Conservation

TABLE OF CONTENTS

Page

This page intentionally blank.

INTRODUCTION

A General Plan Conservation Element broadly addresses the management, development, and use of natural resources, including water, soils, wildlife, minerals, and other relevant natural resource topics.[1] Its requirements overlap those of the open-space, land use, safety, and circulation elements. The conservation element is distinguished by being primarily oriented toward natural resource management and conservation. This Element covers the following natural resource topics that are relevant to the General Plan Study Area:

- ✓ Agricultural resources;
- ✓ Water supply and quality;
- ✓ Prehistoric and historic resources;
- ✓ Wildlife and habitats; and,
- ✓ Energy.

RELATIONSHIP TO OTHER ELEMENTS

The required topics to be addressed for open space and conservation elements as outlined in the Government Code and the State General Plan Guidelines are closely related to one another. For this reason, many jurisdictions combine open space and conservation issues in a single element. Gridley has decided to include separate elements in this General Plan, each with a somewhat different focus. The focus in the Conservation Element is on the description of the natural resources present in the General Plan Study Area and methods for conserving those resources. The focus of the Open Space Element is on identifying lands that should remain mostly undeveloped, some for resource conservation and some for other purposes (such as recreation). Examples of General Plan topics covered in the Conservation and other elements are provided below.

- ✓ Water conservation and quality are addressed in this Element, while water supply and delivery are covered in the Public Facilities Element.
- ✓ The preservation of land suitable for agriculture and agricultural viability are addressed in this Element, but agricultural buffers are discussed in the Land Use Element.

[1] There are no significant mineral resources in the Gridley area, and therefore this topic is not discussed in this Element. Please refer to the General Plan Environmental Impact Report for more information.

- ✓ The preservation of historic resources is addressed in this Element while the Community Character and Design Element focuses on compatibility of infill development, and new development with the character of historic properties.
- ✓ Energy conservation, in general, is addressed in this Element, while methods of conserving energy through land use patterns, transportation, and design are addressed in the Circulation, Land Use, and Community Character and Design Elements.
- ✓ Although air quality is often viewed as a conservation issue, this is addressed specifically in the Safety Element.
- ✓ Some conservation elements identify areas, such as rivers, creeks, streams, and adjacent lands that should be preserved to accommodate floodwater for groundwater recharge and stormwater management, but these land areas are addressed in Gridley's Open Space Element.

GOALS, POLICIES, AND IMPLEMENTATION STRATEGIES

Following are Gridley's goals, policies, and implementation strategies related to conservation.

AGRICULTURE

High-quality agricultural lands surround the City of Gridley. Agriculture is an extremely important industry in Gridley, Butte County, and the Sacramento Valley in general. Agricultural production in the Gridley area includes orchards and field crops, livestock, and agriculture-related production. In addition to its economic importance, agriculture is also a fundamental part of Gridley's history and culture.

Gridley's vision is to reduce the impact of growth on the viability of agriculture in the region and to preserve as much productive agricultural land as possible. These goals can be accomplished by accommodating compact growth and by and requiring new development to avoid incompatibilities with agricultural operations by providing appropriate buffering (see the Land Use Element). Through these measures, Gridley will reduce the amount of land otherwise converted from agricultural to urban use.

The City will require buffers between residential areas and farmland to avoid complaints and other compatibility issues (See the Land Use Element for polices on agricultural buffers). In addition, the City will maintain physical connections to the agricultural landscape through trails, and bike lanes along a connected transportation network (see the Circulation Element).

Butte County provides policy and regulatory guidance related to agricultural buffers, as well. In the past, the County's agricultural buffer requirements have been applied within City spheres of influence. The intent of the County's agricultural buffers are to, "conserve and stabilize agricultural land from encroachment and conversion to urban uses, providing land use transitions, setbacks, and buffers between urban development and agricultural uses."[2] As noted, the City has provided for agricultural buffers in the Land Use Element that are also intended to prevent against adverse effects on agricultural operations in the vicinity.

The City will also maintain and promote the local agricultural economy by encouraging renewable energy development from agricultural waste and other value-added processes (see also the Energy section of this Element).

GUIDING PRINCIPLES

Three of the Guiding Principles of the General Plan relate to the City's agricultural setting and history:

- ✓ The rural, agricultural setting of Gridley is a community asset that should be protected, preserved, and celebrated in the built environment as the community grows.
- ✓ We believe agriculture should continue to be viable near the City. Gridley should preserve agricultural and other open space around the edges of the community.
- ✓ It is important to recognize the high quality of farmland that surrounds the community by developing in a land-efficient manner that does not unnecessarily or prematurely convert agricultural lands to urban use.

Following are the City's goals, policies, and implementation strategies on conservation of agriculture. Please refer also to the Land Use Element, which identifies the City's approach to agricultural buffers.

[2] Butte County Planning Commission Agenda Report, November 13, 2008.

CONSERVATION GOAL 1:	To minimize the impacts of growth on agriculture in the Gridley area.
CONSERVATION POLICY 1.1	The City will encourage ongoing agricultural uses on properties within the Sphere of Influence until such properties are annexed to the City.
CONSERVATION POLICY 1.2	The City will discourage detachment from irrigation and agricultural drainage districts until such time as nonagricultural use is imminent.
CONSERVATION POLICY 1.3	New development within the Planned Growth Area shall mitigate for the conversion of agricultural land to urban use. Mitigation shall include in-lieu fees to acquire agricultural conservation easements or direct placement of agricultural conservation easements on a similar quality and amount of land.
CONSERVATION POLICY 1.4	New developments that propose subdivision of property in areas adjacent to ongoing agricultural operations shall notify buyers of the potential use of agricultural chemicals, noise, and dust through notes on subdivision or parcel maps or by placing a note on a separate document that is recorded concurrently with the map.
CONSERVATION POLICY 1.5	The City will not consider agricultural operations to be a nuisance when new residential development has become established adjacent to ongoing agricultural operations.
CONSERVATION POLICY 1.6	The City will support research and development of agriculture-related economic activities in the Gridley area, such as renewable energy research and production, agricultural education, and marketing and sales of locally produced agricultural products.
CONSERVATION POLICY 1.7	The City will support small, niche farming on larger properties provided these operations are compatible with surrounding uses.
Conservation Implementation Strategy 1.1	The City will adopt a "right to farm" ordinance (or adopt the Butte County Right to Farm ordinance, as appropriate) that informs residents of ongoing agricultural practices at the edges of Gridley and protects farmers and other agriculture interests from dumping, nuisance complaints, and other problems typically associated with new residents on the City fringe. The notice should advise new residents of potential mosquito abatement programs by the Butte County Mosquito and Vector Control District in the surrounding area. The City will communicate with Butte County regarding the contents of the County's Right to Farm Ordinance to develop consistency, where appropriate.
Conservation Implementation Strategy 1.2	The City will communicate with the County, nearby cities, the Department of Conservation, and other interested agencies to establish a regional agricultural land mitigation fee and conservation program. Such a program should support farmers and agriculture property owners alike in identifying areas of the County

	with rich soils and where long-term agricultural operations will be preserved. For development requiring annexation, the applicant should either directly preserve, through a conservation easement, or pay on a fair-share basis into a program to preserve permanently a similar amount and quality of farmland. The mitigation program should consider lower preservation ratios for agricultural land preservation within Butte County and higher ratios for preservation outside Butte County, in order to provide substantial incentives for local agricultural preservation. In addition, some portion of the impact fees should support agricultural extension, research, value-added programs, direct marketing of local agricultural products, and other efforts that would support local agricultural productivity. Agricultural mitigation fees could be applied toward research and development of agriculture-related renewable and sustainable energy sources. The City will tie its agricultural land mitigation fee and conservation program to the regional approach, once developed. In-lieu fees for use in this agricultural mitigation program should be based on a City-approved Nexus Study. The City will consider formalizing the agricultural mitigation program in an ordinance, if appropriate.
Conservation Implementation Strategy 1.3	The City will implement an economic development strategy consistent with the adopted 2030 General Plan on an ongoing basis. One important focus of this economic development strategy will be research and development and consultation with other agencies for renewable energy development using local agricultural products or waste. See the Land Use Element for more detail on the City's economic development strategy.

WATER SUPPLY AND QUALITY

Rainfall in the Gridley and surrounding areas and snowmelt from the Sierra Nevada provides substantial surface water and groundwater recharge in Butte County. The City currently relies exclusively on groundwater for municipal use. Approximately 90 percent of the County's average annual precipitation occurs between October and May, although the amount of precipitation varies greatly.[3] Valley portions of the County average roughly 18 inches of rainfall annually, while mountainous portions of the eastern County can have more than 75 inches of precipitation per year. The State Department of Water Resources (DWR) monitors groundwater levels in the valley portion of Butte County,

[3] Butte County. Groundwater Management Plan. September 2004. Available online at: http://www.buttecounty.net/waterandresource/GWmgmtPlan/Section_2__1-6-05_%20_2_.pdf (accessed January 2, 2009).

where Gridley is located. This monitoring shows seasonal changes in groundwater levels in some portions of the County, but no significant historic change in overall groundwater levels. However, this monitoring has shown substantially lower groundwater levels during times of drought.[4] Agriculture is the primary user of water in Butte County, although municipal use is anticipated to increase in the future.[5]

Gridley is located in an area of irrigated agricultural fields and orchards. Throughout the northern Sacramento Valley, channels for irrigation and drainage connect fields with upstream water sources and downstream water bodies which accept runoff and drainage. The City's stormwater system connects with facilities used for agricultural drainage. Although the City maintains its own stormwater drainage system, the City's system connects with facilities managed by Reclamation District 833 (RD 833) and Reclamation District 2056 (RD 2056). These two special districts provide agricultural drainage services in areas surrounding Gridley.

Ditches that convey agricultural runoff are located throughout the Gridley area. With outward growth and annexation to Gridley, the City assumes responsibility for drainage services. The City requires detention along with new development to ensure that the stormwater rate conveyed into reclamation district facilities does not change. After stormwater leaves the City, it goes back into reclamation district channels and ultimately to the Butte Sink and Sacramento River, to the west.

These natural drainages and engineered ditches are an important part of the aesthetic and natural resource environment. The hydrologic corridors, including natural drainages and former agriculture ditches, are important for several reasons:

- ✓ They provide pollutant filtration and erosion and flood control;
- ✓ They provide natural, open space corridors that serve to link otherwise separate areas of the community;
- ✓ They are a reflection of the community's rich agricultural heritage and the continued importance of agriculture throughout the region; and,
- ✓ They provide habitat for a variety of resident and migratory wildlife species.

[4] Butte County. Groundwater Management Plan. September 2004. Available online at: http://www.buttecounty.net/waterandresource/GWmgmtPlan/Section_2__1-6-05_%20_2_.pdf. (accessed January 2, 2009).

[5] Butte County Department of Water and Resource Conservation. Integrated Water Resources Plan. May 2005. Available online at: http://www.buttecounty.net/waterandresource/int_water_res_plan.htm.

As described elsewhere in this General Plan, the City envisions preservation and restoration of existing drainages along with General Plan buildout to meet not only water quality goals, but also goals for recreation, aesthetics, community design, and biological habitat.

CONSERVATION GOAL 2:	To ensure efficient local use of water.
CONSERVATION POLICY 2.1	The City will encourage the use of recycled water for appropriate use, including, but not limited to, outdoor irrigation, toilet flushing, fire hydrants, and commercial and industrial processes.
CONSERVATION POLICY 2.2	Native, drought tolerant landscaping will be used, to the maximum extent feasible, in new City parks and open space and for landscaping within new rights of way as well as within new developments, including commercial, industrial, and residential projects.
CONSERVATION POLICY 2.3	The City will explore opportunities in existing City-owned parks, open space, rights-of-way, and other City properties to replace landscaping with native, drought tolerant landscaping.
CONSERVATION POLICY 2.4	The City will require the use of water conservation technologies such as low-flow toilets, efficient clothes washers, and efficient water-using industrial equipment in all new construction, in accordance with State law.
CONSERVATION POLICY 2.5	The City will provide voluntary water audits to identify conservation opportunities and will explore provide financial incentives for adopting identified efficiency measures.
CONSERVATION POLICY 2.6	The City will comprehensively assess water supply and demand and identify a range of local conservation measures to be implemented through an Urban Water Management Plan.
Conservation Implementation Strategy 2.1	When Gridley approaches 3,000 water customers or 3,000 acre-feet of water supplied annually, the City will prepare an Urban Water Management Plan (pursuant to the California Urban Water Management Planning Act). The Urban Water Management Plan (UWMP will describe and evaluate sources of water, will estimate future water needs, and include conservation measures, and implementation strategy, and schedule for implementation. The City will update the Urban Water Management Plan (UWMP), as necessary and as required by State law.

Conservation Implementation Strategy 2.2	The City will prepare a Nexus Fee Study following the 2030 General Plan update and update fees. As a part of this update, the City will evaluate its fee structure to align more closely the fees it charges with the actual cost of providing public services. In particular, City will analyze the cost of installing wells, water treatment, and water delivery and reduce water hook-up fees for more compact residential development (with smaller lawns and other areas that would need to be irrigated). The City will also evaluate whether incentives for water efficiency can be built into water rates.
Conservation Implementation Strategy 2.3	The City will analyze the feasibility of installation of recycled waters systems in new development. The City will consider whether up-front fees or ongoing rates can be reduced for properties that install and use recycled water. The City will consider revisions to the Public Works Construction Standards, as necessary, to allow installation of recycled water systems in new developments.

CONSERVATION GOAL 3:	To maintain and improve groundwater and surface water quality.
CONSERVATION POLICY 3.1	The City will consult with appropriate regional, state, and federal agencies to monitor water quality and address local sources of groundwater and soil contamination, including underground storage tanks, septic tanks, agriculture, and industrial uses, as necessary, to achieve state and federal water quality standards.
CONSERVATION POLICY 3.2	New development shall incorporate erosion control measures in grading and other construction activities designed to prevent erosion and discharge of silt and soil materials to streams.
CONSERVATION POLICY 3.3	The City will require that waterways and floodplains are maintained in their natural condition, wherever possible.
CONSERVATION POLICY 3.4	Existing swales and sloughs shall be preserved, restored, and used for naturalized stormwater drainage in the context of new development to the maximum extent feasible (Exhibit Conservation-1).

Exhibit Conservation-1. Swale Used for Filtering and Conveying Stormwater Runoff

CONSERVATION POLICY 3.5	New development shall incorporate natural drainage system design that includes infiltration and decentralized treatment to the greatest extent feasible.
CONSERVATION POLICY 3.6	New development should incorporate low impact development (LID) strategies to the greatest extent feasible to reduce stormwater runoff levels, improve infiltration to replenish groundwater sources, and reduce pollutants close to their source.
CONSERVATION POLICY 3.7	New development should minimize the amount of impervious surfaces such as driveways, streets, and parking lots in order to reduce stormwater, reduce pollutants in urban runoff, recharge groundwater, and reduce flooding.
CONSERVATION POLICY 3.8	In new developments, impervious surfaces such as driveways, streets, and parking lots should be interspersed with vegetated areas that allow for filtering and infiltration of stormwater (Exhibit Conservation-2).

Exhibit Conservation-2. Pervious, Vegetated Areas within Parking Lot (Left) and Street (Right) to Filter and Infiltrate Stormwater

CONSERVATION POLICY 3.9	New development should use permeable surfaces for hardscape, wherever feasible.
Conservation Implementation Strategy 3.1	The City will update or adopt a new drainage master plan following adoption of the 2030 General Plan to implement drainage policies within the Planned Growth Area. The City will develop a fair-share approach to funding drainage improvements in the Planned Growth Area, but will also proactively identify state and federal grant programs that could be used to implement the City's natural drainage/low impact development approach.[6] The City will engage with the Regional Water Quality Control Board and the State Water Resources Control Board to ensure that the appropriate regional and state water quality objectives are incorporated into the City's natural drainage approach. The City will consult with regional,

[6] See the State Water Resources Control Board web site for some examples of LID projects funded recently: http://www.swrcb.ca.gov/water_issues/programs/grants_loans/low_impact_development/index.shtml

	state, and federal resource agencies to ensure ease of permitting for the City's natural drainage and low impact development approach for the Planned Growth Area. The City will consult with relevant agencies to develop a streamlined permit process that ensures the feasibility of the City's stormwater best management practices. In addition to proactive consultation with the relevant resource agencies, the City will also work with the Mosquito Abatement District to ensure community health interests and vector control measures are considered in the design of storm drainage systems. See also Conservation Implementation Strategy 5.3.
Conservation Implementation Strategy 3.2	The City will revise the Public Works Construction Standards, as necessary, to encourage use of natural drainage systems and low impact development principles. The City will establish standards and fee programs to require and/or provide incentives for methods to slow down and filter stormwater. The City will make revisions required to emphasize slowing down and dispersing stormwater, using existing and constructing new landscaped swales to convey stormwater runoff, encourage sheet flow to filter stormwater runoff, encourage use of landscaped infiltration basins in planter strips along roadways and in parking lots, and other best management practices, as appropriate. The City will revise its parking design standards, as necessary, to encourage consistency with the 2030 General Plan.
Conservation Implementation Strategy 3.3	Following adoption of the 2030 General Plan, the City will adopt new landscaping standards, as necessary, to ensure consistency with policies in the Conservation Element. Among these revisions, the City will revise landscaping requirements to include drought-tolerant, low-maintenance plants.

CULTURAL RESOURCES

Cultural resources are important reminders and remnants of Gridley's history. These resources offer physical evidence of the prehistoric and historic occupation and exploitation of the area. Cultural resources include both prehistoric Native American sites, and historic roads, buildings, and other physical remnants. A brief overview of the prehistoric and historic context associated with potential cultural resources follows.

In prehistoric times, large portions of the Sacramento Valley were inhabited primarily by the Maidu Native Americans. Their territory included sections of the Sacramento Valley floor and portions of the Sierra foothills east of the present-day cities of Chico and

Oroville.[7] The earliest documented European entry into the area around Gridley occurred in 1808. That year, Gabriel Moraga led an expedition up the Feather River Sacramento River, possibly to the current location of Butte City to find locations for new missions and establish Spanish rule in the face of increasing pressure from the Russians.[8] Hudson Bay trappers were in the Gridley area during the early decades of the 19th century. Jedediah Strong Smith trapped the "golden beaver" along the Feather River and crossed the river at the fork with Honcutt Creek approximately 5 miles northeast of Biggs in March of 1827.[9] Other expeditions occurred in the region through the mid 19th Century.

George W. Gridley, after whom the City of Gridley was named, was born in New York, but moved to Galena, Illinois as a teenager. In 1850, he set out to drive a herd of livestock to California. Although he lost the entire herd, he settled on land that would become the town of Gridley, and became involved in livestock. He expanded his livestock operations to more than 30,000 acres and at one time was the largest tax payer in Butte County, with land holdings that included large portions of southern Butte County.[10] A post office was established in 1862 at the Gridley Ranch, but the area did not expand until 1870 when the California and Oregon Railroad established a station at Biggs. George Gridley was successful in getting the railroad to construct a station at his ranch, adjacent to which the railroad established a park, which remains to this day. In 1870, the California and Oregon Railroad was purchased by the Central Pacific Railroad. Soon after several additional buildings were added and formed the earliest buildings of the town. These included a home and store built by L.C. Stone, a Wells Fargo office, and the Gridley Hotel.[11]

While dry farming and the raising of livestock, primarily sheep, were the main agricultural activities throughout the 19th century, agriculture became diversified in the early 20th century with the construction of a system of canals that provided irrigation water from the lower Feather River beginning in 1905. In the 1920s prunes, almonds and olives led the new plantings in Butte County, and in 1921, farmers were planting pumpkins among orchard trees in the Gridley area, from where they were first shipped to canneries in the Gridley area. In the 1930s, aided by aerial application of seed, rice also became a major crop in the Gridley area.

---

7 White, Gregory G. 2003a. Final Report of Testing and Mitigation at Four Sites on the Level (3) Long Haul Fiber Optic Alignment, Colusa County, California. Archaeological Research Program Report No. 42. Archaeological Research Program, California State University, Chico.

8 Beck, Warren, Ynez Haas.1974. Historical Atlas of California. University of Oklahoma Press. Norman and London.

9 McGie, Joseph F. 1982.History of Butte County. Butte County Board of Education.

10 Walker, Vicky. 2007. History of Butte County, Cal, by George C. Mansfield. Transcribed by Vicky Walker. http://freepages.geneaology.rootsweb.com/npmelton/btgrid.htm. Accessed February 2-2008.

11 McGie, Joseph F. 1982.History of Butte County. Butte County Board of Education.

With the prehistoric and historic context in mind, the City collected information from a large variety of resources to support this General Plan update, including a records search was at the Northeast Information Center (NEIC) at California State University Chico. For this General Plan update, the City, in accordance with SB18, contacted Native American representatives recommended by the Native American Heritage Commission to gather input. The Enterprise Rancheria of Oroville responded to this request, expressing their ability to provide assistance to the City in the form of providing monitors for construction project, provide input into the cultural significance of inadvertent finds, ensure compliance with State laws, and insure the Native American human remains and associated grave items are treated with appropriate dignity. A review of the Sacred Land Files by the NAHC did not reveal the presence of sensitive resources within areas that may be affected by implementation of this General Plan.

Please refer to the Community Character and Design Element, which discusses the design-related aspects of historic architectural preservation.

CONSERVATION GOAL 4:	To minimize negative impacts to prehistoric and historic resources.
CONSERVATION POLICY 4.1	Archaeological and paleontological resources shall be protected permanently from urban development, wherever possible.
CONSERVATION POLICY 4.2	New developments shall analyze potential impacts, and shall be designed to avoid adverse impacts to any known archaeological and paleontological resources, wherever possible.
CONSERVATION POLICY 4.3	The City will use cultural resource databases to determine the likely presence of resources and the appropriate level of cultural resources analysis required for new developments.
CONSERVATION POLICY 4.4	The City will require presence of a professional archaeologist to monitor all ground-disturbing activities for improvements to the City's wastewater treatment plant and other City-sanctioned earth disturbing activities within 150 meters of the Feather River.
CONSERVATION POLICY 4.5	The City shall restrict the circulation of information concerning the location of cultural resources, in order to prevent potential site theft or vandalism.
CONSERVATION POLICY 4.6	The City will encourage private property owners to preserve, maintain, adapt and reuse historic structures, while maintaining as much of the historic character as possible.

CONSERVATION POLICY 4.7	Buildings and other resources that have historical or architectural value should be preserved, wherever feasible. Where this is not feasible, the resource shall be documented and the information retained in a secure, but publicly accessible location. The resource proposed for removal should be described and incorporated into historic and/or interpretive signage. The reuse and display of historic materials and artifacts from the resource is encouraged.
Conservation Implementation Strategy 4.1	As new development projects are proposed that are subject to the California Environmental Quality Act, the City will require cultural resource analysis, as appropriate, based in part on information available from the Northeast Information Center of the California Historical Resources Information System (CHRIS) and, if necessary, consulting with a qualified professional archaeologist or architectural historian, as appropriate. The City will require analysis and mitigation, as appropriate, consistent with Section 15064.5 of the State CEQA guidelines. In the event of the inadvertent discovery of previously unknown archaeological sites during excavation or construction, all construction affecting the site shall cease and the contractor shall contact the City. If Native American human remains are discovered, the City will work with local Native American representatives to ensure that the remains and associated artifacts are treated in a respectful and dignified manner, in accordance with State law.
Conservation Implementation Strategy 4.2	The City will require a paleontological resources impact assessment for projects proposed within the Modesto Formation, where a CEQA environmental document is required and where substantial excavation is anticipated. The Modesto Formation is an area that is sensitive for paleontological resources and underlies many parts of the central valley. Impacts to paleontological resources would be evaluated on a site-specific basis, pursuant to the State CEQA Guidelines. Where such impacts are found to be potentially significant, the City will require feasible mitigation measures to reduce impacts, such as construction worker personnel education, consultation with a qualified paleontologist should resources be encountered, and recovery and curation of specimens, as appropriate. Infill projects that do not involve substantial excavation would be exempt from this requirement.

WILDLIFE AND HABITATS

Agricultural practices have disturbed the natural setting in most of the Gridley area, limiting somewhat the biological habitat value. However, pastures, orchards, and other croplands do provide some habitat value for a variety of bird species and deer. For example, flood irrigation provides feeding and roosting sites for wetland-associated birds. Habitats can become established over time along agricultural drainage ditches and

irrigation canals located around the Gridley area, which could support an extensive variety of plant and animal species (see Exhibit Conservation-3).

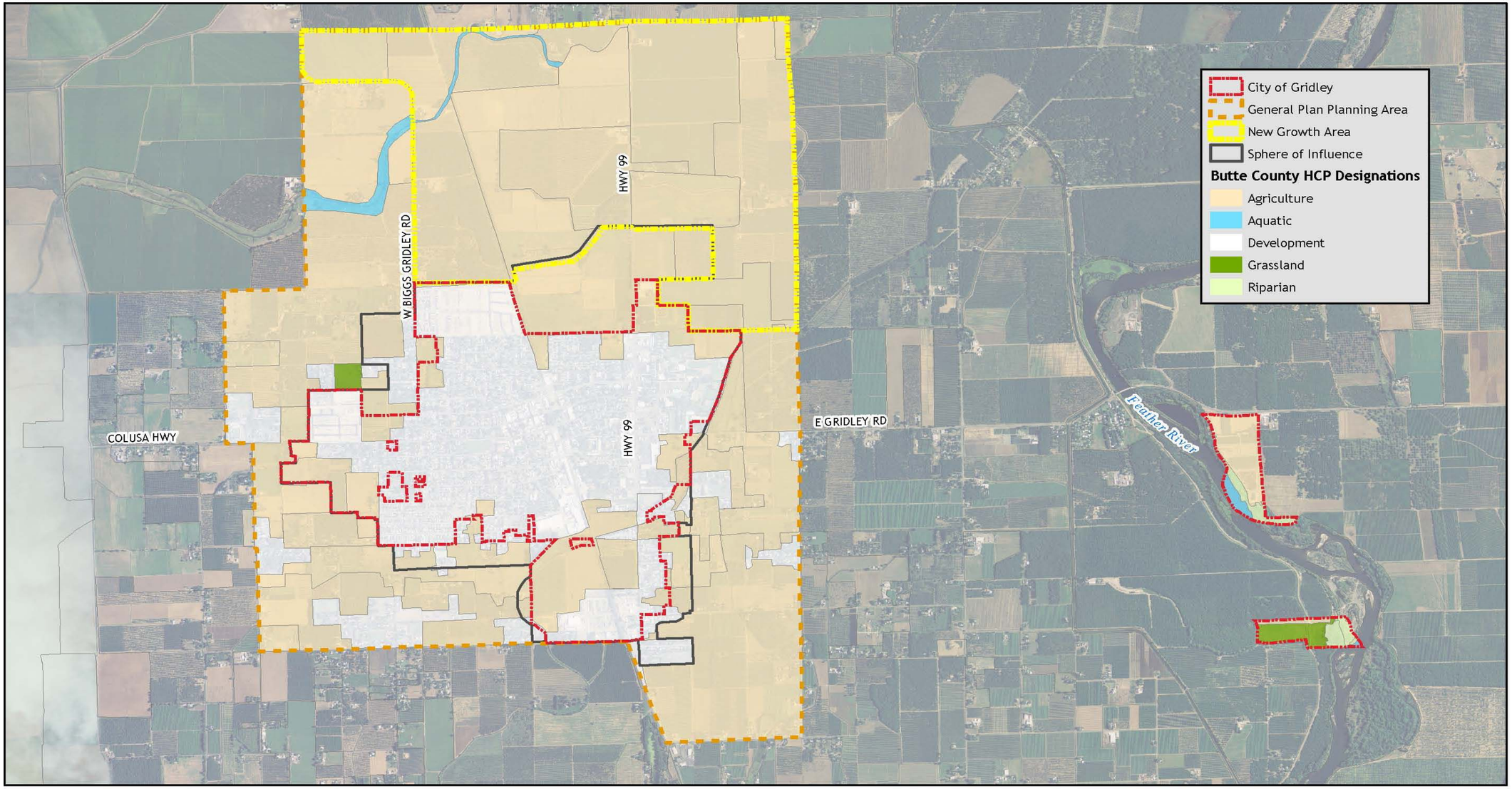
Few special-status (rare) plant species have potential to occur in the Gridley area. A list of special-status plant species was developed in 2008, using data from the California Native Plant Society (CNPS) Inventory, California Natural Diversity Database (CNDDB) and U.S. Fish and Wildlife Service (USFWS) species lists. This list included woolly rose-mallow (Hibiscus lasiocarpus) and Sanford's arrowhead (Sagittaria sanfordii). Woolly rose-mallow is found in freshwater marshes and swamps at elevations from 0 to 400 feet. Sanford's arrowhead is found in shallow, standing, fresh water and sluggish waterways including marshes, swamps, ponds, vernal pools, lakes, reservoirs, sloughs, ditches, canals, streams and rivers at elevations from 10 to 2000 feet.

Few special-status wildlife species have potential to occur in the Gridley area. A list of special-status animal species was developed in 2008, using data from the USFWS and CNDDB. This list included Swainson's hawk, valley elderberry longhorn beetle, and giant garter snake. Swainson's hawk nest in isolated trees, small groves, or large woodlands, next to open grasslands or agricultural fields. Nest locations are usually in close proximity to suitable foraging habitats, which include fallow fields, irrigated pastures, alfalfa and other hay crops, and low-growing row crops. The valley elderberry longhorn beetle is distributed primarily within riparian habitats and is dependent solely on blue elderberry shrubs or red elderberry shrubs to complete its lifecycle. Giant garter snake inhabits agricultural wetlands and other waterways such as irrigation and drainage canals, sloughs, ponds, small lakes, low gradient streams, and adjacent uplands.[12]

The City is a participant in the Butte Regional Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP) which, as of the writing of this document, is being drafted by the Butte County Association of Governments (BCAG). The HCP/NCCP is a comprehensive and broad-based approach to biological resource preservation. These efforts identify the most important areas to preserve for protection of plants, animals, and habitats, but also allow for compatible land development, urban growth, and other economic activities. The HCP/NCCP is a voluntary plan that provides comprehensive species, wetlands and ecosystem conservation, contributes to recovery of endangered species, and a more streamlined process for biological resource-related permitting. The Butte HCP will equitable distribute the costs and benefits of habitat conservation planning within the region.[13]

[12] United States Fish and Wildlife Service. Sacramento Office, Sacramento, CA. Conservation Guidelines for the Valley Elderberry Longhorn Beetle. 1999.

[13] Butte County Association of Governments. http://www.buttehcp.com/



Source: Butte County HCP/NCCP, 2005.

Exhibit Conservation-3. Natural Communities in the Gridley Area

The plan area covers approximately two-thirds of the county (564,270 acres) and is evaluating coverage of 36 species, including the following state-listed species: Swainson's hawk, Western yellow-billed cuckoo, bank swallow, and giant garter snake. The natural communities to be addressed by the plan include oak woodland and savanna, grassland, riparian, wetland, and aquatic.[14]

CONSERVATION GOAL 5:	To protect wildlife habitats, including those that could support sensitive species, as the City grows.
CONSERVATION POLICY 5.1	New developments shall use techniques, such as buffers, setbacks, and clustering of development to protect wetlands, riparian corridors, vernal pools, and sensitive species.
CONSERVATION POLICY 5.2	New development shall preserve open space corridors alongside agricultural drainage ditches.
CONSERVATION POLICY 5.3	The City will have former agricultural drainage ditches improved or restored in a way that avoids or improves habitat value and maintains or improves wetland function.
CONSERVATION POLICY 5.4	The City will condition new development, as necessary, to reduce erosion, siltation, and mitigate impacts to wetland, riverine, and riparian habitats.
CONSERVATION POLICY 5.5	New developments shall preserve and plant native or naturalized vegetation and avoid the introduction of invasive exotic species.
CONSERVATION POLICY 5.6	The City will require compliance with state and federal laws concerning special status species.
CONSERVATION POLICY 5.7	The City will ensure consistency of new development with applicable portions of the Butte County Habitat Conservation Plan and Natural Communities Conservation Plan.
CONSERVATION POLICY 5.8	The City will explore opportunities to use mitigation fees from regional habitat preservation programs to restore agricultural ditches.
CONSERVATION POLICY 5.9	The City will continue to collaborate with the California Department of Fish and Game and the United States Fish and Wildlife Service, as appropriate, to ensure the protection and preservation of special-status species and their habitats within the Gridley Planning Area.
Conservation Implementation Strategy 5.1	The City will require plant and animal surveys and mitigation prior to new development, as necessary, for projects subject to CEQA compliance. The City will consult with state and federal resource agencies and BCAG to identify priority habitats and special status species locations, identify survey requirements, and establish

[14] California Department of Fish and Game. http://www.dfg.ca.gov/habcon/nccp/status/ButteCounty.html

	mitigation ratios. In particular, the City will focus on valley elderberry shrub locations, raptor- and migratory bird nests, Swainson's hawk nesting areas and foraging habitat, potential giant garter snake habitat, and potential wetlands, riverine, and riparian habitats. The City's survey and mitigation requirements will be consistent with guidance from the California Department of Fish and Game, the U.S. Fish and Wildlife Service, the California Native Plant Society, and the U.S. Army Corps of Engineers and the Butte County Habitat Conservation Plan and Natural Communities Conservation Plan (HCP/NCCP), as appropriate.
Conservation Implementation Strategy 5.2	The City will communicate with BCAG and other participants in the HCP/NCCP process to encourage use of regional mitigation fees for restoration of agricultural ditches in the Gridley area.
Conservation Implementation Strategy 5.3	The City will update or adopt a new drainage master plan following adoption of the 2030 General Plan to implement drainage policies within the Planned Growth Area. In coordination with this effort, the City of Gridley will engage with the California Department of Fish and Game, the Regional Water Quality Control Board, the Army Corps of Engineers, and the US Fish and Wildlife Service to ensure that the appropriate biological and wetland related objectives are incorporated into the City's natural drainage approach. The City will communicate with regional, state, and federal resource agencies to ensure ease of permitting for the City's natural drainage and low impact development approach for the Planned Growth Area. The City will consult with relevant agencies to develop a streamlined permit process that ensures the feasibility of the City's stormwater best management practices. See also Conservation Implementation Strategy 3.1.

ENERGY

Transportation accounts for 39% of all energy consumption in California, which makes it the largest energy-consuming sector.[15] Transportation accounts for more energy consumption than heating, cooling, and powering of buildings, powering industry, or any other use. For Gridley, like California, transportation and land use planning techniques provide a huge opportunity to decrease energy use (along with reducing household transportation costs). The City has, therefore prepared an array of land use, circulation, and community design policies that are the primary means for achieving Gridley's energy conservation goals during buildout of this General Plan. There is a broad range of feasible and commonly used land use and transportation planning strategies that reduce

[15] U.S. Department of Energy. California Energy Summary. Online. http://apps1.eere.energy.gov/states/energy_summary.cfm/state=CA. Accessed February 6, 2009.

vehicular travel demand and therefore increase energy efficiency. These strategies are incorporated into Gridley's Land Use, Circulation, and Community Character and Design Elements of this General Plan, including:

- ✓ More **compact development** patterns and **mixing of land uses** that place residences and destinations closer to one another;
- ✓ High-quality **pedestrian and bicycle connections** between destinations;
- ✓ **Development patterns and transportation infrastructure** that together provide citizens and businesses with provide more energy efficient travel choices;
- ✓ New neighborhoods with a variety of higher-activity land uses in accessible **neighborhood centers**;
- ✓ A bicycle and pedestrian network that **connects neighborhood centers to each other** and to other destinations around town; and,
- ✓ **Encouraging infill and redevelopment** as an overall strategy to place homes and destinations closer to one another.

Please refer to the Land Use, Circulation, and Community Character and Design elements of this General Plan for more information on energy-conserving policies related to land use, transportation, and community design.

SITE AND BUILDING DESIGN

Building orientation, tree planting, and other strategies to provide shade from the summer afternoon sun are important for energy conservation considering Gridley's sunny climate.

In addition to site planning, there are many strategies for energy conservation through the selection of building materials, construction methods, appliances, and other building components. Energy efficiency measures in buildings would provide residents and businesses cost-saving opportunities. Energy efficiency retrofits could substantially improve the energy performance of the existing building stock. Encouraging well-designed, smaller residential units (with smaller spaces to heat and cool) is also a fundamental way to reduce energy demand.

California building regulations have increasingly recognized available energy conservation methods over time. Additional energy conservation and "green building" standards will be required by the State during build out of this General Plan. The 2007 California Green Building Standards Code (CCR, Title 24, Part 11) will become mandatory in 2010 (Department of General Services, 2008). The amended code is expected to reduce building energy consumption by 15 percent, water consumption by

20% and landscape water consumption by 50%. New residential buildings will be required to use zero net energy by 2020 and commercial buildings will need to achieve this target by 2030. In addition to buildings, there are a variety of strategies for design and construction of infrastructure and public facilities that can provide energy conservation benefits.

RENEWABLE ENERGY

Production and purchasing of renewable energy is another effective way for the community to reduce energy demand (and provide local cost savings). Recent advances in technology provide the City with a variety of feasible options for renewable energy production. Use of solar power for hot water, and electricity needs is common. Wind power is being developed on a large scale throughout the state. Fuels created in part or entirely from vegetative material are increasingly commonplace. The increased local generation and use of renewable energy can substantially contribute to the City's energy conservation goals.

The City is in the unusual position of being both the land entitlement authority and the electrical provider within corporate limits. Therefore, the City can strategically coordinate a wide variety of planning, public investment, financing, and regulatory initiatives to achieve energy conservation goals. The City's land use and transportation policy, CEQA lead agency review, and energy facilities planning will be coordinated in order to take advantage of best practices in energy conservation.

LOCAL ECONOMY

The City's energy conservation goals are closely related to local economic goals in a variety of ways. The City's local economic goals focus on targeting, attracting, and retaining businesses whose products are related to renewable energy (see also the Land Use Element). For example, the City could plan and market "green" and "eco-industrial" design approaches in the City's industrial sites, establishing Gridley as a leader in environmental sustainability (see the Land Use Element). City residents and businesses can reduce their energy costs through implementation of City energy conservation policies (including cost savings through use of non-vehicular methods of transportation), contributing toward long-term economic sustainability.

Since the City is an electrical provider, there are unique opportunities to structure electrical facilities financing and maintenance to pass along energy savings to our customers – both residents and businesses. Gridley could use reduced electrical rates as one incentive to attract future employers. Gridley can be more competitive in the future as a community by minimizing our residents and businesses' long-term energy costs.

The City can build on its base of agriculture-related production by encouraging the local production and use of renewable energy from agricultural products or waste. The City will continue development and use of renewable energy in consultation with other members of the Northern California Power Association, including not only hydroelectric power, but also solar and fuel derived from local agricultural products.

Ongoing and forthcoming climate change regulations will require and/or provide incentives for energy and greenhouse-gas-efficient development practices, such as those described in this General Plan. With implementation of policies included in this General Plan, Gridley has provided a model for energy and greenhouse gas efficient development policy. In doing so, the City is well positioned to take advantage of cap-and-trade programs, market incentives for energy conservation and greenhouse gas reductions, and changes in land development practices related to climate change regulations.

CONSERVATION GOAL 6:	To encourage local generation and use of renewable energy.
CONSERVATION POLICY 6.1	The City's Electrical Utility will expand local generation and use of renewable energy sources for electricity in Gridley and the share of renewable energy in the City's overall portfolio.
CONSERVATION POLICY 6.2	The City will promote development and use of renewable energy, including not only hydroelectric power, but also solar and fuel derived from local agricultural products or agricultural waste.
CONSERVATION POLICY 6.3	The City will explore opportunities to install shade structures and combined shade structures/active solar systems at public transit stops, public parking lots, parks, on public buildings, and elsewhere on public property.
CONSERVATION POLICY 6.4	The City will allow flexibility in development standards, where necessary, to encourage construction of active solar systems or combination shade structures/active solar systems on private property.
CONSERVATION POLICY 6.5	Developers and occupying residents and businesses that install and use active solar systems should have reduced electricity hook up fees and reduced electricity rates.
CONSERVATION POLICY 6.6	The City will encourage property owners to connect active solar systems on-site to other buildings in the development and to the City's power grid.
CONSERVATION POLICY 6.7	The City will encourage formation of financing districts in new and existing development, where feasible, to finance the installation of renewable energy infrastructure and energy efficiency improvements.

CONSERVATION POLICY 6.8	The City will proactively pursue collaborative projects with regional, State, and federal agencies to produce renewable energy in Gridley.
Conservation Implementation Strategy 6.1	The City will take advantage of current grant, loan, and financing programs offered through the State of California Energy Commission and Federal Department of Energy to encourage installation of active solar systems in new and existing development. The City will actively pursue future federal, state, and regional funding programs to encourage installation of shade structures that also have active solar systems. The City will explore opportunities to install active solar systems on the roof of public buildings and accessory buildings. The City will also encourage property owners' use of financing districts to fund construction of active solar facilities and repayment over time as a part of property tax.
Conservation Implementation Strategy 6.2	The City will explore infrastructure improvements and financing programs necessary to allow properties to connect solar or other renewable electricity generation facilities to other structures nearby or to the City's electricity grid. The City will explore opportunities to allow property owners to sell excess electricity to the City or the Northern California Power Agency. Excess electricity generated on public and private properties should be transmitted to Gridley's electricity system. Private properties should be able to sell excess electricity to pay down bonds used to construct active solar systems on-site.
Conservation Implementation Strategy 6.3	The City will prepare a Nexus Fee Study and update impact fees following adoption of the General Plan. The City also may need to prepare or revise a master plan that addresses electrical infrastructure for the Planned Growth Area. The City's Nexus Fee Study and update to impact fees should include analyze energy procurement and distribution costs. For newly developing properties that include energy conservation techniques beyond those required by building codes, the City should examine whether reduced impact fees would be appropriate. The Nexus Fee Study will need to be coordinated with electrical facilities master planning.
Conservation Implementation Strategy 6.4	The City will consult with other members of the Northern California Power Association to ensure that state legislation on renewable energy appropriately considers renewable hydroelectric power and supports Gridley's energy procurement and distribution practices.

Conservation Implementation Strategy 6.5	The City will identify grant programs and other state, regional, and federal funding that may be available to expand the generation and use of renewable energy within Gridley. The City will take advantage of opportunities to benefit from future greenhouse gas and energy related regulation and markets, such as a cap-and-trade program. The City will focus on opportunities to generate and use renewable energy produced by local agriculture.

CONSERVATION GOAL 7:	To encourage energy efficient site planning and building construction.
CONSERVATION POLICY 7.1	Existing trees should be preserved along future streetscapes and planned development areas to provide immediate shade. Unhealthy trees and those that present a hazard can be removed.
CONSERVATION POLICY 7.2	New developments should include deciduous trees and shrubs on the western and southern sides of buildings, to the maximum extent feasible, to reduce solar heat gain in the summer and allow for solar heat gain in the winter.
CONSERVATION POLICY 7.3	Trees should be strategically planted to shade pavement areas and air conditioners.
CONSERVATION POLICY 7.4	Proposed projects, plans, and property subdivisions should orient proposed detached single-family homes to provide access to warming winter sunlight and shade from the summer afternoon sun. The long axis of single-family homes should, in general, be oriented from east to west.
CONSERVATION POLICY 7.5	Building plans should enhance natural ventilation through natural convection, push-pull ventilators, and other techniques, and should include effective use of daylight through high-performance glazing systems, skylights, light ducts, light shelves and other strategies.
CONSERVATION POLICY 7.6	The City will encourage new homes and major residential renovations to comply with the guidelines for the California Energy Star Homes Program.
CONSERVATION POLICY 7.7	The City will encourage certification of new residential, commercial, and industrial buildings through a green building standards program.
CONSERVATION POLICY 7.8	New commercial, institutional, and industrial development should use light-colored paving materials for internal roads and parking.
CONSERVATION POLICY 7.9	The City will continue to provide free energy efficiency audits of existing buildings and help facilitate the implementation of identified efficiency improvements.

CONSERVATION POLICY 7.10	The City will encourage the retrofitting of existing buildings with energy efficient systems, energy-efficient appliances, insulation, energy-efficient doors and windows, and other elements that conserve resources.
Conservation Implementation Strategy 7.1	Following adoption of the General Plan, the City will consider adopting green building standards, designed to promote energy efficiency and other environmentally sustainable practices in new construction. The City will consider the Build-it-Green program, LEED, or other similar programs for single-family residential construction. The City will consider LEED certification or similar programs for multi-family, commercial, and industrial construction. As a part of the building standards, City will consider requiring larger projects involving buildings of over 5,000 square feet to be LEED certified or to achieve some other specific green building standard. In addition to the building standards, the City will consider incentives or requirements for construction that complies with the guidelines for the California Energy Star Homes Program and residential developments that participate in California Energy Commission's New Solar Homes Partnership. The City will consider whether large projects should be required to use U.S. EPA–Energy Star rated roofing materials and light colored paint. The City will broadly consider what incentives could be made available that would encourage construction according to the City's goals for energy conservation, including reducing fees, expedited permitting, density bonuses, and other incentives.
Conservation Implementation Strategy 7.2	The City will explore the provision of low-interest financing, grants, and other programs that could be used for energy efficiency retrofits and alternative energy projects in existing residential, commercial, and industrial buildings. The City will identify methods to encourage the retrofitting of existing buildings with energy efficient systems, energy-efficient appliances, insulation, energy-efficient doors and windows, and other elements that conserve resources, as well as installation of renewable energy facilities. The City will explore potential State grants and other funding mechanisms to assist with energy efficiency retrofits and alternative energy projects for civic, residential and commercial buildings.
Conservation Implementation Strategy 7.3	The City will revise landscaping requirements consistent with Conservation Goal 7 and policies 7.2 and 7.3.

CONSERVATION GOAL 8:	To increase energy efficiency in City operations.
CONSERVATION POLICY 8.1	The City will conduct energy efficiency audits of all City-owned buildings to identify efficiency improvements.
CONSERVATION POLICY 8.2	All new City-owned buildings and major remodels and additions should achieve a United States Green Building Council - LEED Certification or a similar rating program, as funding allows.
CONSERVATION POLICY 8.3	The City will consider the installation of renewable energy systems on City buildings and properties and transition the City's fleet to hybrid vehicles.
CONSERVATION POLICY 8.4	The City will explore the viability of LED streetlights to reduce energy consumption and provide more reliable and constant illumination.
CONSERVATION POLICY 8.5	The City will provide City staff training and public outreach on methods to reduce energy consumption and available incentives for energy efficiency measures.
Conservation Implementation Strategy 8.1	The City will conduct an energy efficient audit of City buildings and major operations to identify improvements that could be made to increase energy efficiency. Up-front improvement costs will be compared with long-term energy savings. Improvements will be prioritized based on cost and benefit and included and implemented as funding is available.

AESTHETIC RESOURCES

Gridley is located in an area of the Sacramento Valley characterized by agricultural uses, with expansive views of the nearby Sutter Buttes and Sierra Nevada foothills. As the City grows, it will maintain this visual character and connections to nearby scenic resources. Please refer to the Land Use Element, which describes the City's intent to encourage compact development that preserves agricultural land, as well as the City's intent for agricultural buffers.

Light pollution is a growing problem in California as urban areas of the state expand. Poorly designed lighting, especially outdoor lighting, can create "skyglow" which affects the nighttime views for many miles. Street lights and other outdoor lights in the City of Gridley should be designed to direct light downward, where it is used, and avoid the outward and upward escape of light. The Municipal Code addresses light spillage (see Section 17.38.090 of the Municipal Code), prohibiting light spillage of any subject property onto adjacent properties.

CONSERVATION GOAL 9:	To maintain views of the Sutter Buttes.
CONSERVATION POLICY 9.1	The City will consider views of the Sutter Buttes in the orientation of new roadways and trails, and maintain visual connections, where feasible.

CONSERVATION GOAL 10:	To reduce impacts from nighttime lighting and glare in the City of Gridley.
CONSERVATION POLICY 10.1	The City will support and encourage practices that reduce light pollution and glare, and preserve views of the night sky.
CONSERVATION POLICY 10.2	The City will require the use of fixtures that direct light toward target areas and shield it from spillage in new development and as existing fixtures are upgraded or replaced.
Conservation Implementation Strategy 10.1	Amend the Municipal Code to reduce glare associated with new development through such measures as: ✓ Exterior building materials on nonresidential structures shall be composed of a minimum 50% low-reflectance, non-polished finishes. ✓ Bare metallic surfaces (e.g., pipes, vents, light fixtures) shall be painted to minimize reflectance.