

~~PRELIMINARY~~ WILD RIVER STUDY

SACRAMENTO RIVER

Prepared by the Pacific Southwest
Regional Task Force Team

(FOR GOVERNMENT USE ONLY)

SACRAMENTO RIVER

First priority, Reg. 2 (S.F.)

Location - north central California, Butte, Glenn, Shasta and Tehama counties.

Length study area - 110 miles

Quality of recreation - Excellent motor and non-motor boating, fishing camping, sightseeing and nature study

Ownership - 95% of lands are in private ownership. Remainder is in public domain, county, state or city ownership.

Summary of findings - Significant feature of river is existence of unique natural setting experienced when on the river, yet is situated in portion of state with an intense agricultural development. Relatively untapped recreational resource amidst increasing population.

Two dams located upstream from study area, through controlled flow releases, have beneficial affect on recreational use of stream. One dam now under construction would hamper boat movement on about 5 miles of stream, but will not drastically impair natural conditions of river or recreational qualities of area. A proposed dam located midway in study area would have adverse affect on recreational qualities. An alternative plant to this dam proposal would appear to be beneficial from recreational standpoint.

Private ownership along the river and reluctance of owners to permit public use of their lands restricts access to river and movement up and down river banks. A narrow strip of land along river would be adequate to protect setting of river.

Comment - This stream would undoubtedly receive heavy use in the future with or without National river status. JWH

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF OUTDOOR RECREATION
PACIFIC SOUTHWEST REGION
180 New Montgomery Street
San Francisco, California 94105

September 13, 1963

Memorandum

To: Director

From: Acting Regional Director

Subject: Transmittal of Preliminary Wild River Survey of the
Sacramento River

This report is submitted in accordance with your instructions dated July 23, 1963. It should be recognized that the report is the result of a cooperative effort of the following individuals and their respective agencies:

Department of Agriculture

Mr. Craig A. Giffen - Forest Service, Region 5

Department of Interior

Mr. David J. Lenhart - Bureau of Sport Fisheries & Wildlife
U. S. Fish & Wildlife Service

Mr. Jack M. Shelton - Bureau of Commercial Fisheries
U. S. Fish and Wildlife Service

Mr. Leroy S. Augden - National Park Service, Western Region

Mr. Paul J. Leach - Bureau of Outdoor Recreation, Chairman

The 110-mile stretch of the Sacramento River selected for study purposes is situated in north-central California, approximately 70 miles north of the city of Sacramento and 100 miles south of the Oregon border. It flows through the wide, flat, fertile Sacramento Valley. It is estimated that 95 per cent of the lands adjoining the river are in private ownership. Access to the river is generally limited to ten primary roads which traverse the river including two interstate highways. No major roads immediately parallel the river. The economy of the river area is increasing quite rapidly with agriculture, industry and recreation comprising the major activities.

Although several isolated areas tend to detract from the qualities inherent to a wild river classification of this river, the scene as witnessed from the river is very pleasing and extremely enjoyable. The river in the study area is free-flowing and unpolluted. The most significant feature of the river is the existence of the unique natural setting that is experienced when on the river, yet situated in a portion of the state with intense agricultural development. It is estimated that 95 percent of the land adjoining the river is in a natural setting and relatively free of any development.

Many significant qualities complement this setting, such as: the excellent trout, steelhead and salmon fisheries of the river; the rich unusual flora of the backwater sloughs which resemble the Louisiana Bayou or Florida everglades; the conglomerated rock outcrops, volcanic lava flows; the picturesque "Chinese Rapids" which is a natural river channel cut through a basalt bedrock; the importance of the river historically with its rich background of early Russian traders; gold rushes; and Indian lore. With all of this potential to satisfy an enormous quantity of outstanding recreation use the river has not yet been "found". It is a relatively untapped recreational resource amidst an increasing population with a tremendous outdoor demand.

Although the construction of the Red Bluff Diversion Dam within the study area has commenced, it is felt that this development will not drastically impair the natural conditions of the river or the recreational qualities of the area. The water impoundment of this project will have a minute affect on approximately two percent of the overall length of the area under study.

The proposed Iron Canyon Dam located midway in the study area would have an adverse affect on the recreational qualities. Upstream salmon migration and boat travel would be hindered or stopped completely by such a project. An alternative plan to the Iron Canyon Dam proposes construction in the tributaries of the river which from all indications would be beneficial from a recreational standpoint.

Of paramount importance is the current limited access to the river and the restriction of movement up and down the river banks. This situation exists because of the preponderance of private land adjacent to the river and the reluctance of land owners to permit public use of their lands. The solution of this problem should be a first priority job.

A very narrow strip adjoining the river appears adequate to effectively protect the setting of the river. Although homes, industry

and agricultural lands were very close to the river in many areas they are well screened from the river.

If and when a study in depth of the Sacramento River is undertaken, consideration should be given to the following points:

1. The desirability of extending the study unit down river beyond Hamilton City.
2. The exact width of the water front zone to be controlled, and the type and degree of control to be exerted.
3. The type, location and quantity of public developments, such as launching ramps, docks, campgrounds, picnic areas, etc.

(Sgd.) Floyd A. Henderson

Acting Regional Director

SACRAMENTO RIVER INVENTORY FORM

A. General information

1. Name of river

Sacramento River

2. Location of study unit

The Sacramento River is located in North Central California.

The area under study is approximately 110 miles long, situated between Keswick Dam near Redding and Hamilton City.

3. State

California

4. Counties

Butte, Glenn, Shasta, Tehama

5. Major drainage basin

Pacific slope basin in California

6. Population within 50 miles-92,000; 150 miles-4,300,000;

250 miles- 7,400,000

7. Weather characteristics

Spring - Pleasant temperatures with moderate precipitation.

Summer - Hot and dry. Average July precipitation 0.08

Temperature- June 98.8° daily max. 65.8° daily min.

Fall - Warm and moist.

Winter - Cool and wet. Average December precipitation

7.51. Temperature- January 54° daily max.

35.6 daily min. Little frost.

Average annual rainfall is 38 inches at Redding.

Public use is year around, however the maximum use season is from June to December

Source: Personal knowledge, climatological summary.

B. Description and characteristics of river

1. Number of miles in study unit

110 miles

2. Width characteristics

The narrowest width of the river is 50 feet at Iron Canyon.

Average width is 400 feet with maximums up to 1,000 feet.

Source: California Fish & Game, personal knowledge, observation.

3. Depth characteristics

Generally, riffles are about two feet in depth with channels up to 35 feet in depth. The river can be boated year-round. At no time can it be safely crossed by foot.

Source: Personal knowledge, California Fish and Game, Bureau of Land Management, observation.

4. Flow characteristics

Flows are generally controlled by Shasta Dam situated upstream from the study area. Minimum flow is 3,000 cfs with

summer flows to 7,000 cfs. Maximum controlled flow release from Shasta Dam is 17,000 cfs. During 1958, flood conditions increased flows at Redding to 80,000 cfs and 120,000 cfs at Red Bluff. Average flow is three feet per second or approximately 2-3 mph.

Source: Local inhabitants, California Fish and Game;
personal knowledge.

5. Course characteristics and stability

The river course is generally stable with some channel movement and bank erosion in isolated areas. It is characterized by a gently winding course flowing in a southerly direction, however, during peaking flood conditions may become swollen and unstable.

6. Bed material

Some bedrock with the major portions being gravel. Also, isolated sand and soil banks may be found along the entire stretch of the river.

Source: Personal observation.

7. Water quality

Generally the water is of a good quality with a very minor domestic pollution problem. Water temperatures in the study area vary during the summer from 47° to 59°. Mining pollution from one source near Keswick Dam has in the past caused major damage to the fisheries. Action to correct this situation is in progress.

Source: Personal knowledge, affects of pollution
from Spring Creek (Fish and Wildlife Service
Report.)

8. Type of fishery

The river is closed to commercial fishing; however,
it must be recognized that this section of the river provides
spawning grounds for approximately 1/4-million salmon. These
represent a potential commercial and sport fisheries in the
ocean of 3/4-million salmon. Inland sport fishing for salmon
and steelhead trout is significant.

Warm water species: Small and largemouthed bass and
catfish.

Cold water species: Chinook salmon, steelhead trout,
striped bass, rainbow trout and shad.

Source: Personal knowledge, California Fish and Game,
"Progress Report on Upper Sacramento River
Basin Investigation," California Department
of Water Resources.

C. Description and characteristics of setting

1. Nature of topography

The river flowing through the wide Sacramento Valley
is characterized by a flat shoreline breaking into bluffs and
cliffs. River elevations vary from 510 feet above sea level

at Keswick Dam to 135 feet at Hamilton City, a drop of approximately four feet per mile.

Source: Observation, USGS maps.

2. Ecological type

Deciduous riparian type with cottonwood, alder, willow, wild grapes, blackberry tangles, water oak, valley oak and various herbs. The benches and slopes are typical oak-grasslands. Minor amounts of isolated digger pine complete the vegetative picture.

Source: Observation, California Fish and Game, local inhabitants.

3. Important species of wildlife and status

Wildlife species include blacktailed deer, quail, pheasants, doves, beaver, otter, mink, skunks, herons and ducks. All species of wildlife are relatively stable.

Source: California Fish and Game, observation.

D. River access

1. Types and locations of public access (see map)

Public foot-access points are generally limited to ten areas where state and county roads traverse the river. In addition, several boat launch ramps provide river access.

Source: Personal observation, highway maps.

2. Factors limiting public access

Some 95 per cent of the lands adjoining the river and in private ownership. Public access is controlled by private landowners which is a major problem.

Source: Personal knowledge, observation.

E. Special scientific, educational and esthetic values

1. Geologic

Unusual and unique conglomerate rock outcrops with overlaying volcanic lava.

The "Chinese Rapids" represent a fine example of natural channelization through a basalt bedrock.

Source: Personal knowledge, California Fish and Game.

2. Biotic

Unusual vegetative cover of the backwater sloughs and oxbows, i.e., vine covered trees hanging down to the surface of the river; tunnel affects caused by moss and other dense growth. Also, the presence of such a variety of fish and wildlife in this intense agricultural district of the State is unique in itself.

Source: Observation.

3. Historic

Russian traders from Ft. Ross and Bodega dealing in furs and tallow were first to navigate the river prior to 1840. This river, known as the "Nile of the West," was once a busy gateway to the gold fields.

Source: Rivers of California - Pacific Gas & Electric Company.

4. Archeologic

Indian camps were once located along the river. Various types of marine fossils have been found in the area dating back to pre-glacial periods. Additional studies appear warranted.

F. Present quality of recreation and enviromental factors limiting quality:

<u>Kinds</u>	<u>Quality</u>				<u>Environmental Limiting factors</u>
	<u>Excellent</u>	<u>Good</u>	<u>Fair</u>	<u>Poor</u>	
Boating:					
Motor	X				Shallow riffles and strong currents for upstream travel
Non-motor	X				
Fishing	X				
Hunting:					
Big game		X			
Small game		X			
Water fowl		X			
Camping	X				
Swimming		X	to	X	Cold water, strong current
Hiking			X		Brushy conditions
Sightseeing	X(by boat)			X(by car)	
Nature study	X				

Note: Limited access and development restrict all types of public recreational use.

G. Classification of study unit

Class II - General outdoor recreation area.

Class III - Natural environment areas.

Class IV - Unique natural area.

H. Status of economic development

1. Economy of the general river area

Farming, cattle grazing and tourism form the major activities. Some gravel operations, lumber mills, and one pulp mill generally round out the economic picture.

Source: California Fish and Game, Bureau of Land
Management.

2. Status of economy

The economy in general is growing with significant increases in agriculture, recreation and industry.

Source: California Fish and Game, Bureau of Land
Management.

3. Transportation routes to and through the general river area

There are no major roads immediately paralleling the river. Ten primary county and state highways traverse the river, including U.S. #99 and #299. Five airports are situated within the general area including two commercial airports at Redding. Commercial charter boats are available at Redding and Red Bluff. In addition, small boats may be rented at various locations. Southern Pacific Railway serves the area.

Source: Highway maps, observation, personal knowledge.

I. Present and proposed water resource developments

Shasta and Keswick Dams upstream from the study areas, through controlled flows releases, have a beneficial affect on the recreational use in the study area. Red Bluff Diversion Dam, now under construction below the city of Red Bluff, will impound approximately five miles of the river. This dam will hamper boat movement on the river.

The Anderson Cottonwood Irrigation District Diversion Dam, immediately above the town of Redding, prohibits upstream river boat travel.

The proposed and authorized Iron Canyon Dam, approximately five miles upstream from Red Bluff, would drastically and permanently affect the salmon migration and boating. An alternative to the Iron Canyon Dam proposes dam construction in the tributaries of the river. This alternative plan will be beneficial to the recreational qualities.

J. Detrimental and/or beneficial impacts

1. Agriculture

To a minor degree, return irrigation water carries agricultural pollutants which are harmful to the fisheries and degrades water quality.

2. Forestry

None.

3. Mining

Gravel operations will probably increase but if kept in the backwater sloughs need not be detrimental to the fisheries.

4. Transportation

No major road access is planned; however, additional access is required to permit full public enjoyment of the recreational qualities of this area. Although a considerable increase in river boat traffic can be accommodated without being injurious to the setting, excessive numbers of large craft will be detrimental.

5. Industry

Existing industry is not a present problem. Additional industry without proper control could mean more pollutants in the river which would be detrimental to the fisheries and other recreational uses.

6. Recreation

The existing developments along the river are beneficial to public use and do not detract from the qualities of the study area. Additional campgrounds, boat liveries, launching ramps, etc., are needed to fully utilize the recreation potential of the area. Several public recreational areas are planned for acquisition and development by the Wildlife Conservation Board, counties and Bureau of Land Management which will also be beneficial.

7. Residential - Community

The residential development that now exists is rather pleasing as viewed from the river. Continued development, if within sight of the river, could possibly detract from the recreational qualities of the area. The trend of development is out of the flood plain and view of the river.

K. Condition of watershed

The river watershed extends beyond the study area up to 50 miles. At the higher elevations the lands are primarily in public ownership and in good to fair condition. The lands in the foothills and adjoining the immediate river setting are in private ownership, and are in fair to poor condition insofar as tributary erosion is concerned. The trend in management of both public and private land is favorable.

L. Land ownership

Approximately 95 per cent of the lands in the study area are in private ownership. The remainder of the land is public domain or county, state and city owned.

M. Actions that have been taken or are planned to protect the natural qualities of the river and its environment

State law regulates gravel removal from Squaw Hill Bridge to the upper end of the study area (approximately 90 miles).

State Water Pollution Board and State law partially regulate disposal of pollutants in all inland waters in California.

Tehama County has flood plain zoning. Additional zoning by other counties is anticipated.

A retention dam on Spring Creek which flows into Keswick Dam upstream from the study area was constructed to control mining pollution.

N. Other

None.

O. Sources of reference and information

Bureau of Land Management personnel
California Fish and Game personnel
Personal knowledge
Observation
Highway and topographic maps
Progress Report on Upper Sacramento River Basin
Investigation - California Department of Water Resources
Climatology of the United States, 20-4, Department of
Commerce
Local merchants
Affects of Pollution from Spring Creek - Fish and Wildlife
Service

P. Photographs

(see attachments)

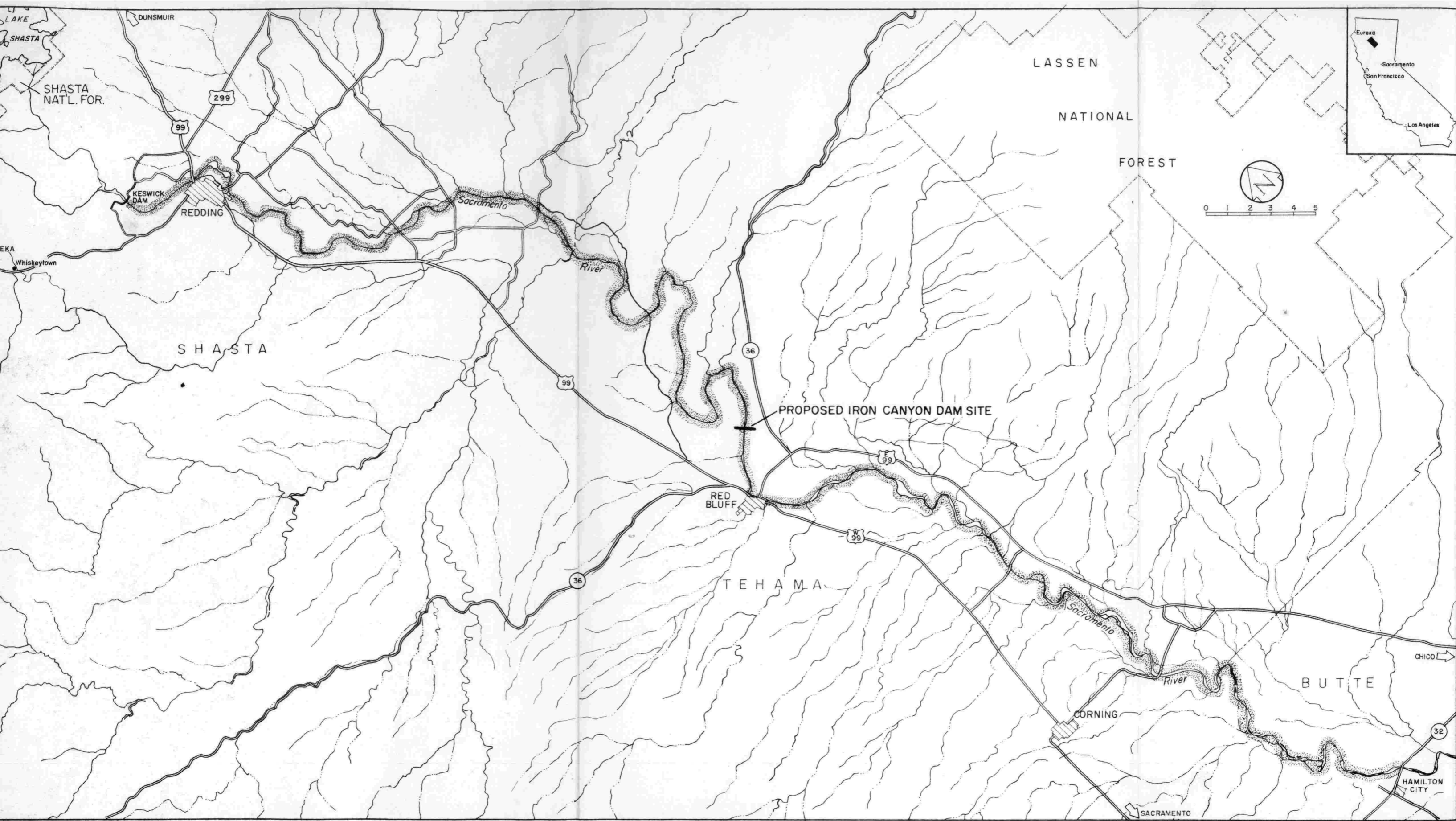
Q. Method of study

Reconnaissance was conducted by air and jet boat, personal contacts, and review of organizational plans and reports.

R. Period of study

An aerial reconnaissance was made on August 14, 1963, and the jet boat trip on August 15, 1963. Personal contacts were made on both of these days. Review of plans and reports of the area were made both prior and subsequent to the field investigation.

PHOTOS

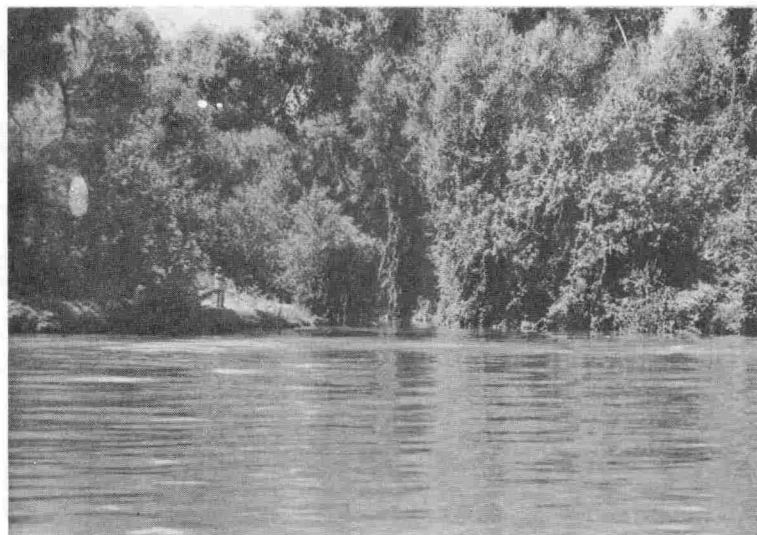




BOATING IS INCREASING IN POPULARITY



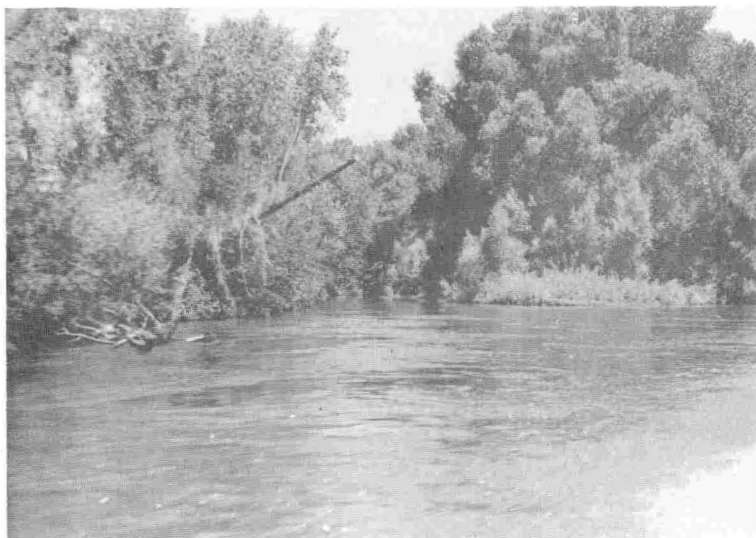
TYPICAL RIVER VIEW BELOW REDDING



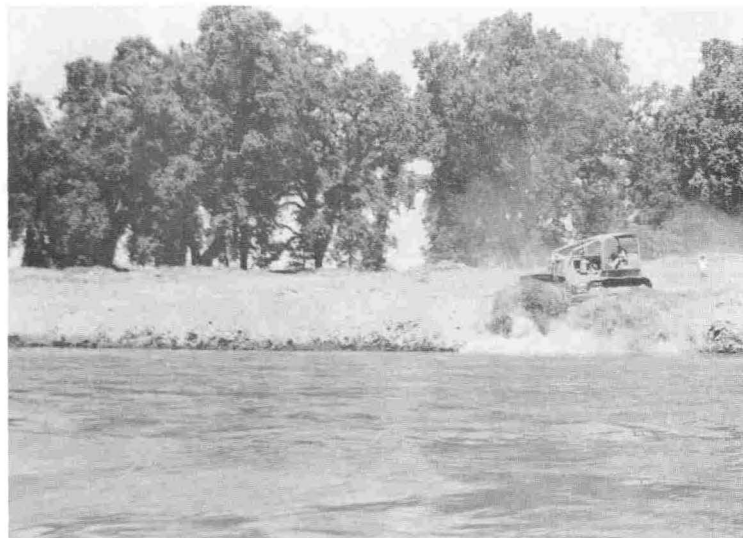
GRAPE VINES HANG TO WATER SURFACE



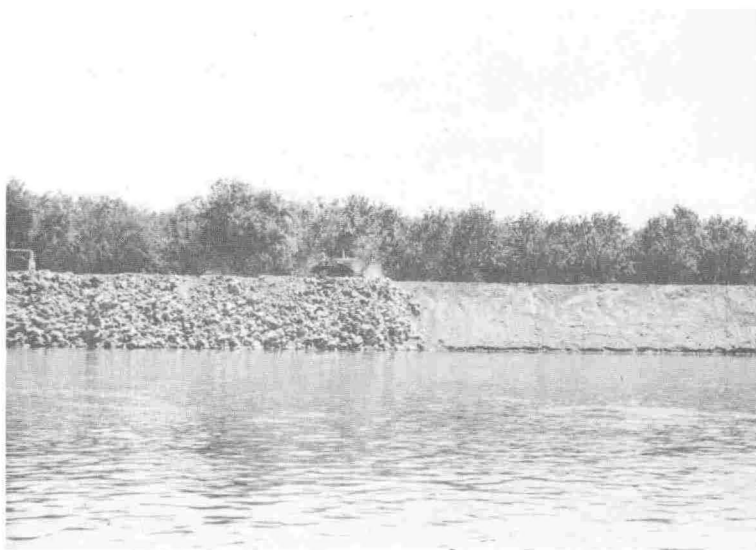
BRIDGE CONSTRUCTION ON US #99 NEAR RED BLUFF



BACKWATER BAYOU



BANK STABILIZATION PROJECT



BANK STABILIZATION PROJECT



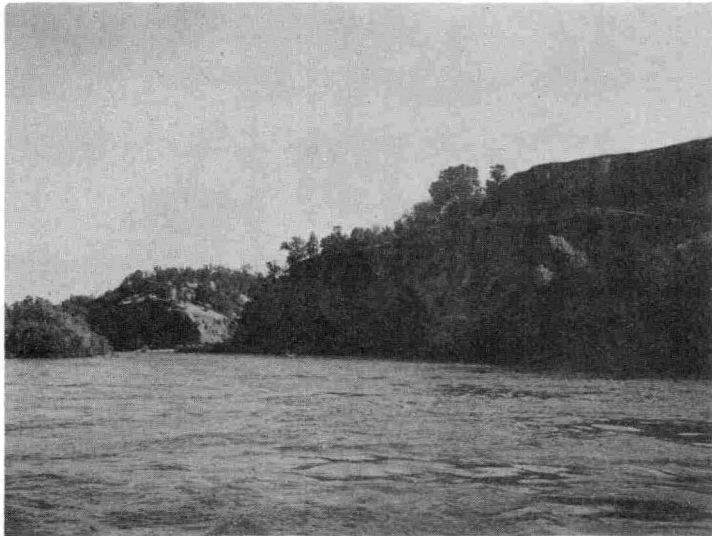
BANK STABILIZATION - NO PROJECT



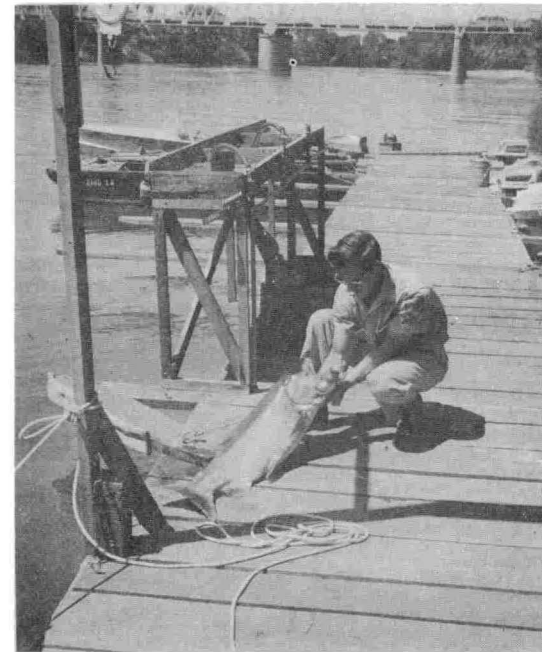
PUBLIC FISHING ACCESS AT RED BLUFF



HEAVY STREAMSIDE GROWTH MASKS AGRICULTURAL DEVELOPMENT



MULTI-COLORED CLIFFS INCREASE AESTHETIC VALUES



A SACRAMENTO RIVER KING SALMON