DRAFT RESOURCE INVENTORY

Folsom Lake State Recreation Area

April 2003

Prepared for:

California Department of Parks and Recreation
United States Bureau of Reclamation

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INTRODUCTION

Purpose

The purpose of the Folsom Lake State Recreation Area Resource Inventory (RI) is to provide a thorough, accurate and comprehensive body of information on the environmental conditions, natural, cultural, aesthetic and recreational resources, land use, and infrastructure of the unit. This information will identify, record, and evaluate these resources in a comprehensive, usable form that is readily available to Department and Bureau personnel. The Resource Inventory provides the necessary resource data to inform the general planning process. The Resource Inventory is a dynamic document that will be updated as more information is collected.

The Resource Inventory is prepared to satisfy requirements of Division 5, Chapter 1, Section 5002.2 (b) of the Public Resources Code as cited below:

> *Section 5002.2(a). Following classification or reclassification of a unit by the State Park and Recreation Commission, and prior to the development of any new facilities in any previously classified unit, the department shall prepare a general plan or revise any existing plan, as the case may be, for the unit. The general plan shall consist of elements that will evaluate and define the proposed land uses, facilities, concessions, operation of the unit, any environmental impacts, and the management of resources, and shall serve as a guide for the future development, management, and operation of the unit. The general plan constitutes a report on a project for the purposes of Section 21100. The general plan for a unit shall be submitted by the department to the State Park and Recreation Commission for approval.*
>
> *Section 5002.2(b) The resource element of the general plan shall evaluate the unit as a constituent of an ecological region and as a distinct ecological entity, based upon historical and ecological research of plant-animal and soil-geological relationships and shall contain a declaration of purpose, setting forth specific long-range management objectives for the unit consistent with the unit's classification pursuant to Article 1.7 (commencing with Section 5019.50), and a declaration of resource management policy, setting forth the precise actions and limitations required for the achievement of the objectives established in the declaration of purpose.*

Furthermore, Division 3, Chapter 1 of the California Code of Regulations notes that the Resource Element must be formulated, exposed to public comment, and approved by the director before substantial work is done on any other element of a general plan.

> *4332. Preparation of a General Plan. After classification or reclassification of a unit of the state park system, the department shall obtain public comment and prepare a general plan. The general plan shall consist of a resource element, a land use element, a facilities element, and an operations element. In order that it shall act as a guide and constraint, the resource element will be prepared, made available for public comment, and approved*

by the director before substantial work is done on the other elements of the plan.

The objectives of the Resource Inventory are to provide information sufficient to:

- Inform the public
- Develop resource management policy
- Develop resource management and protection programs
- Serve as a reference to clarify and solve resource problems
- Serve as background information to plan improvements and/or new facilities in the Unit
- Assess environmental impacts
- Develop interpretive program
- Provide background information for maintenance and operation

Background

The California Department of Parks and Recreation (CDPR) first entered into an agreement with the U.S. Bureau of Reclamation (BOR) in 1956 to manage recreation facilities at Folsom Lake and Lake Natoma. The area was later designated as Folsom Lake State Recreation Area (the Unit). Most of the lands around both lakes are owned by the BOR and managed by the CDPR. The current General Plan for Folsom Lake State Recreation Area was completed in 1979. Growth and development in the Sacramento Metropolitan Area over the past 20 years in addition to a number of proposed projects in the vicinity of the Unit have prompted this update of the Folsom Lake State Recreation Area General Plan. Public Resources Code 5006.6, as summarized below, clarifies the participating agency roles.

5006.6. The department, with the approval of the Administrator of the Resources Agency and the Department of Finance, is authorized to cooperate and participate with the federal government pursuant to Public Law 89-161 in the development of recreation facilities, or with the approval of the Department of Fish and Game, fish and wildlife enhancement facilities, or both, at Auburn Dam and Reservoir, Folsom Dam and Reservoir, Nimbus Dam and Lake Natomas, and County Line Dam and Reservoir, and stream areas in the immediate vicinity of these facilities. The department, with the approval of the Administrator of the Resources Agency and the Department of Finance, is authorized to administer unit land and water areas for recreation or fish and wildlife enhancement, or both, and to contract with the federal government for the operation, maintenance, and replacement of unit facilities, to assume all costs of such operation, maintenance, and replacement, and to accept transfer of unit lands or facilities by lease or exchange upon such terms and conditions as will best promote the

development and operation of such lands or facilities in the public interest for recreation or fish and wildlife enhancement purposes, or both. ... The department shall cooperate with any local public body authorized to contract with the federal government pursuant to Public Law 89-161, including, but not limited to, the Counties of El Dorado, Placer, and Sacramento, in planning of any proposed participation with the federal government. The state may contract with any or all of such counties or other local public bodies for the operation, maintenance, and replacement of unit facilities, or any portion thereof, if requested by any or all such counties or other local public bodies.

Project Description

With approximately 1.5 million visitors annually, the Folsom Lake State Recreation Area is one of the most popular and heavily visited units within the California State Park System. Lake Natoma and portions of the popular 32-mile American River Bike Trail are part of the Unit. The Unit offers 12,000 water surface acres for water-oriented use including, swimming, sailing, boating, water skiing and fishing. Its 85 miles of shoreline provide opportunities for picnicking, camping, horseback riding, hiking and biking along the scenic lakeside.

The Unit is located at the confluence of the North and South Forks of the American River in the Sierra Nevada Foothills, just outside the Sacramento Metropolitan Area. The Unit itself resides in three different counties: El Dorado, Placer and Sacramento as well as the City of Folsom. (Figure I-1) The Unit is located between two major east-west freeways, State Highway 50 on the south and Interstate 80 on the north. These highways converge in the City of Sacramento, 25 miles west of the project area and extend eastward through the Sierra near Lake Tahoe. Figure I-2 shows the different parcels of land that compose the Unit.

The Unit is a part of the larger American River System that stretches nearly the entire width of the state. The rivers have cut through the rugged central Sierra Nevada, carving the rugged canyons and oak-covered foothills of the Auburn-Folsom area, stretching across the grasslands of the Central Valley, past Lake Natoma to join the Sacramento River, San Francisco Bay and the Pacific Ocean.

Folsom Lake and Lake Natoma are the primary physical features of the Unit and its main attractions. Folsom Lake was created in 1955 by Folsom Dam, a concrete dam flanked by earth wing dams and dikes with a total length of about 9 miles. The lake features some 10,000 surface acres of water when full and has 75 miles of shoreline. It extends about 15 miles up the North Fork, and about 10 1/2 miles up the South Fork of the American River. The Lake level normally varies from 466 feet elevation in early summer to a low of 405 feet in early winter depending on the releases of water from Folsom Dam. Figure I-3 provides an enlarged aerial view of the Folsom Lake portion of the site.

Lake Natoma, formed by the waters held by Nimbus Dam, is an afterbay or regulating reservoir for Folsom Dam. Two 6,750-kilowatt generators produce power from Nimbus Dam water releases. Lake Natoma is a smaller water body than Folsom Lake but its water level fluctuates very little (4' - 7'). A 5-mph speed limit is in effect for the entire lake. This limit

regulates motorized boat use on Lake Natoma. Figure I-4 provides an enlarged aerial view of the Lake Natoma portion of the site.

Inventory Study Area

The reservoirs and their environs support a variety of natural, cultural, scenic and recreational resources. Environmental conditions in the region, such as climate, noise, traffic and land use, affect the quality and quantity of these resources. The Resource Inventory provides baseline information on current conditions within the Unit and its vicinity as well as an assessment of the Unit's resources. Information is organized by major subjects such as geology, climate and plant life. Each of the major subjects is summarized below:

Meteorology & Air Quality. The Unit's climate is characterized by cool, wet winters and hot, dry summers. Temperatures range from an annual average minimum of 43-48 degrees F to an annual average maximum of 70-74 degrees F. In the summer, temperatures can range into the mid-90 degrees F. Air quality in the unit is characterized as good. However, over the past three years, monitoring stations in the vicinity of the Unit have recorded levels of ozone and particulate matter that exceed both state and federal standards. The presence of these pollutants is generally attributed to winds from the south transporting pollutants from urban areas such as the San Francisco Bay area and the Sacramento Metropolitan area into Placer County and other northern counties.

Geology. The Unit is located at the western extent of the Sierra Nevada foothills between the Central Sierra Nevada and the Central Valley geomorphic provinces. The geology of the Unit is characterized by rolling hills and upland plateaus located between major river canyons. The Unit contains three geologic divisions: a north-northwest trending belt of metamorphic rocks with included ultramific rocks, younger granitic intrusive plutons that intruded and obliterated some of the metamorphic belt and nearly flat-lying deposits of volcanic ash, debris flows, and alluvial fan deposits that overlie the older rocks. These divisions have created a varied and interesting geology within the boundaries of the Unit.

Soils. Soils within the Unit are generally well-drained, silty, sandy and gravelly mixtures developed over either granitic or metamorphic bedrock. Higher elevation soils are thin with numerous outcropping of igneous and metamorphic rock and have limited permeability. The northwest side of Folsom Lake contains loose soils of decomposed granite that can be characterized by erosion and excessive drainage. The south side of Folsom Lake contains denser, clay soils. Serpentine rock and soil can be found at the Peninsula area of Folsom Lake and south of the South Fork of the American River. These soils contain high levels of nickel, chromium and manganese which are toxic to most plants but can support several special status plant species. Much of the area around Lake Natoma has been modified by large-scale dredging for gold, resulting in extensive deposits of dredge tailings composed of small to large cobbles and boulders.

Hydrology. The Unit is a part of the American River Watershed, which covers approximately 2,100 square miles northeast of Sacramento. Folsom Dam regulates a drainage area of about 1,875 square miles. and has a normal full-pool storage capacity of 975,000 acre-feet. Several small creeks and streams flow directly into Folsom Lake and Lake Natoma including Willow, Alder, Hinkle, Sweetwater, New York and Hancock Creeks. Although the primary

function of Folsom Dam is flood control, the reservoir stores water for irrigation and domestic use and for electrical power generation. Lake levels can fluctuate significantly depending on hydrological and meteorological conditions, water demands and flood control and hydropower needs. Lake Natoma is a regulating afterbay used to regulate flow fluctuations from Folsom Powerplant into the American River and to generate electricity from water releases. As a result, water levels in Lake Natoma do not vary significantly. Implementation of several proposed projects, especially the Folsom Dam Modification Project and the Folsom Dam Raise Project, will result in both physical and operational changes to the dam and reservoir, alter lake level fluctuations and impact the water resources and hydrology of the Unit.

Water Quality. The vast majority of water entering Folsom Lake and Lake Natoma is well-oxygenated, cold water of high quality. Monitoring at the Unit indicates that water quality rarely exceeds State of California water quality objectives related to temperature, bacteria, dissolved oxygen, pH, oil and grease, total dissolved solids, and turbidity. Water quality concerns that do exist in the Unit include excessive sediment inflow from surrounding development into local drainages, nutrient inflow to Alder Pond, mercury bioaccumulation in fish from abandoned mining tailings, bacterial contamination of waters heavily frequented by waterfowl and occasional sewage spills in the watershed from wastewater treatment plants.

Noise. Noise monitoring data indicates that noise levels within the Unit are generally low to moderate, typical of rural areas. Primary noise sources within the Unit include traffic along neighboring roadways, airplanes flying overhead, boats on the lake and construction. Noise is known to have several adverse effects on people including hearing loss, speech and sleep interference, physiological responses, and annoyance. Based on these known adverse effects, the federal government, the State of California and many local governments have established criteria to protect public health and safety and to prevent disruption of certain activities. Although the Unit is part of the State Park System and owned by the BOR, it is subject to the noise ordinances of the municipalities in which it resides.

Plant Life. The Unit is dominated by aquatic habitat within Folsom Lake and Lake Natoma, however, significant stands of terrestrial vegetation surround the lakes including several fine examples of native plant communities. The Unit is located within the California Floristic Province and supports nine major terrestrial types that are typical of the foothills of California's Central Valley. These types include: chamise chaparral, interior live oak woodland, blue oak woodland and savanna, annual grassland, cottonwood/willow riparian, freshwater marsh, seasonal wetland and northern claypan/hardpan vernal pool. The Unit's mix of vegetation communities is a product of complex interactions of natural and human influences that have shaped the region including climate, soil type and depth, elevation, slope, aspect (topographic position), grazing and browsing, fire, physical disturbances by humans, reservoir fluctuations, and invasive exotic vegetation.

Animal Life. The Unit supports many native plant communities that provide suitable habitat for a large number of native fauna including special status species. The primary habitat types that occur within the Unit include upland (grass and oak savanna, chaparral, oak woodland, and riparian woodland), ruderal/barren, and aquatic (lake, pond, creek and stream, freshwater marsh and seasonal wetland). Unfortunately, alteration in composition and structure of native vegetation is very likely to have depleted populations of native foragers and pollinators of these native plants. The addition of non-native species and the increase in native species that have adapted to changes in vegetation have intensified changes in the natural ecosystems of

the Unit. Furthermore, development of land adjacent to the Unit and construction within the Unit (i.e. the dams themselves) have created significant barriers to wildlife movement and altered patterns of animal migration.

Recreation. The Unit is a significant local, regional and state recreation resource. While aquatic activities such as boating, water skiing, sailing and swimming are the most popular activities in the Unit, land-based activities such as hiking, biking, picnicking, camping and horseback riding also attract visitors. Although the Unit accommodates year-round recreation, 75 percent of all visits occur during the warmer spring and summer months. The peak recreation season begins around Memorial Day when lake-levels are highest and ends at Labor Day. Recreational activities in the Unit have changed significantly since the first facilities were opened to the public in 1958. The rise in popularity of personal watercraft (jetskis), sailing, kayaking and paddling sports and the introduction of new sports such as mountain biking have transformed the character of the Unit, increased its level of use, and prompted discussions about conflicts in recreation use.

Scenic Resources. The Unit is a significant visual and scenic resource within the region. It provides dramatic panoramas of the lakes and the surrounding foothill landscape from several key vista points at Lake Overlook and Observation Point and offers views of impressive natural features such as the steep river gorges along the North and South Forks of the American River and the rugged Peninsula. The Unit affords views of several distinctive built features including Folsom and Nimbus Dams, Rainbow Bridge, the historic truss bridge, the Lake Natoma crossing and the Folsom Powerhouse. Unfortunately, urban and rural development adjacent to the Unit and built features within the Unit (i.e. dams, parking lots, utility corridors) detract from the overall visual quality of the Unit and the experience of Unit visitors.

Cultural Resources. At present, a total of 258 archaeological sites have been identified within the Unit. These sites reveal the rich history of the region from its settlement by prehistoric people 4,000 years ago to the construction of Folsom and Nimbus dams in 1955. Prehistoric sites identified within the Unit contain remnants of semi-permanent villages established by the Nisenan, the earliest settlers of the region. Remnants include midden, bedrock mortars, milling slabs, handstones, pestles, projectile points, scrapers, bifacial tools, cores and debitage. European settlement of the region began circa 1822 and increased rapidly when gold was discovered at Sutter's Mill in 1848. Historic sites identified within the Unit contain remnants of activity related to mining, settlement and water development. Remnants include debris scatters (glass, metal, ceramic), structural remains, dredge tailings and hydraulic mining remnants. The Folsom Powerhouse, one of the oldest hydroelectric facilities in the country, is located within the boundaries of the Unit. In 1895, the powerhouse marked the first long-distance transmission of high voltage electricity for commercial use and continued to operate until 1952. The powerhouse is a state historic landmark and is listed on the National Register of Historic Places. Although the Folsom Powerhouse State Historic Park is a separate designated unit within the State Park System, it is administered by Unit staff and is included in the Unit's General Plan.

Land Use. Land uses within the Unit are primarily recreation-related and reflect a range of activity and intensity of use. Non-recreation uses within the Unit are associated with the operation of Folsom and Nimbus Dams. These two types of uses (recreation and dam operation) are closely related as water level fluctuation associated with the Folsom Lake reservoir directly affects the availability of boat ramps, beaches, mooring sites, and other

facilities that depend largely on water depth or surface area. Implementation of the Folsom Dam Raise project may further impact recreation use within the Unit by increasing the maximum flood pool level from 474 feet to 482 feet. Land use surrounding the Unit is characterized by development that increases in density from rural in the north to urban in the south. The proximity of development to the Unit raises several complex issues including land use and intensity, visual intrusion, access, noise and fire hazard.

Traffic & Circulation. Most visitors access the Unit by car. Interstate 80 and U.S. Highway 50 provide regional access to the Unit via interchanges at Douglas Boulevard and Folsom Boulevard, respectively. Local roadways provide access for nearby residents. These roadways include Douglas Boulevard, Auburn-Folsom Road/Folsom Boulevard, Natoma Street, Green Valley Road, and El Dorado Hills Boulevard. In addition to vehicular access, visitors may take advantage of bicycle lanes that exist on several roadways in the vicinity of the Unit including Auburn-Folsom Road/Folsom Boulevard, Natoma Street and Green Valley Road. In addition, public transportation provides access to the Unit via bus and light rail service. Access to individual recreation areas within the Unit is provided by the surrounding public roadway system and trails; there is no internal roadway system within the Unit itself. DPR staff have indicated that traffic congestion occurs at several of the recreation facilities during peak summer weekends.

Utilities. The utility infrastructure of the Unit consists of CDPR-owned systems that provide water, sewer, electricity and telephone service to some of the day use, campground, and boat launch facilities and access points. Levels and types of service vary for each recreation area. In addition, several companies and agencies own utility lines that pass through Unit land. The CDPR and BOR have granted easements to utility owners that guarantee them permanent access to utility lines for maintenance and repair purposes. Development within these easements is prohibited, however, new roads, trails and utilities can be constructed across easements provided permission has been granted. Utilities and related maintenance activities may impact the visual, recreational or natural resources of the Unit.

The attached Resource Inventory provides the framework for the planning process, following the *Guidelines for Resource Documents* prepared by the California Department of Parks and Recreation, Resource Protection Division (September 1991). Individual sections can be updated at any time without affecting the other sections, thus each major section has a title, date and its own reference section. Individual chapters are organized, or grouped, to begin this planning process for Folsom Lake State Recreation Area within the following major headings: Environmental Conditions; Natural Resources; Recreation, Scenic and Cultural Resources; and Land Use, Traffic and Circulation, and Utilities.

Each section ends with recommendations to outline the need for additional data, mapping or resource monitoring. Specific policy recommendations that might result from an analysis of the information included in the Resource Inventory will be included in the Resource Element to be prepared as the next step in this planning process.

Placeholder for Figure I-1

Placeholder for Figure I-2

Placeholder for Figure I-3

Placeholder for Figure I-4