3 Opportunities and Constraints Analysis

Chapter 3 focuses on public recreation access and use opportunities and constraints in the study area. The analysis is based primarily on the recreation facility and site assessment analysis provided in Chapter 2. The information provided in this chapter and the recreation use and trend analysis provided in Chapter 4 are then combined to help formulate the recreation facilities recommendations in Chapter 7. The opportunities and constraints analysis in this chapter is organized similar to that of Chapter 2. A general discussion of opportunities and constraints in the study area is presented first followed by landowner group opportunities and constraints. The landowner-based opportunities and constraints are grouped by federal, state, local, and private landowners and, finally, by the five focus sites of this study.

The sites referred to in this chapter are shown in the map exhibit (Exhibit 2-1) and site characteristics are summarized in Table 2-1 (arranged by land ownership group), and Table 2-2 (arranged by river mile, from north to south).

3.1 General Study Area Public Recreation Opportunities and Constraints

This section provides an analysis of area-wide opportunities and constraints and general opportunities and constraints for amenities and facilities types. Area-wide opportunities and constraints are based on physical, biological, land use, funding, and regulatory and permitting factors. Amenities and facilities opportunities and constraints and area-wide opportunities and constraints provide the context for landowner- and site-based opportunities and constraints, which follow in Sections 3.2 through 3.6.

3.1.1 Physical Factors

The Sacramento River is a large, dynamic river system with largely natural geomorphological and hydrological processes that dominate the physical landscape beyond the boundaries of the study area. The Sacramento River is characterized by an active meander zone with quickly changing sedimentation and accretion patterns, and a broad natural floodplain that is frequently flooded in the winter and spring. As a result of flooding and the frequent reshaping of the river channel, there are substantial constraints to the types of buildings and facilities that can be provided in the study area. However, there are also opportunities for recreation that are compatible with the natural river processes.

Opportunities: The Sacramento River corridor offers substantial opportunities for both land-based recreation uses (e.g., hunting, wildlife viewing, hiking) and water-based uses (e.g., boating, fishing, swimming). A substantial amount of land is available for public use and more

will likely be available in the future. The recreation use of the land areas is limited by the relative lack of public road access. Providing new road connections to public properties in the study area would increase recreation options, however, there are impacts and tradeoffs to be considered.

The river is, in essence, a trail that offers opportunities for recreational activities such as river excursions, boating (e.g., for smaller houseboats, fishing boats, canoes, kayaks, rafts) and boat camping. In addition, the exceptionally long, dominant presence of the river presents the unique opportunity for enhancement of existing bike or walking trail systems of development of new trails. This opportunity is most feasible in areas where trespassing or encroachment on private residences is not an issue, and where it is compatible with land uses such as conservation. Where there are large contiguous tracts of land in conservation use, opportunities may exist to build interpretive nature trails with river and wildlife viewing areas or other potentially compatible recreation amenities. The trails could be confined to reasonably sized areas that leave vast tracts of conservation land untouched to maximize the protection of wildlife and other natural resources. Alternatively, a long continuous trail could be provided at or near the edge of roadways or the river in locations that also leave large areas untouched and result in little disturbance to natural resources, private residences or agricultural lands. Occasional small informal picnic and camping areas could also fit into this landscape as long as the facilities are not likely to affect natural resources, private residences, or agricultural lands. A continuous trail system offers the opportunity for interpretation of natural resources at a large-system level, interpreting a “landscape” rather than single sites.

Constraints: The majority of sites in the study area lie within the 2½- and 4-year flood zones. As a result, there are significant maintenance and cost issues associated with structures and facilities that are located within areas that flood. This potential for damage or destruction by flooding makes the development of recreation improvements in these flood-prone areas a risky proposition. Additionally, Federal Emergency Management Agency (FEMA) regulations that mandate local governments have ordinances regulating construction of buildings within the 100-year flood zone, there regulations pose restrictions on potential facilities and require special consideration for construction of permanent structures such as restroom or office facilities. For instance, at Red Bluff Recreation Area, the areas where the restroom buildings were constructed were mounded above the floodplain.

The river channel has its own set of largely natural constraints. The natural meander process can result in substantial movement of the channel within its meander zone as the river continually erodes the banks along the outside of its bends. With this channel movement comes the attendant loss of land, including any improvements located on that property. The meandering of the river can also move the channel away from a site and render improvements, such as boat ramps, difficult to maintain or even render them unusable. As a result, many types

of recreation improvements are not a practical investment in locations subject to the river's meander. Permanent, substantial improvements should practically be limited to "hard points" where the river's banks are unlikely to change.

Natural river processes result in the formation and movement of gravel and sand bars, and the entrainment of snags from eroded banks. Also, flows in the river can fluctuate seasonally with precipitation and large releases from Shasta Dam, as well as daily or weekly because of controlled releases from upstream dams. The resulting changes in flow and obstructions in the river channel can make boating a challenge for larger boats and for inexperienced boaters. These naturally occurring features can pose hazards for boaters and swimmers. Swimming is discouraged in most areas of the river. Larger boats, in particular, may be very difficult to maneuver at times and may occasionally become stranded.

Levees at the river's edge generally tend to have steep banks, making access to the river more difficult. They also tend to limit the amount of vegetation available to provide overhanging or in-stream tree and vegetation cover available for fish habitat. This, in turn, can limit the size of fish populations and related recreational opportunities.

3.1.2 Sensitive Biological Resources

Sensitive biological resources include those that are afforded special protection under the state and federal laws, including the California Environmental Quality Act (CEQA), California Fish and Game Code, California Endangered Species Act (CESA), Federal Endangered Species Act (ESA), and Federal Clean Water Act (CWA). Sensitive biological resources include plants, animals, and natural communities that are legally protected or that are otherwise considered sensitive by federal, state, or local resource conservation agencies and organizations.

Appendix A (Sensitive Biological Resources) provides information on special-status species potentially occurring within the Sacramento River corridor study area. This list was developed through a search of the California Natural Diversity Data Base (CNDDB 2002) for specific information on documented observations of special-status species within approximately a one-mile radius of the Sacramento River from Red Bluff to Colusa.

Opportunities: Preservation of habitat, as well as habitat restoration and enhancement activities, will provide habitat and refuges for both sensitive and common species, allowing their continued survival and potential recovery from the threat of extinction. Because land use management for many public recreation facilities and amenities is often compatible with resource protection, there will be opportunities to designate large areas for both conservation and compatible recreation uses. Increased restoration and enhancement of wildlife and fisheries habitat will ultimately lead to increased opportunities for wildlife-related activities (i.e., bird watching, nature observation, fishing, and hunting). In addition, the long-term protection of sensitive natural

communities such as mixed riparian forest will serve to improve water quality and to stabilize banks.

Constraints: The presence of sensitive species or communities on a site will require consultation with the appropriate resource agencies during the planning process for any proposed enhancements or facilities and may require permits for certain activities. Permit and regulatory approval requirements needed for different activities are discussed in Section 7. 4 (Permits and Regulatory Requirements) of Chapter 7.

3.1.3 Land Uses

With the exception of towns located within the study area and a few rural subdivisions, the majority of land is either in agricultural production or in conservation.

Opportunities: As habitat is improved on established or recently acquired conservation lands in the area, the quantity and quality of fisheries and wildlife resources can be expected to improve. In turn, recreation opportunities requiring minimal facilities development such as fishing, hunting, wildlife viewing, and hiking can be expected to increase.

Constraints: City and county zoning and subdivision ordinances impose restrictions on the use of land, conversion to other uses, splitting of parcels, or other restrictions. These regulations are applicable to private property developments, but the activities of the state and federal government are not regulated by local plans and policies because local agencies are subordinate to state and federal agencies. FEMA also requires local ordinances to regulate development in the 100-year flood zone (see “Physical Factors”, above). Additionally, development in the “designated floodway” is regulated by the State of California Reclamation Board. Land use changes involving discretionary approvals may also be subject to environmental assessment under CEQA or the National Environmental Policy Act (NEPA). Deed restrictions and easements may also be placed on a particular parcel, restricting the type or amount of development of that parcel and/or governing its uses (e.g., conservation, agriculture). Additionally, land use on public land may also be governed by the regulations of the public agency that manages the land.

3.1.4 Funding Requirements

Opportunities: Funding sources for projects involving recreation and public outreach generally exist in the form of grants. The California Department of Boating and Waterways and the California Wildlife Conservation Board both funds projects such as the construction of new boat ramps. Grants aimed at ecosystem restoration and water quality such as from CALFED or state Proposition 13 funds after include public use components as well. It is anticipated that

additional land will be acquired for conservation and recreation purposes, consistent with the direction of the Sacramento River Conservation Area and the State and Federal governments,

Constraints: Funding for both construction long-term maintenance of a facility needs to be secured before the development of public facilities. Funding oftentimes is available for the construction of the facility, but funding for maintenance and operations are to be provided by a governmental entity. Therefore, for any project involving new facilities, a local entity (e.g., city or county) or a state or federal agency (e.g., State of California Department of Parks and Recreation [DPR], Department of Fish and Game [DFG], FWS) must be involved and must have sufficient capacity in terms of staff and funding to carry out operations and maintenance support associated with a new facility. In this era of limited governmental budgets, concerns regarding maintenance operations costs are a serious constraint to the development of new recreation facilities.

3.1.5 Regulatory and Permitting Requirements

Local, state and federal governments have all adopted regulations intended to protect the public health, safety and welfare, as well as to protect the environment. However, the review procedures and costs associated with compliance with these regulations may serve to delay or preclude some activities and projects.

Opportunities: Federal, state, and local governmental regulations should work to help protect the river corridor's natural resources through protection of water quality, natural processes, habitat, and threatened, rare and endangered species population. They should also serve to help protect public and private investments in compatible recreational facilities along the river. This protection is important to the future viability of the both the natural environment along the river and wildlife based recreational activities.

Constraints: Compliance with CEQA and/or NEPA, local and regional general plans, and other regulations all may apply to activities and developments that are undertaken or permitted by public agencies. Projects need to be in compliance with federal and state laws and regulations such as the Federal Endangered Species Act, Clean Water Act and Clean Air Act and state regulations such as the State Endangered Species Act and the DFG code. The State Reclamation Board also requires encroachment permits for development within designated floodways. In addition, local permits such as grading permits, encroachment permits or tree removal permits may be required based on the location and type of action proposed. Compliance with regulatory requirements can, in some cases, be expensive and time consuming. These environmental regulatory and permitting requirements are summarized in Chapter 7 and are discussed in more detail in Appendix B. In addition to these requirements, public access facilities undergoing renovation, as well as new facilities all must comply with Americans with Disabilities Act (ADA) and Title 24 the California Code of Regulations (Access

Code) requirements which require newly constructed or remodeling projects in buildings and facilities to be made accessible for people with disabilities.

3.1.6 Amenities and Facilities

The following is an analysis of facilities and amenities opportunities and constraints based on the site assessments and gaps in facilities and amenities in the study area as described in Chapter 2.

3.1.6.1 Public Road Access

All privately owned recreation facilities in the study area, as well as those owned by local government agencies and DPR are accessible from public roads. Public road access is most available within the upper three subreaches of the study area, covering a span of 32 river miles, and most limited in the southern subreaches, as described in Chapter 2. Private roads in the study area are generally not available to the public and are often gated and locked to discourage trespassing.

Considerations for acquiring public rights-of-way to provide public road access to sites determined to be important for public recreation use should include a number of factors:

- willingness of the landowner(s) to grant a right-of-way;
- distance from a public road to the site, because it affects costs, including right-of-way agreement, road improvements, and on-going maintenance;
- number and density of residents along the road and the proximity of residences to the road;
- the impact of additional traffic to a road;
- other current uses of the road, and their compatibility with the proposed public use;
- the potential for secondary problems associated with public, vehicular access to a remote location; and
- the potential for habitat degradation caused by increased human activity.

Opportunities: There are numerous situations where public properties are close to public roads and relatively short connections are required to make these properties accessible. Private roads do exist in many locations that could provide additional access to recreation areas. Opportunities to use these roads may be feasible where other issues can be resolved.

Constraints: Acquisition of rights-of-way requires funding for purchase, improvement and ongoing maintenance. Secondary impacts such as littering, illicit activities, impact on the habitat values, and effects on the adjoining agricultural activities must be considered. Additionally, there are other of issues associated with providing public road access to sites where it is unavailable. Where a road serves as the driveway to private residences or where there is a

high density of homes or homes in close proximity to the road, the additional use may significantly affect residents in terms of privacy, noise, and perception of safety. Also, roads that are frequently used by slow-moving or large farm equipment may be too hazardous for use by the public.

3.1.6.2 Boating Facilities

Access to the river for boat-related recreation plays a major role in the types of activities river users participate in. As the population in the region and throughout northern California continues to grow, so will the need for all types of boating facilities, including ramps, docks and marinas.

3.1.6.2.1 Boat Ramps

Within the large alluvial Sacramento River system, the very nature of changing sedimentation and accretion patterns and a dynamic meander pattern is a challenge to determining the best location for boat ramps and similar facilities. A number of the existing facilities have costly maintenance needs, and some are now closed because of siltation and channel meander.

Opportunities: The Department of Boating & Waterways is evaluating a different type of boat ramp system – a pier and beam system with floating ramps and dock - that extends into the river perpendicular to the banks. The hope is that this system will reduce siltation-related problems. Though they may initially be more expensive to construct, the intent is to increase the life expectancy of ramp facilities and reduce long-term maintenance costs.

Constraints: The location and design of boat ramps cannot simply be based on the availability and size of a given site, but also needs to take into consideration a thorough understanding of the hydrological and geomorphologic processes of the river. Without this consideration, there is a likelihood of failure or high maintenance costs associated with the facility, and concurrent impacts on the natural movement of the river. It is extremely important that a feasibility analysis be conducted prior to the construction of any new boat ramps. The analysis should include a detailed hydrological and geomorphologic assessment survey and design analysis to ensure that resources are not being expended on a facility that does not have a likelihood for long-term success. Such a study may benefit from assessments of various successful facilities on similar river systems. Follow-up monitoring should also be conducted to continue to improve on locating and designing facilities to minimize impacts to the river environment and to the ramps.

Permit requirements are a major constraint with the construction and maintenance of boat ramps. There is oftentimes a lack of familiarity or perceived difficulty with the permitting process that delays or stops maintenance work (e.g., dredging). The permit approval process can take time. As such it is important that the process be started early enough to obtain permit approval in time to complete the work during the appropriate season for boat ramp maintenance activities.

3.1.6.2.2 Marinas, Boat Docks, and Landings

There appears to be a shortage of these facilities in the study area. As the area continues to grow and participation in boating and fishing continues to increase, the need for more marinas, boat docks, and landings will most likely increase as well.

Opportunities: With the availability of these facilities, boaters and fisherman can keep a boat in the water, reducing the need to launch a craft for every desired use. Having these facilities could increase opportunities to participate in boating and fishing. It would also allow law enforcement agencies to keep boats easily accessible, thereby potentially reducing the response time in emergencies.

Constraints: Regularly fluctuating river water levels can make it difficult for managers to maintain functionality of these facilities throughout the year. To warrant the cost of construction, there needs to be a demonstrated public demand for marinas. As the types of boats that can access the river within the study area are somewhat restricted because of the physical constraints of the river, it may be feasible to consider only small floating-dock facilities, which needs to be studied at the same level as that required for boat ramps.

In addition to the cost constraints of a traditional marina, a permit process required by the Reclamation Board for the construction of this type of facility involves the preparation of flow studies for areas where the construction of a marina is proposed.

3.1.6.3 Camping Facilities

While approximately 360 campsites are available at state and privately owned facilities in the northern portion of the study area, campsites in the southern portion of the study area are very limited. Similar to other facilities discussed above, the need for camping facilities in the area will continue to grow as the regional population increases.

Opportunities: The primary opportunities for additional camping in the study area are for primitive camping, which doesn't require the development of permanent facilities (portable outhouses may be needed). Where cooperative management can be arranged for Reclamation Board lands, opportunities for primitive camping may be possible.

Constraints: Maintenance, operation, and permit requirements and costs, along with land use restrictions on the types of development that can occur in a flood zone, have resulted in public agencies' reluctance or inability to construct permanent facilities, such as those found at most developed campgrounds (e.g., restrooms, paved or maintained roadways, pads for picnic tables, site furniture) close to the river where more frequent flooding occurs.

3.1.6.4 Bank Fishing Access

Fishing access is generally available throughout the study area on gravel bars and along the banks of the river below the ordinary high-water mark (OHWM). As the population increases in this area, the demand for fishing opportunities is expected to increase.

Opportunities: The ability to access many properties below the OHWM increases the opportunity for fishing, increased by road access, boat access, and where gravel bars exist. As habitat is improved on established and recently acquired conservation lands in the area, the quantity and quality of fisheries resources can be expected to improve. In turn, recreation opportunities requiring minimal facilities development, such as fishing, can be expected to increase.

Constraints: In some areas, fishing access is difficult or impossible because of steep banks along some portions of the river. In addition, fishing access is severely limited in some areas because of the lack of public road access, lack of gravel bars in the river, and the scarcity of boat ramps. When unofficial trails are created by those desiring fishing access, the potential for disturbance to sensitive habitats or species is relatively high.

3.1.6.5 Hunting Access

Hunting is allowed on all sites that comprise the DFG Sacramento River Wildlife Area (SRWA). Hunting is not allowed on any other publicly owned land in the study area. Hunting may be permitted in the future on U.S. Fish and Wildlife Service (USFWS) properties subject to the determination to be made as part of Comprehensive Conservation Plan (CCP) for Sacramento River National Wildlife Refuge (SRNWR). While interest in hunting is not expected to grow (it is expected to remain constant or even decline in most areas), regional trends discussed in Chapter 4 indicate a continued interest in this traditional recreation activity in the study area.

Opportunities: As habitat is improved on established and recently acquired conservation lands, the quantity and quality of wildlife resources can be expected to improve. In turn, just as with fishing and wildlife viewing, recreation opportunities requiring minimal facilities development, such as hunting, may also increase.

Constraints: Hunting may be precluded in areas where it conflicts with sensitive habitat areas, adjacent land uses, or other types of recreation uses.

3.1.6.6 Nature Observation

Nature observation, including bird watching and other wildlife viewing, is a popular activity available at all publicly accessible sites in the study area and from boats along the river. The demand for this activity is expected to increase substantially in the future.

Opportunities: Enhanced access, where it can be provided, will increase the opportunity to participate in this activity. Also, as habitat is improved on established and recently acquired conservation lands, the size and variety of bird and wildlife populations can be expected to improve create more opportunities for nature observation.

Constraints: Lack of road access and foot trails to remote sites is a constraint to participating in this activity. Also, motor boats and jet skis may generate a substantial amount of noise and cause wildlife to move away, or interfere with hearing bird calls. Nature observation could also be limited in public hunting areas during the hunting season.

3.1.6.7 Picnic Facilities

Picnicking is a popular activity at many of the public parks along the river, and is offered at various locations within the northern portion of the study area. However, picnic facilities are very limited in the southern portion of the study area. As the population in the area increases, demands for additional picnic facilities are expected to increase.

Opportunities: Picnic facilities, such as tables and trash receptacles, could be considered for public access and parking areas or can be made available. The desirability and sensibility of a site location may be greatest near the river, especially in stable channel locations near gravel beaches, or along the edge of a mature riparian forest, close to towns and roads. The desirability of picnic facilities may be greater for some people when there are other amenities, such as a nature trail, playground structure, or ball fields. Large facilities with ball fields and other large-group oriented amenities would likely need to be located away from conservation areas.

Constraints: The SRNWR and SRWA do not include improvements for picnicking and it is not specifically encouraged. Small facilities with a nature trail may be compatible in some cases. Large facilities with ball fields and other large-group oriented amenities are unlikely to be compatible. Just as with camping facilities, restrictions on the types of facilities that can be developed in the flood zone, along with maintenance costs, will likely limit the type and location of picnic facilities and associated parking lots (i.e., dirt versus paved) or restrooms (i.e., portable restroom versus building).

3.1.6.8 Hiking Trails

Designated hiking trails exist throughout the public parks in the study area. In addition, many informal trails, which are not designated or maintained, exist throughout the study area. Hiking is one of the most popular recreation activities, and the demand for this activity is expected to increase significantly in the coming years.

Opportunities: Additional hiking trails could provide an alternative to boats for enjoyment of the river corridor and its resources where the trails are compatible with existing land uses and management goals. Such trails could increase the opportunities for nature observation. The large complex of public land in the Hamilton City area, when coupled with the potential construction of a new setback levee, offers the opportunity to plan for hiking trails in that area

Constraints: The primary constraint to hiking trails is that they are not an improvement that has been developed by the two primary public landowners within the study area: the USFWS and the DFG. Additionally, while many levees might be conducive to dual use as trails, the access easements for maintenance do not generally permit public access on those levees where the underlying land is not owned by a public agency. Another very common constraint to the construction of new trails is the concern of private landowners that trails may lead to higher crime rates, trespassing, and loss of privacy, particularly in areas where homes are close by.

3.1.6.9 Nature/Visitor Center

Visitor centers focused on nature and cultural education provide important opportunities for outreach to the public. Visitor centers can serve many purposes, including facilitating the interpretation and appreciation of important natural and cultural resources in an area. In the study area, a visitor center can teach the importance of the Sacramento River, a dynamic large alluvial river system that drains much of northern California and supports many of the important wildlife species residing or migrating through California. It can also teach the importance of the rich alluvial farmlands that provide food for the world and is an important livelihood for farmers and communities in the region. Visitor centers can also provide recreational opportunities for people with disabilities that may otherwise not be able to enjoy the river's resources because of access issues. Additionally, visitor centers can help with public awareness regarding available facilities, agency and landowner roles and responsibilities in the region, missions and goals of the various landowners, and who to contact for more information.

No moderate or large visitor centers are located within the study area. Examples of visitor centers in the region include the Turtle Bay facility and the Sacramento Discovery Center. The newly built, popular Turtle Bay facility is located in Redding. The Sacramento Discovery Center is located in the Red Bluff Recreation Area adjacent to the Red Bluff Diversion Dam. The small center includes hands-on educational exhibits and programs for the general public, and a 2-acre Discovery Garden (native plant demonstration garden).

Opportunities: Perhaps the best opportunity for creating a visitor center is in the Pine Creek / Hamilton City complex, one of the largest contiguous conservation areas in the study region. It is located adjacent to Hamilton City just west of the City of Chico. It is comprised of land owned by federal and state agencies and also includes three of the focus sites of this study. Adjacent to a county highway (Highway 32), the complex would be easily accessible by the public.

Potential opportunities offered by a visitor center in the Pine Creek complex include interpretation, environmental education, dissemination of information, and research.

Constraints: Constraints with regard to a visitor center include funding, operations and maintenance costs, and location. It is important that a visitor center is located within relatively easy reach of the public. Proximity to major population centers is generally a key to their success. It is also important that the center be located close enough to the river and the natural and cultural communities to be interpreted, but not in an area that will have expensive maintenance costs, risks of flooding, or great restrictions on development.

3.2 Public Recreation Opportunities and Constraints on Federally-Owned Sites

3.2.1 Bureau of Land Management (BLM)

Both ***Todd Island*** *and* ***Foster Island*** are owned and managed by the BLM (Exhibit 2.2-1). Transfer of these two islands to the USFWS has been discussed subject to the areas being open to public access.

Opportunities: Both sites may offer limited opportunities for wildlife viewing and other recreation uses.

Constraints: Inaccessibility and frequent flooding of these islands would preclude any structural development.

3.2.2 U.S. Forest Service

The U.S. Forest Service (USFS) owns and manages the 488-acre ***Red Bluff Recreation Area*** adjacent to the Red Bluff Diversion Dam that forms Lake Red Bluff. The facility functions more as an urban regional park than is typical of USFS-owned park facilities.

Opportunities: The master plan for this facility includes the capability to expand the campground and provide two more group camp areas that will focus on environmental education.

Constraints: Because the Red Bluff Diversion Dam is a barrier to fish migration upstream, there has been a discussion about abandoning the diversion, which would result in the elimination of the seasonal lake. During the process of developing this report, public meetings were being conducted to discuss and try to resolve the controversy created over this issue. The elimination of the seasonal lake could change the nature of recreation opportunities at the site although, as the area revegetates, the flowing river would offer an alternative attraction.

3.2.3 U.S. Fish and Wildlife Service

The USFWS is in the process of developing a CCP for the ***Sacramento River National Wildlife Refuge*** (SRNWR) and public use and access are major issues being addressed. Public meetings were conducted during the past year to gather information and to discuss the ideas for the CCP. The CCP is expected to be completed in the summer of 2003 and will guide management of the Refuge for the next 15 years. Recreation uses being considered would need to be consistent with the Refuge's mission to preserve, restore, and enhance riparian habitat for threatened and endangered species, and other wildlife and vegetation. Compatible recreation opportunities that are being considered in the Refuge include hunting, fishing, hiking, wildlife observation, environmental education, and nature interpretation. Upon completion of the CCP, portions of the Refuge may become accessible to the public while other areas may need to remain restricted in terms of public access.

3.3 Public Recreation Opportunities and Constraints on State-Owned Land

3.3.1 Department of Fish and Game

SRWA lands are owned and managed by DFG to protect and enhance habitat for wildlife species and to provide the public with wildlife-related recreation opportunities. The types of facilities that may be appropriate for SRWA sites would include trails, viewing platforms, interpretive kiosks, and basic restroom facilities. These types of amenities would be most appropriately considered for the larger units where public access exists or can be reasonably obtained.

Opportunities: All of the SRWA is open to public access, although most of the sites are only accessible by boat from the river. Several of the SRWA units that lack public road access are in close proximity to public roads and levees. Both the south and north Moulton Units are adjacent to levees along major public roads (Highway 45 and River Road), as are the Princeton Unit South and the Jacinto Unit. Shannon Slough and the Pine Creek Unit are both located at the end of county roads. However, there are no roads leading into those sites and no parking areas are available. The Stegeman Unit and the western portion of the Beehive Bend Unit adjoin levees that are within 200−300 feet of Highway 45, and the Colusa Unit North is within 300 feet of a public road. If public access easements or rights-of-way could be obtained to connect some of the SRWA units to the public roads, the sites could conceivably offer a limited amount and type of public recreation opportunities.

Constraints: Public access to many of the SRWA units is limited by the fact that the majority of the units are not connected to public rights-of-way. Public access is unavailable through neighboring private property and trespassing is a concern to private landowners within the study

area. Furthermore, potential uses of SRWA lands and accessibility to them may be restricted by the need to protect critical habitat areas and enhance wildlife. Current uses allowed on SRWA lands are, therefore, generally restricted to hunting, fishing, photography, nature observation, nature interpretation, and environmental education. Staffing and funding limitations are also a consideration of DFG given the service demands that expanded access would generate.

3.3.2 Department of Parks & Recreation (DPR)

3.3.2.1 Bidwell-Sacramento River State Park

The 260-acre Bidwell-Sacramento River State Park (Exhibit 2.2-7) consists of four separate units within a two-mile area.

Opportunities: Bidwell-Sacramento River State Park is located near the Pine Creek units of both the SRNWR and SRWA. It is also near Chico, the largest population center in the study area. The proximity of these areas and the opportunities now available at the large Pine Creek conservation complex (see Nature/Visitor Center and focus sites discussion, this chapter) provide a unique opportunity for the Bidwell-Sacramento River State Park to become an important part of a potential regionally focused Sacramento River center, building on existing Park programs for interpretation, environmental education, information, and research. To the extent that publicly owned lands in the Pine Creek complex become contiguous, a trail system may be possible throughout the complex.

Constraints: With regard to trails, one of the biggest constraints in the Pine Creek complex at the moment is the fragmentation of the units within the park; as a result, the existing trail system is fragmented, and the only way users can access the different sites is by vehicle.

3.3.2.2 Woodson Bridge State Recreation Area

A 142-acre woodland park and another 328 acres of preserve make up the Woodson Bridge State Recreation Area (Exhibit 2.2-6). The main part of the park on the east side of the river is immediately adjacent to the Tehama County Park, which allows visitors access to a gravel bar and boating access to the river.

Opportunities: Depending on the need and the carrying capacity of this facility, this site could potentially provide more camping opportunities in the main area. Environmental education opportunities could also potentially be enhanced by additional interpretive signage and/or kiosks. This park is within close proximity to the City of Corning, enabling environmentally expanded education and community stewardship opportunities for local schools and the general public.

Constraints: Access to the river on the north side of the campground is severely limited by steep banks. Pilings have been installed in the river to minimize future erosion.

3.3.2.3 Colusa-Sacramento River State Recreation Area

The Colusa-Sacramento River State Recreation area (Exhibit 2.2.5) is 66.5 acres in size and includes a campground, parking lot, maintenance yard, and boat ramp.

Opportunities: One opportunity at this park is the construction of a looped trail within the riparian forest that could include interpretive signage. The park is already involved with local schools to conduct historical resource interpretation programs. There is a good opportunity to expand the use of the park for environmental education programs as well.

Constraints: Flooding is a major constraint for the potential development of the area east of the boat ramp located near the riparian forest. Other major constraints for this facility are the difficulty of obtaining permits to dredge the channel, from the boat ramp to the river to keep it accessible, and the cost of dredging.

3.3.3 Reclamation Board

The Reclamation Board primarily manages their properties in terms of flood control. Public access to properties has neither been formally allowed nor restricted by the Reclamation Board. The very nature of the riparian forest renders the majority of Reclamation Board parcels virtually inaccessible by land, but they are typically accessible by boat.

Opportunities: The fact that these parcels often contain stands of mixed riparian forest makes them suitable to helping achieve goals for conservation within the region. The parcels are compatible with the uses and management of neighboring conservation areas, such as some of the lands owned by USFWS and DFG.

Constraints: The parcels owned by the Reclamation Board have been acquired for the protection of the flood control system and as mitigation (i.e., to enhance habitat compensating for project-related losses of habitat) for flood control projects. As a result, the recreation uses available on those properties are generally limited to those compatible with habitat protection. They include fishing, wildlife observation, photography, interpretation and environmental education. A factor that limits the potential recreation use of Reclamation Board properties is that the entity has no land management planning or operations function.

3.3.3.1 Cruise n' Tarry Marina Site

The Cruise n' Tarry Marina site is owned by the Bureau of Reclamation and is leased by Colusa County.

Opportunities: The City of Colusa has recently formed a committee to consider a new boat ramp location in the area because the ramp at the Colusa-Sacramento River State Recreation Area is becoming unusable because of siltation. The Cruise n' Tarry site is ½ mile north of the Colusa Bridge, making it a potential location for the new ramp. Additionally, the county road that passes by the site may provide easy, safe access for vehicles pulling boats. This site, in conjunction with the Reclamation Board property immediately to the north, offers the opportunity to provide adequate vehicle/trailer parking. If the Cruise 'n Tarry site is considered to be suitable for the ramp, the existence of utilities at this location could provide the additional opportunity for enhancements not usually constructed at more remote facilities, such as restrooms with flush toilets, and concessions.

Constraints: The Cruise 'n Tarry site has already been significantly damaged by flooding and erosion in the past. There is concern that the site will continue to be subject to erosion and cause damage to any improvements that might be made and require substantial maintenance.

3.4 Public Recreation Opportunities and Constraints on Local Agency-Owned Sites

3.4.1 City Of Colusa

3.4.1.1 Levee Scenic Park (Exhibit 2.2-9)

This site consists of a small linear park constructed on the levee in the City of Colusa.

Opportunities: Improvements to the undeveloped portion of the park could provide more public recreational access and could increase usage of the adjacent business section of the City of Colusa.

Constraints: The small size and narrow configuration of this park are very limiting to any new development. While an undeveloped area remains onsite, the City of Colusa may not have the funds available for on-going maintenance of any improvements that may be constructed

3.4.2 Glenn County

3.4.2.1 Butte City Launch Facility

The Butte City launch facility is located on the northeast side of Butte City. The boat ramp is closed because of siltation of the channel.

Opportunities: This facility is located halfway between Colusa and Ord Bend. Except for the channel siltation, the facility is in very good condition.

Constraints: The channel that provides access from the ramp to the river is continually threatened by siltation. The permit process and dredging operations can be very cumbersome and expensive, and may make it difficult for Glenn County to keep this facility open for the long term.

3.4.2.2 Ord Bend Park (Exhibit 2.2-11)

This park, located near the County Road 32 crossing of the river, provides a boat ramp and restrooms, picnic facilities, and ball fields.

Opportunities: This multi-use county park provides opportunities for group activities at nearby soccer and softball fields.

Constraints: The only constraint at this facility is the lack of room for expansion or construction of another boat ramp without affecting existing facilities that serve the local and regional community.

3.4.3 Tehama County

3.4.3.1 North Mill Creek Fishing Access

This site is located on the north end of Gravel Pit Road north of Los Molinos. Users must walk to the site from the parking area at the end of road.

Opportunities: The nearness of this site to Los Molinos and Red Bluff makes it a desirable location for considering enhanced public recreation access. Possible improvements include a new boat ramp and additional support facilities, such as a larger paved parking lot, picnic tables, and toilet facilities.

Constraints: A residential area is developing near the road that provides access to the parking lot for this site. Additional facilities development could increase traffic and may need to be considered in terms of concerns by residents of the new residential area.

3.4.3.2 Mill Creek Park and Boat Launch Facility

This 51-acre park provides boat access and serves as a regional park to county residents.

Opportunities: Completion of the upgrades under construction will add to the recreation accessibility in this region.

Constraints: The potential for this site has most likely been maximized with the existing improvements to the boat launch facilities. There is no space for additional improvements.

3.4.3.3 Tehama County River Park

This small county park consists of two areas connected by a pedestrian undercrossing at South Avenue. The park provides a variety of facilities, including a boat ramp, picnic facilities, game areas, and a beach.

Opportunities: Completion of facilities upgrades that are underway will add to the accessibility in this region.

Constraints: This park site is used to a reasonable extent within the context of its rural setting. In addition, adjacent sites provide recreation access and an overall balance of amenities. As a result, there is no room to expand.

3.5 Public Recreation Opportunities and Constraints on Privately Owned Sites

3.5.1 Resorts, Marinas, and Landings

Six resorts are present in the study area. These include Bert's Steelhead Marina, Scotty's Boat Landing, Woodson Bridge RV Park, River's Rest Resort and Driftwood RV & Fishing Resort, Hidden Harbor Marina & RV Park, and Hunter's Resort.

Opportunities: The existing resorts within the study area present good opportunities for enhancement and/or expansion. Some of the facilities are in the process of renovation to both improve and expand their facilities and others have already undergone renovation over the past five years. However, a few have the potential for additional renovation or expansion.

Constraints: The biggest constraints for any of the resorts are focusing renovations and expansions on identified needs, obtaining financial resources to renovate, operating and maintaining the facilities, and obtaining necessary permits.

3.6 Public Recreation Opportunities and Constraints on Focus Sites

The five focus sites as previously described in Chapter 2 include:

- Gunhill Tract
- Rx Ranch
- Capay (formerly known as Kaiser Ranch)
- Dead Man's Reach (formerly Koehnen Ranch)
- Ward Tract

The Dead Man's Reach and Capay sites have recently been acquired by USFWS as part of the SRNWR. Most of the Refuge area is not open to public access and use at this time. Pursuant to federal legislation, public use of Wildlife Refuge properties is not allowed until the compatibility of such use with the wildlife conservation objectives of the Refuge is formally established. The SRNWR is in the process of developing a Comprehensive Conservation Plan (CCP) and public use is one of the issues being addressed in this process. Public meetings were conducted by USFWS during 2002 to gather information and discuss the Refuge's ideas for the CCP. The CCP is expected to be completed in the summer of 2003 and will guide the Refuge's management for the next 15 years.

3.6.1 Gunhill Tract

This site is a relatively recent acquisition and consists of approximately 54 acres of walnut orchards that are still under a farming contract with the sellers.

Opportunities: This site, by itself, offers little more than an opportunity for restoration. The opportunities for this site should be analyzed within the context of the larger Pine Creek / Hamilton City area. Similar to the other focus sites, restoration of riparian vegetation on this site has the potential to provide additional habitat for many riparian species and to connect patches of habitat to reduce local fragmentation. The restoration of the site would make it attractive for wildlife-dependent recreation activities.

Constraints: The Gunhill tract has no public road access. This tract, along with Brattan, Kaplan and Rx Ranch, were all purchased partially with Wildlife Conservation Board funds and will, therefore, likely be annexed into the SRWA Pine Creek Unit and come under the ownership and management of DFG. The river interface of this site is a high cut bank that affords little practical access from the river.

3.6.2 Rx Ranch

The 261-acre Rx Ranch consists of almond and walnut orchards that are leased for farming.

Opportunities: Rx Ranch has public road access from County Road 23, southeast of Hamilton City. With the addition of the Gunhill, Rx Ranch and the neighboring Brattan, Kaplan and Vereschagen properties, the Pine Creek Unit could expand to over 1,700 acres. In conjunction with the SRNWR, Sunset Ranch, Harley Ranch, two properties owned by the Reclamation Board, and the State Park, the total acreage in conservation in the Pine Creek area will exceed 3,800 acres. This large contiguous area allows for more regional planning efforts in conservation, restoration, and recreation.

Similar to the other focus sites, restoration of riparian vegetation on this site has the potential to provide additional habitat for many riparian species and connect patches of existing habitat to

reduce local fragmentation. The restoration of the site would make it attractive for wildlife-dependent recreation activities.

Constraints: This tract, along with Brattan, Kaplan and Gunhill, were all purchased partially with Wildlife Conservation Board funds and will likely be annexed to the SRWA Pine Creek Unit, thus coming under management of the DFG. Potential uses of the property will be restricted to those compatible with the DFG's mission of wildlife protection and enhancement.

3.6.3 Capay Unit

The 666-acre Capay Unit formerly consisted of orchards and is slated for restoration.

Opportunities: This unit has public road access via County Road 23 southeast of Hamilton City. This unit will contribute substantially to the total acreage of land coming into conservation within the Pine Creek area. Similar to the other focus sites, restoration of riparian vegetation on this site has the potential to provide additional habitat for many riparian species and connect patches of habitat to reduce local fragmentation.

Constraints: This tract has been transferred to USFWS for incorporation into SRNWR. A determination as to public uses will be incorporated into the Comprehensive Conservation Plan. If public uses are permitted, any improvements will most likely be limited to those common within national refuges, which support fishing, hunting, photography, wildlife observation, interpretation and environmental education.

3.6.4 Dead Man's Reach

This unit consists of large areas of walnut and almond orchard, but also includes 67 acres of mixed riparian forest.

Opportunities: Following restoration of this site, there will be a substantial increase of riparian woodland and scrub habitat. The result will be an increased potential for public recreation opportunities compatible with wildlife conservation and the landowner's mission.

Constraints: Dead Man's Reach was transferred to USFWS for incorporation into SRNWR. The site is only accessible from the river, a factor that will limit improvement potential. The procedure for determining public use and the potential uses are the same as previously described for the Capay Unit.

3.6.5 The Ward Tract

This 238-acre site consists mainly of former orchards and is slated for restoration.

Opportunities: This area offers one of the major opportunities for restoration within the Colusa Subreach because of its size and proximity to other natural community conservation areas located at the Colusa-Sacramento State Recreation Area and the SRWA Colusa Unit. It is also anticipated that the tract will be an expansion of the Colusa-Sacramento River State Recreation Area. The large size of the Ward Tract offers the opportunity to enhance the State Recreation Area through the development of an extensive trail system, a primitive camping area, and development of a group camp with a focus on environmental education.

Constraints: The Ward tract was acquired partly with CALFED grant funds for the purpose of conservation and habitat restoration. The conditions of the grant restrict the types of improvements that may be made, including no hard improvements such as parking lots or boat ramps. Access will be required through the site before public recreation use of this site can occur. The only current land access to this parcel is via the levee road, which is not a public easement and which is only a single lane road width.