NATURAL RESOURCES ELEMENT

Introduction

PURPOSE AND CONTENT

The City of Redding is fortunate to have a wide range of resources within its Planning Area. These include the Sacramento River, creeks, ponds, wetlands, vernal pools, and groundwater resources; a variety of vegetation types and communities; wildlife; archaeological, historical, and cultural resources; mineral resources; and agricultural lands.

These resources contribute to the City's economy and are important elements of Redding's quality of life. Both responsible management and protection of these resources are needed. This Plan seeks to balance the need to accommodate growth with the need for the conservation, protection, and enhancement of the area's natural resources.

Most of the background data and information related to this element are contained within Chapter 9 of the City of Redding *General Plan Background Report*. Information regarding archaeological, historical, and cultural resources is contained in Chapter 8 of the same document.

Specific topics addressed within the Policy Document include:

- Surface Water.
- Groundwater.
- Biological Resources.
- Open Space.
- Archaeological, Historical, and Cultural Resources.
- Mineral Resources.
- Energy Resources and Conservation.
- Agricultural Lands.

Air quality, which is also considered a resource, is addressed in a separate Air Quality Element. Park and recreation facilities and programs are addressed within the City's Recreation Element.

AUTHORITY

In accordance with Government Code Sections 65302(d) and 65302(e), a general plan is required to include both a Conservation and an Open Space Element.

Conservation Element

The Conservation Element is required to address the conservation, development, and utilization of natural resources, including water and its hydraulic force, forests, soils, rivers and other waters, harbors, fisheries, wildlife, minerals, and other natural resources. The Conservation Element may also cover:

- The reclamation of land and waters.
- Prevention and control of the pollution of streams and other waters.
- Regulation of the use of land in stream channels and other areas required for the accomplishment of the conservation plan.
- Prevention, control, and correction of the erosion of soils, beaches, and shores.
- Protection of watersheds.
- The location, quantity, and quality of rock, sand, and gravel resources.
- Flood control.

Assembly Bill 162 (adopted in 2007) amended certain sections of the Government Code pertaining to land use planning. As relates to the Conservation Element, Section 65302.d.(3) requires that the Element identify rivers, creeks, streams, flood corridors, riparian habitats, and land that may accommodate floodwater for purposes of groundwater recharge and stormwater management.

Open Space Element

It is the intent of the Legislature that cities preparing general plans recognize open space as a limited and valuable resource to be conserved whenever possible.

The Open Space Element is specifically required to consider open space for the preservation of natural resources (fish and wildlife habitat); open space used for the managed production of resources (food and fiber); open space for outdoor recreation, including areas of scenic, historical, and cultural value; and open space necessary to maintain the public health and safety.

The Conservation and Open Space Elements are commonly combined because of the overlapping topics each is required to address. ***The City of Redding has chosen to prepare a Natural Resources Element which effectively meets the statutory requirements of both documents.***

Goals and Policies

Surface and Groundwater Resources

The availability, quantity, and quality of water resources are vital to natural processes and human activities within any urban area. Water is essential to the development of housing, commerce and industry, agricultural operations, recreation, and the maintenance of high-quality fish and wildlife habitats.

Surface water within the Planning Area consists of the Sacramento River and numerous tributary creeks. There are also a number of ponds, most of which are in private ownership.

Municipal Water Sources

The City of Redding has two major sources of drinking water: surface water and groundwater. The Sacramento River and Whiskeytown Lake provide approximately 71 percent of the City's water usage. This translates into approximately 5.61 billion gallons per year. The remaining 29 percent, or 2.32 billion gallons per year, is groundwater, which comes from 14 wells drilled into the Redding Groundwater Basin.

In addition to the City of Redding, a number of water districts provide domestic and agricultural water within the Planning Area. These districts also obtain their supplies from a variety of sources, including the Sacramento River, Spring Creek Conduit, Muletown Conduit (which is also connected to Whiskeytown Lake), and wells.

The quality and quantity of water resources can be affected by a variety of activities, including, but not limited to:

- Sedimentation and siltation resulting from erosion caused primarily by grading, construction, and the removal of vegetation.
- Increased stormwater runoff and reductions in groundwater recharge created by covering the soil with buildings, pavement, and other impervious surfaces.
- Excessive pumping of groundwater.
- Excessive water consumption.
- Contamination resulting from the improper or excessive use of pesticides, herbicides, and fertilizers in conjunction with large agricultural operations, golf courses, and other urban uses.
- Contamination resulting from improperly managed urban stormwater runoff, which often contains pesticides, herbicides, oil, grease, and heavy metals.
- Discharge of various chemicals and compounds into surface water, groundwater, or storm-drain systems through improper handling and disposal by businesses, industries, or individuals.
- Contamination resulting from high concentrations of on-site sewage-disposal systems or systems installed in areas with unsuitable soils.
- Leaching of soils that have been contaminated by hazardous materials or substances.

Stormwater Management/Groundwater Recharge

The Sacramento River, its tributary streams and their collective floodplains provide many benefits to the community beyond their scenic, recreational, and habitat values. Because the City's development regulations largely protect these areas from development (see the Community Development and Design Element and the Health and Safety Element), they also represent significant opportunities for stormwater management and groundwater recharge. In addition to basic floodplain protection, the City also requires new development to establish river- and

creek-corridor buffer areas, which are to remain in their natural state to protect riparian vegetation, ensure streambank stabilization, and to provide public access to these waters.

The following figures of this Element and the Health and Safety Element depict the areas available for stormwater management and groundwater recharge as required by Government Code Section 65302.d.(3):

- Natural Resources Element, Figure 3-3, "River and Creek Corridor Buffer Widths"
- Health and Safety Element, Figure 4-3, "100 year floodplain"
- Health and Safety Element, Figure 4-4, "Stormwater Detention/Retention Feasibility Areas"

Issues

Erosion and sedimentation control are the primary issues in the Redding area from a water-quality perspective. While the City recognizes the economic importance of allowing grading and other site-development activities to occur during what is considered the "rainy season" (typically October 15 through April 15), of equal or greater importance is the protection of our surface-water resources. Siltation of our waterways has dramatic negative effects on aquatic wildlife, including federally protected species of anadromous fish. The following policies strike a balance between these objectives.

GOAL NR1

MINIMIZE SOIL EROSION AND SEDIMENTATION PROBLEMS RESULTING FROM DEVELOPMENT ACTIVITIES; IMPROVE THE QUALITY OF STORMWATER RUNOFF.

Policies to achieve this goal are to:

NR1A. Establish a process for the development, review, and approval of erosion- and sedimentation-control plans of single-family residential construction and similar small projects.

NR1B. Require development applicants to submit and receive Public Works Department approval for erosion- and sediment-control plans prior to undertaking grading activities.

NR1C. Minimize soil erosion and sedimentation created during and after construction activities to the fullest extent practicable, using Best Management Practices (BMPs).

NR1D. Make project monitoring and enforcement activities a priority to ensure that erosion-control measures are in place prior to the start of the rainy season and function properly and effectively:

- Installed properly.
- In place prior to the start of the rainy season.
- Functional and effective.

NR1E. Aggressively pursue immediate remediation when erosion damage is discovered and/or initial control measures fail.

NR1F. Establish and levy fines for failure to comply with the requirements of the Grading Ordinance and/or an approved erosion- and sediment-control plan.

NR1G. Support and/or jointly sponsor erosion- and sedimentation-control training and education activities in conjunction with the development community.

NR1H. Ensure that employees responsible for monitoring and enforcing the City's Grading Ordinance receive adequate training regarding erosion- and sediment-control practices.

NR1I. Work with Shasta County and other regional, state, and federal agencies to reduce the amount of toxic chemicals and other agents or pollutants entering the surface water system from agriculture, golf course, and urban runoff.

NR1J. Encourage neighboring jurisdictions to adopt and enforce consistent erosion- and sediment-control measures.

GOAL NR2

DEVELOP AND MAINTAIN ADEQUATE WATER SUPPLIES FOR DOMESTIC AND FIRE-SUPPRESSION PURPOSES.

Policies to achieve this goal are to:

NR2A. Continue to evaluate options for increasing the City's and other water providers' water supplies, including, but not limited to, acquiring additional allocations from the Sacramento River, development of additional wells, and enhancement of water-storage and treatment facilities.

NR2B. Encourage water-conservation practices including, but not limited to, use of:

- A tiered pricing system for water which is tied to the amount consumed by a household or business.
- Native plants or other plants with low water requirements in public and private development projects.
- Drip irrigation systems.
- "Gray water" for landscape irrigation if approved by Shasta County.

NR2C. Utilize water-reclamation projects in landscape and agricultural uses if approved by the California Regional Water Quality Control Board and State Department of Health Services.

NR2D. Support efforts to limit exportation of surface water to other areas of the state and to protect local water rights.

GOAL NR3

PRESERVE AND PROTECT THE QUANTITY AND QUALITY OF GROUNDWATER RESOURCES WITHIN THE PLANNING AREA.

Policies to achieve this goal are to:

NR3A. Provide maximum groundwater-recharge opportunities by maintaining the natural condition of waterways and floodplains to the extent feasible, given flood-control requirements.

NR3B. Comply with the Regional Water Quality Control Board's regulations and standards to maintain and improve groundwater quality in the Planning Area.

NR3C. Support the preparation of a groundwater management plan for the Redding Groundwater Basin that will address long-term sustainability of the resource.

NR3D. Support efforts to prevent exportation of groundwater to other areas of the state and to retain local control over the resource.

NR3E. Work with appropriate state, federal, and local agencies to protect, improve, and enhance groundwater quality in the region.

GOAL NR4

PREVENT AND REMEDY SURFACE-WATER, GROUNDWATER, AND SOIL CONTAMINATION.

Policies to achieve this goal are to:

NR4A. Discourage the establishment of any new septic systems, except in areas where residential densities are low (1–5 acres per unit and larger) and soils are suitable for septic system use.

NR4B. Continue to accept, recycle, and/or properly dispose of household hazardous waste through ongoing operation of the City's Household Hazardous Waste Collection Program.

NR4C. Work with appropriate local, state, and federal agencies to ensure that those responsible for soil, surface-water, and/or groundwater contamination are required to initiate, monitor, and complete full remediation activities.

NR4D. Work with Shasta County and other appropriate agencies to educate the public and business owners regarding proper handling and disposal of hazardous materials and household hazardous waste.

NR4E. Establish and enforce penalties for illegal dumping of both hazardous and nonhazardous materials.

BIOLOGICAL RESOURCES

Unlike many urban areas, the Redding Planning Area contains a variety of biological and wildlife resources. Generalized habitat mapping of the Planning Area has been completed through the use of three different processes: Satellite Imagery Mapping, Riparian Mapping, and Vernal Pool Complex Mapping. Methodology for both the Riparian and Vernal Pool Complex mapping efforts involved the use of infrared aerial photos and field surveys. Although this data should not be considered site-specific, it does provide a reasonably accurate composite of basic habitat types and their general distribution throughout the Planning Area.

Major habitat types or communities within the Planning Area include:

- Woodland (Blue Oak-Grey/Digger Pine).
- Annual Grasslands.
- Mixed Chaparral.
- Riparian.
- Aquatic.
- Vernal Pools.
- Wetlands.
- Irrigated Agriculture and Urban Vegetation.

For purposes of this General Plan, the following habitat types are considered sensitive and require special consideration when developing within or in proximity of them: riparian, vernal pools, aquatic, and wetlands.

These habitats support a variety of both plant and animal species, some of which are classified as special status species. Special-status species include:

- Species that are listed or proposed for listing as Threatened or Endangered under the State or Federal Endangered Species Acts.
- Species that meet the definition of rare, unique, or endangered under the California Environmental Quality Act (CEQA).
- Species listed as "Species of Special Concern" by the California Department of Fish and Game (DFG).

Potential impacts to sensitive habitats and/or special-status species must be mitigated in accordance with the requirements of the California Environmental Quality Act.

Because the potential for finding special-status species is particularly high in vernal pools and vernal pool complexes, Figure 3-1 shows the approximate locations of known vernal pool resources. These resources are located within the Stillwater Creek and Clover Creek basins. Note that this figure is not intended to represent the locations of all vernal pools within the Planning Area. Proper field documentation by a qualified biologist or botanist must be provided with all development proposals located in areas considered to have a high probability of containing vernal pools.

GOAL NR5

PRESERVE AND PROTECT THE SIGNIFICANT HABITATS, PLANTS, AND WILDLIFE THAT EXIST IN THE PLANNING AREA.

Policies to achieve this goal are to:

NR5A. Minimize the disruption of sensitive habitat caused by new development by encouraging innovative design and site planning and establishing performance standards for habitat protection.

NR5B. Work to preserve and enhance fisheries in the Sacramento River and those streams or stream segments identified on Figure 3-2.

NR5C. Maintain and update data and information regarding areas of significant biological value within the Planning Area to:

- Provide critical information to the community.
- Facilitate resource conservation.
- Facilitate appropriate management of development activities.

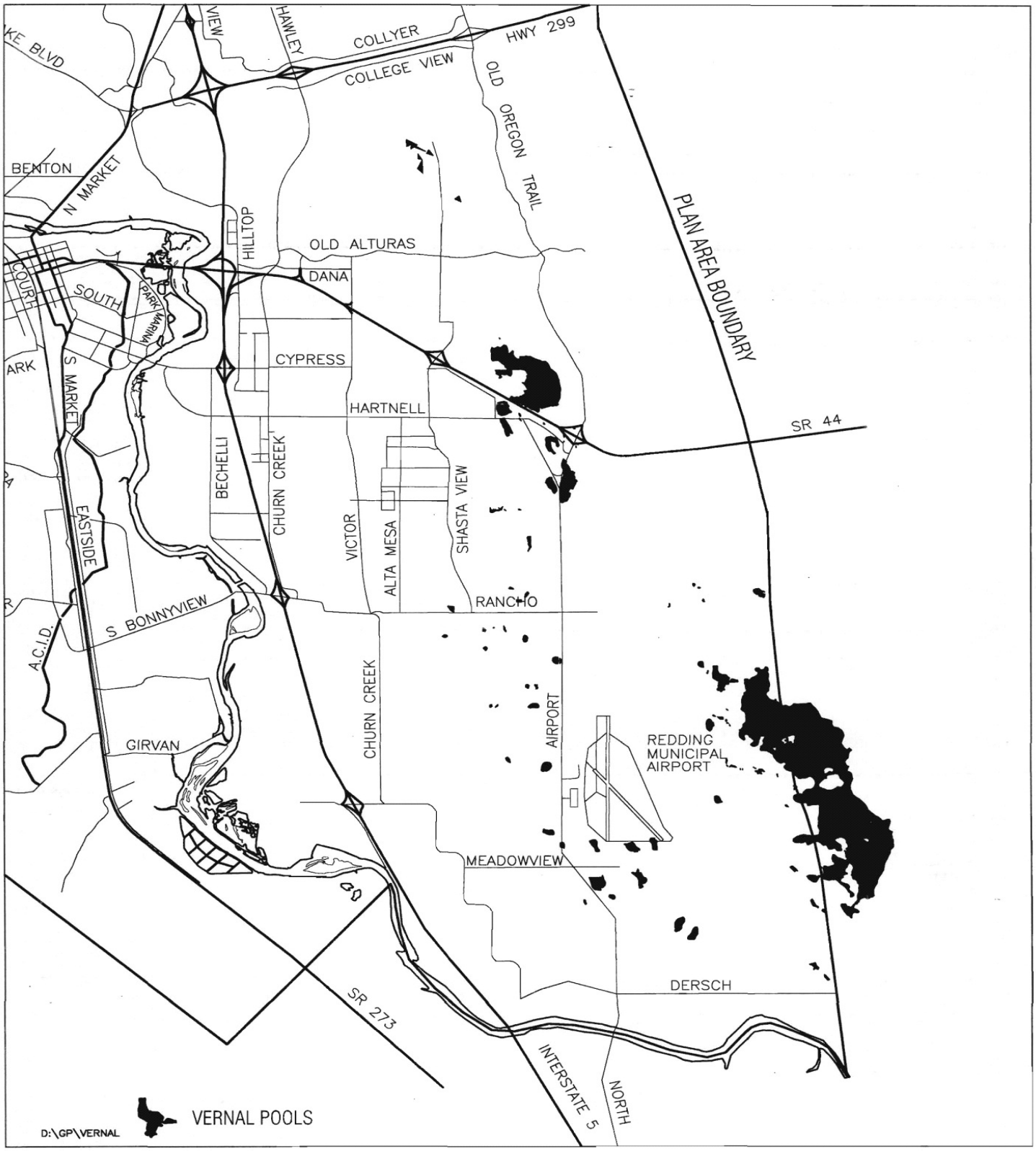

Figure 3-1 Major Vernal Pool Complexes

Natural Resources

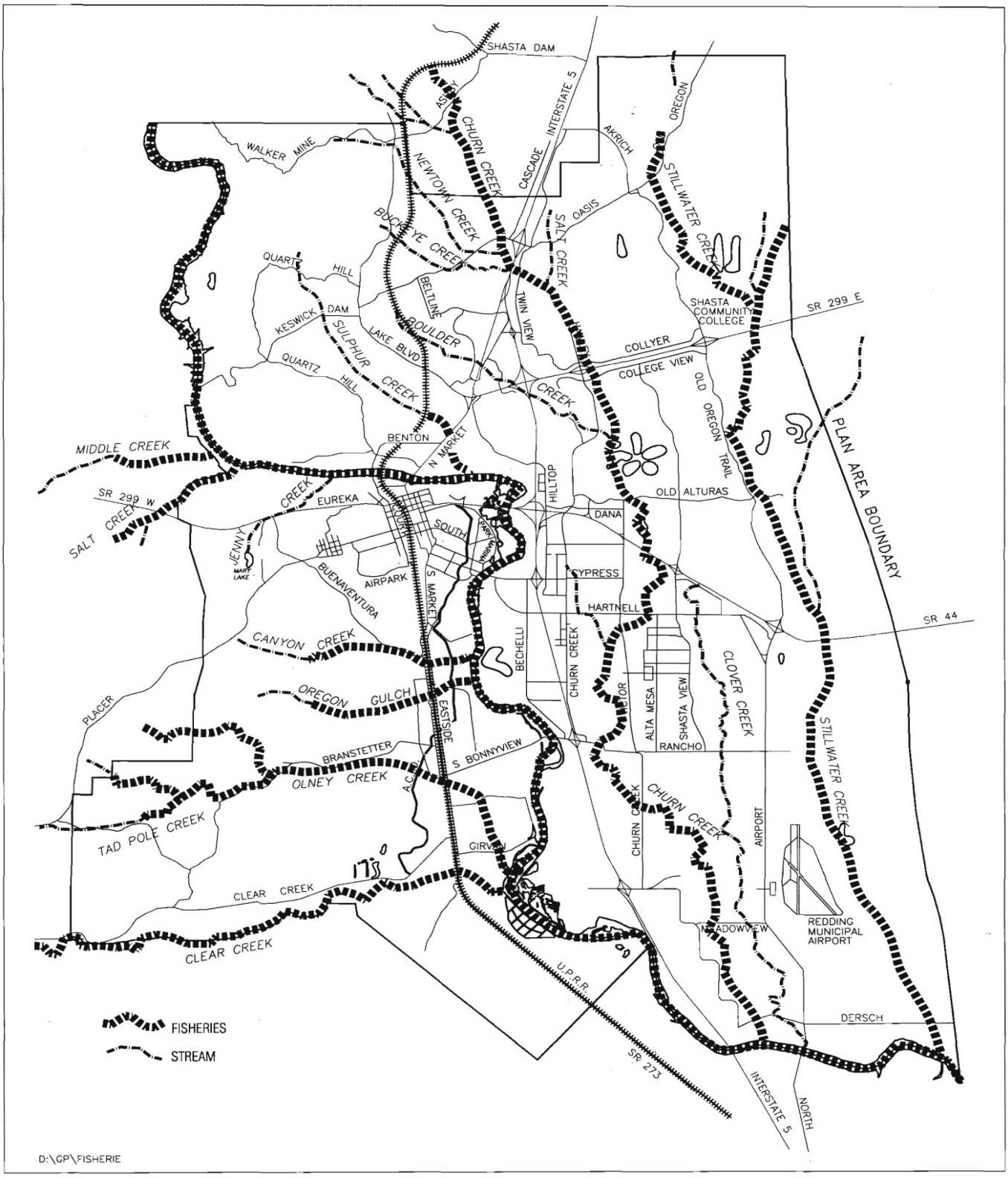

Figure 3-2 Fisheries

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Natural Resources Element

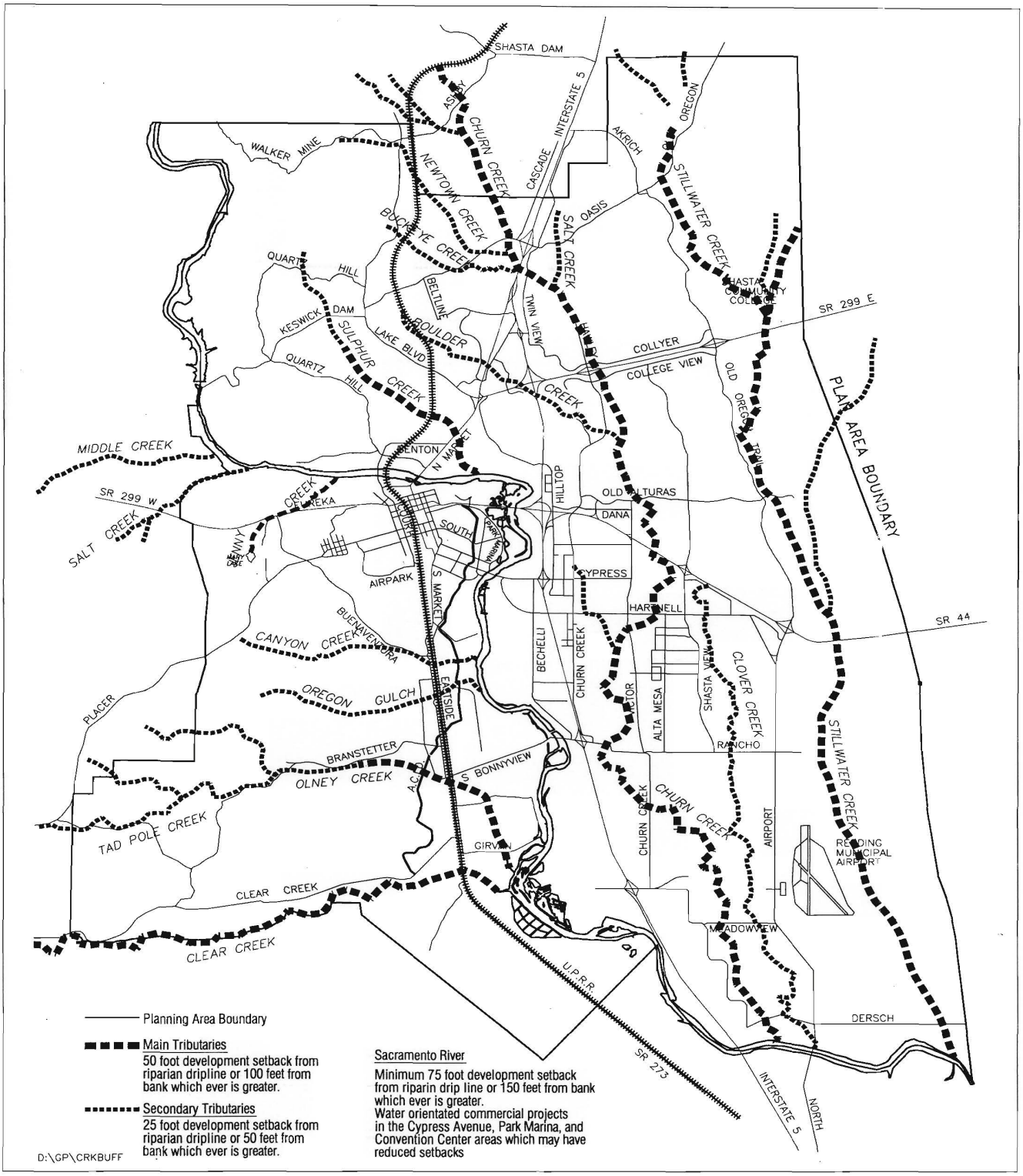

Figure 3-3 River And Creek Corridor Buffer Widths

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Natural Resources Element

GOAL NR6

PROTECT "SPECIAL STATUS" PLANT AND ANIMAL SPECIES; PRESERVE AND PROTECT CREEK CORRIDORS, RIPARIAN AREAS, VERNAL POOLS, AND WETLANDS.

Policies to achieve this goal are to:

NR6A. Preserve watercourses, vernal pools, riparian habitat, and wetlands in their natural state to the extent feasible. Fully mitigate unavoidable adverse impacts such as wetland filling or disturbance.

NR6B. Provide adequate buffering of sensitive habitats whenever necessary. Buffer size should be based upon the type of habitat as well as its size and habitat value.

NR6C. Ensure that uses allowed within riparian corridors:

- Minimize the creation of erosion, sedimentation, and increased runoff.
- Emphasize retention and enhancement of natural riparian vegetation.
- Provide for unimpaired passage of fish and wildlife.
- Avoid activities or development of new features that result in disturbance or dispersal of wildlife.
- Avoid channelization.
- Avoid substantial interference with surface and subsurface flows.
- Incorporate natural vegetation buffers.

NR6D. Continue to require new development to provide minimum river and creek-corridor development setbacks (buffer areas) in accordance with Figure 3-3 and Zoning Code Chapter 18.48. These setbacks may be modified based on project/resource-specific circumstances and appropriate mitigation. These buffer areas should be dedicated or a permanent conservation easement granted to the City as a condition of development approval.

NR6E. Strive to conserve all "special-status species" within the Planning Area. Ensure implementation of statutory protection for these species.

NR6F. Support public and private efforts to establish habitat mitigation banks, habitat conservation plans, conservation easements, and other mechanisms that serve to protect sensitive habitats and species.

NR6G. Ensure implementation of policies and regulations for protection of those wildlife species having statutory protection under local, state, and/or federal laws.

GOAL NR7

RECOGNIZE THE AESTHETIC AND BIOLOGICAL VALUES OF OAK WOODLANDS AND OTHER NATURAL VEGETATION.

Policies to achieve this goal are to:

NR7A. Promote existing native oaks, especially valley oaks, by establishing standards for the design of development projects. The preservation of stands of trees within developments is preferred over preservation of individual trees, with the exception of special-status species and heritage trees.

NR7B. Identify and establish appropriate "tree mitigation areas" to be used for the planting of native trees in concert with development project mitigation.

GOAL NR8

RECOGNIZE AND PROTECT HABITAT LINKAGES AND MIGRATORY CORRIDORS.

Policies to achieve this goal are to:

NR8A. Maintain, where possible, the habitat linkages/wildlife corridors and sensitive habitats that are created by the open-space ("Greenway") network established by this General Plan. Require development in areas depicted as "Greenway" on the General Plan Diagram to consider corridor impacts and, where necessary, provide alternate usable

links between habitat types or areas and/or provide alternate development plans that avoid the open-space network and sensitive habitats.

NR8B. Maintain and preserve other natural habitat linkages and wildlife corridors in the City where feasible. Discourage development impacts to these linkages and corridors and fully mitigate associated unavoidable adverse impacts.

GOAL NR9

PROMOTE AND FACILITATE HABITAT PRESERVATION, RESTORATION, AND ENHANCEMENT.

Policies to achieve this goal are to:

NR9A. Encourage the acquisition, preservation, restoration, and enhancement of native vegetation with a focus on wetlands and riparian habitat that will improve the biological value and integrity of the City's natural resources. Encourage native landscape in unvegetated, manmade areas, such as along streets and in abandoned lots.

NR9B. Encourage education and community involvement in the protection and enhancement of local biological resources.

OPEN SPACE

In addition to protecting life and property, open-space areas are essential to the health and livability of a community. Open space may consist of developed and undeveloped parklands (see Recreation Element). Open-space lands also include natural areas, either public or private, that have been set aside in perpetuity for their ecological, visual, or safety-related aspects.

Redding is fortunate to have an extensive open-space network. The heart of this network is the Sacramento River. Into the river flows numerous tributary streams that, for the most part, originate in steep terrain to the west and north of the city. Policies of this and past General Plans have set aside these slope and stream-side areas from development. Together, they represent many square miles of open space. These lands are depicted on the General Plan Diagram as "Greenway" and are subject to the development constraints proposed by this Plan.

While open space is valuable in and of itself, connectivity and public accessibility enhance this value appreciably. Policies contained in the Community Development and Design Element address the need to provide public access to these open-space corridors. The Recreation Element addresses the development of a comprehensive trail system largely utilizing creek corridors.

As discussed in detail within the Health and Safety Element, the Redding Planning Area contains several natural features which are considered hazardous for development. These include natural areas containing excessive slopes (greater than 20 percent) and areas within the 100-year floodplain of the Sacramento River or its tributaries. In the interest of public safety and to reduce the potential for loss of life or property damage from wildland fires or floods, it is essential that development restrictions be applied within these hazard areas.

GOAL NR10

PRESERVE AREAS CONTAINING EXCESSIVE SLOPES OR 100-YEAR FLOODPLAINS AS OPEN SPACE TO PREVENT LOSS OF LIFE AND PROPERTY DAMAGE AND TO PROVIDE VALUABLE HABITAT AND RECREATIONAL OPPORTUNITIES.

Policies to achieve this goal are to:

NR10A. Require as a condition of development approval public dedication of flood-prone lands adjacent to the Sacramento River and those tributary streams identified on Figure 3-3. Exceptions to this policy may be made based on: (1) the provisions of any adopted specific plan or (2) approval by the City in consideration of special circumstances unique to a flood-prone area where the extent of flooding is largely dictated by inadequate drainage improvements, where an entire parcel is constrained by floodplain, and/or where the flooding occurs within a developed area.

NR10B. Preserve land publicly dedicated under Policy NR10A as open space. Development in these areas, except as required to provide public facilities, such as roads, utilities, and trails, will be restricted to passive,

low-impact uses that minimize removal of existing vegetation and maintain or increase the existing habitat value, while providing adequate protection from wildland fires.

NR10C. Require, as a condition of development approval, that private open-space easements be established for significant areas of nondeveloped lands that exceed a slope of 20 percent. Use public dedications and/or trail easements when necessary to connect these areas to existing or proposed public open space.

GOAL NR11

PROMOTE THE PRESERVATION AND APPROPRIATE PUBLIC USE OF KEY OPEN-SPACE LANDS WITHIN THE COMMUNITY.

Policies to achieve this goal are to:

NR11A. Continue to use the Parks, Trails, and Open Space Master Plan to implement various policies of this General Plan that address the:

- Framework for open-space lands.
- Role of public and private open-space lands.
- Preservation of important ecological areas.
- Acquisition and management of public open-space land.

ARCHAEOLOGICAL, HISTORIC, AND CULTURAL RESOURCES

Due to the presence of the Sacramento River and its numerous tributary creeks, the Redding Planning Area has a relatively high potential for cultural resources. The river, creeks, and old river terraces are prime locations for cultural resource sites, both prehistoric and historic. Through records kept at the Northeast Information Center at California State University, Chico, 213 prehistoric sites have been located and documented. Two archaeological sites have been listed on the National Register of Historic Places. Many more sites are likely to exist and could be susceptible to inadvertent destruction during construction and development activities if precautions are not implemented.

Redding also has numerous historic structures dating from the late Victorian period and good examples of architecture dating from the 1920s to the 1940s, including Art Deco and Works Progress Administration (WPA)-period buildings. Only four of the City's historic structures (Old City Hall—1313 Market Street; Pine Street School—1135 Pine Street; the Frisbie House—1246 East Street; and the Cascade Theatre — 1725 Market Street) have been listed on the National Register of Historic Places. However, many more of the City's historic structures would likely qualify for nomination to the National Register, or other state and local registers, either as individual structures or as historic districts.

GOAL NR12

PROTECT AND ENHANCE HISTORICAL AND CULTURALLY SIGNIFICANT RESOURCES WITHIN THE PLANNING AREA.

Policies to achieve this goal are to:

NR12A. Ensure protection of prehistoric, cultural, and archaeological resources during the development process.

NR12B. Refer development proposals that may adversely affect archaeological sites to the California Archaeological Inventory, Northeast Information Center, at Chico State University.

NR12C. Encourage public and private efforts to identify, preserve, protect, and/or restore historic buildings, structures, landmarks, and important cultural resources.

NR12D. The City shall not knowingly approve any public or private project that may adversely affect an archaeological site without first consulting the Archaeological Inventory, Northeast Information Center, conducting a site evaluation as may be indicated, and attempting to mitigate any adverse impacts according to the recommendations of a qualified archaeologist. City implementation of this policy shall be guided by Appendix "K" of the *CEQA Guidelines.*

MINERAL RESOURCES

Mineral deposits within the Planning Area consist of copper, gold, tungsten, and gravel. In addition, the area around the Redding Municipal Airport contains gas-bearing strata. The westerly portion of the Planning Area has been mined in the past for placer and lode gold, tungsten, and copper. Most previous mining efforts did not prove to be economically viable. However, this is likely to change in the future as the value of precious metals continues to increase. Gravel-bearing deposits exist along the Sacramento River, Clear Creek, Olney Creek, Churn Creek, and Stillwater Creek.

In 1997, the California Department of Conservation, Division of Mines and Geology (DMG) published a DMG Open File Report 97-03 entitled, *Mineral Land Classification of Alluvial Sand and Gravel, Crushed Stone, Volcanic Cinders, Limestone, and Diatomite Within Shasta County, California.* The primary purpose of the report is to identify the known or inferred mineral potential of lands within the county to ensure that the mineral potential of land is recognized by local government decision makers and considered before land use decisions are made that could preclude future mining. The report also contains 50-year projections for population and per capita consumption of aggregate and a comparison between the estimated 50-year aggregate demand and current reserves.

The findings of the report indicate that current known concrete-grade alluvial aggregate reserves within Shasta County are calculated to be approximately 30.3 million tons. Based on a historic aggregate consumption rate of 8.0 tons per person per year, the report estimates that current known reserves are likely to be depleted within 17 years. This information highlights the importance of protecting both known and inferred deposits from encroachment by potentially incompatible land uses.

Land classifications utilized in the referenced DMG report are presented in the form of Mineral Resource Zones (MRZs). Each zone type relates to the degree of knowledge about a mineral resource occurrence and the economic characteristics of the deposits. Areas of identified mineral-resource significance, either demonstrated/measured or inferred, are classified as MRZ-2a or MRZ-2b.

Although most areas along the Sacramento River are classified as MRZ-2a or 2b in the 1997 DMG Report, the presence of existing incompatible development will preclude mineral-extraction activities in those locations. Conversely, areas classified as MRZ-2a and 2b, where mineral-extraction activities are considered feasible, have been designated with a "Critical Mineral Resources Overlay" on the General Plan Diagram.

GOAL NR13

ENSURE AN ADEQUATE SUPPLY OF MINERAL RESOURCES TO MEET LONG-TERM REGIONAL NEEDS.

PROTECT CRITICAL MINERAL-RESOURCE AREAS FROM ENCROACHMENT BY INCOMPATIBLE LAND USES.

Policies to achieve this goal are to:

NR13A. Focus mineral resource-protection efforts in areas identified with a "Critical Mineral Resource Overlay" on the General Plan Diagram. Remove the "Critical Mineral Resource Overlay" when the mineral resource is exhausted and reclamation completed.

NR13B. Maintain current information regarding the status and location of mineral deposits within the Planning Area.

NR13C. Prohibit incompatible development in or near areas designated "Critical Mineral Resource Overlay." Residential uses within overlay areas should be limited to 1.0 dwelling unit per 40 acres.

NR13D. Require a use permit to establish new mining operations. The use permit shall contain conditions necessary to protect the public health, safety, and welfare; to minimize impacts on adjacent land uses; and to mitigate other potential adverse environmental impacts.

NR13E. Outside Critical Mineral Resource Overlay areas (but within areas classified as Mineral Resource Zones MRZ2a and/or MRZ2b by the State Division of Mines and Geology), mining may be permitted in the in-stream, floodplain, or gravel-bar areas of a river or creek provided removal of sand and gravel is:

1. Conducted during a declared civil or hazardous material emergency or natural disaster to relieve or correct potential hazards to the public health, safety, or welfare caused by such emergency or disaster.

2. For removal of dredger tailings for reclamation purposes only.

3. To protect a public structure, such as a bridge, when it is determined to be necessary by the public entity responsible for said structure.

4. To remove a buildup of sand and gravel to maintain the channel capacity to prevent flooding.

For Items 2, 3, and 4 above, the use permit and reclamation plan for mining of said areas shall be based on a stream-management program, prepared by qualified professionals in appropriate disciplines, which includes data and analysis to show that:

- There will be no significant adverse impact on in-stream habitat; riparian habitat; wetlands; or rare, threatened, or endangered species of fish, wildlife, or plants.
- There will be no significant adverse impact on existing structures, including bridges or levees.
- There will be no significant increase in bank erosion, deposition, or flooding.
- There will be no significant adverse impacts to surrounding properties, including, but not limited to, noise, visual impacts, dust, and similar impacts.

Energy Resources and Conservation

Electricity within the City limits is provided by the City of Redding through its transmission and distribution system. Natural gas—and electric service within the remainder of the Planning Area—is provided by Pacific Gas and Electric Company (PG&E). The City's goal is to provide electric service to both residents and businesses at the lowest possible rates, while maintaining system reliability in an environmentally responsible manner. System planning and needed facilities are addressed in the Public Facilities and Services Element. However, there is also a need to encourage conservation and the use of alternative forms of energy, such as solar, to ensure that energy resources are utilized responsibly and long-term demands can be met. A similar emphasis on conservation should be promoted for all nonrenewable energy sources.

Another important energy-conservation strategy is to actively pursue the benefits obtained from resource-recovery and recycling programs. It is well-documented that in most instances, the reuse of materials utilizes less energy (and resources) than producing products from raw materials.

GOAL NR14

Reduce consumption of nonrenewable energy sources and support the development and utilization of new energy sources.

Policies to achieve this goal are to:

NR14A. Provide an electric-usage analysis and efficiency recommendations for those customers who request the service.

NR14B. Encourage electric utility customers to alter their consumption of electric power to reduce the City's overall and peak electric load.

NR14C. Explore the commercial viability of extracting natural gas resources within the vicinity of the Redding Municipal Airport.

NR14D. Continue current source-reduction, recycling, and composting programs that are contained in the joint County of Shasta, City of Redding, and City of Anderson Source Reduction and Recycling Element. (This element is not a part of this General Plan.)

NR14E. Encourage design that takes advantage of solar orientation and access.

Agricultural Lands

The source of information on soils within the Planning Area used for this General Plan is limited to the soil maps prepared by the Natural Resource Conservation

Service (NRCS) and the California Department of Conservation (CDC) Important Farmland Series Mapping and Monitoring Program.

The NRCS classification system organizes soils into eight major capability classes designated by Roman numerals I through VIII. Class I and II soils are considered "prime" and have the fewest limitations in terms of range of use. The other soil classifications have progressively greater natural limitations.

The CDC Important Farmland Series Mapping and Monitoring Program designates important farmlands in California based on NRCS soil surveys and available land use data. This system is also classified into eight categories, including Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, Grazing Land, Urban Land, Other Land, and Land Committed to Incompatible Uses. Acreages associated with each CDC system category and its percentage of the total acreage of the Planning Area are summarized in Table 9-1 in the *General Plan Background Report.*

According to the referenced information, there are approximately 5,019 acres of Prime Farmland within the Planning Area. These soils are depicted on Figure 3-4.

GOAL NR15

PROMOTE THE ECONOMIC VIABILITY OF AGRICULTURE IN AREAS SUITED FOR AGRICULTURAL USE.

Policies to achieve this goal are to:

NR15A. Protect existing prime agricultural soils outside the primary and secondary growth areas and freeway interchange areas with lot sizes (five acres and larger) capable of supporting agricultural operations.

NR15B. Discourage the cancellation of Williamson Act contracts until it is demonstrated that the lands with such contracts will be needed for urban development in the immediate future.

NR15C. Establish performance criteria to minimize impacts of urban development near existing income-producing agricultural lands on agricultural practices and reduce conflicts between urban and agricultural uses.

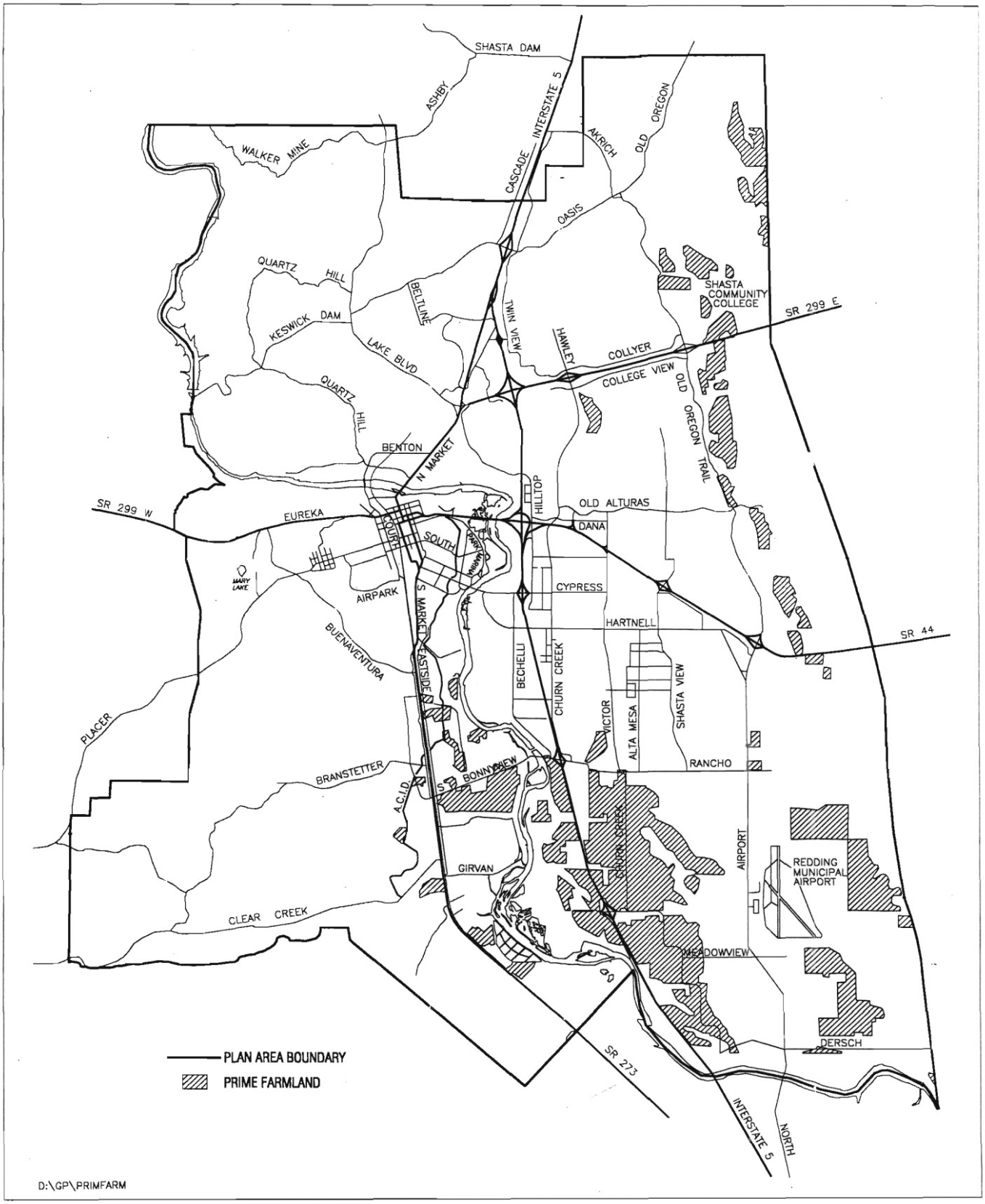

Figure 3-4 Prime Farmland

N
W E
S

Natural Resource Element