

UNIT 151

LAKE OROVILLE STATE RECREATION AREA

GENERAL DEVELOPMENT PLAN

September 1973

Resource Management Plan and General Development Plan

LAKE OROVILLE

State Recreation Area

1973

California State Resources Agency
CALIFORNIA RECREATION



LAKE OROVILLE STATE RECREATION AREA
RESOURCE MANAGEMENT PLAN
and
GENERAL DEVELOPMENT PLAN
AUGUST, 1973

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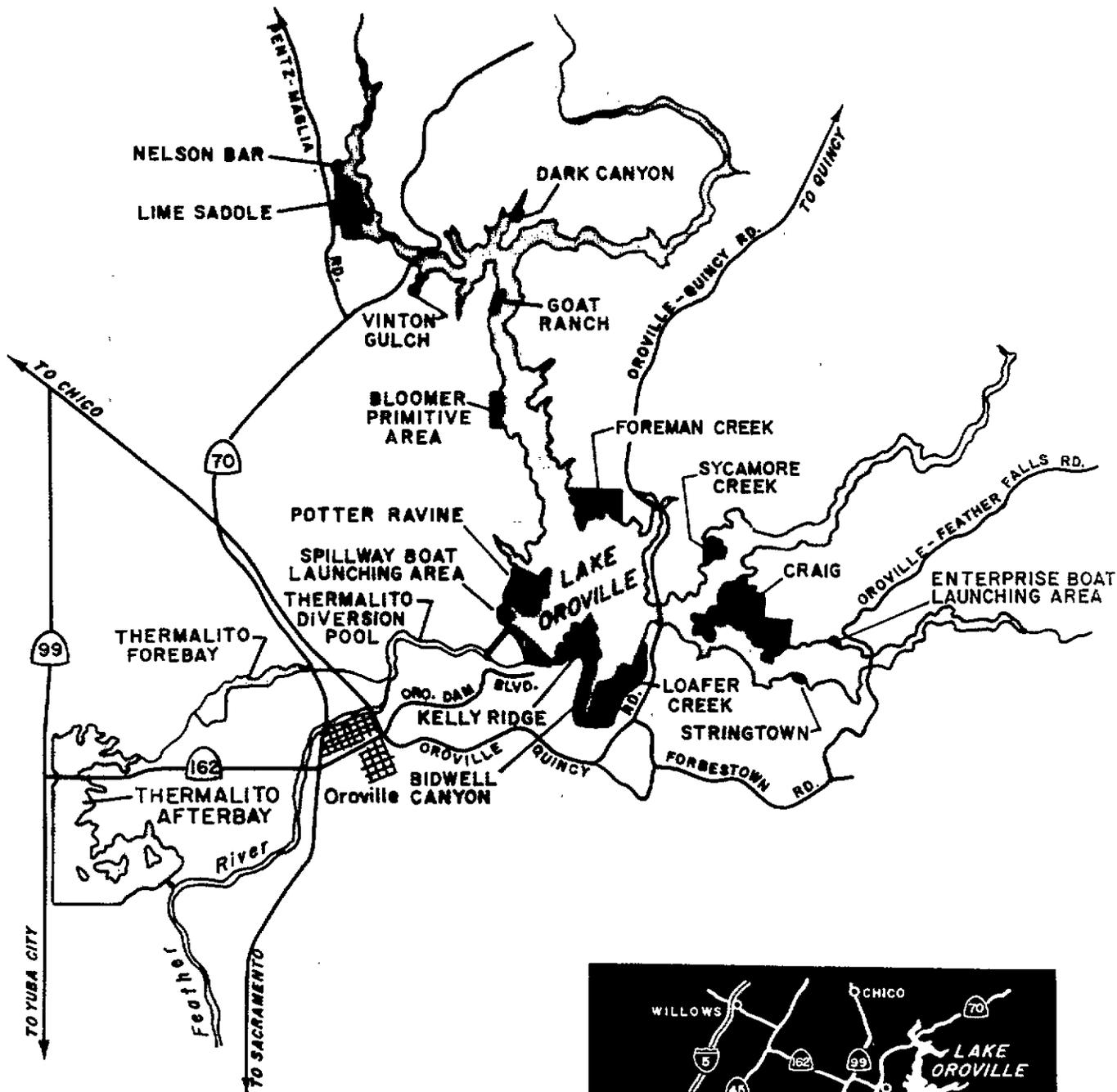
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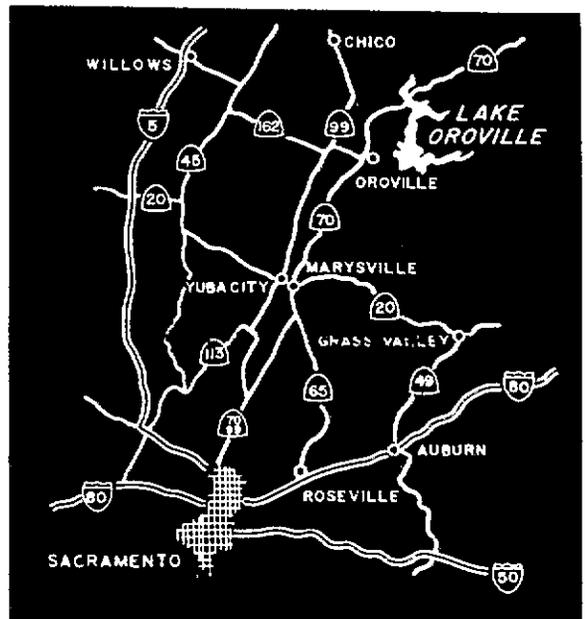
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LAKE OROVILLE
STATE RECREATION AREA
BUTTE COUNTY



SUMMARY

Lake Oroville is the largest State Water Project reservoir in northern California. This reservoir was constructed for the purpose of flood control, power generation, water conservation, recreation, and as a supply of water for irrigation and municipal uses. The entire project includes over 47,000 acres. Most of this project area is available for recreation uses. Areas not suitable for recreation are related to the operation of the dam and are necessary in meeting the other project purposes of this reservoir. These areas are managed by the Department of Water Resources.

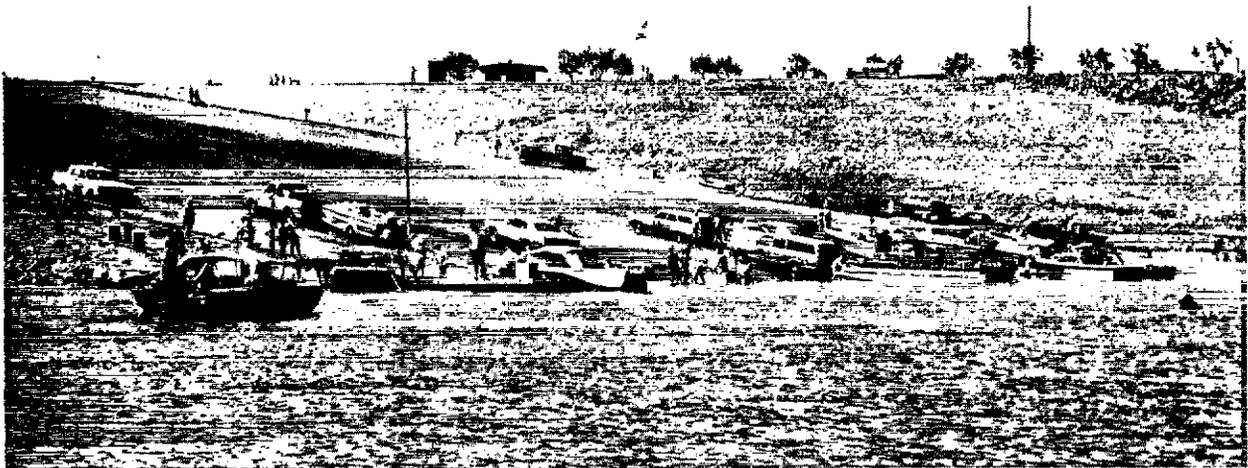
About half of the project lands have been transferred to the Department of Parks and Recreation for operation and development. One notable exception is the fish hatchery, which is open to the public and is operated by the Department of Fish and Game.

Because of the size and complexity of Lake Oroville State Recreation Area, initial planning identified those areas with recreation potential, and individual development plans were prepared for each one. A total of 22 areas have been identified for recreation planning purposes. They are Kelley Ridge-Bidwell Canyon, Loafer Creek, Lime Saddle, Bloomer Primitive Area, Bloomer Island, Goat Ranch, Sycamore Creek, Craig, Foreman Creek and Foreman Island, Potter Ravine, Feather Falls Scenic Area, Dark Canyon, Stringtown, Enterprise Boat Ramp, Vinton Gulch, Nelson Bar, Glen Drive Administration Area, Thermalito Forebay, Thermalito Diversion Pool, Thermalito Afterbay, the Feather River Fish Hatchery, and the Oroville Wildlife Area, and the Spillway Boat Ramp.

Lake Oroville State Recreation Area will accommodate a wide variety of recreational activities and should become a popular vacation spot. As an indication of the use that can be anticipated, Lake Oroville SRA, with existing developments, had over 724,435 visitors during fiscal year 1971-72.

Careful analysis of the resources at Oroville has indicated those portions of the individual recreation areas that can be developed with a limited impact on these resources. Some portions have been designated for intensive use, some for moderate use, and others for light use.

Those areas under construction or with existing public use facilities are Kelly Ridge-Bidwell Canyon, Loafer Creek, the Spillway Boat Ramp, Lime Saddle and the Thermalito Forebay-North. The Kelly Ridge-Bidwell Canyon area is being developed jointly by the state and a concessionaire (the Fun Time Full Time, Inc.). Facilities will include a visitor center, lodge-restaurant-coffee shop complex, conference center, sleeping cabins, a Curry-Bidwell Bar Historic Artifacts area, a seven-lane launching facility, marina, grocery store, laundry, snack bar complex, swimming beach, and a recreational vehicle campground. The Loafer Creek area will provide family campsites, group camps, a caravan trailer camp, a swimming beach, day-use parking, picnic units, six-lane launching facility, an equestrian center, and a camp store-laundry facility. The Spillway Boat Ramp is an existing two-stage boating facility with 12 launching lanes and car/trailer parking at the upper stage and eight launching lanes and car/trailer parking at the lower stage. The Lime Saddle area has an existing five-lane launching facility and a marina. Future development will include family camps, group camps, and beach and picnic facilities. The Thermalito Forebay will accommodate boating and day-use activities. The development proposals for the remaining recreation areas are discussed in Chapter IV, the General Development Plan.





Chapter I INTRODUCTION

Location

Lake Oroville State Recreation Area contains the largest State Water Project reservoir in northern California. It is comprised of Oroville reservoir and the Thermalito offstream storage features, including Thermalito Forebay and Afterbay. Lake Oroville is located in Butte County near the City of Oroville on the eastern side of the Sacramento Valley. Driving time is only 1½ hours from Sacramento and 2½ hours from the San Francisco Bay area.

Lake Oroville lies in a widely varied vegetation zone, from the grasses of the flat valley floor in the Thermalito Forebay and Afterbay areas to commercial timber zones in the upper reaches of the reservoir. The climate of the area, like that of the Sacramento Valley, is typically Mediterranean with mild winters and hot summers. The average annual precipitation ranges from 20 inches in the Thermalito Afterbay area to 60 inches in the upper reaches of Lake Oroville. The major portion of this precipitation occurs between October and May.

Acquisition

Lake Oroville is to be operated for purposes of flood control, power generation, conservation, and recreation and as a supply of water for irrigation and municipal uses. The offstream features of Thermalito Forebay and Afterbay serve primarily for regulation of power generation flows and as storage space for pump-back power operations. In accordance with provisions of the Water Code (Section 346), properties for recreation purposes were acquired at the same time that land was acquired for other features. The total acquisition for all project purposes* amounts to about 47,000 acres. Of this, approximately 2,825 acres were acquired for recreation purposes only. About 21,000 acres of the total project area is water surface. The balance of the available acreage is used jointly for recreation and other project purposes.

Dam and Reservoir Features

The Oroville complex includes Oroville Dam, Reservoir, and Powerplant; Thermalito Diversion Dam and Reservoir; the Fish Barrier Dam and Hatchery; and the offstream features of the Thermalito Power Canal, Forebay, Powerplant, and Afterbay. The locations of these features are shown on Sheet 1 of the General Development Plan, and statistics for each are presented in Appendix B.

Reservoir operation plans anticipate the reservoir to fill by June 15 in average years. It can also be expected that during certain dry-year periods, the reservoir may not fill during the entire year.

Lake Oroville is expected to fluctuate during the July-to-September period from the normal pool level (900 feet elevation) to the 825-foot level in good water years and to the 775-foot level in poor water years.

In Thermalito Forebay, the water elevation is expected to remain almost constant at 224 feet, with as little as 2 feet of drawdown during operational periods. This is also true of the Thermalito Diversion Pool with a normal pool elevation of 225 feet.

In Thermalito Afterbay, the water surface elevation is expected to fluctuate weekly from a low pool at approximately 123.0 feet to a maximum of between 130 and 136.5 feet.

Classification

Lake Oroville has been classified as a state recreation area by the State Park and Recreation Commission, as provided for in Section 5001.5 of the Public Resources Code. Naturally, recreation development focuses on water-oriented activities; however, efforts have been made in the plan to diversify the recreation development to take full advantage of the variety of resources available at this site. Provisions have been made in the plan for a visitor center, lodge and restaurant facilities, cabin units, boat launching facilities, marinas, equestrian centers, a conference center, a par 3 golf course, camping areas, picnic areas, swimming beaches, and riding and hiking trails.

*Water Code sections 11900-11925 (the "Davis-Dolwig Act")

Management Responsibility

The Department of Parks and Recreation will operate the recreation facilities at Lake Oroville. This includes (1) the main reservoir (excepting four limited fishing access sites, which will be operated by Butte County, Department of Public Works); (2) the Thermalito Forebay; and (3) the Thermalito Diversion Pool. Some recreation planning for the Thermalito Afterbay has been accomplished; however, this area is still under the control of the Department of Water Resources. The Feather River Fish Hatchery and the Oroville Wildlife Area will be managed by the Department of Fish and Game. The Feather Falls Scenic Area is a part of Plumas National Forest and is managed by the U.S. Forest Service.



Chapter II RESOURCE ANALYSIS

The purpose of this chapter is to analyze and interrelate the natural resources within Lake Oroville State Recreation Area. It explores the resources there are to work with, identifies those that have high resource value, and provides the rationale for developing the allowable use intensity plans for the ten recreation areas around the lake. The resource inventory information and descriptive maps that provide the information base for this analysis are available in a separate publication of the Department of Parks and Recreation, *Lake Oroville State Recreation Area: Resource Inventory*.

Geology

A geology map has been prepared to indicate the geologic structures that underlie Lake Oroville SRA. All the geologic structures identified on this map will support development.

Two faults are indicated within the reservoir area. One of them crosses the north fork arm of the reservoir near French Creek. The other begins at a point near Bloomer Primitive Area and projects southward across the Thermalito Diversion Pool area below Oroville Dam. The potential for seismic activity must be considered in developing these two areas.

Climate

In analyzing the climatic data, it is evident that the hot, dry summers prevalent in the Oroville area will have an effect on recreation developments. Camping and picnic facilities should be located in areas that offer some relief from the summer sun. The cooling effect of the prevailing southerly winds should also be considered in the placement of use facilities.

The annual rainfall varies greatly throughout the recreation area. In the Thermalito Forebay area there is approximately 26 inches per year, while the upper reaches of the reservoir receive as much as 60 inches per year. This rainfall generally occurs during the winter, which is of course the low public use season.

The spring and fall months are the most comfortable and pleasant periods of the year. It is therefore anticipated that the public use of the recreation area will be greatest during these seasons.

Hydrology

The drainage basin of Lake Oroville is quite large and carries considerable amounts of water during the wet winter months. Thus, one of the major project purposes of this reservoir is flood control. Streams that flow directly into the lake have been hydrologically classified by means of the "Strahler concept." This concept shows the stream that carries the least amount of water as a first-order stream, with each higher order carrying progressively greater amounts of water. Streams designated as third and fourth order, as well as the forks of the Feather River that flow into the lake, have the capacity to carry large volumes of water. Therefore, development planning has considered both flooding potential and flow restriction.

Soils

The soil, as the supporting base of all potential use facilities, is a very important factor. The soil map developed for the Oroville area indicates the various soil types found around the lake and is based on studies made by the California Division of Forestry. Areas with landslide potential and in which landslides have occurred have been noted on the soil map. These areas have been excluded from planned development.

The soil erosion hazard must be considered in determining the location and type of public use facilities. It is assumed that soils with a slight or moderate erosion hazard can tolerate most proposed developments. Soils in the "high erosion" category have been limited to moderate development, and soils in the "very high to severe erosion" category have been excluded from most development. Use areas in which the erosion hazard is high, very high, or severe are Craig, Foreman Creek, Sycamore Creek, and Lime Saddle.

Slope

Slope is a major factor in determining the development potential of a parcel of land. The ten major use areas around the lake have been divided into three categories to indicate the potential of these areas for supporting development: (1) zero to 10 percent to support high use; (2) 10 percent to 20 percent to support moderate use; and (3) more than 20 percent to be reserved for minimal use, such as hiking trails.

Vegetation

The comprehensive vegetative inventory of Lake Oroville was accomplished by interpreting high-flight infrared photographs. The inventory breaks the vegetative cover down into vegetative types and gives the percent of each type of cover. In analyzing this data, it is assumed that high use could occur in areas of grass, oak, or pine or combinations of the three. However, it may be desirable to retain some grass areas as open areas. Areas with heavy chaparral growth, whether alone or in combination with other vegetative types, should be restricted to low-intensity use. Besides increasing construction costs and possessing limited desirability for public use, these areas provide ideal wildlife habitat zones and should be preserved for that use.

There are ten rare and endangered plant species in Butte County, nine of which may occur within the recreation area. As yet, however, there have been no known sightings of these nine plants within the recreation area.

Wildlife

Because of the complexity of the project area and the variety of resource zones, an attempt was not made to break down the land portion of the recreation area into wildlife habitat zones. Instead, the assumption was made that areas with low, dense vegetative cover (chaparral) and areas with vegetative cover abutting the lake and major streams are valuable as wildlife habitat.

An indepth inventory of the lake's fish was possible through the assistance of the State Department of Fish and Game. This inventory provides a basis for convenient location of fishing access facilities.

The fish habitat map, prepared from the inventory, provides information necessary to determine the intensity of adjacent land-based recreation developments. All areas indicated as fish habitat zones should be protected from high-intensity onshore developments, which can cause increased erosion. A 300-foot-wide buffer strip, which would restrict high-intensity use, should be maintained around these areas.

Scenery

The scenic analysis attempts to identify the scenic qualities of Lake Oroville. The "viewscape" has been defined from the surface of the lake. The more interesting vistas and the major and minor landscape and cultural features have been charted. Unique scenic aspects, such as Feather Falls, Cape Horn, and Stringtown Mountain, are designated as major landscape nodes and must be protected from development that would destroy their value as a scenic resource. The natural setting contributes to the recreational experience.

Cultural Values

The Oroville area was at one time heavily populated by the Northwest Maidu Indians, and many evidences of this people are still found today. Before Lake Oroville was filled, archeological surveys recorded a large number of features, such as mortar rocks, petroglyphs, and occupational sites. Many of these features are now under water. However, 27 recorded sites and 6 possible sites have been identified within 5 of the designated recreational use areas around the lake. They are as follows:

Bidwell Canyon – 3 recorded sites

Loafer Creek – 4 recorded sites, 3 possible sites

Craig Area – 14 recorded sites, 1 possible site

Foreman Creek – 2 recorded sites, 2 possible sites

Bloomer Primitive Area – 4 recorded sites

In addition, there are 10 recorded sites in the diversion pool below Oroville Dam.

The locations of all these sites are charted, and information about them can be obtained from the state park archeologist. Protection of these sites must be considered in placing future recreational facilities in the areas in which they have been identified.

The discovery of gold in 1849 had a considerable cultural impact on the Oroville area. Gold seekers poured into the hills around Oroville and established many towns that have long since been deserted. Much of the area in which gold mining activities took place is now under water. In the diversion pool area below Oroville Dam, however, some of these sites are still marked by foundation remains and cemeteries. Future development of the diversion pool might include interpretation of the gold mining that took place in this area.

Allowable Use Intensity

Conclusions based on the foregoing resource analysis have been consolidated into an allowable use intensity map for each of the ten designated use areas around Lake Oroville. Use intensity signifies the number of people per acre that can be permitted in an area at one time without causing irreparable damage to the natural resources of the area. The people-per-acre factor must also include space for service facilities, such as parking, restrooms, picnic tables, and the like.

High Use Intensity (30 or more persons per acre)

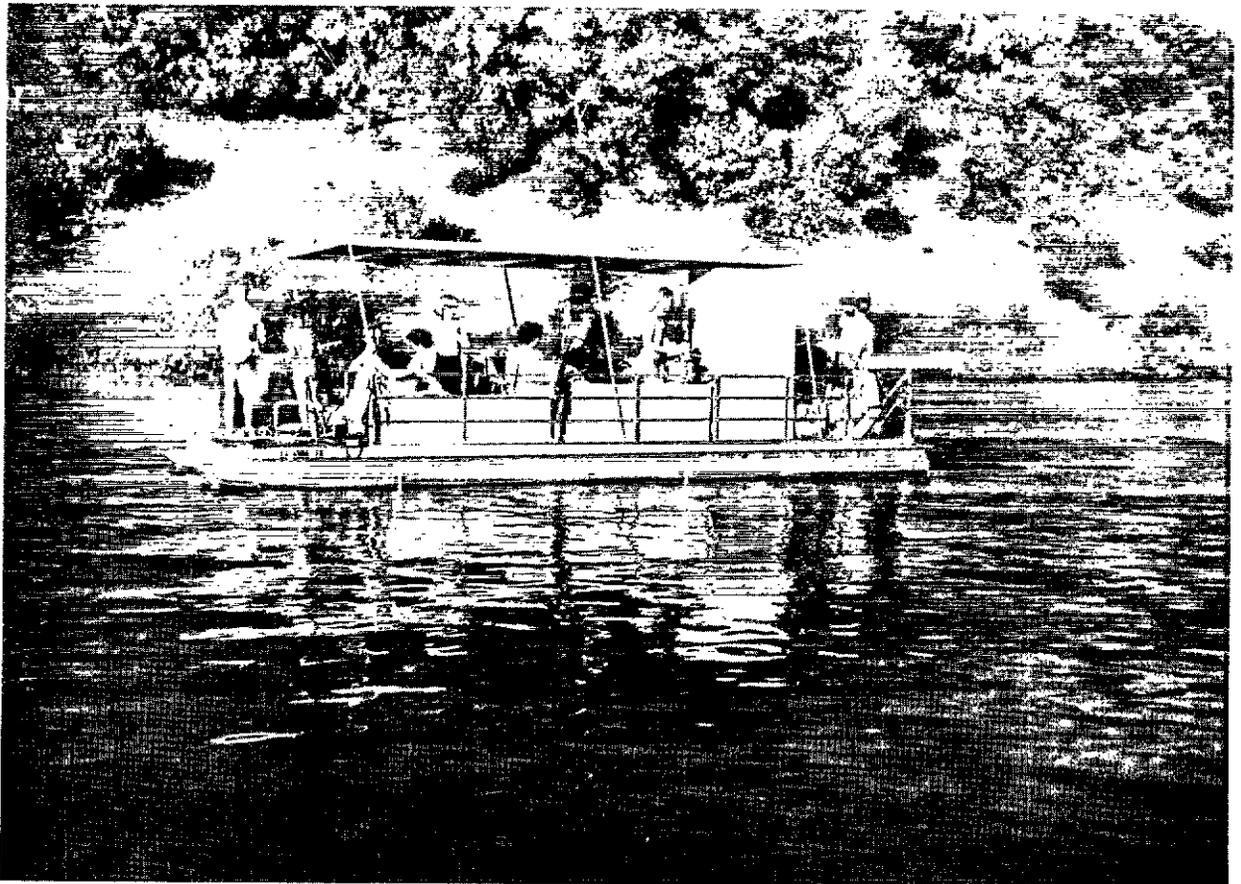
Areas designated "high use intensity" are in the 0 to 10 percent slope range. The resources within such areas have limited values and can support intensive uses, such as beach activities, picnicking, marina developments, and the like. Beach activities can result in a use intensity of 435 persons per acre assuming 100 square feet per person. A normal spacing of picnic tables is 30 to 35 feet, which represents a use intensity of about 140 persons per acre.

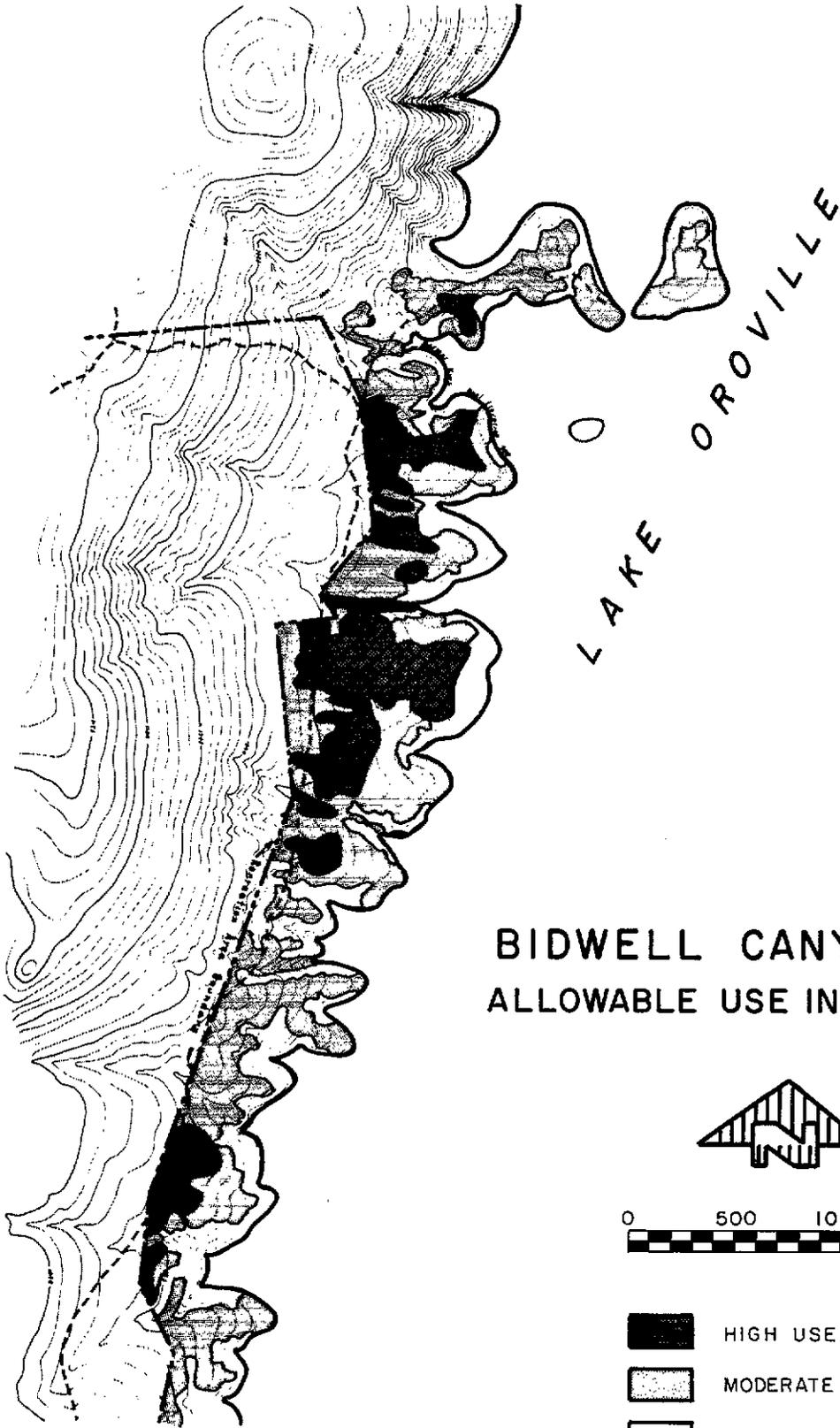
Moderate Use Intensity (8 to 30 persons per acre)

Moderate use intensity is appropriate to areas with average resource values, moderately stable soils, and moderate slopes. Moderate use intensity usually accommodates the generally accepted standard of four campsites per acre. This spacing would generate a use intensity of 16 to 20 persons per acre.

Low Use Intensity (less than 8 persons per acre)

Low use intensity areas generally contain fragile resources. Most low intensity use zones at Lake Oroville have been so designated because of steep slopes and dense chaparral vegetative cover. In the case of the Craig Area, a soil type with a severe erosion hazard is the major restricting factor. Activities in low use intensity zones should be restricted to such activities as hiking, nature study, and primitive camp developments.



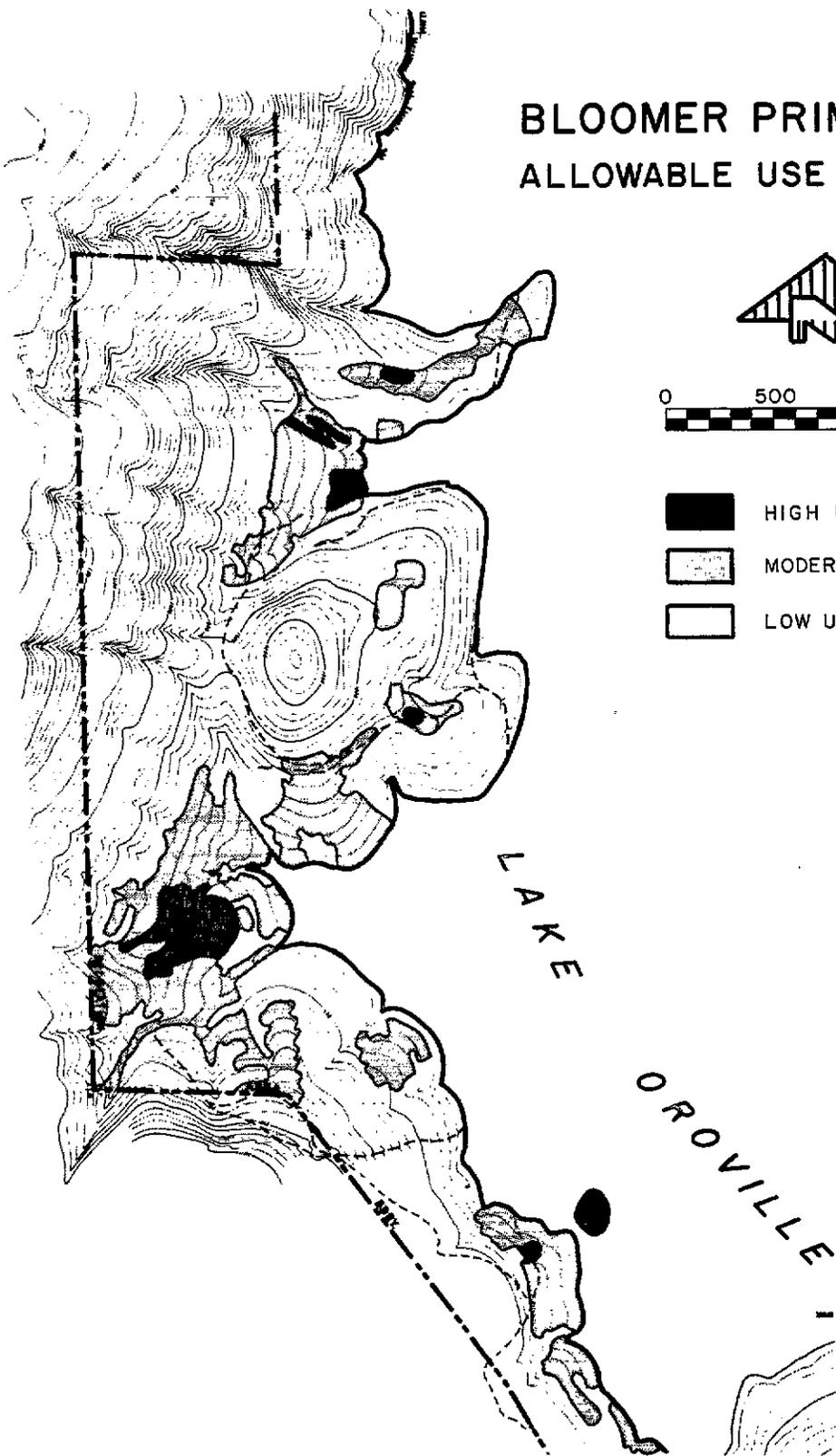


BIDWELL CANYON AREA
ALLOWABLE USE INTENSITY MAP



-  HIGH USE INTENSITY
-  MODERATE USE INTENSITY
-  LOW USE INTENSITY

BLOOMER PRIMITIVE AREA ALLOWABLE USE INTENSITY MAP

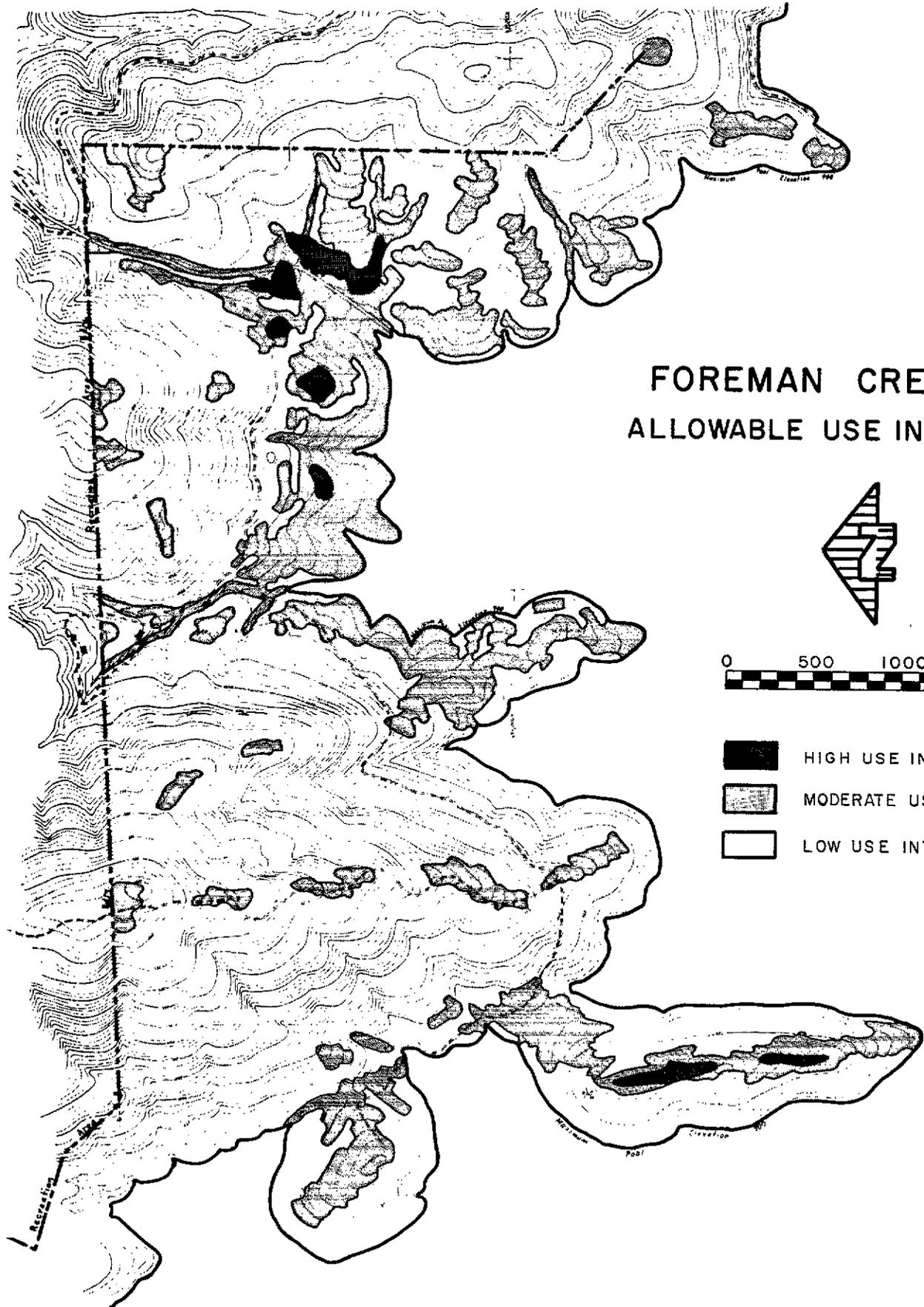


-  HIGH USE INTENSITY
-  MODERATE USE INTENSITY
-  LOW USE INTENSITY

FOREMAN CREEK AREA ALLOWABLE USE INTENSITY MAP



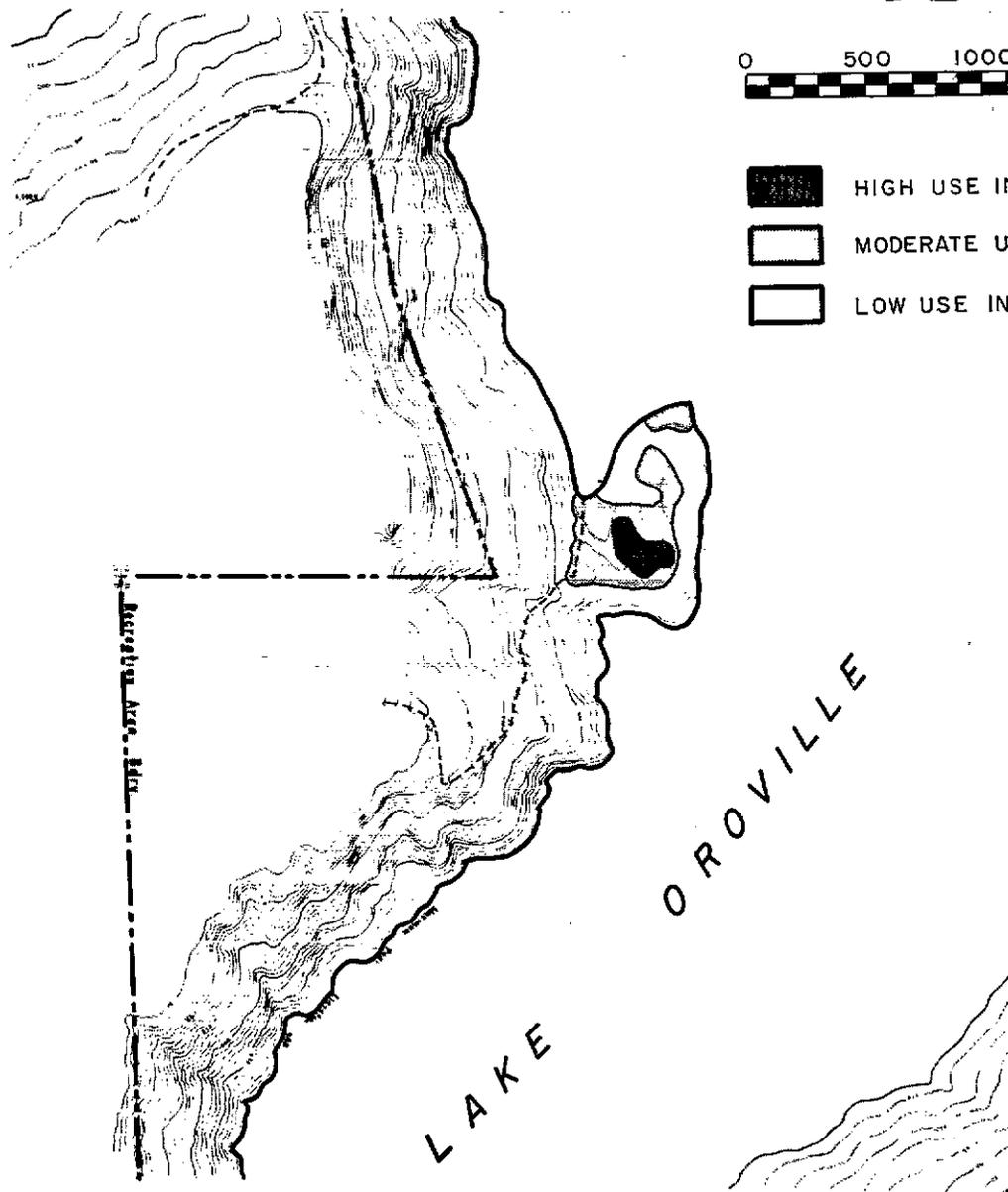
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-  MODERATE USE INTENSITY
-  LOW USE INTENSITY



GOAT RANCH AREA ALLOWABLE USE INTENSITY MAP



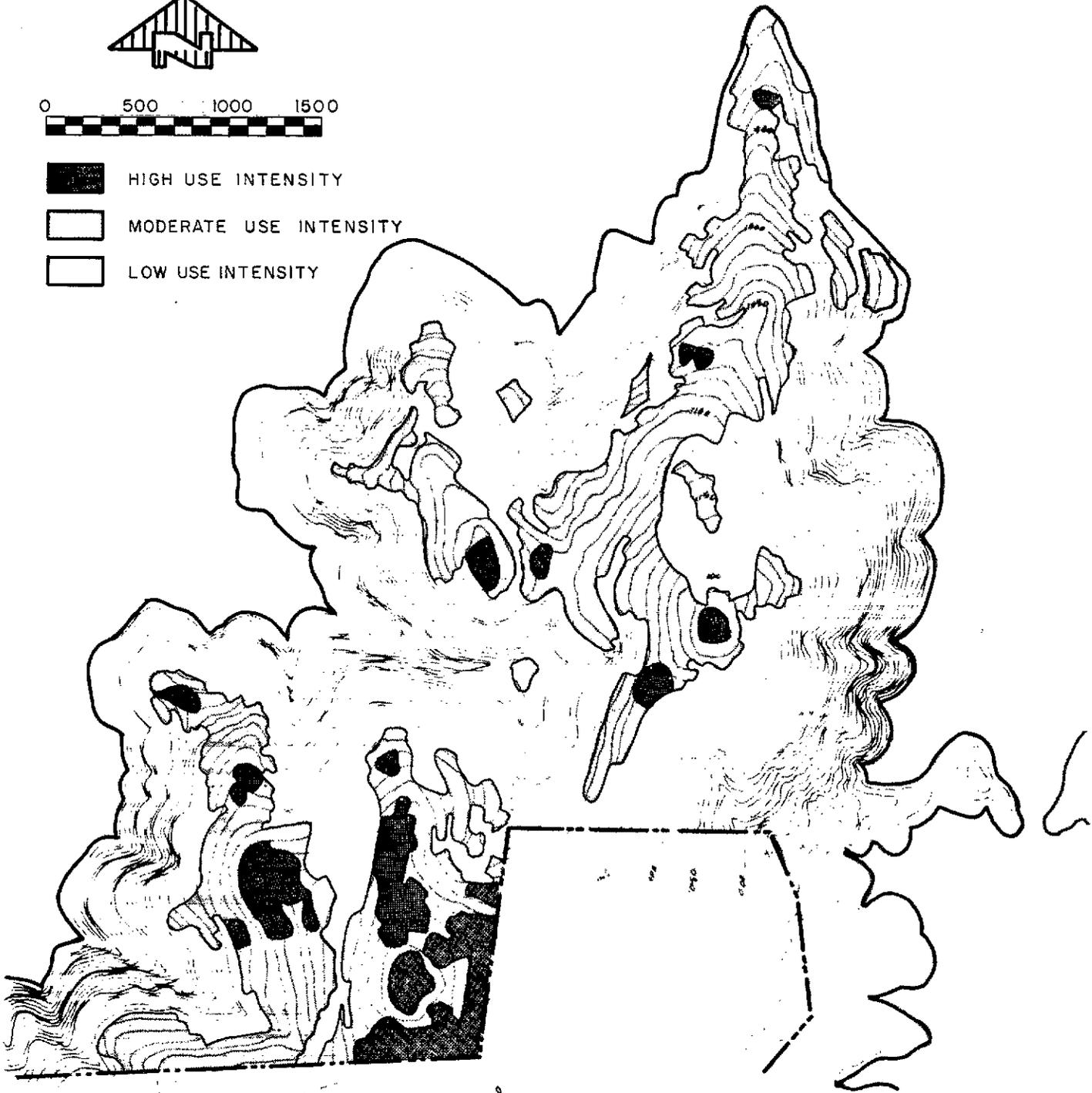
-  HIGH USE INTENSITY
-  MODERATE USE INTENSITY
-  LOW USE INTENSITY



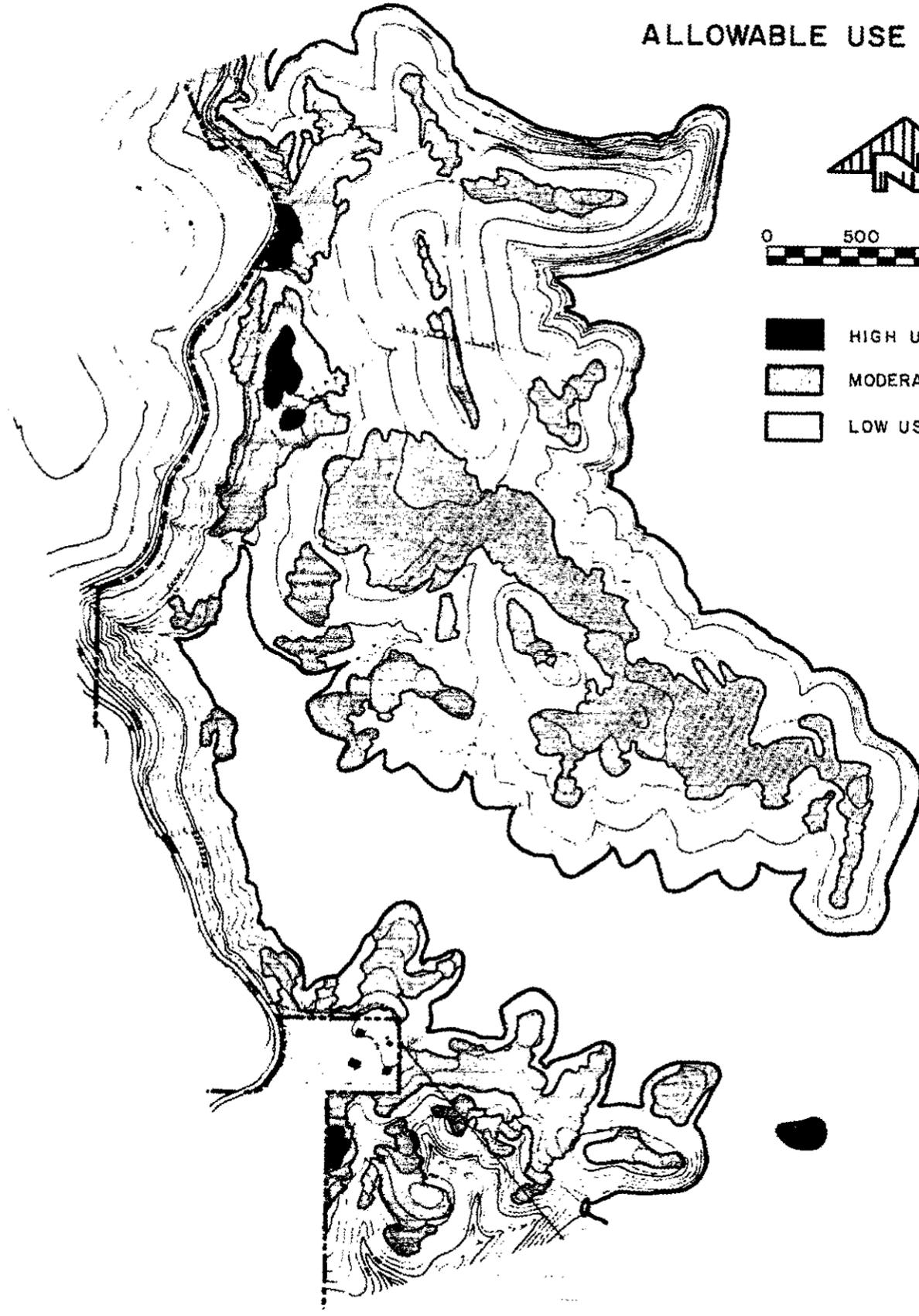
KELLY RIDGE AREA ALLOWABLE USE INTENSITY MAP



-  HIGH USE INTENSITY
-  MODERATE USE INTENSITY
-  LOW USE INTENSITY

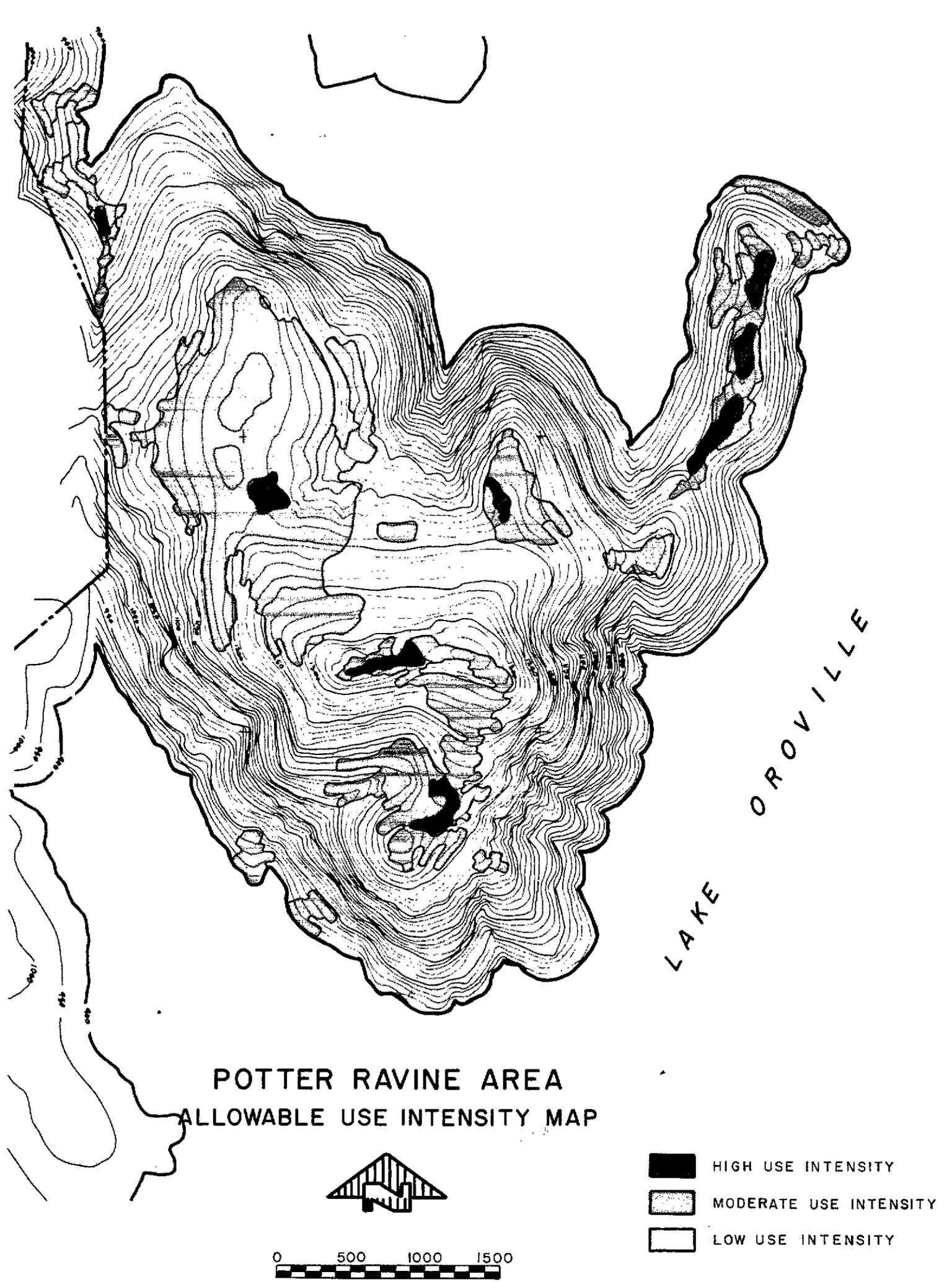


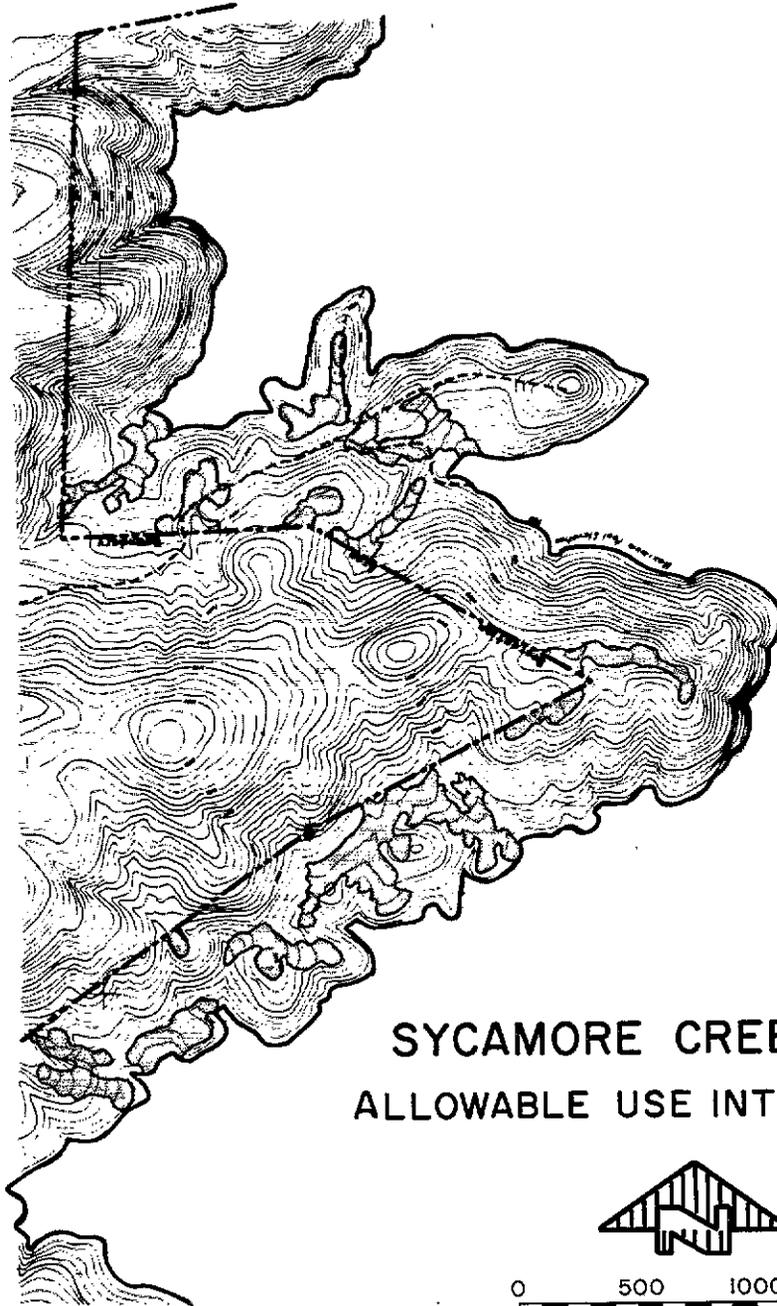
LIME SADDLE AREA
ALLOWABLE USE INTENSITY MAP



0 500 1000 1500

-  HIGH USE INTENSITY
-  MODERATE USE INTENSITY
-  LOW USE INTENSITY





SYCAMORE CREEK AREA
ALLOWABLE USE INTENSITY MAP

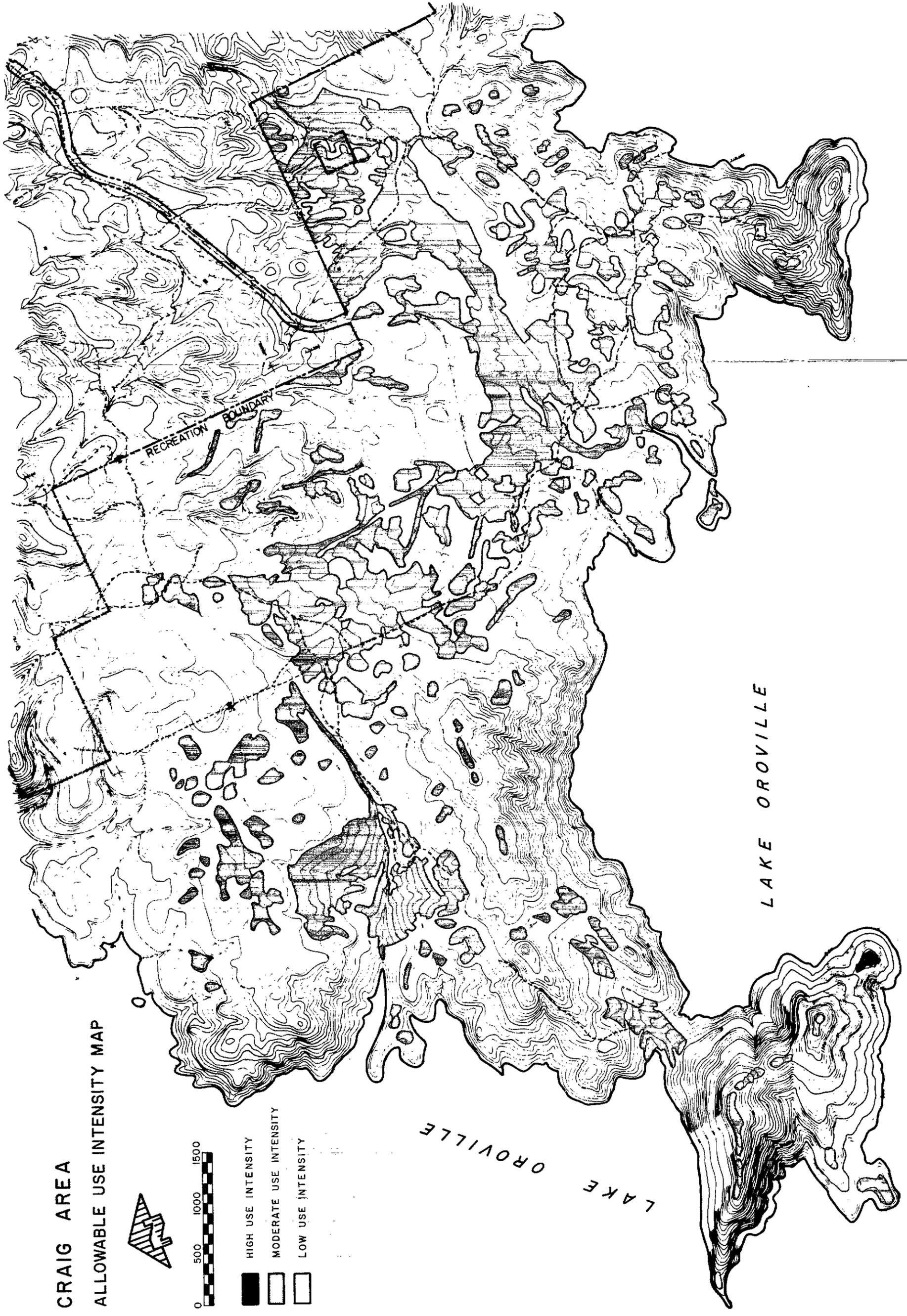


-  HIGH USE INTENSITY
-  MODERATE USE INTENSITY
-  LOW USE INTENSITY

CRAIG AREA
ALLOWABLE USE INTENSITY MAP



-  HIGH USE INTENSITY
-  MODERATE USE INTENSITY
-  LOW USE INTENSITY





LOAFER CREEK AREA
ALLOWABLE USE INTENSITY MAP

Chapter III
RESOURCE MANAGEMENT PLAN

I. Unit Name and Classification

Lake Oroville State Recreation Area

II. Landscape Province

This unit is located almost entirely within the Foothills and Low Coastal Mountains Landscape Province. However, it also embraces small portions of the Great Valley Landscape Province and the Sierra Nevada Landscape Province.

III. Ecological Region

A. The unit is located in the northern Sierra Nevada foothills and the extreme eastern edge of the Great Valley

B. Evaluation

1. Ecological History

In prehistoric times, as at present, this unit covered a varied landscape that extends from the valley grasslands to the foothill woodlands of the Sierra Nevada and, in the higher portions, to the forest zone or the lower edge of the main timber belt of the Sierra Nevada. Man has made many changes in the landscape and in habitat conditions, but the major vegetative types, associations, and distributions of today are essentially the same as those of the past.

2. Ecological Significance

The unit is a fairly typical example of the ecological values within the Foothills and Low Coastal Mountains Province.

3. Geological Significance

The North Fork and Middle Fork canyons of the Feather River system are included within this unit. A principal tributary joins each of these canyons within the unit.

Bald Rock Canyon, one of the major glaciated canyons of the northern Sierra Nevada, lies on the Middle Fork of the Feather River immediately east of the unit's boundary and within the Plumas National Forest. Just outside the unit is Feather Falls, the highest waterfall in California outside of Yosemite National Park. The Middle Fork region is therefore of considerable geologic and scenic interest. Although these features are outside the unit, Oroville Reservoir makes them much more easily accessible than they were in the past.

4. Cultural Significance

The Feather River was a valuable resource for early California Indians. Prehistoric sites have been located by archeologists in many parts of the unit, and several such sites were excavated within the reservoir zone before Lake Oroville was filled with water. Others are within the unit boundary and outside the high water line of the reservoir. The region also contains historic sites associated primarily with the California Gold Rush.

IV. Ecological Entity

A. Analysis

Refer to the accompanying resource analysis (Chapter II) for Lake Oroville State Recreation Area.

B. Summary of Conclusions

The natural values at Lake Oroville provide an outstanding setting for the recreational activities associated with a large body of water. At this time there are no known natural values that warrant special preservation or the establishment of natural preserves. However, if such values should be recognized and identified in the future, appropriate action must then be taken to preserve them.

Cultural values, when located and identified, must be individually evaluated. When significant values are found, a study must be made to determine whether they should be preserved in their present condition, excavated to recover their archeological values, or reconstructed to afford historical interpretation to visitors.

V. Long-Range Management Objectives

Under the provisions of the Davis-Dolwig Act of 1961, recreational facilities constructed in connection with the State Water Project are "recreational areas" (Sec. 11919, Water Code). The State Park and Recreation Commission classified the land controlled by the Department of Parks and Recreation at Lake Oroville as a state recreation area under Section 5001.5, Public Resources Code. Management principles for state recreation areas and the resources within them are set forth in the resource management directives of the Department.

VI. Declaration of Unit Purpose

The purpose of Lake Oroville State Recreation Area is to perpetuate, enhance, and make available to the public the recreational opportunities afforded by Lake Oroville, Thermalito Forebay, and adjacent land and water areas and to protect all environmental amenities so that they make an optimum contribution to public enjoyment of the area.

VII. Declaration of Management Policy

The lands and resources at Lake Oroville State Recreation Area shall be managed so as to make an optimum contribution to the enjoyment of recreational opportunities and facilities in a natural or quasi-natural environment. Landscape values and vegetation elements shall be protected against scarring and degradation to the fullest practicable extent and shall be enhanced to improve the recreational environment whenever and wherever possible. Hunting may be permitted if time or space zoning can afford adequate safety. Cultural values shall either be adequately protected or fully recovered under professional direction.

**Chapter IV
GENERAL DEVELOPMENT PLAN**

Need

Lake Oroville is located within the one-to-two-hour travel time zone of the Sacramento metropolitan area and within the two-to-four travel-time zone of the San Francisco metropolitan complex (Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Solano counties) and the Stockton metropolitan area. The projected populations of these metropolitan centers are as follows:¹

	1970	1980	1990
San Francisco-San Jose-Oakland metropolitan complex	4,358,300	5,104,000	6,039,000
Sacramento metropolitan area	634,800	740,500	865,300
Stockton metropolitan area	291,400	340,100	393,500

¹Department of Finance, September, 1971.

The recreation demand of the residents of these metropolitan areas is increasing faster than the population growth. For example, while the population of the Sacramento metropolitan area is expected to increase approximately 36 percent between 1970 and 1990, the recreation demand of its residents is expected to increase 45 percent or 1.26 times the population growth during the 20-year period.

The new facilities needed from all suppliers to meet the existing and future recreation demands of these metropolitan areas within their respective travel time zones from Lake Oroville are as follows:

	1970	1980	2000
One-to-two-hour-travel-time zone			
Sacramento metropolitan area			
Camp units	346	366	736
Picnic units	142	262	592
Marina slips	179	309	689
Boat access parking spaces	78	138	308
	1970	1980	2000
Two-to-four-hour-travel-time-zone			
San Francisco metropolitan complex			
Camp units	16	236	3,306
Picnic units	340	810	2,810
Marina slips	-	242	2,322

Lake Oroville will also be a vacation destination in the over-four-hour travel time zones of the other metropolitan centers. As an indication of the use that can be anticipated, Lake Oroville SRA, with existing developments, received over 724,435 visits during the 1971-72 fiscal year. Lake Oroville has areas with potential for high-density recreation development to meet the high demand for water-oriented recreation areas.

Planned Development

The diversified resource base at Lake Oroville makes it possible to provide types of facilities that will allow a wide variety of recreation choice.

The downstream or Thermalito features of the Oroville complex lend themselves to day-use water-oriented recreation features. Development will provide for such uses as swimming, picnicking, fishing, water sports, and, in the case of the Oroville Wildlife Area, hunting. The open, treeless character of this area permits extensive recreation development.

The lake itself will be developed with extensive water-oriented facilities, such as boat ramps, marinas, and swimming beaches, which will be provided at strategic locations to maximize the activities that this lake can support. An orientation-interpretation program is planned with facilities at locations of anticipated heavy visitor use.

Concession contracts have been approved that will provide facilities to supply the following public services: gift shops, restaurants, snack bars, lodge and cabin units, and marinas. Some of these facilities are presently in use. All of these developments have been planned in a manner that will ensure protection of the area's natural features.

For planning purposes, a number of areas around Lake Oroville have been designated as recreation areas. Of these, Kelly Ridge-Bidwell Canyon, Loafer Creek, the Spillway Boat Ramp, and Lime Saddle were chosen for initial development. These areas were selected because of their proximity to users, ease of access, and good developable lands.

The central headquarters and service facilities for Lake Oroville SRA will be located at the Glen Drive Administrative Complex.

The Enterprise, Dark Canyon, Vinton Gulch, Stringtown, and Nelson Bar Boat Launching areas are new recreation site proposals. These sites will utilize stub roads that once served areas now covered by the lake.

Boat-in camping areas have been constructed at Goat Ranch Primitive Area, Bloomer Primitive Area, Craig Area, and Foreman Point. These facilities will be expanded, and additional boat-in facilities will be constructed at Sycamore Creek Primitive Area, Foreman Island, and Bloomer Island some time in the future.

Preliminary studies have been made to determine the uses of the Craig, Foreman Creek, Potter Ravine, and Feather Falls Scenic areas.

Recreation developments are also planned for the Thermalito offstream storage area. Recreation facilities at Thermalito Forebay will be primarily day-use oriented. The Thermalito Diversion Pool has recreation potential but plans for this area have not yet been finalized. The Thermalito Afterbay's primary function is to provide regulation of power flows and storage area for pump-back power operations. Its water surface will be subject to considerable fluctuation, thus reducing the recreation potential of the area.

Kelly Ridge-Bidwell Canyon Area

The Kelly Ridge-Bidwell Canyon area is approximately five miles northeast of the City of Oroville near the left abutment of Oroville Dam. Kelly Ridge is a promontory of land that extends into Lake Oroville. The Dam is on its west side, and Bidwell Canyon is on its east side.

The Kelly Ridge-Bidwell Canyon area is the location of an extensive concession complex. The state has provided basic recreation facilities to supplement the concession development, including a seven-lane boat launching ramp and 300 car/trailer parking spaces. For the most part, future developments within the area will be concessionaire supplied.

Kelly Ridge, because of its proximity to Oroville Dam and the views it affords of the dam, the lake, and the surrounding countryside, was chosen as the site for a visitor center to interpret Lake Oroville and the State Water Project. The Department of Parks and Recreation was responsible for the design of the visitor center and will be its operator. The Department of Water Resources is participating in funding the construction and operation of this facility. It has become a focal point for visitors to the Lake Oroville State Recreation Area.

The visitor center building is oriented to take advantage of the views that this prominent vantage point provides. Site work was kept to a minimum to preserve rock outcroppings, trees, and other natural features wherever possible. Architecturally, the building is in harmony with its setting.

Exhibit space in the structure will provide for the interpretation of the State Water Project by the Department of Water Resources and of the historic and scenic amenities by the Department of Parks and Recreation. Parking space for 144 cars has been provided with room for expansion.

The historic artifacts that were removed from the old Curry-Bidwell Bar State Park, which was inundated by Lake Oroville, are to be relocated in the Bidwell Canyon area. This is with the exception of the Mother Orange Tree, which will remain at its present location next to the Glen Drive Administrative Complex. The other artifacts consist of the old Bidwell Bar Bridge and Toll House. Several alternate sites were suggested for these items, but the Bidwell Canyon area was chosen for four reasons: (1) it is near their original location; (2) it contains a body of water the bridge can span; (3) it is within a major public use area; and (4) it offers ideal construction conditions. The Department of Water Resources will relocate these artifacts.

The concession operation at the Kelly Ridge-Bidwell Canyon area is being developed by the Fun Time Full Time, Inc., under a 40-year contract (beginning September 15, 1969) plus a ten-year extension under terms mutually agreeable to both the state and the concessionaire. This concessionaire will play a major role in offering essential services and facilities for public use.

To augment the Kelly Ridge Visitor Center and provide for public participation in the many recreation features of the Oroville project, some mode of transportation is to be incorporated into the visitor complex. This facility will be concession operated and will operate from the Dam Switchyard and Powerhouse area up to Kelly Ridge and through the Bidwell Canyon area.

A snack bar and gift shop have been incorporated into the visitor center. A proposed lodge facility will provide approximately 20 units, parking, a restaurant and coffee shop, and cabin developments. There are also provisions for a conference center in the same vicinity.

A major concession facility at Bidwell Canyon is a marina. Services provided by this marina include boat slips, a boat fueling station, a marina sewage pump-out facility, and the attendant land-based needs of parking spaces and dry boat storage spaces. The dry boat storage area is a secured area with visual screening. A sales and repair area will be provided at a future time.

Near the marina is a grocery store, a snack bar, and a laundry and parking complex designed primarily for the marina users, park users with recreational vehicles, and fishing enthusiasts.

An existing recreational vehicle camp caters to the needs of the segment of the camping public that desires utility hookups and a more extended stay than is permitted at state-operated campgrounds on the reservoir. The trailer sites relate to the terrain and are adequately spaced for privacy. Underground utilities are provided at each trailer site and include water, sewerage, and electrical hookups.

The facilities provided at Kelly Ridge-Bidwell Canyon should be of a quality that will complement the natural scene and the experiences of the visitor. This quality must be reflected in all aspects of the area, from the aesthetic placement of the physical features on the ground to the services that they provide.

Loafer Creek Area

The Loafer Creek recreation development is located six miles east of Oroville on the Oroville-Quincy Road. It is envisioned as one of the major camping and day-use facilities at Lake Oroville because of its favorable terrain, tree cover, proximity to Oroville, and easy access.

An Immediate Public Use (IPU) facility of 33 campsites was built and used during the 1969 use season. Permanent sanitary and shower facilities and 104 Class A campsites were added for the 1970 use season. The Loafer Creek area will eventually contain approximately 600 family camp units and 50+ primitive trailside camps. Group camping will also be provided and will include 15 group camps (25 persons each). The group camp areas will be designed so that three of them can be combined to accommodate a group of 75 persons. There are also plans for a caravan trailer camp with a capacity of 30 car/trailer spaces and a campfire center.

A beach of approximately 1,000 linear feet has been developed, along with 100 picnic sites, a 250-car parking area, and an irrigated lawn area. An additional 500 picnic sites and 600 parking spaces, along with further beach development, are anticipated at a future date.

There is a seven-lane boat launching facility and a 160-space car/trailer parking area. A small marina facility can be provided if the demand for such a facility becomes apparent.

Concession facilities in the Loafer Creek area will also be developed by Fun Time Full Time, Inc. A camp store has been provided near the campground. Future concession facilities will include a laundry, a post office, a beach snack bar, and an equestrian center. The equestrian center will include parking, a show arena, a corral, horse rentals, and boarding barns. Supplementing the equestrian center will be approximately 5¼ miles of riding and hiking trails.

Near the northern end of the Loafer Creek area is a service area that serves as a joint facility for the Department of Parks and Recreation, the Department of Fish and Game, and the Department of Water Resources. This facility will include a two-lane boat ramp (existing), a docking facility, and a land-based service center.

An important consideration in developing the Loafer Creek area is to keep from saturating it with too many facilities because of its abundance of developable terrain. If the state were to place as many facilities in this area as possible, the natural amenities of the area would, without a doubt, be destroyed by overuse.

Spillway Boat Launching Ramp

The spillway boat ramps are located in and adjacent to the approach channel to the emergency spillway.

The topography of this area is such that existing launching ramps and parking areas have been constructed at two levels to accommodate boaters during the seasonal large water surface fluctuations of the lake. The upper level has a contact station, 12 launching lanes, 600 car/trailer parking spaces, courtesy boat docks, and portable sanitary facilities. The lower stage provides eight launching lanes and 310 car/trailer parking spaces. A concession-operated marina is also located adjacent to this facility.

Future facilities contemplated at the spillway boat ramp are permanent sanitary facilities, a fish cleaning table, and some landscaping. The potential annual flooding of the area is a consideration in planning for development. The concessionaire is also contemplating further development of marina facilities.

Glen Drive Administrative Area

The Glen Drive administrative Complex is located 2¼ miles east of the City of Oroville and two miles southwest of Oroville Dam. This facility was built in 1963 to house the Department of Water Resources Project Headquarters for construction of the Oroville Dam, Powerplant, and Thermalito offstream features. After project completion, the facility was declared surplus to Water Resources' needs and was purchased by the Department of Parks and Recreation on July 1, 1971, to be used as headquarters for the Lake Oroville Area.

Facilities included in the 7¼-acre complex include an office building; a concrete and soil laboratory building, a vehicle maintenance building, two warehouse buildings, a comfort station, a parking lot, and a paved corporation yard enclosed with a chainlink fence. The Mother Orange Tree was transferred to this area from its former location in the inundated Curry-Bidwell Bar State Park.

Lime Saddle

The Lime Saddle recreation development is located on the West Branch Feather River arm of Lake Oroville two miles west of State Route 70 (the Feather River Highway), 15 miles north of the City of Oroville, 8 miles south of Paradise, and 17 miles east of Chico. Vegetative cover includes grasses, oaks, and brush, and the terrain is moderate to steep. Access is from the Pentz-Magalia Road, which is adjacent to the western boundary of the area. The area is characterized by two peninsulas projecting into Lake Oroville. The southern peninsula is the smaller of the two and lends itself to day-use development, while the larger northern peninsula is better suited to overnight uses.

The close proximity of the Lime Saddle area to Paradise, a community with a high percentage of retired residents, has had a heavy impact on this area. These retirees have considerable leisure time, and many are avid anglers and boaters. The City of Chico also has had an impact on the boating facilities in this area. Therefore, the first recreation developments to be constructed at Lime Saddle were the boating facilities on the southern peninsula. The two-lane launching ramp and 85-space car/trailer parking area, built in 1969, were used to capacity on many occasions. During the spring of 1972, the boating facility was expanded to its present size of five launching lanes and 205 car/trailer parking spaces. Additional facilities include restroom buildings, a small food concession building, and a marina with covered berthing for 143 boats and 153 mooring buoys. To the west of the boating facility will be a boat repair facility, picnic areas, and a graded beach. Rounding out the facilities on the southern peninsula will be an entrance station, a service yard, and a sewage treatment plant.

Under a 20-year agreement with the state, Butte County (Department of Public Works) constructed the initial facilities on the southern peninsula. This agreement assigned responsibility for the care, maintenance, development, operation, and control of this southern peninsula area to Butte County. On March 1, 1973, this responsibility was assigned to the state by mutual agreement of both parties. An agreement that had been made by Butte County with a concessionaire, California Community Developers, for the operation and maintenance of the southern peninsula was accepted by the state.

The northern peninsula can be reached from Lime Saddle Road, which joins the Pentz-Magalia Road one-half mile north of the entrance to the recreation developments on the southern peninsula. In addition to being much larger than the southern peninsula, the northern peninsula has considerable tree cover, which makes it a desirable camping area. Proposed overnight facilities consist of approximately 290 family camp units, two group camps, and a campfire circle. Hiking trails will provide access to the lake for campers who wish to fish from shore.

Enterprise Boat Launching Area

The Enterprise Boat Launching facility is located on the south fork arm of Lake Oroville approximately 11 miles east of the City of Oroville. Access is provided from the relocated Feather Falls County Road on the Old Enterprise-Feather Falls Road, which now terminates at the lake's edge.

The area will offer a safe and convenient boater access in the south fork area of the lake. Developments proposed include a two-lane concrete ramp, 50 car/trailer spaces, a self-adjusting courtesy dock, and a sanitary facility.

Limited Fishing Access Sites

There is a great need at Lake Oroville for limited fishing access sites, primarily for launching small cartop fishing boats and canoes. Areas that lend themselves to this type of limited development are those surrounding the termination points of former county roads at the lake's edge. Four such sites are Vinton Gulch, Nelson Bar, Dark Canyon, and Stringtown. Each site would have small parking areas along the existing road grade and a low-maintenance launching ramp built on the old road beds wherever possible. These sites would provide for the small boat owner a launching area close to desirable fishing spots in the outer arms of the lake. Such sites are also relatively safe launching areas for these users as they eliminate the wind and wave problems involved in crossing the main body of the lake to reach the larger, more fully developed launching facilities.

Bloomer Primitive Area and Bloomer Island

Bloomer Primitive Area is a primitive-style boat-in camping site eight miles north of the City of Oroville on the west side of the north fork arm of Lake Oroville. The relatively small developable acreage available for use here will be developed to retain its primitive characteristics. Facilities will not be elaborate and will be designed to satisfy the desire for a wilderness-type experience. Each site will have a table, a stove, and space to set up a tent. Sanitation facilities and a potable water supply will be provided nearby.

Bloomer Island, a small island off Bloomer Ravine, will be developed in a manner similar to Bloomer Primitive Area with primitive boat-in camps.

Goat Ranch Area

Goat Ranch is a primitive-style boat-in camping site ten miles north of the City of Oroville on the westerly bank of the north fork arm of the lake. The area for development is a relatively small (approximately five acres), flat peninsula projecting into Lake Oroville. At one time the area was used for goat ranching and thus its name. The vegetative cover is excellent with some very large oaks and ponderosa pines. The primitive characteristics can be retained by permitting boat access only to this small and somewhat isolated site.

The facilities at Goat Ranch will not be elaborate, but are designed to satisfy the desires of the boaters and adventuresome individuals who are looking for a wilderness and an "away-from-it-all" experience. Each campsite will have a table, a stove, and space to set up a tent. Sanitation facilities and a potable water supply will be provided nearby. A boat dock that adjusts to the lake level will provide safe docking for the area's users.

Sycamore Creek

Sycamore Creek, another primitive-type boat-in camping site, is nine miles northeast of the City of Oroville on the north side of the middle fork arm of the lake. In the early planning stages, this was to be one of the first boat-in camp areas. However, during the summer of 1966, a fire burned off much of the vegetative cover in the area, thus delaying development. The area still has development potential and, as the vegetative cover reestablishes itself, will become a very desirable boat-in camp area. Each campsite will have a table, a stove, and a tent site. Sanitation facilities and a potable water supply will be provided nearby.

Craig Area

The Craig Area is the largest of the recreation areas around Lake Oroville. It is located eight miles northeast of the City of Oroville at the confluence of the middle fork and the south fork arms of the lake. Access is from Oroville-Feather Falls Road (Lumpkin Road) by way of a 2¼-mile access corridor. A narrow dirt road, which is impassible during the wet winter months, provides access through this corridor.

The Craig Area is one of the more scenic areas around the lake. It contains two relatively large meadow-like areas and a fine vegetative cover consisting of oak, pine, fir, and cedar. The primary drainages are Oregon Gulch and Spring Hollow.

Most of the soil in the area is a coarse sandy loam that has been tentatively classified as "Modesty" by the U.S. Soil Conservation Service. This type of soil is highly susceptible to erosion and, when saturated with water, becomes quite spongy. This factor will limit developments that require extensive grading.

A small number of day-use facilities will be developed here. However, the major use anticipated for the Craig Area will be family and group camping. A primitive camping area for boat-in users has been developed in the Craig Saddle, which is near the western side of the Craig Area. The Craig Saddle has potential for expansion.

Foreman Creek and Foreman Island

The Foreman Creek area is approximately seven miles northeast of the City of Oroville along the north side of the main body of the lake. It is easily accessible from the Oro-Quincy Road (State Route 162) by way of the middle fork suspension bridge. The eastern portion of the area has a large, gently sloping, open meadow and topographically is one of the areas on Lake Oroville best suited to extensive beach development. For this reason, it is proposed that the area be developed as a large day-use/beach-oriented facility.

In contrast, the western portion of the area is heavily wooded and quite steep. Foreman Point projects into Lake Oroville here and contains some developable terrain that lends itself well to boat-in primitive camping. Some camps have been constructed with room for future expansion.

Foreman Island is located approximately three-quarters of a mile south of Foreman Point near the center of the main body of the lake. Its sparse vegetation consists of a few oak trees. The shoreline of the island is of a gradient that makes it quite easy to beach a boat there. This factor, plus its prominent location, has made the island a popular stopping place for boaters. It is suggested that this boat-in, day-use activity be continued and enhanced through the provision of sanitary facilities, a water supply, and picnic tables.

Potter Ravine

Potter Ravine is five miles northeast of Oroville and immediately north of Oroville Dam. Recreation facilities are not to be developed at this site during the first decade. The area will eventually be developed for overnight and day use.

Feather Falls Scenic Area

Feather Falls is the highest waterfall in California outside of Yosemite National Park. It is located in the western fringe of Plumas National Forest in the Feather Falls Scenic Area on Fall River one-half mile upstream from its confluence with the middle fork arm of Lake Oroville. The City of Oroville is 18 miles to the southwest, and Oroville Dam is 14 miles to the southwest.

The Feather Falls Scenic Area was established in the Plumas National Forest on April 2, 1965. The primary reason for its establishment was the preservation of its scenic qualities, foremost among which are the waterfalls and granite domes.

The general character of the area is rugged with deep canyons, waterfalls, vertical granite cliffs, massive domes and ridges, and rushing streams and rivers — all striking features in a relatively undisturbed natural setting. The plant cover is widely varied, from dry brush types to moisture-loving species.

Although Feather Falls is within the Feather Falls Scenic Area and therefore supervised by the U.S. Forest Service, the construction of Oroville Dam and the impoundment of Lake Oroville have had a powerful impact on this area. The once inaccessible, rough canyons are now navigable on reservoir reaches, and this attractive spot has become an accessible attraction for many thousands of people.

Lake Oroville at high pool (900 feet) backs upstream on the middle fork of the Feather River beyond its confluence with the Fall River. At average recreation low pool, the lake reaches a natural pool at the confluence of Frey Creek and the Middle Fork. This creates the possibility of moorings at high and low pool within easy hiking distance to Feather Falls and other nearby points of interest. Both high- and low-water mooring sites would have boat docking and sanitary facilities.

The U.S. Forest Service has active plans for the entire Feather Falls area; any state proposals should be coordinated with these plans. The U.S. Forest Service has developed a trail system at the top of the canyon. It would appear that the state's responsibility lies in developing a trail system to tie into these established USFS trails.

Houseboat Mooring Areas

The large surface area and long scenic reservoir reaches of Lake Oroville are attractive to houseboat owners. Many crafts of this type are now moored in lakeside marinas, and their increasing numbers have created a demand for overnight houseboat mooring areas. The five areas around the lake that have been selected for this type of use offer maximum shelter in attractive natural settings. They are Woodman Ravine on the south side of the south fork about four miles east of the dam; Sycamore Cove on the north side of the middle fork about five miles northeast of the dam; Bloomer Ravine up the slot on the east side about seven miles north of the dam; French Creek on the east side of the north fork about twelve miles northeast of the dam; and Spring Valley on the south side of the west branch about nine miles north of the dam. These sites are identified by buoys, and each will feature a floating restroom facility within the area. Public demand may make it necessary to make houseboats available for rent by a concessionaire.

Thermalito Forebay

Thermalito Forebay is an off-stream body of water of the Oroville project located two miles northwest of the City of Oroville, adjacent to State Highway 70. The 600-acre reservoir surface is divided into a north and south forebay by the Nelson Avenue bridge crossing. This division has made it possible to separate conflicting uses such as water skiing and sailing. Only nonpower boating is permitted in the north forebay, while power boating and water skiing are confined to the south forebay. The southeastern shoreline is formed by a manmade dike, while the northwestern shore conforms to the surrounding rolling terrain. Access to both forebays is from Highway 70. The Garden Drive exit provides access to the north forebay, and the Grand Avenue exit provides access to the south forebay.

The major developments in the north forebay focus on a small lagoon of approximately 14 acres near the northeast end of the lake. Because this lagoon is relatively shallow and is separated from the main water flow coming down the power canal from the diversion pool, the water temperature in the lagoon is warm and favorable for swimming. This lagoon area, known as the north area, is envisioned primarily as a day-use development, except for some concession-operated overnight accommodations. There is a swimming beach of approximately 700 linear feet complete with comfort station-dressing rooms, 25 picnic units (some with shade ramadas), a 195-car parking area, and approximately 4½ acres of irrigated lawn. The lagoon also features a contact station, an access road, and a two-lane boat ramp with a 140-car parking area. Additional picnic sites, turf, parking, and further beach development are anticipated at a future date. Concession developments will play a major role in the future of this area and will include a pitch-and-putt golf course, a lodge, cabins, a cluster trailer camp, a snack bar, a restaurant, a small marina, and parking facilities.

Another area with development potential on the north forebay is known as the central area. The facilities in the central – beach and turf areas, picnic units, and parking – will complement the facilities available in the north area. Access will be provided by extending the road that now serves the north area.

Recreational developments in the south forebay are located at the southern end of the lake a short distance from the Thermalito Power Plant. Facilities in the south area will be designed for day use with emphasis on boating. At present there is a four-lane boat ramp with an unimproved (gravel) parking lot for 100 cars. Future boating accommodations will include improvement and expansion of the parking facilities and a marina for boat storage, rentals, and gas. Complementing the boating facilities will be a small beach, picnic units, parking, and turf play fields. A service area with a maintenance building, storage area, and employee trailer pads will be located in the southeastern corner of the area.

Because of the open, treeless nature of the forebay, all recreation areas will require a tree planting and maintenance program.

Thermalito Diversion Pool

The Thermalito Diversion Pool, a unit of the Oroville complex, is the first body of water downstream from the Oroville Dam. It is a small reservoir that diverts water from the Feather River into the Power Canal and Thermalito Forebay. The Feather River flows over the Diversion Dam, then over the Fish Barrier Dam, next past the City of Oroville, and finally on downstream to its confluence with the Sacramento River.

The diversion pool was not included in the initial recreation plans for the Lake Oroville State Recreation Area. Bulletin 117-6, the Oroville Recreation Report, published in December, 1966, by the Department of Water Resources states, "The recreation potential is so limited that it is considered economically unfeasible to provide recreation facilities because of the narrow, rocky, restricted nature of Feather River's channel below the dam." However, a more critical look at the pool's features reveals that there are positive recreation elements in this area.

Water features are extremely attractive to the recreationist. The diversion pool is some four miles long, stretching from the base of Oroville Dam to the Thermalito Diversion Dam and ranging from 200 to 1,000 feet in width. It has approximately 330 surface acres and a shoreline of about ten miles at a surface elevation of 225 feet. During normal power generation and pump-back operations, the pool will fluctuate between 222 and 225 feet. Summer water temperatures in the main lake range from 58 to 68°F. However, in the canyons and ponding areas that are out of the flow of the main pool, the water temperatures are somewhat warmer.

While the area surrounding the diversion pool is fairly steep, it does feature a few gently sloping areas, two of which support ponds with considerable recreation potential.

There are excellent access routes to the Thermalito Diversion Pool. Access to the north and west sides of the pool is from Oro-Concow Road and the Oregon Gulch Road, respectively, and the existing dirt feeder roads. There is also a gravel construction road that runs alongside the pool. On the south and east sides, the main approach is from Oroville Dam Boulevard. The California Riding and Hiking Trail, which follows the pool on its way to the Upper Overlook at Oroville Dam, provides trail access.

If the surrounding area is properly developed, this pool should enjoy heavy recreation use, primarily because of its proximity to the City of Oroville. With the continued growth of this city, the value of the diversion pool as a recreation resource and as a greenbelt-waterway buffer zone will become apparent. The location of the pool in relation to the entire Oroville project is also important: many potential users pass the area in traveling to the main reservoir.

The diversion pool also has important historic and archeological values. If these cultural sites are properly researched and interpreted, they can relate the story of the Indians, gold miners, and early settlers who lived in this region.

These elements point to a strong potential for a water-oriented greenbelt park along the shores of the diversion pool with recreation and interpretive activities.

On November 23, 1972, the State Department of Water Resources transferred possession and control of the diversion pool area to the State Department of Parks and Recreation.

Thermalito Afterbay

Thermalito Afterbay is an offstream body of water of the Oroville project located approximately seven miles west of the City of Oroville. Access to the area is provided by State Highway 162, which runs east and west and crosses the reservoir, and by State Highway 99 (Shippee Road), which runs north and south adjacent to the western shoreline of the reservoir.

The primary functions of this body of water are regulation of power flows and provision of water storage area for pump-back power operations and a warming basin for agricultural water (primarily for irrigation of rice fields). Recreation will be limited in accordance with operation of the water body for State Water Project purposes. During project operation, the water surface is subject to weekly fluctuation, especially during the recreation season. The average high-water elevation is about 132 feet with a potential maximum elevation of 136.5 feet. It is anticipated, however, that this 136.5 foot pool will seldom if ever be reached. The low-water or minimum pool elevation is 123 feet. The highest surface elevations occur during the months of September and October with somewhat lower pools during the normal recreation season of June through August. Water surface elevations also vary from year to year depending on weather conditions.

Other than the water fluctuation, factors that may have an effect on recreation at the afterbay are the exposed muddy shoreline; a highway (State Route 162) across the water surface; the type of fishery that the Department of Fish and Game is able to establish; and the proximity of the afterbay to extensive developments at Lake Oroville and the Thermalito Forebay. One possible recreational use that would not be too much affected by the aforementioned problems is waterfowl hunting.

The afterbay area with the highest recreation potential is known as Larkin Cove. The configuration of Larkin Cove would make it possible to install control gates to create a separate body of water in which a controlled water surface elevation could be maintained. This would minimize the adverse conditions created by the frequent water fluctuations. Two objections to the concept of a controlled lagoon have been expressed. One is that by damming the cove, the storage capacity of the afterbay would be reduced, thereby limiting the water supply that would be needed during critical dry periods to meet power demands. The second objection is that the increased water temperatures of isolated shallow water areas would encourage nutrient buildup and biological growth, such as algae, thereby adversely affecting the recreational desirability of the swimming lagoon.

Developments envisioned in the Larkin Cove area would be in support of the primary activity of swimming. A sandy beach would be available with parking areas, picnic units, lifeguard facilities, sanitary facilities, and dressing rooms. Because of the area's lack of tree cover, a tree planting and maintenance program would be required.

A boating facility could be provided to the west of the Larkin Cove development on one of the peninsulas that helps form the cove. This facility would provide a boat ramp, car/trailer parking space, sanitary facilities, and a fish cleaning table. It would be necessary to dredge a channel to provide water access from the boat ramp at the minimum pool elevation of 123 feet.

Another area on the afterbay in which development could take place is the Drake Island area to the south of Larkin Cove. Facilities envisioned for this area are parking space, picnic units, and sanitary facilities. A tree planting program would also be undertaken.

Recreation development for the afterbay should be deferred until similar facilities on Lake Oroville and the Thermalito Forebay have been installed and recreation demand and use patterns evaluated. When the demand for facilities at the afterbay has been established, the initial development should be the creation of the Larkin Cove swimming lagoon and the construction of the boat ramp with its car/trailer parking area.

Oroville Wildlife Area

The Oroville wildlife area stretches for 9½ miles along the banks of the Feather River starting approximately two miles below the City of Oroville. Prior to acquisition by the state, this area contained extensive dredger tailings of rock, sand, and gravel displaying the effects of half a century of gold mining activity. The State Department of Water Resources acquired approximately 5,700

acres of this land to obtain fill material to construct Oroville Dam. It was recognized that after removal of the dredger tailings, this reclaimed riverbed land would be valuable for fish and wildlife enhancement and recreation. Approximately 200 acres have been returned to Butte County. The remaining 5,500 acres will be retained in state ownership for fish and wildlife enhancement purposes and recreation under the administration of the State Department of Fish and Game. The area is readily accessible from Oroville Dam Boulevard (State Highway 162) on the north, State Highway 99 and Larkin Road on the west, and State Highway 70 and Pacific Heights Road on the east.

Fishing, hunting, nature study and river-associated recreation are the primary activities for visitors to the wildlife area. Permanent facilities have not been constructed; however, the area is open to the public and, in 1971 alone, attracted approximately 38,000 visitors. Because of possible inundation, a low-density development of basic public use facilities is desirable for the wildlife area.

One area that does not lend itself to the activities mentioned is the 350-acre Impervious Borrow Area, although this deep hole with its clay banks could be used as a shotgun and archery range.

An excellent plan for the development of the Oroville Wildlife Area is the subject of Bulletin 117-18, entitled "Oroville Borrow Area," dated June, 1968, and published by the Department of Water Resources. The report was prepared through the combined efforts of the departments of Water Resources, Fish and Game, and Parks and Recreation.

Feather River Fish Hatchery

When Oroville Dam was constructed, many miles of spawning grounds were made inaccessible to salmon and steelhead. Studies by the departments of Fish and Game and Water Resources and the U.S. Fish and Wildlife Service showed that a hatchery was required to compensate for this loss. The Department of Water Resources, with advice and assistance from the Department of Fish and Game and other agencies, constructed the Feather River Fish Hatchery. Parking areas and restroom facilities are provided as well as a viewing platform near the barrier dam and fish ladder and a viewing chamber in which the visitor can watch the fish climbing the ladder to the hatchery. Large viewing windows in the hatchery building permit the visitor to observe the spawning process.

The Feather River Fish Hatchery was constructed to accommodate 9,000 adult salmon with a production capability of approximately 18 million eggs and 2,000 adult steelhead capable of producing 3½ million eggs. The Hatchery will play an important part in maintaining the sport fishery for salmon and steelhead in the Sacramento and Feather rivers and will contribute to commercial and sport catch in the Pacific Ocean.

Utilities

Water and Sewerage. There are several water and sewerage districts in the Lake Oroville area. The following districts presently serve various portions of the recreation area:

Water

Oroville-Wyandotte Irrigation District
Thermalito Irrigation District

Sewer

North Burbank Public Utility District

Additional districts may be available in the near future (e.g., the Lime Saddle Irrigation District). All possible efforts will be made to obtain services from existing and future districts as the development program for Oroville proceeds.

The following alternate sources will be considered for areas in which water districts are not available to satisfy the needs of development: lake water intakes, wells, development of springs, development of surface drainage impoundments, and trucking in of potable water. All water sources will receive the necessary treatment for health and safety purposes if this solution satisfies the health, welfare, and safety requirements.

The following alternatives will be considered for areas in which sewerage districts are not available: small package treatment facilities, pit or vault toilets, monomatic toilets, or chemical toilets. If leaching or land disposal of sewerage waste is not possible within economical limits, all waste will be collected and hauled to an acceptable location or facility. Ecological factors, as well as health, welfare, and safety requirements, will be considered in determining the most satisfactory sewage disposal method.

Power and telephone service. Power and telephone service are available to some portions of the Lake Oroville State Recreation Area. Wherever physically and economically feasible, existing overhead lines and lines to service new installations will be placed underground to minimize their impact. However, when overhead lines are judged environmentally acceptable, or when the cost to place these lines underground is prohibitive, it may be necessary to allow installation of overhead lines.

Natural gas. Natural gas utilities are not yet available to major portions of Lake Oroville State Recreation Area. In the interim, bottled gas will be used as required by the level of development. Extension of natural gas lines, will, of course, be contingent on public demand and on the economics involved in each case.

Protection of the Public

Police protection is provided by State Park System personnel, the Butte County Sheriff, the State Highway Patrol, and the Oroville City Police.

Water safety is the responsibility of the State Department of Parks and Recreation. The Department has three patrol boats assigned to Lake Oroville. The boats maintained on the lake by the departments of Water Resources and Fish and Game are also available for the protection of the public. The Coast Guard Auxiliary, a volunteer group with privately owned boats, is also available when needed.

Fire protection is provided by State Park System personnel, the California Division of Forestry, and the U.S. Forest Service.

First aid stations will be provided at all recreation area entrance stations and at the visitor center. All state park mobile vehicles and offices are equipped with first aid kits.

Vegetative Retention Areas

The natural vegetative cover has been retained below the high water surface elevation of 900 feet in 18 coves at Oroville Reservoir. This vegetation has been retained to preserve and enhance the environment for fish and wildlife by providing fish habitat, improving angling quality, and increasing habitat for water-associated birds. These vegetative retention areas generally occur within the normal fluctuation zone of the reservoir.

The fish shelter provided in these areas localizes fishing and at the same time helps to reduce conflicts between different recreation uses, such as fishing and high speed boating. In the interest of safety, boat speeds are limited to five miles per hour in these areas.

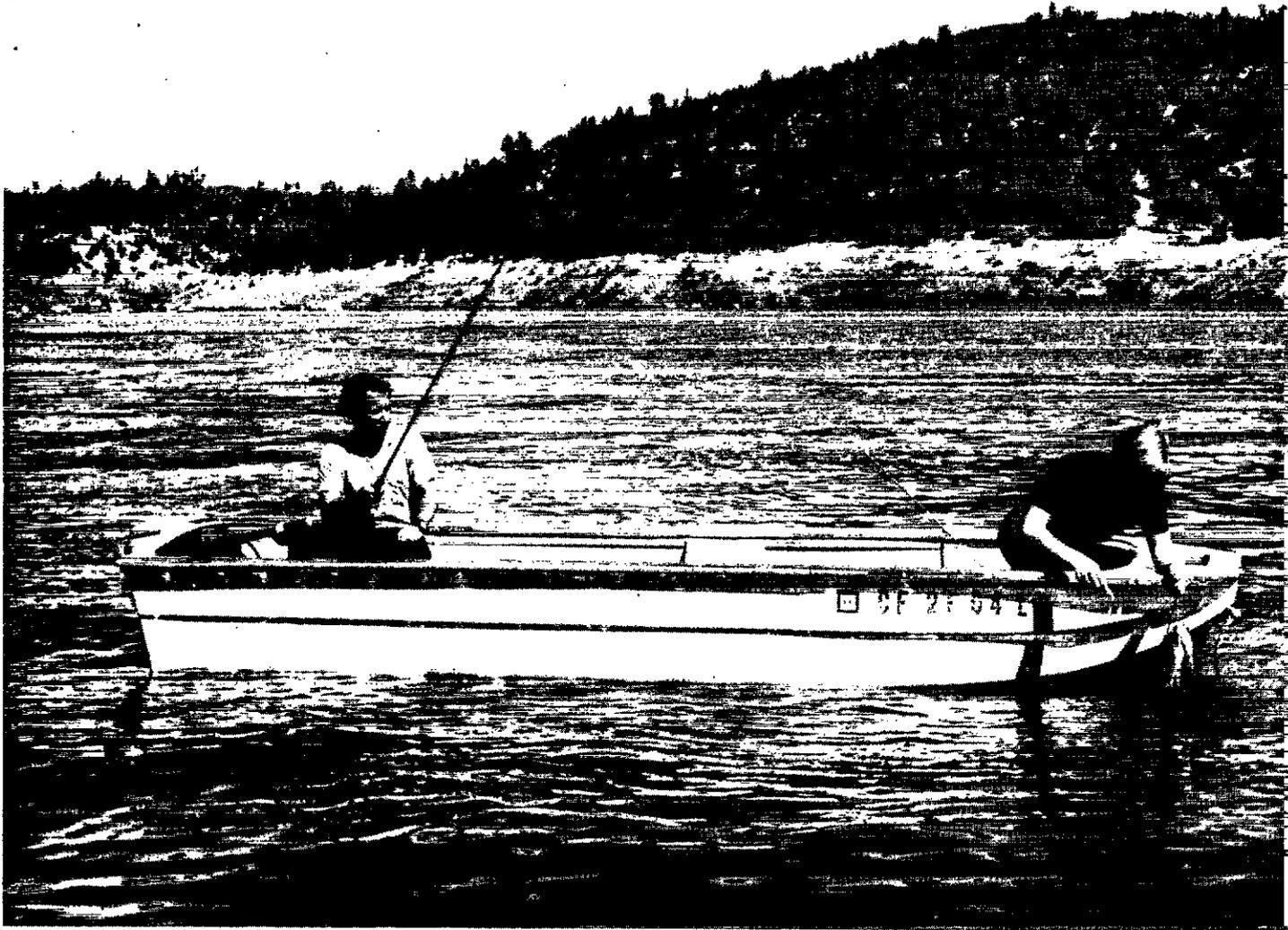
The vegetative retention areas are generally somewhat removed from recreation developments, scenic roads, and main highways so that the aesthetic enjoyment of the park visitor is not affected.

Transportation Features

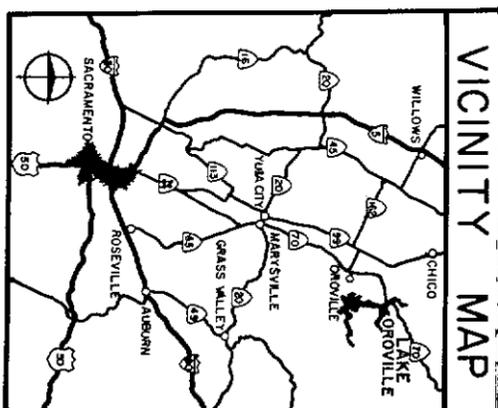
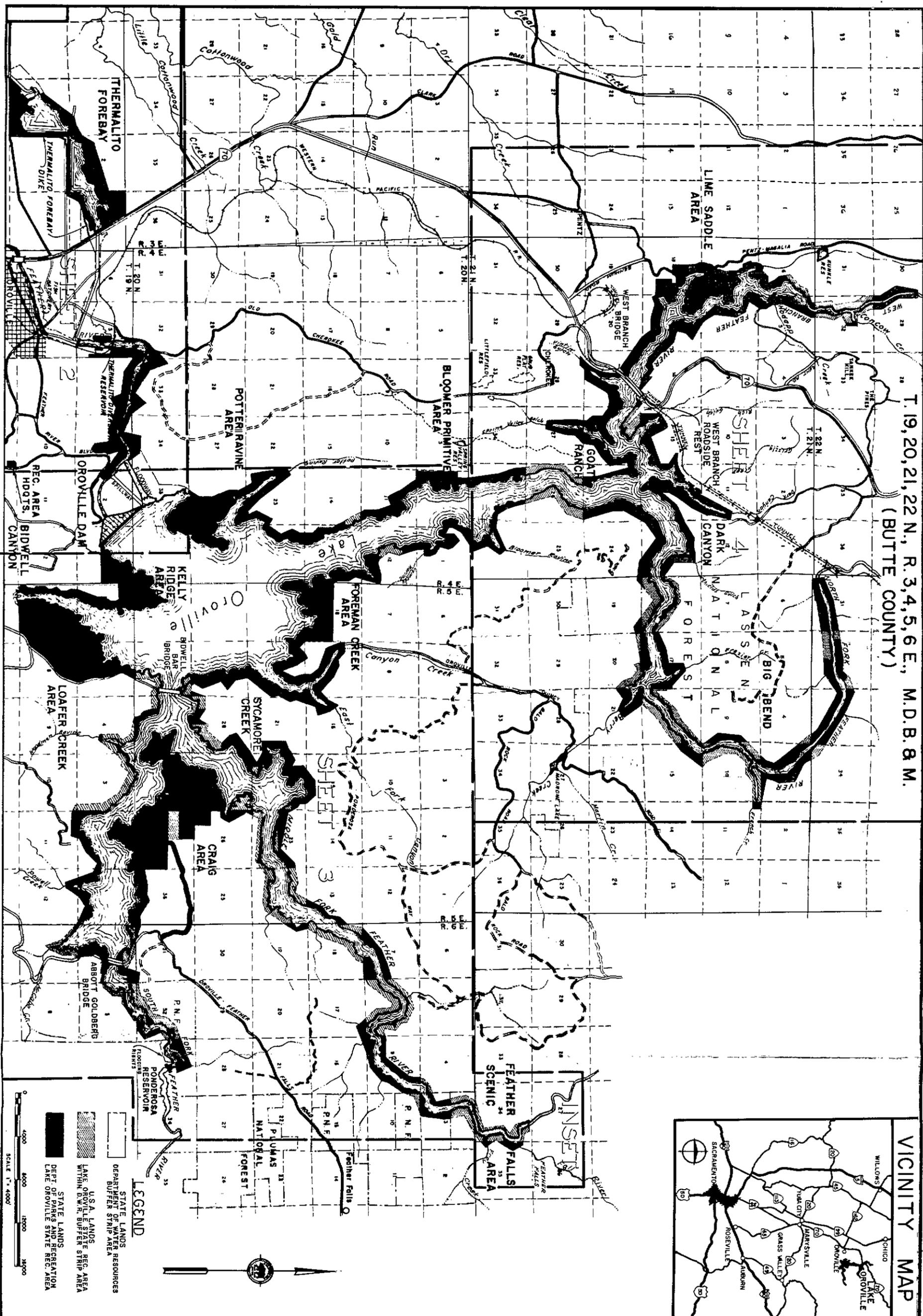
Numerous forms of public transportation have been considered to enhance the recreation experiences at Lake Oroville State Recreation Area. A trackless train is part of the concession agreement. It could transport visitors between the visitor's center, Bidwell Canyon area and the Oroville Dam Switchyard; it could even include such features as the Feather River Fish Hatchery during appropriate seasons.

At one time, there were plans to utilize the old Western Pacific Railroad as a scenic railroad connecting Lake Oroville, Thermalito Diversion Pool, the City of Oroville, the Oroville Airport, Thermalito Afterbay, and the Oroville Wildlife Area. This plan would go a long way in tying the Oroville complex together and making the many recreation features accessible to more people. Though the plan is not economically feasible at this time, it should be considered as a potential addition to the concession development at Lake Oroville State Recreation Area.

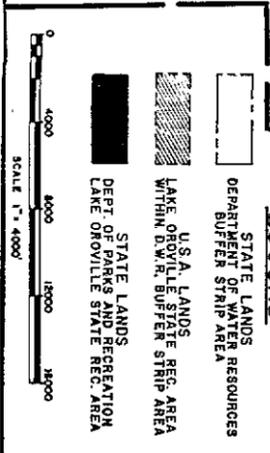
A mode of transportation that has been introduced is a concession-operated tour boat. This boat affords visitors access to many areas around the reservoir that are not readily accessible by land, such as the Feather Falls Scenic Area and primitive camping areas.



T. 19, 20, 21, 22 N., R. 3, 4, 5, 6 E., M.D.B. & M.
(BUTTE COUNTY)



VICINITY MAP



LEGEND

LAKE OROVILLE STATE RECREATION AREA
OWNERSHIP OF LAND & INDEX TO SHEETS
GENERAL DEVELOPMENT PLAN

RESOURCE AGENCY OF CALIFORNIA
DEPARTMENT OF PARKS AND RECREATION

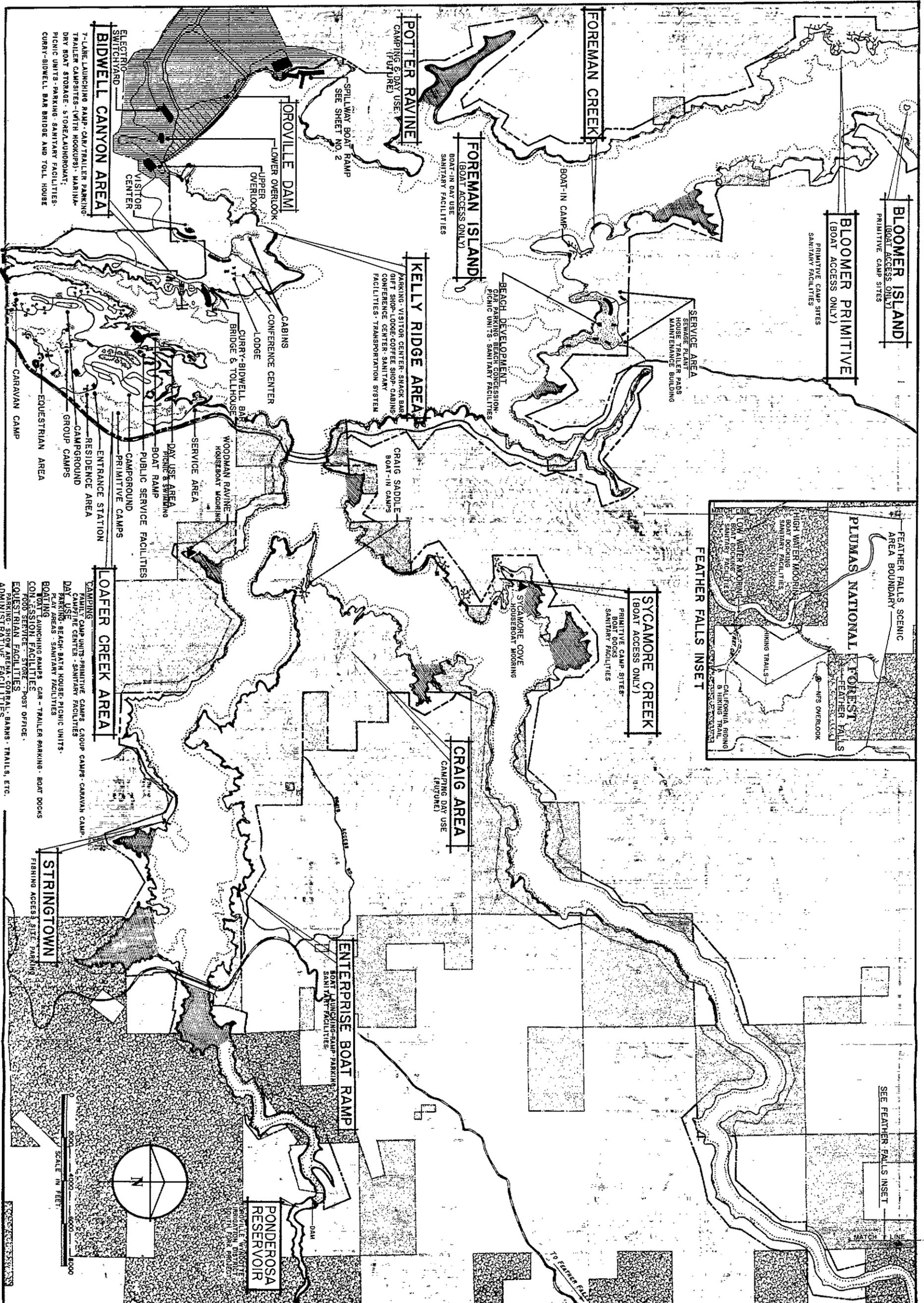
REVISIONS	DATE

DRAWN BY
M. C. JAMES
K. LARSON 5/1972

CHECKED
K. MITCHELL
6/1972

DRAWING NO.
9988

SHEET NO.
1 of 4



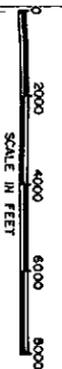
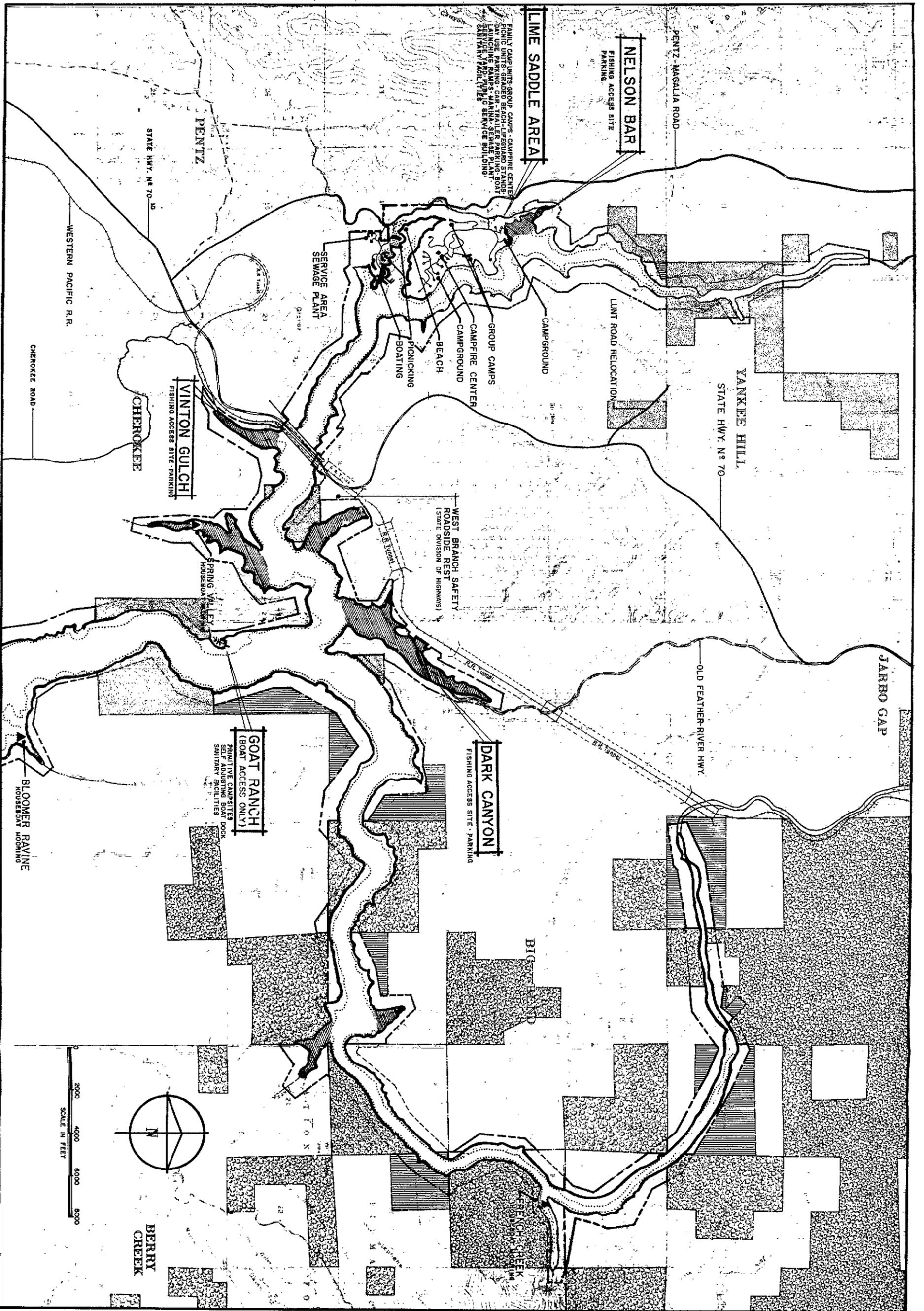
LAKE OROVILLE STATE RECREATION AREA
GENERAL DEVELOPMENT PLAN

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF PARKS AND RECREATION

DRAWING NO.
9988
SHEET NO.
3
or
4

APPROVED _____ DATE _____

REVISIONS	DATE	DESIGNED
PARK BOUNDARY UPDATED & PROPOSED DEVELOPMENT REVISED	M. LADSON MAY 1972	DRAWN R.M.O. 10-14-69 CHECKED K. MITCHELL APRIL 1972



LAKE OROVILLE STATE RECREATION AREA
GENERAL DEVELOPMENT PLAN

RESOURCES AGENCY OF CALIFORNIA
 DEPARTMENT OF PARKS AND RECREATION

REVISIONS
 PARK BOUNDARY UPDATED & PROPOSED DEVELOPMENT REVISED

DATE
 M.L. LARSON
 MAY 1972

DESIGNED
 DRAWN
 R.M.O. 10-14-69
 CHECKED
 L. MITCHELL
 APRIL 1972

APPROVED _____ DATE _____

DRAWING NO.
9988

SHEET NO.
4 of **4**

Chapter V

ENVIRONMENTAL IMPACT REPORT

Lake Oroville is the major reservoir project in northern California and was constructed as part of the State Water Project. The Department of Water Resources purchased properties for all project purposes and has turned over more than 25,500 acres to the Department of Parks and Recreation. This includes lands adjacent to Lake Oroville and the Thermalito Forebay. Ten areas on the lake have been designated for recreational use. Each area is covered in this section though some have been grouped according to the similarity of their developments.

Loafer Creek

Loafer Creek is six miles east of the City of Oroville on the Oroville-Quincy Road. It is envisioned as one of the major camping and day-use facilities at Lake Oroville because of its tree cover, favorable terrain, proximity to Oroville, and easy access.

Existing recreation developments in the area include a boat ramp, a car/trailer parking area, a family campground, a picnic area, and a beach facility. Future developments will include additional family campgrounds, group campgrounds, additional picnic area, beach expansion, an equestrian center, riding and hiking trails, and bicycle trails.

The primary impact on this area will be caused by the construction of facilities, such as roads, parking spaces, trails, comfort stations, beach expansion facilities, and underground utilities. The area will be unsightly during the construction period, but once development is completed, the visual impact upon the environment will be limited. The secondary impact of the development will be caused by public use of the area.

The benefits of the project include public enjoyment of the recreation area through camping, picnicking, hiking, bike riding, swimming, and fishing.

Unavoidable adverse effects will be caused by paving, cuts and fills on roads and trails, and vegetation removal. The adverse effects of public use will be disturbance of the flora and fauna as well as the visual pollution caused by tents, trailers, cars, and the like.

Mitigation of undesirable effects on the environment will be achieved by placing day-use areas, campgrounds, and the equestrian center at locations where they will have the least impact on the resources. All facilities will be designed and landscaped to harmonize with the surrounding area. Vegetation removal will be restricted to that necessary for facility development and will be minimal.

An alternative to the proposed development would be not to provide additional developments in the area. However, since water-oriented areas are in high demand throughout the state, and Lake Oroville is one of the areas that can best help meet this demand, this would be an undesirable alternative.

There are no irreversible environmental changes involved in the proposed development of this area.

Kelly Ridge

The Kelly Ridge area is located approximately five miles northeast of the city of Oroville near the left abutment of Oroville Dam. Kelly Ridge is a promontory of land protruding into Lake Oroville, with the dam on its west side and Bidwell Canyon on its east side.

Existing developments include a visitor center, a snack bar, a gift shop, and a parking area. Future developments will include a lodge-restaurant-coffee shop complex, a conference facility, cabins, riding and hiking trails, and parking space.

The primary impact of future developments will be caused by the construction of the lodge-restaurant complex, conference facility, the cabins and their access road, and parking areas. The secondary impact will be caused by the additional users that these facilities will attract.

The benefit of the project is that the portion of the public that desires these types of accommodation can be satisfied within the boundaries of the park.

Unavoidable adverse effects will be caused by the intrusion of structures, paving, cuts and fills on roads and trails, and some removal of vegetation. The adverse effects of public use will include disturbance of the flora and fauna as well as the visual pollution caused by additional cars.

Mitigation of undesirable effects on the environment will be achieved by construction of the lodge complex, cabins, and conference facilities in the same vicinity as the existing visitor center on lands that are relatively flat and stable. Site work will be kept to a minimum, and rock outcroppings, trees, and other natural features will be preserved wherever possible. The facilities will be integrated into their setting through landscaping and design.

An alternative to the proposed development would be not to provide this type of facility within the recreation area at all. Since the visitor center is located in this area and the proposed developments would be complementary to that facility, this is the most logical area in which to provide this type of facility.

There are no irreversible environmental changes involved in the proposed development of this area.

Bidwell Canyon

Bidwell Canyon is located approximately five miles northeast of the city of Oroville adjacent to Kelly Ridge. It is the site of an extensive concession development.

Existing developments include a boat ramp, a car/trailer parking area, a marina, a dry boat storage area, a camp store, and a recreational vehicle campground. Future developments consist of expansion of the recreational vehicle campground, picnic area, riding and hiking trail, bike trail, and the reconstruction of the historic artifacts (Bidwell Bar bridge and tollhouse) that were removed from the former Curry-Bidwell Bar State Park before it was inundated by Lake Oroville.

The primary impact on the area will be caused by the reconstruction of the Bidwell Bar bridge and the construction of facilities related to additional camping and picnicking space. The area will be unsightly during the construction period; however, once development is completed, the visual impact will be limited. The secondary impact of the development will be caused by additional public use of the area.

The benefits of the project include increased public enjoyment of the existing developments through picnic facilities, additional camping spaces, bike trails, hiking trails, and the display of historic artifacts that are presently being stored.

Unavoidable adverse effects will be caused by paving, cuts and fills on roads and trails, and vegetation removal. Additional public use will have the adverse effect of disturbing the flora and fauna and increasing visual pollution through the introduction of additional cars and people.

Mitigation of undesirable effects on the environment will be achieved by construction of the picnic facilities and additional camping spaces at locations where they will have the least impact on the resources. All facilities will be designed and landscaped to harmonize with the natural setting. Roads and trails will, where possible, avoid steep terrain, thus minimizing cut and fill slopes. Vegetation removal will be restricted to that necessary for facility development and will be minimal.

An alternative would be to not provide additional developments in the area. This would be an undesirable alternative, as the proposed additions would complement existing facilities. Several alternate sites have been suggested for the reconstruction of the Bidwell Bar bridge and tollhouse. This site is considered the best because (a) it is near the original location; (b) it contains a body of water that can easily be bridged; (c) it is within a major public use area; and (d) it offers superior construction conditions.

There are no irreversible environmental changes involved in the proposed development of this area.

Foreman Creek

Foreman Creek is approximately seven miles northeast of the City of Oroville along the north side of the main body of the lake. The eastern portion of the area has a large, grassy, open space that slopes gently to the lakeshore and, as a result, is one of the areas on Lake Oroville best suited to extensive beach development. The western portion of the area in contrast is heavily wooded and for the most part quite steep.

The only existing development at Foreman Creek is a boat-in primitive camp in the western portion of the area. Future developments will consist of a large day-use/beach-oriented facility in the eastern portion of the area and expansion of the existing boat-in camp.

The primary impact upon the area will be caused by the construction of the large beach and picnic area. This construction will entail considerable earthwork to create a satisfactory beach area, roads, parking space, turf areas, comfort stations, and walkways. The secondary impact of the development will be caused by public use of the area.

Another secondary impact would be the effect of development on a fish habitat area. The underwater gradient is suitable for a swimming beach, but it also provides an excellent bass habitat. Beach construction would have a negative effect on this habitat area.

The benefits of the project include public enjoyment of an ideal swimming beach on Lake Oroville.

Unavoidable adverse effects will be caused by paving for roads and parking lots. During the summer months, large numbers of recreationists will cause erosion of the environmental qualities of the area. Grading and placing of sand on the underwater portion of the beach area will have an adverse effect upon the existing fish habitat area.

Mitigation of undesirable effects on the environment will be achieved by construction of the roads and parking areas where they will have the least impact on the resources. A tree planting program will ease the impact of the area's modification.

Mitigation measures to provide artificial fish habitat zones to replace the one being affected would not be economically feasible. Since there are several other prime fish habitat areas around the lake, the loss of this one will not have a marked effect upon the lake's fishery.

An alternative would be to utilize the area for picnicking and shore fishing only. This would not be a suitable use for the area since there is a great demand for swimming areas at Lake Oroville, and this would be one of the finest swimming areas on the lake.

There are no irreversible environmental changes involved in the proposed development of this area.

Lime Saddle

The Lime Saddle area is located on the west branch arm of Lake Oroville, 15 miles north of the city of Oroville, 8 miles south of Paradise and 17 miles east of Chico. The area is characterized by two peninsulas – a southern peninsula that lends itself to day-use development and a northern peninsula that is suitable for overnight uses.

Existing developments include a marina, a snack bar, a boat ramp, and two car/trailer parking areas on the southern peninsula. There are no developments on the northern peninsula. Proposed developments include a picnic area and swimming beach on the southern peninsula and family and group campgrounds and trails on the northern peninsula.

The primary impact on this area will be caused by the construction of facilities, such as roads, parking spaces, trails, comfort stations, a small beach, and underground utilities. The area will be unsightly during construction but once development is completed, the visual impact on the environment will be limited. The secondary impact of the development will be caused by public use of the area.

The benefits of the project include public enjoyment of the recreation area through camping, picnicking, hiking, swimming, fishing, and boating.

Unavoidable adverse effects will be caused by paving, cuts and fills on roads and trails, and vegetation removal. An area now designated as a fish habitat will be disrupted by grading and the placing of sand on a proposed beach area. The introduction of tents, trailers, cars, and people will have additional adverse effects.

Mitigation of undesirable effects on the environment will be achieved by construction of day-use areas and campgrounds at locations where they will have a limited impact on the resources of the area. All facilities will be landscaped and designed to harmonize with the natural setting. Vegetation removal will be restricted to that necessary for facility development and will be minimal. The fish habitat area being disturbed is not one of the more important habitat areas. This factor plus the small size of the beach facility will create a limited effect upon the lake's fishery.

The only alternative to the proposal is to abandon the plan for developing these facilities. This does not seem practical, however, since Lime Saddle is the only recreation area in this portion of Lake Oroville. The communities of Paradise and Chico are presently creating considerable impact on existing recreation developments here, and this pressure will increase as these communities continue to grow.

No irreversible environmental changes are involved in the proposed development of this area.

Craig and Potter Ravine Areas

No specific recreation developments are proposed at this time for the Craig and Potter Ravine areas, with the exception of an existing boat-in primitive camp in the Craig Area. It is anticipated that these two areas will help meet future camping and day-use demands. However, for control measures, an all-weather access road into the Craig Area is desirable. This would involve the surfacing of an existing ten-foot-wide dirt road with gravel and the provision of drainage structures where needed. Such an improvement would have the positive environmental effect of eliminating the erosion problems of the existing dirt road.

Bloomer Primitive Area – Goat Ranch – Sycamore Creek

These three areas, two of which are located on the north fork and one on the middle fork arms of the lake, are designated as boat-in primitive-type camping facilities. This type of facility is designed to fit in with the primitive nature of the land and to satisfy boaters who desire a wilderness camping experience.

Existing developments include campsites at both Bloomer Primitive Area and Goat Ranch. Future developments include a primitive camping facility at Sycamore Creek and a potable water supply for all three areas.

The primary impact on the area is caused by the campground and sanitary facilities. The positive impact of the development is the enjoyment of the primitive camping experience by the public. This includes such activities as camping, boating, fishing, swimming, and exploring.

Unavoidable adverse environmental effects are almost nonexistent. Some trampling of the vegetation may be caused by the users but it should not be severe enough to create an adverse environmental effect. Persons who use the facilities, along with their boats and tents, will detract from the natural setting.

Mitigating measures will include designated pathways and tent pads to discourage unnecessary vegetative damage.

The only alternative to the proposed developments would be to close the two existing facilities and not construct the third one. Since the two existing facilities receive considerable use, this course of action would cause a public outcry followed by demands for similar facilities elsewhere.

No irreversible environmental changes are involved in the development of these three areas.

The following facts, when taken together, far outweigh the adverse environmental impact of the proposed recreation development.

There is a great demand for and public acceptance of water-oriented recreational facilities associated with the State Water Project. These recreational facilities afford opportunities for the public to enjoy natural environmental values that would otherwise be inaccessible. In the development of these facilities, every effort will be made not only to protect but also to enhance environmental and cultural values.

APPENDIX A
FACILITIES SUMMARY

BOATING FACILITIES

DAY-USE FACILITIES

OVERNIGHT FACILITIES

	Family Camps		Primitive Camps		Group Camps		Cabins		Lodge		Picnic Units		Swim Beach (in lin. feet)		Launching Lanes		Car/Trailer Parking		Marina Slips		
	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	
Loafer Creek	137	480	-	50	-	15/375 persons	-	-	-	-	100	20 units	150	150	9	178	-	-	-	-	
Kelly Ridge	-	-	-	-	-	-	100	20 units	150	150	-	-	-	-	-	-	-	-	-	-	2/
Bidwell Canyon	82	75	-	-	-	-	-	20 units	153	40	20	-	-	7	300	-	346	-	-	-	3/
Spillway Boat Launching Ramps	-	-	-	-	-	-	-	-	-	-	-	-	-	12	583	-	52	-	-	-	4/
Foreman Creek	-	10	10	-	-	-	-	-	400	-	125	-	1000	-	-	-	-	-	-	-	-
Lime Saddle	-	290	-	-	-	2/200 persons	-	-	275	-	150	-	300	5	205	-	143	-	-	-	5/
Craig Area	-	6/	8	10 ^{6/}	-	6/	-	-	6/	-	6/	-	-	-	-	-	-	-	-	-	6/
Enterprise Launching Ramps	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	50	-	-	-
Bloomer Primitive Area & Bloomer Island	-	16	20	1/75 persons	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Goat Ranch	-	-	5	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sycamore Creek	-	-	-	35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thermalito Forebay	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
North	-	70	-	-	-	-	15	30 units	195	800	25	200	700	1800	2	103	-	-	-	40	7/
South	-	-	-	-	-	-	-	-	400	-	200	-	600	600	4	50	190	-	-	40	-
Central	-	-	-	-	-	-	-	-	900	-	300	-	2000	-	-	-	-	-	-	-	-

1/ Existing camp store; proposed equestrian center, riding and hiking trails, bike path, and caravan camp

2/ Existing visitor center, gift shop, and snack bar; proposed restaurant, coffee shop, and conference facilities

3/ Eighty existing covered dry boat storage spaces, grocery store, laundry, fuel dock, boat tour, marine sewage pump-out station

4/ Ninety-two existing mooring buoys, lower stage launching facility with 8 lanes and 310 car/trailer spaces

5/ Existing snack bar, 154 mooring buoys, marine sewage pump-out station; proposed boat repair facility

6/ The Craig Area is envisioned as an area that will meet future recreation needs but the number of facilities has not as yet been determined.

7/ Proposed nine-hole pitch and putt golf course and restaurant

APPENDIX B
OROVILLE COMPLEX STATISTICS

I.	Oroville Dam	
	1. General Features	
	Drainage area	3,611 sq. miles
	Runoff, estimated full natural average annual flow (1894-1947)	4,596,000 AF
	2. Reservoir	
	Normal pool elevation	900.0 ft
	Reservoir area at elevation 900.0	15,500 ac
	Reservoir shoreline at elevation 900.0	167 miles
	Reservoir length up North Fork	20.7 miles
	Reservoir length up South Fork	13.9 miles
	Reservoir storage — normal pool	3,484,200 AF
	3. Dam	
	Type	Zoned earthfill with included core and graded gravel shells
	Crest elevation	922 ft
	Height from streambed	770 ft
	Crest width	80.0 ft
	Crest length	6,800 ft
	Spillway location	In saddle on right abutment
II.	Thermalito Diversion Dam	
	Type	Concrete gravity
	Crest elevation	233.0 ft
	Height from streambed	133.0 ft
	Storage at normal pool	13,500 AF
	Reservoir area	330 ac
	Reservoir shoreline at elevation 225	10 miles
III.	Thermalito Canal	
	Capacity	17,000 cfs
	Length	2.5 miles
IV.	Thermalito Forebay Dam	
	Type	Earthfill
	Crest elevation	231.0 ft
	Maximum water surface elevation	226.0 ft
	Reservoir shoreline at elevation 226	10 miles
	Height of dam	65.0 ft
	Reservoir capacity	11,400 AF
	Reservoir area	600 ac
V.	Thermalito Afterbay Dam	
	Type	Earthfill
	Crest elevation	141.5 ft
	Maximum water surface elevation	136.5 ft
	Reservoir shoreline at elevation 134.2	26 miles
	Height of dam	30 ft
	Reservoir capacity at elevation 136.5	57,500 AF
	Reservoir area at elevation 136.5	4,500 ac