

SPECIAL AREA STUDIES

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COLORADO RIVER

Location - Colorado-Utah State line to confluence with Lake Powell. Four Counties, Utah.

Length study area - 150 miles.

Quality of recreation - limited fishing (catfish). Largely unexplored country. Beautiful scenery. Excellent boating. Good hunting, small game and waterfowl.

Ownership - Central 10-mile section, Arches National Park. Remainder 50 percent BLM; 50 percent private.

Summary of findings - Only this portion of the Colorado River remains undeveloped and free flowing. Scenery is primitive, approaching true wilderness. Lower portion proposed for inclusion in Canyonlands National Park. Numerous potential damsites, but no impoundments studied at present.

*Young Sq*  
*Wagnleitner*

# UNITED STATES DEPARTMENT of the INTERIOR

## ★★★★★★★★★★★★★★★★★★news release

### OFFICE OF THE SECRETARY

For Release at 11:30 a.m., February 1, 1967

#### REVISED LOWER COLORADO RIVER PLAN ANNOUNCED BY UDALL

Secretary of the Interior Stewart L. Udall today announced a revised development program for the Lower Colorado River and the Central Arizona Project with an estimated Federal cost of \$719 million.

The proposal eliminates consideration now of construction of any lower Colorado dams to provide required electric power and substitutes purchase of power from a thermal electric generating plant constructed under sponsorship of public and private electric utilities.

Key elements of the proposal, worked out during the last four months with the Bureau of the Budget, are:

1. Continued support for legislation designed to create a National Water Commission to study critical water supply problems on a national basis. (The legislation already has been recommended by President Johnson and reported by the Senate Interior and Insular Affairs Committee.)
2. Expansion of Grand Canyon National Park to include Marble Canyon above the current park boundaries.
3. A decision to defer any action at the Hualapai dam site for further consideration by the Congress.
4. The immediate authorization of the Central Arizona Project (including Hooker Dam in New Mexico.)

Udall said "Interior has worked with the Bureau of the Budget for four months analyzing a wide variety of possible alternative solutions. We are confident that a plan of action has emerged which will meet the needs of the region and represent the best possible use of its resources."

He added that he and Budget Director Charles L. Schultze both support the key elements of the plan.

Earlier proposals for the Central Arizona Project relied upon federally financed hydroelectric power to provide the substantial amount of energy needed for project pumping purposes.

"We now propose," Secretary Udall said, "to obtain low cost pumping power for the project by Federal prepayment for 400 megawatts of capacity in a large efficient thermal plant built in the region under the sponsorship of the utilities associated with WEST (the Western Energy Supply and Transmission Associates.)"

Securing low-cost pumping energy from a large efficient thermal generating plant should make it possible to maintain a rate for agricultural water at approximately \$10 an acre-foot. Bureau of Reclamation technicians estimate that a municipal and industrial rate of \$55 an acre-foot or a lesser rate per acre foot plus an ad valorem tax of approximately six-tenths of a mill would be required in Pinal, Maricopa and Pima Counties to achieve payout. Various combinations of the two alternatives also are possible. "These decisions should be made in closest consultation with the State and local people as we see it," Secretary Udall said.

"The success we have achieved in securing a new high level of cooperation between public and private utilities in the region has made possible this new approach to water supply problems," he continued.

"Details of the proposed legislation and the necessary reports will receive immediate attention. We expect to be able to supply all necessary information to Congress by mid-February," Udall commented.

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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 Lower Colorado 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 & Wildlife Service

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

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

The lower portion of the Colorado River lies between Hoover Dam and the Mexican Border near Yuma, Arizona. The area of study involves two separate stretches of the lower Colorado totaling approximately 145 miles in length described as follows: 10 miles below Picacho to Parker (100 miles), and Mt. Davis to Hoover Dam (45 miles). The Colorado River serves as the state boundary between California, Arizona and Nevada.

The river is generally confined to great gorges and narrow valleys as it flows through the semi-desert conditions of this southwestern corner of Arizona. Approximately 55 percent of the lands adjoining the river are in private ownership (including Indian Reservations) with the majority of the remainder in reclamation and/or wildlife refuge withdrawals. Considerable amounts of public domain fringe the immediate river frontage. The river is relatively undeveloped, unpolluted and free flowing, although flow is controlled by upstream dam releases.

The most outstanding feature of this river is its very existence. The fact that a river the size and quality of the Colorado flowing through this arid region is unique in itself. The superb esthetic qualities of the near vertical cliffs, multi-colored canyons and desert surroundings compliment this feature.

Present use of the river is considered light in view of its potential to accommodate a highly expanded amount of recreation use. Isolated areas which are easily accessible however now receive a very heavy use.

Although the largest majority of users originate from the greater Los Angeles complex, the river area is becoming increasingly popular nationwide as a retirement center and for winter vacationing. Since water resource development has probably reached its capacity, it appears that potential recreational use would vie with any other uses of the river.

No future plans of development are known that would drastically impair the natural conditions of the river; however, there are several channelization projects proposed which would affect the qualities of the area, i.e., bank stabilization, reduction of siltation and improvement of water quality.

To effectively protect the river and its setting, it is felt that where the river flows through narrow canyons the distance outward from the river should generally be to the top of the first canyon. In areas where the river flows through valleys, a couple of hundred feet will generally suffice.

In addition, there is a need to determine and define the types of management and development which should, or should not be allowed within the setting.

(Sgd.) Floyd A. Henderson

Acting Regional Director

LOWER COLORADO RIVER INVENTORY FORM

A. General Information

1. Name of river

Lower Colorado

2. Location of study unit(s)

Western Arizona, Eastern California and southeastern Nevada.

This portion of the river is divided into two segments described as follows: 10 miles below Picacho to Parker Dam (100 miles); and Mt. Davis to Hoover Dam (45 miles).

3. State(s)

California, Arizona, Nevada

4. County(ies)

California - Imperial, Riverside and San Bernardino

Arizona - Mohave, Yuma

Nevada - Clark

5. Major drainage basin

Colorado River Basin

6. Population within 50 miles 98,000; 150 miles 10,000,000;  
250 miles 19,400,000

7. Weather characteristics

The climate is pleasant during the fall, winter and spring. The summer climate is hot with low humidity; temperature exceed 100° for long periods of time; Rainfall is sparse; annual precipitation averages 3-5 inches throughout the valley. The average growing season is 365 days.

The summer has been the maximum use season; however, other seasons are becoming just as significant because of the pleasant year-round temperatures.

Source: Proposed Lower Colorado River Land Use Plan.

Bureau of Land Management.

**B. Description and Characteristics of river**

1. Number of miles in study unit

145 miles

2. Width characteristics

Generally the river is from 400 to 1,000 feet in width.

The river is large enough to accommodate water skiing, all types of boat use, including speed boating, etc.

Source: Observation

3&4. Depth and flow characteristics

Hoover Dam controls flows released to the study area stretch while Parker Dam in the lower/re-regulates further water flow.

Maximum runoff periods and flow releases from upstream dams fluctuate both the depth and flow characteristics. The river has an average speed of 4-7 miles per hour.

Pools up to 30 feet in depth are not uncommon.

The river cannot be waded safely at any time of the year.

Source: Lower Colorado River Land Use office.

5. Course characteristics and stability

The river flow is reasonably stabilized due to the upstream dams. Due to increased deposition of sediment, the

river channel capacity is decreasing, which causes stream bank flooding.

Generally, the flood plain does not exceed six miles in width but is much narrower throughout most of the area.

Source: Proposed Lower Colorado River Land Use Plan.

6. Bed material

Sand and clay with some gravel and bedrock

Source: Lower Colorado River Land Use Office.

7. Water quality

Domestic pollution is a minor problem; however, the water is still of a good quality. The lower stretch of the river has a slight silty appearance. The river is safe for swimming.

Source: Lower Colorado River Land Use Office.

8. Type of fishery

Warm water species include; crappie, blue gill, catfish, and bass.

The upper portions of the river have significant rainbow trout populations. The lower stretch has minor populations of migrating trout.

Source: Proposed Lower Colorado River Land Use Plan.

C. Description and characteristics of setting

1. Nature of topography

From Hoover Dam to Davis Dam the river is confined within great gorges and canyons. Below Davis Dam it emerges from the

canyon and moves through a series of narrow valleys on its course to the Gulf of California.

Source: Observation

2. Ecological type

Semi-desert conditions prevail with many peculiar and specialized plants. Species included in the river setting are: ironwood, Palo Verde, incenso, grasses, cacti, creosote bush, sagebrush and herbaceous plants.

Source: Proposed Lower Colorado River Land Use Plan.

3. Important species of wildlife and status

Important species include; wild burro, quail, big horn sheep, beaver, muskrat, rabbit, dove, migratory waterfowl, herron, egret, and various shore birds. Also present are coyote and buzzards.

It should be noted that dove hunting is extremely important in this area.

Generally, wildlife populations are stable, with minor fluctuations in several species.

Source: Lower Colorado River Land Use Office.

D. River access

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

Two interstate highways cross the study area, as well as one state highway. In addition, access to the river is provided by five major roads terminating at the rivers edge, and four roads which parallel portions of the river.

2. Factors limiting public access

The rugged physical terrain and private lands limit public access. Foot travel is generally unimpaired with the possible exception of wildlife refuges where public access is controlled or limited.

Source: Lower Colorado River Land Use Office.

E. Special scientific, educational and esthetic values

1. Geologic

Generally the mountain masses are largely granitic and metamorphic rocks often overlain or interspersed with tuffs, lavas and other eruptive materials. The bases of these mountains are bordered with metamorphased sedimentaries. These volcanic mountains are of considerable interest and have outstanding scenic qualities.

Source: Observation, proposed Lower Colorado River Land Use Plan.

2. Biotic

This reach of the Colorado River with its association of wetlands is one of the major waterfowl wintering areas in the pacific flyway.

3. Historic

The river has a past full of history which includes: Spanish exploration and missionary work, gold rush river traffic, stage

line traffic, a transcontinental railroad and the construction of some of the greatest reclamation projects in existence.

#### 4. Archeologic

Indians populated the study area during the centuries prior to the white man and left artifacts, petroglyphs and other evidence of their culture.

#### 5. Other

The striking feature of the Colorado River is the fact that a body of water the size and quality of this river can and does exist in such an arid region.

#### F. Present quality of recreation and environmental 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>	
<b>Boating:</b>					
Motor		X			Shallow
Non-motor		X			Strong current impairs upstream travel
Fishing		X			
<b>Hunting:</b>					
Big game			X		
Small game	X (dove only)		X		
Water fowl		X			
Camping		X			
Swimming		X			

<u>Kinds</u>	<u>Quality</u>				<u>Environmental Limiting factors</u>
	<u>Excellent</u>	<u>Good</u>	<u>Fair</u>	<u>Poor</u>	
Hiking		X			Flood plain is bushy
Sightseeing		X			
Nature Study		X			

G. Classification of study unit

Class II - General Outdoor Recreation Area.

Class III - Natural Environment Area.

Class IV - Unique Natural Area.

Class V - Primitive Area.

H. Status of economic development

1. Economy of the general river area

Agriculture is the predominant economic activity of the area.

Others in order of importance are: recreation, grazing and mining.

The present economic values of Colorado River water are for hydroelectric power, metropolitan area water supply and agricultural irrigation.

If properly implemented recreation could become one of the major economic activities in the river area.

Source: Proposed Lower Colorado River Land Use Plan.

2. Status of economy

Agriculture is fairly static, while tourism and recreation is increasing. All other activities are stable.

Source: Lower Colorado River Land Use Office.

3. Transportation routes to and through the general river area

Two interstate highways cross the study area, as well as one state highway. Additionally, several major and minor roads terminate at the river's edge or parallel portions of the river.

Commercial air transportation is available at Las Vegas, Nevada; Kingman and Yuma, Arizona; and Blythe, California.

Additionally, several airfields are located at smaller towns in the vicinity of the study area.

There are two transcontinental railroads in the vicinity of the study area--the Southern Pacific at Yuma and the Santa Fe at Topock. The Santa Fe also has a connecting freight line crossing at Parker and a feeder line running south to Blythe and Ripley from Rice, California.

Source: Proposed Lower Colorado River Land Use Plan,  
Highway maps

I. Present and proposed water resource developments

Several channelization projects have been completed within the study area boundaries. It is felt that these projects have beneficially affected the overall qualities of the water.

One diversion dam near Palo Verde has been completed, but does not appear to adversely affect the qualities of the area.

Several channelization projects are planned within the study area which will affect the overall qualities.

J. Detrimental and/or beneficial impacts

1. Agriculture

Agriculture use is both detrimental and beneficial to the qualities of the unit. On one hand muddy irrigation water is

returned to the Colorado River adversely affecting water coloration and fish habitat. On the other hand it provides waterfowl resting and feed for wildlife.

2. Forestry

None

3. Mining

None

4. Transportation

With the present lack of access, it is assumed that this unit will benefit by additional roads which would more thoroughly utilize the area.

5. Industry

Realizing the limited information on existing industry, a general observation of no adverse affects is proposed, due principally to the fact that industrial development is very minor when considering the entire length of the river involved.

6. Recreation

Several commercial recreational developments now exist which supplement public recreational development and use of the study area. In addition Federal, state and local governmental agencies propose many more recreational developments. It is felt that these developments will not appreciably destroy the natural qualities of the river.

## 7. Residential - Community

Present residential development along the river tends to destroy the natural setting that a wild river status aims to protect. The amount of development is relatively insignificant when considering the amount of river mileage involved.

## K. Condition of watershed

The upper watershed is far removed from the study area and runoff from this area is controlled by several dams. No information on the trends in management in this region was obtainable.

The lower watershed is generally in fair condition considering its susceptibility to erosion due to the slopes of the land and the erosive character of the geological formations.

## L. Land ownership

Approximately 55 per cent of the lands adjoining the river are in private ownership including Indian reservations. The majority of the remainder is reclamation and wildlife refuge withdrawn or acquired land. Considerable amounts of public domain lands are situated within the environment of the river but do not adjoin it.

Source: Unofficial Land status map of the Lower Colorado River area.

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

The Lower Colorado River Land Use Office submitted a proposed land use plan for the Colorado River to the Secretary of the Interior on June 15, 1963. If approved and implemented, this plan would affect the natural qualities of the river and its environment.

The Corps of Engineers has both proposed and completed channelization projects on portions of the study area. These improvements definitely affect the natural flow of the river, i.e., bank stabilization, reduction of siltation and water quality.

N. Other

None

O. Sources of reference and information

Lower Colorado River Land Use Office personnel-Yuma, Arizona.  
Proposed Lower Colorado River Land Use Plan.  
Unofficial Land statusmaps of the Lower Colorado River area--compiled by Lower Colorado River Land Use Office.  
Bureau of Land Management personnel - Arizona State Office.  
Maps--topographic, state highway, Bureau of Land Management  
Observation  
Local merchants  
Department of Interior Officials - Washington D.C.  
Cibola Valley Channelization Project - Bureau of Sport Fisheries  
and Wildlife

P. Photographs

(see attachments)

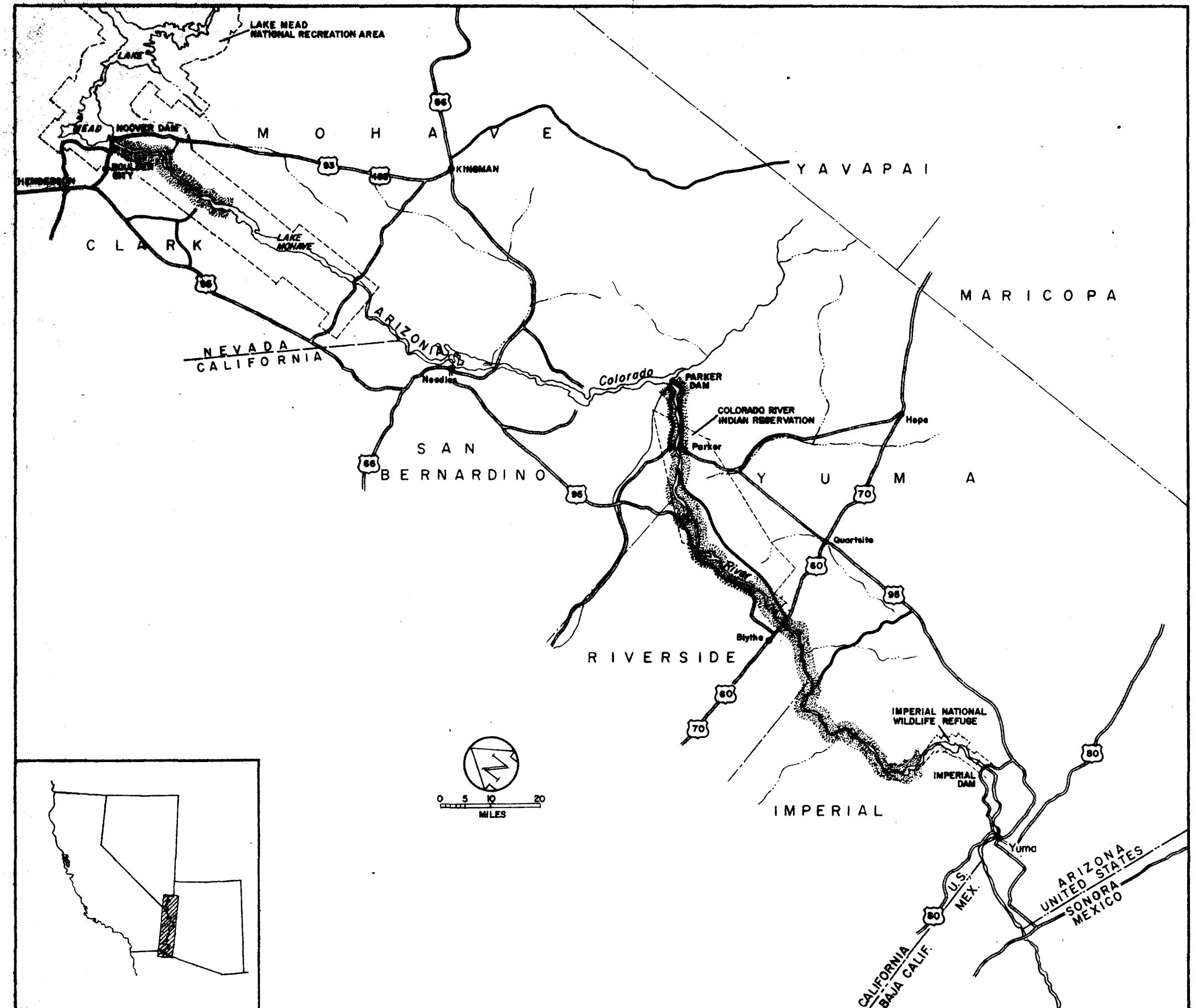
Q. Method of study

Aerial reconnaissance of the entire study area. Water reconnaissance over a five mile stretch of the river, approximately

10 miles below Hoover Dam. On-the-ground investigation at Yuma, Arizona, which is actually out of the study area boundaries.

R. Period of study

August 28, 1963





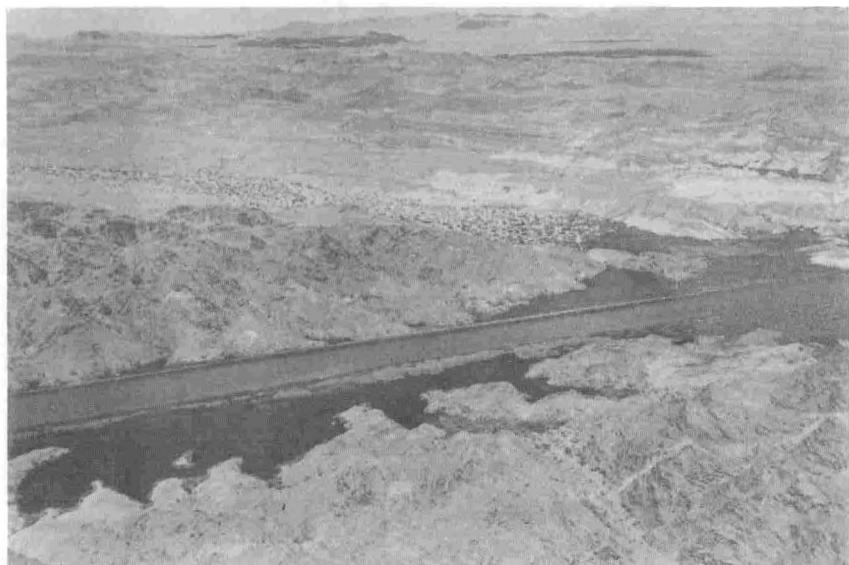
SQUATTER RESIDENCES ADJOINING RIVER



A GREEN OASIS IN A WASTELAND



PARKER, ARIZONA



CHANNELIZED PORTION OF RIVER

THESE THREE PICTURES  
SHOW THE COLORADO RIVER  
BETWEEN HOOVER DAM  
AND DAVIS DAM

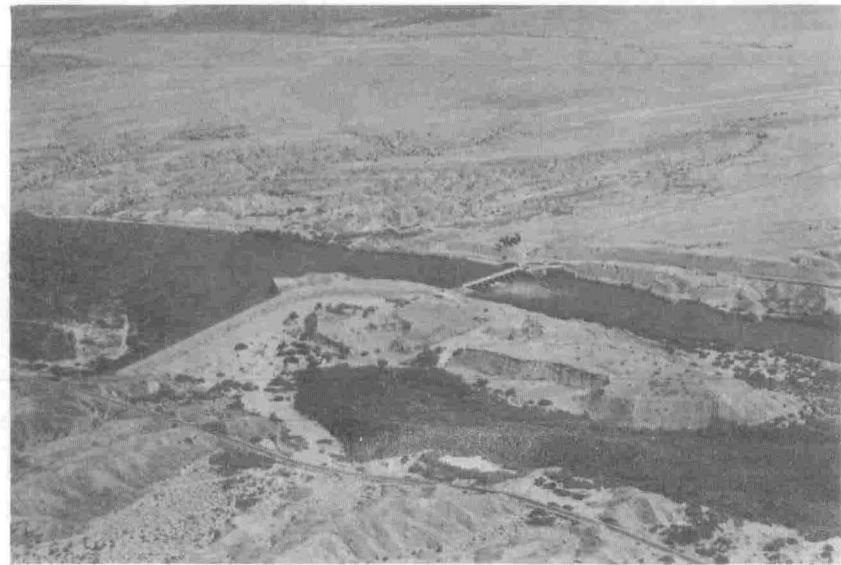
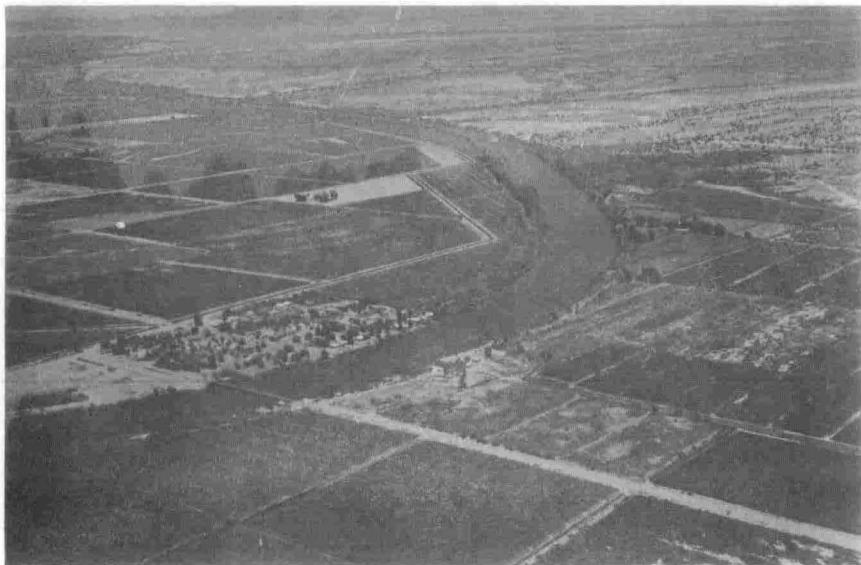
NARROW CANYON  
RESTRICTS  
BOAT LANDING



RUGGED TERRAIN  
LIMITS ACCESS

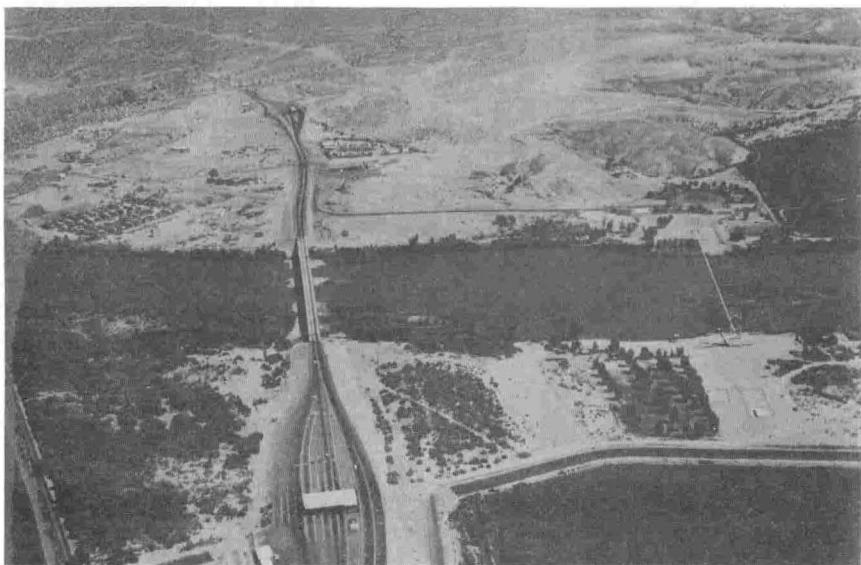
A LIMIT  
OF TROUT





INTENSE AGRICULTURAL  
DEVELOPMENT

SMALL DIVERSION DAM  
DOES NOT APPRECIABLY  
IMPEDE FREE FLOW



US #66 AT  
CALIFORNIA-ARIZONA BORDER