- Policy OS-1.2 (Regulatory Compliance) Protect special-status plant and animal species, including their habitats, in compliance with all applicable state, federal and other laws and regulations.
 - ▲ Action OS-1.2.1 (State and Federal Guidelines) Ensure that project-related biological impacts are considered and mitigated, and require applicants to obtain all necessary local, state and federal permits for projects that may affect special-status species or their habitat.
- Policy OS-1.3 (Light Pollution) Reduce excessive nighttime light and glare.
 - ▲ Action OS-1.3.1 (Dark Sky Ordinance) Consider adoption of a Dark Sky ordinance.
 - ▲ Action OS-1.3.2 (Reduce Light Pollution) Seek community cooperation to reduce existing light pollution.

OPEN SPACE

- Goal OS-2: Connect the community with a network of protected and maintained open space and creekside greenways to build knowledge and appreciation of these resources.
 - Policy OS-2.1 (Planning and Managing Open Space) Continue acquisition, management, and maintenance of open space to protect habitat and promote public access.
 - ▲ Action OS-2.1.1 (Open Space Plan) Develop an Open Space and Greenways Master Plan that catalogues the City's open space land holdings, ensures that management and maintenance programs are in place, identifies long-term funding, coordinates with other public and private open space holdings, and prioritizes additional open space acquisitions, dedications, and easements to enhance connectivity, protect resources, and facilitate public access and circulation.
 - ▲ Action OS-2.1.2 (Funding for Open Space) Pursue outside funding sources for open space acquisition, management, maintenance, and restoration.

Cross reference PPFS-1.1.9 and CD-2.1

Cross reference PPFS-1.1.2

- Policy OS-2.2 (Creek Corridors and Greenways) Expand creekside greenway areas for open space and additional pedestrian/bicycle routes.

Cross reference PPFS-2.1.3, CD-2.1.2 and CD-2.1.3

 Action OS-2.2.1 (Creekside Greenway Program) – Continue collecting fees for creekside greenway acquisition, and purchase properties as opportunities arise.

Cross reference PPFS-2.1.1

▲ Action OS-2.2.2 (Greenway Expansion) – Seek easements and dedications along the City's creeks to expand the greenway system.

and CD-2.1.3

Policy OS-2.3 (Foothill Accessibility) – Support public access to publicly held foothill areas for non-intensive recreational purposes, where appropriate.

Cross reference LU-1.2.2, LU-7.5.4, and CD-2.4 Cross

Policy OS-2.4 (Foothill Viewshed) – Preserve the foothills as a natural backdrop to the urban form.

> reference CD-2.4.1 and LU-6.2.4

▲ Action OS-2.4.1 (Visual Simulations) – Require visual simulations for foothill development to assess viewshed impacts.

> Cross reference PPFS-2.1.3

Policy OS-2.5 (Creeks and Riparian Corridors) – Preserve and enhance Chico's creeks and riparian corridors as open space for their aesthetic, drainage, habitat, flood control, and water quality values.

> Cross reference PPFS-2.1.2

▲ Action OS-2.5.1 (Setbacks from Creeks) – Consistent with the City's Municipal Code, require a minimum 25-foot setback from the top of creek banks to development and associated above ground infrastructure as a part of project review, and seek to acquire an additional 75 feet. In addition, require a larger setback where necessary to mitigate environmental impacts.

Policy OS-2.6 (Oak Woodlands) - Protect oak woodlands as open space for

sensitive species and habitat.

WATER SUPPLY AND WATER QUALITY

- Goal OS-3: Conserve water resources and improve water quality.
 - Policy OS-3.1 (Surface Water Resources) Protect and improve the quality of surface water.
 - ▲ Action OS-3.1.1 (Comply with State Standards) Comply with the California Regional Water Quality Control Board's regulations and standards to maintain, protect, and improve water quality and quantity.



Cross reference PPFS-6.4.1 and PPFS-6.5.3

- ▲ Action OS-3.1.2 (Runoff from New Development) Require the use of pollution management practices and National Pollutant Discharge Elimination System permits to control, treat, and prevent discharge of polluted runoff from development.
- ▲ Action OS-3.1.3 (Discharge Enforcement) Continue enforcement of illegal discharges to Chico's creeks.
- ▲ Action OS-3.1.4 (Clean Creeks Project) Continue implementation of the Chico USA Clean Creeks Project which provides community-wide education regarding storm water runoff, pollution management practices, and the importance of clean creeks.
- ▲ Action OS-3.1.5 (Water Quality Monitoring) Monitor water quality in Big Chico Creek (above and below Sycamore Pool) daily between Memorial Day and Labor Day and monthly during the balance of the year.
- ▲ Action OS-3.1.6 (Teichert Ponds Restoration) Seek funding to implement the Teichert Ponds Restoration Habitat Development Plan, which will enhance storm water quality, wildlife habitat, public access, and education at the Teichert Ponds stormwater facility.
- ▲ Action OS-3.1.7 (Five-Mile Operation) Work with the Butte County Public Works Department to improve operation and maintenance of the Five-Mile flood control system to enhance flow and sediment management and thereby enhance water quality, fisheries habitat, and flood capacity.

• Policy OS-3.2 (Protect Groundwater) – Protect groundwater and aquifer recharge areas to maintain groundwater supply and quality.

- ▲ Action OS-3.2.1 (Protect Recharge Areas) Avoid impacts to groundwater recharge areas through open space preservation, runoff management, stream setbacks and clustering of development.
- ▲ Action OS-3.2.2 (Map Recharge Areas) Work with local, state and regional agencies to identify and map groundwater recharge areas within the Sphere of Influence.
- ▲ Action OS-3.2.3 (Nitrate Compliance Plan) Continue to implement the Nitrate Compliance Plan.
- ▲ Action OS-3.2.4 (Monitor Contaminated Sites) Monitor the status of known groundwater and soil contamination sites within the Planning Area as identified

Cross reference PPFS-5.1

Cross reference PPFS-6.3.1

Cross reference PPFS-4.2.2



by the California Department of Toxic Substances Control and the Regional Water Quality Control Board.

▲ Action OS-3.2.5 (Groundwater Protection) – Oppose regional sales and transfers of local groundwater.

Cross reference PPFS-5.5.1

- Policy OS-3.3 (Water Conservation and Reclamation) Encourage water conservation and the reuse of water.
 - ▲ Action OS-3.3.1 (Water Conservation Program Funding) Work with the California Water Service Company to implement a water conservation program to reduce per capita water use 20 percent by 2020 pursuant to the requirements of the State Water Plan.

Cross reference PPFS-5.3

▲ Action OS-3.3.2 (Reduce the Use of Turf) – Limit the use of turf on landscape medians, parkways, and other common areas in favor of native and drought tolerant ground cover, mulch, and other landscaping design elements, and support the conversion of existing turf to less water-intensive ground cover types.

Cross reference SUS-4.2.1 and PPFS-5.4.1

▲ Action OS-3.3.3 (Parkway Irrigation) – Design and monitor irrigation systems in medians and parkways to maximize efficiency and minimize nuisance run-off.

Cross reference PPFS-5.3.1

▲ Action OS-3.3.4 (Reclaimed Water) – Determine the feasibility and costs and benefits of reusing the City's treated wastewater for irrigation.

▲ Action OS-3.3.5 (Water Efficient Landscape Irrigation) – Enforce the requirements of state water conservation legislation when reviewing landscaping plans for new projects.

AIR QUALITY

- Goal OS-4: Improve air quality for a healthy City and region.
 - Policy OS-4.1 (Air Quality Standards) Work to comply with state and federal ambient air quality standards and to meet mandated annual air quality reduction targets.

Cross reference SUS-1.2.1

▲ Action OS-4.1.1 (Air Quality Impact Mitigation) — During project and environmental review, evaluate air quality impacts and incorporate applicable mitigations, including payment of air quality impact fees, to reduce impacts consistent with the Butte County Air Quality Management District's CEQA Air Quality Handbook.

Cross reference SUS-6.3



Cross reference SUS-3.4.1

Cross reference PPFS-8.1.1

Cross reference CIRC-1, CIRC-2., CIRC-3, CIRC-4, and CIRC-5

Cross reference SUS-6.1 and SUS-6.2

> Cross reference LU-1.2.1

Cross reference LU-2.6

Cross reference SUS-7.1

- ▲ Action OS-4.1.2 (Wood Burning) Implement measures to reduce air pollution from wood burning.
- Action OS-4.1.3 (Pollution from City Equipment) As viable alternatives become available, replace City-owned, gas-powered equipment with less polluting models.
- Action OS-4.1.4 (Leaf Removal) Enforce the City's no burn regulations, encourage composting, and continue the residential leaf pick-up program.
- Action OS-4.1.5 (Reduce Traffic Pollution) Reduce pollution from traffic by providing a well-connected circulation system with complete streets, enhancing bicycle facilities, supporting transit, and implementing traffic calming techniques such as roundabouts, narrowed streets, and chicanes.
- Policy OS-4.2 (Air Quality Education) Participate in public education efforts to improve air quality.
 - Action OS-4.2.1 (Air Quality Education) In consultation with the Butte County Air Quality Management District, disseminate information to educate the community about how to improve air quality.
- Policy OS-4.3 (Greenhouse Gas Emissions) Implement and update, as necessary, the Climate Action Plan to achieve incremental greenhouse gas emissions reductions.

AGRICULTURAL RESOURCES

- Goal OS-5: Preserve agricultural areas for the production of local food and the maintenance of Chico's rural character.
 - Policy OS-5.1 (Urban/Rural Boundary) Protect agriculture by maintaining the Greenline between urban and rural uses.
 - Policy OS-5,2 (Agricultural Resources) Minimize conflicts between urban and agricultural uses by requiring buffers or use restrictions.
 - Action OS-5.2.1 (Agricultural Buffers) Require buffers for development adjacent to active agricultural operations along the Greenline to reduce incompatibilities, and explore opportunities for public uses within buffers.
 - Policy OS-5.3 (Support Agriculture) Support local and regional agriculture.



 Policy OS-5.4 (Agricultural Lands) – Promote the continued use of land within the City Limits for local food production while working with property owners to minimize impacts to and from agricultural operations.

URBAN FOREST

- Goal OS-6: Provide a healthy and robust urban forest.
 - Policy OS-6.1 (Healthy Urban Forest) Ensure the continued protection and management of the urban forest to reduce energy demand, increase carbon sequestration, and reduce urban heat gain.

Cross reference CD-4.1.2 and SUS-6.4

- ▲ Action OS-6.1.1 (Urban Forest Maintenance) Maintain and expand the urban forest by:
 - Maintaining existing City trees through regular, scheduled service.
 - Planting new trees to replace those that require removal and to enhance the street tree canopy, where needed.
 - Requiring street and parking lot tree planting in new development.
 - Working with commercial parking lot owners to improve the shade canopy.
 - Implementing the Municipal Code's tree protection regulations.
 - Using volunteer groups and property owners to plant new trees, care for newly planted trees, maintain young trees, and provide information and instructions regarding such care and maintenance.
- ▲ Action OS-6.1.2 (Utility Impacts) Where feasible, require new underground utilities that are in close proximity to trees to be designed and installed to minimize impacts to trees through consultation with the Urban Forester.

Cross reference OS-4.1.1