

FLOOD CONTROL DISTRICT
of
MARICOPA COUNTY
ARIZONA

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JUL 20 1983

Regional Environmental Officer
Lower Colorado Region
U. S. Bureau of Reclamation
Box 427
Boulder City, Nevada 89005

Re: Draft EIS, Regulatory Storage Division, CAP. (INT DES 83-27)

Dear Sir:

Thank you for the opportunity to review subject document. We in the Flood Control District of Maricopa County have been in close contact with staff personnel conducting the Central Arizona Water Control Study and have had representatives serve on the technical advisory group and on the Governor's Committee. We strongly support the need for upstream flood control on both the Salt-Verde River system and the Agua Fria River to provide needed protection for life and property and to provide development opportunities. We, therefore, strongly urge the rapid implementation of Plan 6.

1

To assure an adequate level of flood protection on the Agua Fria River, we recommend that the final EIS require the establishment of operational criteria for New Waddell Dam to limit the maximum storage pool (MSP) level to 1,694 feet during the appropriate times of the year and that the level of protection thus provided be identified to a storm of "known" return frequency and that the discharge for the 100-year storm under such criteria be provided to the FEMA in such a manner that the Flood Insurance Rate Map for the Aqua Fria would be revised. Further, we recommend that the term "incidental" flood protection be deleted throughout the EIS and the term "dedicated operational" flood protection be substituted therefore.

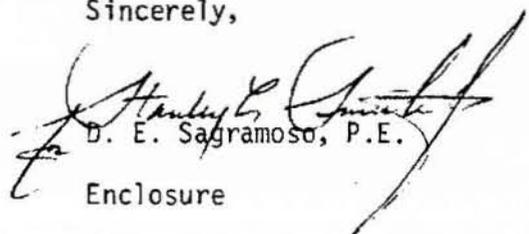
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The enclosed comment sheet addresses minor items. If you have any questions, or desire to discuss our comments, please call.

Sincerely,


D. E. Sagramoso, P.E.

Enclosure

Copy to: Project Manager, Arizona Projects Office

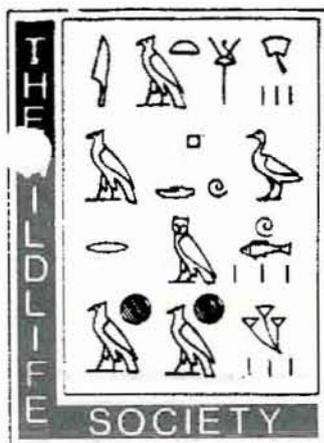
COMMENTS: DRAFT ENVIRONMENTAL IMPACT STATEMENT, REGULATORY STORAGE DIVISION,
CENTRAL ARIZONA PROJECT

5 The statement concerning reduction of the floodplain downstream of the Salt and Gila River's confluence on Page 233, seventh paragraph appears to conflict with the statement on Page D-3, first paragraph.

6 The statement on Page 214, second paragraph concerning the protection afforded by controlling flows at Sky Harbor Airport to 157,000 cfs is misleading in that significant damages could be expected in agriculture areas near Buckeye, Liberty, Palo Verde and in the Arlington Valley.

Responses to Comments
Flood Control District of Maricopa County

- 50-1 See response to General Comment #7.
- 50-2 See response to Comment 36-2.
- 50-3 Discharges for the 100-year flood are being developed in order to provide adequate data to determine the benefits provided by flood control at New Waddell Dam.
- 50-4 The statement has been revised to reflect "dedicated operation flood control at New Waddell Dam".
- 50-5 While provision of upstream flood control would provide the benefits for flood protection, these are not land resource conversion benefits as discussed in IV.B.7.
- 50-6 The statement has been revised to reflect agricultural damages discussed.



51

mafee

THE WILDLIFE SOCIETY, ARIZONA CHAPTER #5
2222 W. Greenway Rd.
Phoenix, AZ 85023
942-3000 Ext. 254

July 26, 1983

1201
William Rinne
Regional Environmental Officer
Lower Colorado Region
U.S. Bureau of Reclamation
P.O. Box 427
Boulder City, Nevada 89005

Dear Mr. Rinne:

Thank you for providing us with a copy of the Draft Environmental Impact Statement-Regulatory Storage Division, Central Arizona Project. We have reviewed this document and offer our comments for your consideration.

We compliment the Bureau of Reclamation on tackling the arduous task of analyzing 34 possible elements in various combinations and developing 6 viable alternatives.

While all of the described alternatives will adversely impact wildlife resources except no action, only a structural plan will satisfy two of the project purposes, flood control and regulatory storage (Colorado River Basin Project Act, P.L. 90-537). Therefore, of the 5 structural alternatives presented, we favor Plan 6 or Plan 7 with the following modifications:

1. All mitigation recommended by the U.S. Fish and Wildlife Service in their Biological Opinion and Fish and Wildlife Coordination Act Report should be implemented; **1**
2. Mitigation measures should be initiated as soon as possible, preferably during the preconstruction phase of the project; **2**
3. Project costs should include all mitigation costs; **3**
4. Additional wildlife programs should be developed to attain the project purpose of fish and wildlife conservation and development. Mitigation will replace only existing fish and wildlife resources that will be lost during project construction and operation; it will not provide for enhancement of these resources. **4**

Possible wildlife enhancement measures could include the development and/or improvement of additional cottonwood-willow habitat, acquisition of land

for wildlife resource management, and deferment or elimination of livestock grazing within the project area.

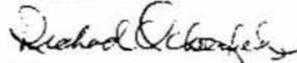
We are offering any assistance the Bureau of Reclamation may need in developing and finalizing wildlife resource mitigation and enhancement.

In addition, we have the following specific comments:

-
- 5** Pages 146-147, Tables IV-17 and IV-18: Please explain why mitigation of riparian/wetland and threatened and endangered species acreage is smaller in Plan 7 than in Plan 6;
-
- 6** Plates 8 and 10: The potential borrow areas downstream from the Cliff Dam site are unacceptable. Although these 3 miles of riverine and associated riparian habitat would eventually return via succession, no comparable habitat would be available for wildlife utilization in the interim.
-

Thank you for the opportunity to review this DEIS.

Sincerely,


Richard Ockenfels
President Elect

Responses to Comments
The Wildlife Society, Arizona Chapter

- 51-1 Reclamation is committed to implementing the mitigation plan described in Chapter IV. Information for this plan was developed through a cooperative effort with the Fish and Wildlife Service and the Arizona Game and Fish Department. The plan as described will mitigate almost entirely all of the impacts to wildlife resources caused by Plan 6. Additional mitigation needs and enhancement of resource values will be the subject of negotiations conducted with the above mentioned agencies and other interested parties.
- 51-2 The mitigation plan will be implemented at the earliest possible time so as to limit the temporal effects of the impacts. This implementation will be dependent on the construction schedule and the availability of the needed mitigation areas.
- 51-3 The mitigation costs are part of the project and are detailed in this EIS.
- 51-4 Development of fish and wildlife programs that go beyond mitigating project impacts are detailed in the mitigation plan. Implementation of these programs will be dependent on sponsorship and cost sharing by parties interested in seeing these programs developed.
- 51-5 Acreages for riparian/wetland communities and endangered species are smaller in Plan 7 than in Plan 6 because of the increased storage needed to meet the instream flow measures proposed in Plan 7. The additional storage would inundate areas that are used for riparian rehabilitation and serve the needs of the eagles.
- 51-6 The actual location of the borrow areas has not been finalized. The importance of the riparian habitat downstream of Cliff Dam will be one of the factors considered in siting these areas. Because borrow would need to be extracted from these areas, full rehabilitation of the habitat would take place immediately after their use.

52

#52

MARICOPA WATER DISTRICT

DIRECTORS
 H. S. RAYMOND, PRESIDENT
 H. L. ANDERSON, VICE PRESIDENT

P. O. BOX 730
 PEORIA, ARIZONA 85345
 (602) 975-2151

JOE A. ALBERT
 RICHARD S. DUNCAN

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ALBERT GENERAL MANAGER		
DISTRICT ENGINEER		
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July 20, 1983

Mr. N. W. Plummer, Regional Director
 Bureau of Reclamation
 Lower Colorado Regional Office
 P.O. Box 427
 Boulder City, Nevada 89005

Copy 7/20/83 150 APR

Re: Central Arizona Water Control Study (CAWCS) Stage III Report

Dear Bill:

I have enclosed for your review, a copy of a letter dated December 12, 1982, to Ed Hallenbeck regarding a number of concerns that the District has with regard to the proposed construction of New Waddell Dam.

After a review of the CAWCS Stage III Report which describes the process and plan formulation of Plan 6, we believe that significant institutional issues addressed in our letter remain to be resolved and that the future mitigation initiatives must be directed to each of them.

I appreciate this opportunity to review and comment on the State III Report.

Sincerely,

H. S. Raymond
 President

HSR/fs
 enc.

MARICOPA WATER DISTRICT

MARICOPA COUNTY MUNICIPAL WATER
CONSERVATION DISTRICT NUMBER ONE

BOARD OF DIRECTORS

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H. S. RAYMOND, VICE-PRESIDENT
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FLORENCE R. SMITH
ASST. SECRETARY-TREASURER

P. O. BOX 730

PHOENIX, ARIZONA 85345
(602) 975-2151

December 10, 1982

STAFF

H. S. RAYMOND, DISTRICT ENGINEER
AND MANAGER
JOE A. FALBO, ASSISTANT MANAGER
RICHARD D. YANCY,
ASSISTANT DISTRICT ENGINEER

Mr. Edward M. Hallenbeck
Project Manager
Bureau of Reclamation
Arizona Projects Office
Suite 2200, Valley Bank Center
Phoenix, Arizona 85073

Subject: Field Draft, EIS, CAP, Regulatory Storage Division

Dear Ed:

The District appreciates the opportunity to review and comment on the "Field Draft, Environmental Impact Statement, Central Arizona Project, Regulatory Storage Division", dated September 1982.

Our comments are directed to Plan 6, and in particular, the proposed construction of New Waddell Dam. The District believes the issues and concerns raised in our letter to you of October 15, 1982, should be incorporated into and addressed by the EIS. With that in mind, we have organized our comments into three major categories: ownership of facilities; water quality; and, hydroelectric generation.

Ownership of Facility

The EIS should recognize and state that the District is sole owner of the existing Waddell Dam and Lake Pleasant and the rights and privileges pertaining thereto and that the District must be kept whole with regard to the construction and operation of the new facility. As previously stated, the District must receive ownership rights in the new facility and compensation as appropriate. Any contractual agreements must provide service, operational control and flexibility equivalent to that at present. Other existing rights include relocation housing as required, recreational resource use and the right to expansion of the facility.

Water Quality

The conclusion on page 60 and 222 et seq., that there is no significant water quality effect for agricultural use and, hence, there is no need for mitigation, is incorrect. The Agua Fria supply contains about 358 milligrams per liter (mg/l) of total dissolved solids (TDS) and 215 mg/l hardness. The Central Arizona Project supply replacing most of that Agua Fria supply is expected to contain about 722 mg/l TDS and 300 mg/l hardness. The more saline water will result in reduced irrigation efficiency and will aggravate salt balance problems. Consequently, more water will be required for irrigation in order to leach the salts from the root zone of the crop.

Irrigation water will be converted to provide for municipal and industrial needs in the future. The increases in TDS and hardness of the water supply in the reservoir attributable to the construction of New Waddell Dam would result in costs associated with hardness removal, hardness effects, and reduced plumbing life. Mitigation of these effects should be addressed.

Hydroelectric Generation

If a pumped storage hydroelectric generation facility is a real possibility for New Waddell, this needs to be addressed in the EIS. This would include providing whatever measures are necessary to enable deliveries of the regulated flow of water into the Beardsley Canal, with no additional cost or operational handicap to the District. **3**

Provision was made in the construction of Waddell Dam for installation of hydroelectric generating facilities. The EIS should recognize the need to keep the District whole with respect to this potential for hydroelectric generation. This could be accomplished by provision for deliveries to the District at the same rates, times and hydraulic elevation as would be possible with the existing facilities.

We would be pleased to discuss these concerns with you if you desire. Please send us a copy of the Final Draft EIS when it is available.

Very truly yours,


H. S. Raymond
District Engineer and Manager

cc: Mr. N. W. Plummer, Regional Director, USBR
Mr. Thomas C. Clark, General Manager, CAWCD

Responses to Comments
Maricopa Water District

- 52-1 The EIS has been revised to indicate that the District is the owner and operator of Waddell Dam.
- 52-2 As stated in the EIS, the introduction of Colorado River water in the New Waddell Reservoir will affect the quality of water currently being used by the MCMWCD#1. Technical studies show that Colorado River water, Agua Fria River water, and the mix of these waters meet all required standards and are equally well-suited for irrigation use; hence, the conclusion of no significant adverse impact on water quality.
- If it can be shown that significant adverse impacts will occur then mitigation would be required under current Reclamation policy. This policy is described in the Bureau of Reclamation's June 9, 1983, letters to all potential CAP users. Since mitigation measures apply only to current uses of water, Reclamation has no intention or requirement to mitigate for future projected M&I use.
- 52-3 Although, pumped back storage at New Waddell has been considered and discussed, it does not appear to be economically feasible and is not a part of the proposed action.

Responses to Comments
The Arizona Bank

53-1 See response to General Comment #1.



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United States Department of the Interior

NATIONAL PARK SERVICE

WESTERN REGION

450 GOLDEN GATE AVENUE, BOX 36003
SAN FRANCISCO, CALIFORNIA 94102

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IN REPLY REFER TO:

L7619 (WR-RPE)

July 21, 1983

Memorandum

To: Regional Director, Bureau of Reclamation, Boulder City, Nevada
Attention: Regional Environmental Officer

From: ^{Director} Regional Director, Western Region

Subject: Draft Environmental Statement--Regulatory Storage Division, Central Arizona Project

In response to the April 29, 1983 request from your Director, Office of Environmental Affairs, we have reviewed the subject and have the following comments to offer.

Archeological Impacts

The draft statement presents a very brief and generalized summary of the impacts of the several alternatives upon archeological and historic resources. Although brief, they do clearly indicate that each of the alternatives would result in severe adverse effects. The preferred alternative is clearly much better than Alternative 3 which includes the Confluence Dam site. From the perspective of both historic resources and social impacts, Alternative 3 would have effects that are so severe as to be unacceptable. The concentration of highly significant and well preserved resources upstream from the Confluence site would be impossible to mitigate adequately. To even attempt a mitigation would be prohibitively expensive in terms of both time and money.

Roosevelt Dam National Historic Landmark

The DES does not adequately address the National Historic Landmark status of Roosevelt Dam. Because the dam is an outstanding resource with significance in so many areas, and because it is so visible and still operational, it has a unique position, even among designated NHLs, and is truly one-of-a-kind. Section 110 (f) of the 1980 Amendments to the National Historic Preservation Act specifically provides that federal agencies shall take extra precautions in planning projects which will affect NHLs; however, the DES does not reflect any such extra care. Since the Department of the Interior is charged with monitoring all NHLs, and particularly those whose integrity is damaged or threatened, and since the Department has had a historically close association with this NHL, we feel that the Bureau should be especially cognizant of the detrimental impacts of the proposals developed thus far. Also, qualified Departmental staff should be involved more closely in the research and design stages of planning for any project alternatives. The DES should include clearer reference to the legal status of Roosevelt Dam and the legal responsibilities of the lead project agency.

The adverse impacts caused by any alternative which proposes to breach or cap Roosevelt Dam cannot be mitigated. The proposal to build a new dam downstream and flood Roosevelt is tantamount to destruction and is therefore the least desirable alternative. The proposal to raise the height of the existing dam by another 60 feet (25% of the existing height) is only slightly less objectionable.

While there are several possible ways to deal with new construction atop Roosevelt Dam, there is uncertainty on which might be least offensive from an engineering, historic, or architectural perspective. Some possible measures are as follows:

1. Face the cap in cut stone identical to that on the existing face. Mimicking or historicist treatments are generally considered dishonest as a preservation treatment and would definitely be unacceptable in the case of this resource, which was very sensitively designed and detailed. A variation of this proposal would involve drawing a distinct line between the original and new construction to allow the public to perceive the change.
2. Design the cap in compatible contemporary style and materials. It is difficult to imagine what could be considered "sensitive" or "compatible" new design atop such a unified and strong design concept as the existing dam. Any such cap would probably be awkward at best, and an esthetic affront at worst.
3. Cap the dam and cover the entire structure with a new face. This treatment would obliterate the historic design which ought to be somehow retained yet would not be a true statement of contemporary engineering design.

Although none of the above "capping" variations mitigates the adverse impacts on Roosevelt Dam, any proposed "cap" design alternatives should be submitted for thorough scrutiny and comment by qualified design professionals, possibly on the Historic American Engineering Record staff. Also, the Bureau may wish to consult with an outside organization, such as the American Society of Civil Engineers, as part of its review process.

River Resources

While the DES does discuss impacts on stream values on the Salt and Verde Rivers, there should be specific discussion on the potential impacts on those portions of the Verde and Salt Rivers that were designated by Congress for study, under the provisions of Section 5(a) of the National Wild and Scenic Rivers Act, as potential additions to the National Wild and Scenic Rivers System. These studies were recently completed by the U.S. Forest Service, Tonto National Forest, and that agency should be consulted regarding their recommendations and the potential impacts of the enlarged storage projects.

In addition to the above-mentioned 5(a) study rivers, an additional segment of the Verde River and all of Tonto Creek have been included in the Nationwide Rivers Inventory. These stream resources have the potential for either inclusion in the National System or protection by state and local entities. Therefore, the potential impact of the proposal on this stream and stream segment also should be identified in the DES. Inventory data summaries for both

the Verde River and Tonto Creek are enclosed for your reference in determining impacts. We recommend that potential impacts on all of the above-mentioned river resources be discussed under Stream-Oriented Recreation, starting on page 165 of the DES. Coverage in other sections also may be appropriate.

We appreciate the opportunity to review the DES. If you should have questions or need additional information on our comments, our contact is Jim Huddleston, Division of Planning and Environmental Quality, who can be reached either at the letterhead address or telephone number (FTS) 556-8313.

W. Lowell White

Enclosures

cc:

WASO (762) w/o encl.

Division of National Register Programs w/o encl.

VERDE RIVER

Date Of Summary: June, 1982

Counties: Gila
Maricopa
Yavapai

State: Arizona

Total Length: 193 miles

Mouth: Salt River, Maricopa County, AZ.

Congressional
Districts: 3,4

Source: Sullivan Lake, Yavapai County, AZ.

I. INVENTORY STATUS: The segment described below in Item II is included in the Inventory and was identified in the first phase process. Three additional segments also were included in the first phase but were dropped after the second phase refinement due to a lack of identifiable amenities and/or identification of additional man-made intrusions. These segments were the Salt River confluence to Bartlett Dam(24 mi.), Bartlett Reservoir to Horseshoe Dam(7 mi.) and Prescott National Forest boundary to Sullivan Lake(5 mi.). In addition to the aforementioned segments, the Verde River, from Table Mountain to Camp Verde and from Clarkdale to the Prescott National Forest boundary near Paulden, was designated by Congress, in 1978, as a study river for potential inclusion in the National Wild and Scenic Rivers System(Public Law 95-625). Study rivers and components of the national System have separate status and normally are not included in the Inventory.

II. DESCRIPTION OF INVENTORY SEGMENTS:

Spatial description: End of Horseshoe Reservoir to vicinity of Table Mountain.

Length: 14 miles

Physiographic Section: 22d(Basin and Range Province-Mexican Highland).

Physical description: This river segment flows in a wide floodplain through rugged terrain and shallow canyons in the Sonoran desert vegetation zone. Elevation varies little, being approximately 2220 feet at the head-of the segment at Table Mountain and 1999 feet at Horseshoe Reservoir. The river is basically free-flowing with slight regulation during low flow periods by a powerplant located about 18 miles upstream from the segment. Cultural development is minimal.

III. VIDEO TAPE COVERAGE: The entire river, from the Salt River confluence to Sullivan Lake, was flown and taped in September, 1979. Coverage is contained on seven 20 minute video tape cassettes.

H-204

IV. NOTABLE FEATURES:

Scenic: The primary scenic value is the presence of a free-flowing, meandering and perennial river in a rugged desert landscape. This contrast, combined with the primitive character of the river corridor, contribute to outstanding scenic values.

Recreation: This segment has good potential for floating by innertube, raft and canoe. The best river-running season is in March and April when flows are highest. However, hazards are presented by rapids and tree obstacles. Other recreation pursuits in this segment are fishing, nature study and enjoyment of the unique river environment. Access limits the degree and diversity of recreation use in this area.

Geologic: Geologic characteristics along the segment are common to the area but do contribute to the overall scenic values.

Fishery: Catfish, and to a lesser degree bass and sunfish, provide a sport fishery. Other common introduced species include carp and red shiner. Woundfin, Colorado River squawfish and the Gila topminnow--all federally-listed endangered species--formerly inhabited the river and the habitat remains suitable for possible reintroduction. Other native species--the spinedace, loach minnow and rezorback sucker--are listed by the State as threatened or unique and may be present in extremely limited numbers. Colorado River roundtail chub, another unique native species, is present in moderate numbers.

Wildlife: The entire Verde River is essential habitat for bald eagles--a federally-listed endangered species--and the subject segment is within a critical nesting area. The riparian community provides habitat for a wide variety of birds and mammals and the river provides valuable winter waterfowl habitat.

Botanic: The river corridor consists of Sonoran desert grassland dotted with Saguaro cacti. Riparian vegetation is characterized by willow, ash, Arizona oak, salt cedar mesquite and burrobrush. The river area has not been surveyed for threatened or endangered plant species. However, some of these are suspected to exist along the river corridor.

Historic, Archeologic, Cultural: Specific sites along this segment are not identified for listing in this summary. However, the Verde River corridor is known to contain a wealth of historic and archeologic sites and the river itself has played an important role in the development of Arizona. Further investigations are expected to produce many sites of National Register significance.

V. POTENTIAL OR CONFIRMED OUTSTANDINGLY REMARKABLE FEATURES:

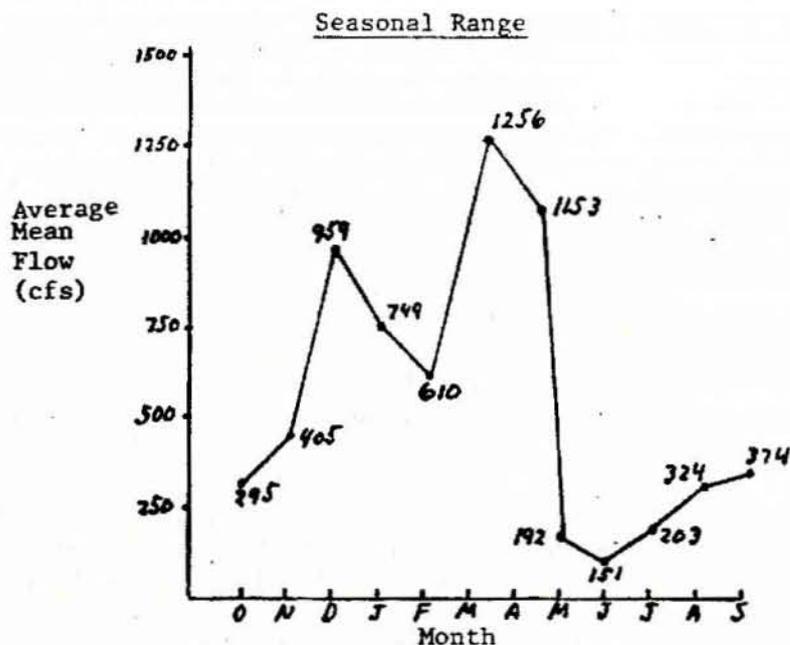
Confirmed: The Forest Service Wild and Scenic River study for the Verde identified scenic, fish and wildlife and historic and cultural values as outstandingly remarkable features. In this segment, scenic and fish and wildlife values are similar.

Potential: Historic, archeologic and cultural values--depending on future site identification

VERDE RIVER(cont)

VI. WATER RESOURCES:

Flow Data: Average annual flow: 516 cfs(34 year record).
Maximum recorded flow: 94,800 cfs(2/15/79).
Minimum recorded flow: 48 cfs(6/17/56 & 7/18 & 19/58--caused
by power regulation on Fossil Creek).
Drainage area: 5872 sq. mi.(area above gage).



Comments: The above flow figures are taken from the gage located below Tangle Creek and nine miles above Horseshoe Dam. The gage was established in 1945 and the seasonal range is based on the average of eight random years since establishment. Peak flows most often occur in March-April with minor peaks resulting from winter storms and late summer/early fall thunderstorms. In addition to the quoted maximum flow, a peak flow of 94,000 cfs occurred on 2/19/78 and a flow of 100,000 cfs is estimated to have occurred in March, 1938.

Water Quality: The Arizona Water Quality Standards for Surface Waters(revised, 1979) Appendix 9, rate the waters of the Verde River as suitable for full body contact(i.e. swimming).

Existing and Proposed Water Resource Development: The segment is undeveloped except for minor regulation of low flows by a power plant located 18 miles upstream and using water from Fossil Creek. About 12,500 acres upstream are irrigated by surface and ground water. Horseshoe Reservoir, at the lower end of the segment, was completed in 1945. The Central Arizona Water Control Study(CAWCS) identified a dam site at the Tangle Creek

VERDE RIVER(cont)

VI. WATER RESOURCES(cont):

Existing and Proposed Water Resource Development(cont): confluence. This proposal was dropped due to unstable geology. The CACWS also proposes the enlargement of Horseshoe Dam, an action which could inundate part of the lower segment. The full length of this segment is under Water and Power Designation 5 and Salt River Project withdrawal(source; Review of Water-Power Classifications and Withdrawals-Salt River Drainage Basin, Arizona, July, 1971).

VII. LAND RESOURCES:

Land ownership: National Forest(Tonto National Forest)-100%.

Land use: The river corridor is predominately primitive, undeveloped and under National Forest management. Predominate uses are recreational and, perhaps, some grazing.

Access: Access is extremely limited by the rugged terrain. There is a Forest Service road leading to a crossing at Sheep Bridge and some foot trails. The entire corridor is in public ownership.

VIII. RESOURCE CONSERVATION STATUS:

Protective status, studies and proposals: The segment is under no form of protection other than that afforded by National Forest management. The Forest Service draft Wild and Scenic River study and environmental statement for the Verde River, released in August, 1980, recommended that a 39.5 mile segment from Table Mountain to Beasley Flats and a 39 mile segment from Clarkdale to Verde Ranch be included in the National System. The 17.5 mile segment immediately above the Inventory segment would be classified as "wild" with the remainder of the segment to Beasley Flats classified as "scenic". The segment above Clarkdale would be classified as "recreational". Because of the elimination of the Tangle Creek damsite, the study included the river down to Tangle Creek. However, there was no recommendation for designation of this addition. During the course of a Wild and Scenic River study and for a three year period following the submission of a study report recommending designation to Congress, a study river is protected from water resource development and/or any other activity that may have an adverse effect on the values which make the river eligible for designation.

Existing/proposed competing resource uses: As described under Section VI, WATER RESOURCES, there is an active proposal to enlarge Horseshoe Dam which may impact the lower end of the segment. Also, the segment is under water and power withdrawals. There are no other known development proposals.

H-207

VERDE RIVER(cont)

IX. ADDITIONAL INFORMATION: The Forest Service has completed work on the final environmental statement and Wild and Scenic River study documents. However, these have not been released as of the date of this summary. Recommendations in the final may differ from those in the draft.

X. REFERENCES:

Government Contacts: U.S. Forest Service, Prescott National Forest, Prescott, AZ; Coconino National Forest, Flagstaff, AZ; Tonto National Forest, Phoenix, AZ and Southwest Region, Albuquerque, NM.

Bureau of Reclamation, Lower Colorado Region, Boulder City, NV and Phoenix Project Office, Phoenix, AZ.

State of Arizona, Natural Areas Coordinator, Arizona State Parks Board and Department of Game and Fish, Phoenix, AZ.

National Park Service, Western Region, San Francisco, CA(preparer of this summary).

Organizational Contacts: Salt River Project, Phoenix, AZ.

Individual Contacts: Dave Brown, Arizona Department of Game and Fish, Phoenix, AZ.

Reference Documents: Verde River Draft Environmental Statement and Wild & Scenic River Study. USDA, Forest Service, Coconino, Prescott and Tonto National Forests, Arizona. 1980.
Flood Plain Information, Verde River and Tributaries. Corps of Engineers, Los Angeles District. 1976.
Verde Venture. Dave Brown. "Wildlife Views", Arizona Department of Game and Fish. August, 1981.

Also: The Bureau of Reclamation should have documents relating to the Central Arizona Water Control Study.

TONTO CREEK

Date Of Summary: May, 1982

Counties: Coconino
Gila

State: Arizona

Total Length: 66 miles

Mouth: Salt River (Roosevelt Lake),
Gila County, AZ

Congressional
Districts: 3,4

Source: Mogollan Rim approximately
two miles above Tonto State
Fish Hatchery, Gila/Coconino
Counties, AZ.

I. INVENTORY STATUS: The entire length of Tonto Creek to Roosevelt Lake is included in the Inventory. It was identified and included in the first phase.

II. DESCRIPTION OF INVENTORY SEGMENTS:

Spatial description: Roosevelt Lake (spillway elevation) to source.

Length: 60 miles

Physiographic Section: 22d (Basin and Range Province-Mexican Highland).

Physical description: A tributary of the Salt River, Tonto Creek originates on the Mogollon Rim and makes a rapid descent through boulder strewn canyons characterized by steep ridges, varied rock formations, deep pools and numerous side canyons. In the lower reaches, the streamcourse widens into a broad floodplain. Elevation at the source is approximately 7400 feet and is 2120 feet at Roosevelt Lake. This wide range in elevation contributes to a floral diversity ranging from mixed evergreen forest in the upper reaches to chaparral woodlands further downstream. The stream is free-flowing to Roosevelt Lake, becoming intermittent at times in the lower reaches. Cultural intrusion is moderate to minimal.

III. VIDEO TAPE COVERAGE: The entire stream, from the source to Roosevelt Lake, was flown and taped in September, 1979. Coverage is contained on three 20 minute video tape cassettes.

TONTO CREEK(cont)

IV. NOTABLE FEATURES:

Scenic: The streamcourse exhibits high scenic qualities in its descent through a number of canyons, varied rock formations, deep pools, numerous side canyons and steep ridges. The Hell's Gate area, in particular, is of significant scenic value.

Recreation: The upper reach of Tonto Creek is a popular mountain retreat for both residents of the Phoenix metropolitan area and out-of-state tourists. There are a number of public campgrounds and private cabins and lodges in this area. The primary water-oriented recreation pursuit is angling for stocked rainbow trout. Fishing pressure is heavy.

Geologic: The Hell's Gate area and the varied rock formations exposed along the streamcourse, between the Mogollon Rim and Roosevelt Lake, are the primary geologic features.

Fishery: Rainbow trout are stocked above Hell's Gate and a State hatchery is located near the headwaters. This habitat was severely damaged by flood flows from a Labor Day couldburst in 1970. In the lower reaches, there is some in-migration of catfish from Roosevelt Lake. Carp, shiners and chubs also are present.

Wildlife: The southern bald eagle, a federally-listed endangered species, is known to nest in the stream area. Other raptors, such as golden eagles and hawks, are also likely to be present. Other wildlife indigenous to the area include mule and white-tailed deer, cougar, bear, javalina and occasional elk.

Botanic: The wide range in elevation contributes to a diversity of vegetation varying from ponderosa pine and mixed evergreen forest in the upper reaches to chaparral woodlands further downstream.

Historic, Archeologic, Cultural: No specific sites have been identified for this summary. However, a number of archeological sites are probable. Tonto Creek was a natural trade route between the Salt River Valley cultures and those of the Mogollon Rim. A number of cliff dwelling ruins are evident. There have also been historic events along Tonto Creek relating to settlement of the area and range wars.

V. POTENTIAL OR CONFIRMED OUTSTANDINGLY REMARKABLE FEATURES:

Confirmed: Wildlife(southern bald-eagle nesting sites).

Potential: Scenic and recreation values.

VI. WATER RESOURCES:

Flow Data: Average annual flow: 134 cfs(38 year record).

Maximum recorded flow: 61,400 cfs(2/15/80).

Minimum recorded flow: No flow at times

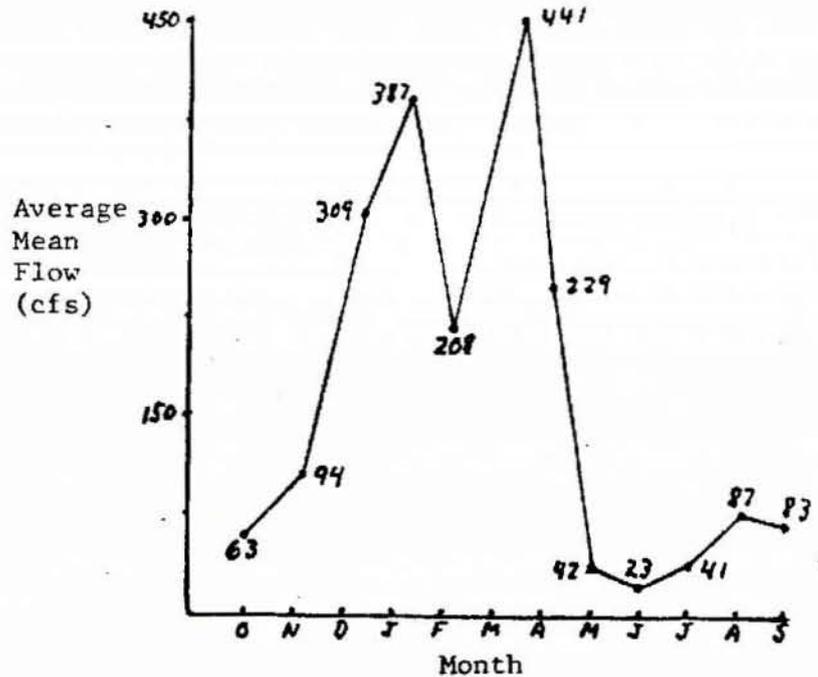
Drainage area: 675 sq. mi.(area above gage).

TONTO CREEK(cont)

VI. WATER RESOURCES(cont):

Flow Data:
(cont)

Seasonal Range



Comments: The preceding flow figures are taken from the gage located above Gun Creek near Roosevelt, AZ and 17 miles upstream from the high water line of Roosevelt Lake. The gage was established in 1940 and the seasonal range figures are based on the average of nine random years since establishment. Like many other Arizona streams, peak flows most often occur in early spring with lesser peaks resulting from winter storms and late summer/early fall thunderstorms. Two previous maximum flow occurrences are close to the February, 1980 record. These occurred in January, 1979(55,800 cfs) and September, 1970(53,000 cfs).

Water Quality:The Arizona Water Quality Standards for Surface Waters(revised, 1979) Appendix 5, rate the waters of Tonto Creek as suitable for full body contact use(i.e. swimming).

Existing and Proposed Water Resource Development: There are some small diversions for irrigation and the lower six miles(not in Inventory) are inundated by Roosevelt Dam and Lake, which were completed in 1911. Otherwise, the stream is free-flowing. A Bureau of Reclamation proposal to enlarge Roosevelt Dam would effect additional inundation of the lower reaches of Tonto Creek. The proposal is part of the Central Arizona Water Control Study and the status is unknown at this time. There are no other known development proposals for Tonto Creek at this time.

TONTO CREEK(cont)

X. REFERENCES(cont):

Individual Contacts: None.

Reference Documents: The Forest Service may have printed material relating to the Rare II wilderness study for the Hell's Gate area. Also, the Bureau of Reclamation's Central Arizona Water Control Study should be consulted for possible additional information on the enlarging of Roosevelt Dam and Reservoir.

Responses to Comments
National Park Service

54-1 The comment concurs with Reclamation's conclusions that the currently proposed Plan 6 is, from the perspective of impacts upon archeological, historical and social resources, a reasonable compromise in light of the much more severe impacts of Plan 3 which included the originally proposed Confluence Dam.

54-2 The EIS also recognized that the impacts of constructing a new or modified Roosevelt Dam were so adverse that the historical values of the existing structure could not be completely mitigated (see Tables 4 and IV-41 and Section IV.C.2.b). Reclamation is clearly aware of the requirement of section 110(f) of the 1980 amendments to the National Historic Preservation Act (see Section IV.B.4 and Appendix B of the EIS) which stipulate that project planning shall be undertaken to minimize alteration of landmarks to the maximum extent possible. The planning process, which has led to the identification of Plan 6 as Reclamation's proposed plan, has been cognizant of Roosevelt Dam's historic importance and a variety of alternative undertakings, sites and designs as well as the alternative of no action have been considered. A report titled "Theodore Roosevelt Dam: Justifying Alteration of a National Historic Landmark" has been prepared to document the alternatives evaluated and to provide the Secretary of Interior with information to weigh in carrying out his responsibilities to safeguard landmarks as well as construct and maintain safe water development projects.

Copies of this report are being circulated among concerned individuals and organizations including the National Park Service and its Historic American Engineering Record staff as well as the American Society of Civil Engineering. The ultimate conclusion is that the sacrifice of unmitigable historic values at Roosevelt Dam is justified and will be ameliorated through prior documentation and historic study.

Our decision to modify Roosevelt Dam rather than construct a new dam, discussed in Chapter II, was influenced by historical aspects. Final design will continue to recognize the historical significance of Roosevelt Dam.

54-3 See response to comment 47-32.

55

#55



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July 23, 1983

Regional Director, Lower Colorado Region
U.S. Bureau of Reclamation
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Editor

Dear Sir:

The following letter represents one portion of the commentary of the Maricopa Audubon Society to the CAP regulatory Draft Environmental Impact Statement "INT DES 83-27."

Page 2, Purpose and Need

In the impact statement the CAP regulatory storage has nowhere been placed adequately within the context of the Central Arizona Project both nationally and locally. This overview is essential. In his 1978 economic analysis of the Central Arizona Project Dr. Power pointed out that:

1. CAP is not a "reclamation" project at all. Agriculture is being used as a cover to build a water project to serve one of the most prosperous, fastest growing areas and some of the most profitable industries in the Nation. And they do not need it.
2. CAP is part of an anti-planning effort by the Bureau of Reclamation which pyramids contradictory projects, creating as a result of its cascading errors, the need for still larger, more grandiose projects (such as the diversion of the Columbia River or Yukon River water to the Southwest). The CAP is inconsistent with current Bureau of Reclamation projects in California and planned Bureau projects in Colorado and Utah.
3. The "shortage" of water in the arid West is a human-made shortage, not one primarily imposed by nature. Arizona water law encourages the squandering of a valuable resource. It is the use of a highly valuable resource to pursue marginally valuable ends. In short, it is the waste of water in Arizona that creates water scarcity. CAP will not only not eliminate this waste, it will encourage that waste to continue.
4. Additional water is not needed in central Arizona in order to allow its agricultural and urban-industrial economy to continue to grow.

Water is not the limiting factor in any but a very few industries, and it would be irrational to try to make these few low value, water-intensive industries profitable in an arid environment. Arizona's economy, if left to itself, will make natural adjustments slowly over time to adapt to its resource and climatic base. It has done this in the past and it will continue to do so. There will be no economic crisis, no economic slowdown tied to water scarcity.

5. CAP, besides obstructing the pursuit of the social objectives which justify it, is an enormously inefficient investment and an inefficient gift. It returns to the nation far fewer than 35 cents for each of the hundreds of millions of dollars invested and wastes most of the dollars given to Arizonans (82% of them) by giving those dollars away in a way that provides Arizonans with nothing of comparable value.

One can only condemn the pork-barrel logic that leads billions of federal dollars to be spent on self-contradictory projects including both the CAP and now its proposed Plan 6 regulatory storage invention. In a time of renewed critical interest in reducing government spending and taxes, spending on projects such as CAP, which provide no net benefits to the public and which cancel the value or benefits of other federal projects, is doubly irrational.

Page 2, next to last paragraph

2 This paragraph ignores the fact that Phoenix has, without the help of the Bureau, addressed and solved most of its flood control problem. With the construction or completion of 12 bridges built to handle the 100 year flood, with channelization of the airport, and with the knowledge that \$20,000,000 in floodproofing or relocation would protect the private structures now in that 100 year floodplain, the problem has been addressed for a fraction the cost of the \$600,000,000 Bureau version.

It would be better for the Bureau to honestly and candidly reveal at this point what this DEIS's benefits figures reveal about their so-called Plan 6 flood control project. And that is that most of the "benefits" will accrue from the development of floodplain real-estate development of the Salt River, and not from the reduction of flood damages.

Page 2, last paragraph

3 Hydrologic analyses of the Probable Maximum Flood (PMF) by the Bureau and the Corps have both been shown by the recent Water Resources Associates, Inc. report to be grossly inflated. It is generally accepted by Bureau-watchers that the Bureau exaggerated these figures in order to extricate themselves from the politically unacceptable Orme and at the same time design for themselves a cushy and extravagant dam safety and riverbottom land development program.

Cliff Dam is now as irrevocably dead as the proverbial door nail.

But now that the Bureau's contrivance has been revealed and the cat is out of the bag, it will be both necessary and mandatory for the Bureau to once more go back to the drawing board. The Maricopa Audubon Society hopes that the Bureau of Reclamation will use their creative and innovative skills to design a regulatory alternative which could become a nationally acclaimed showplace in water storage, nonstructural flood

page 3. Maricopa Audubon Society

control and reliable, cost-effective dam safety.

That these goals can and will be attained without the highly destructive river-and-eagle-killing Cliff Dam is now evident. The Society wishes to extend to you our most sincere support and cooperation in your achievement of a solution in this area.

Page 3, last paragraph

Starting here and throughout the impact statement are frequent references to the 200 year flood. The 1972 and 1973 floodplain laws of this state and Maricopa County are based upon the 100 year flood event. Likewise the floodplains protected by the Army Corps' three dams in north Phoenix (Cave Buttes Dam, Adobe Dam and New River Dam), the Arizona Canal diversion channel, Dreamy Draw and Indian Bend Wash in Scottsdale have all been based upon protection from the 100 year event. Furthermore, the Rio Salado Development District will build its floodplain real estate venture in land which will also be supposedly protected from the 100 year event (by the huge 300 foot high earthen Teton-type Cliff Dam and the enlarged, "made-safe" Roosevelt Dam). That the DEIS continually dwells on the 200 year flood displays scare-tactics, EIS-inobjectivity, and PR hype. These references should be removed from the EIS.

Page 6, Plan 8: No CAWCS Action

This society supports this alternative for a number of reasons but primarily because it does not contain the river-and-eagle-destroying Cliff Dam.

This society will not actively oppose Waddell Dam even though it is an economic absurdity. 95% of Waddell's water yield is for the purpose of rescuing farmlands which grow crops which the federal government has been paying farmers not to grow. And it is socially unjust because 99% of its repayment cost must be paid for by urban Arizonans who will receive hardly any of its water either directly or indirectly-- and who could have obtained that water at less cost, elsewhere. Its alleged seasonal and diurnal energy benefits would, if true, appear to be its only justification.

Since plans for safety on Roosevelt will have to go back to the drawing board with the correction of the PMF size, discussion of the greatly over-designed, over-engineered version of Roosevelt in Plan 8 will be withheld. It should be noted that nowhere in the EIS does it mention that most of the astronomical costs of redesigning Roosevelt were for the purpose of enabling riverbottom real estate development in the Salt River floodplain through downtown Phoenix. These costs were dishonestly being sold to Congress and the public primarily as dam safety.

Page 6, Plan 8, last sentence

It is incorrect for the EIS to assume that the Rio Salado concept is dependent upon upstream flood control. While it is true that for promotional purposes of building new dam structures, the Bureau would like the public to believe that Rio Salado is dependent upon upstream dams, nothing could be farther from the fact or public record. The Rio Salado Development District hired a consultant, Carr, Lynch Associates, Inc. who in January 24, 1983 presented a report which showed that the Rio Salado concept could be designed equally well, with or without upstream new dams.

Carr- Lynch stated that the alternative without new dams would cost the local public \$565,000,000 in taxes and yield \$720,000,000 in benefits. The version with new dams (which would narrow the floodplain to 50-55,000 cfs) was stated to cost the local public \$646,000,000 in increased taxes but curiously it did not include the cost of the new dams. Carr- Lynch said it would yield \$938,000,000 in benefits. The hundreds of millions in costs of the Orme or Cliff-Roosevelt dam plans were not listed by Carr, Lynch and totally ignored by the District. They clearly assumed that the money for those dams would come from Uncle Sugar in Washington under the motherhood subterfuge of dam safety.

Within days after the District received the Carr-Lynch report the District quickly stamped its approval on the version with upstream dams. Very few of the Native American, environmentalist, wildlife or citizen-taxpayer groups even knew about the report, let alone were able to obtain a copy of it. No public hearings nor any period for public commentary on the two versions was allowed. The floodplain real estate developers on the District's Board were unquestionably embarrassed that their consultant had declared that new dams weren't even needed to have a splendid Rio Salado.

To this day that taxpayer-supported District refuses to mail copies of this revealing report to the public. And to this day the Bureau of Reclamation and this DEIS refuses to tell the public that most of Plan 6's new dams on the Salt and Verde are actually hundreds of millions in costs for putting people and houses into the floodplain for a real estate venture.

Nor does the DEIS state that an extensive Rio Salado (Carr-Lynch's Alternative I) can be had without a single river or eagle-killing dam.

The Carr-Lynch report stated that Rio Salado with new upstream dams, unlike the cost-effective non-dam version, actually cost the public more than it returned in benefits!

It would foolishly place buildings and people deep within the present legal 100 year 200,000 cfs-wide floodplain. It would claim to "protect" the floodplain development with a huge new 300 foot high dirt dam on the Verde River and a higher "made-safe" Roosevelt Dam.

This society believes that it is irresponsible and presumptuous in this enlightened age for the Bureau to now encourage movement of homes and people into floodplains. The Bureau in this EIS oddly chooses to ignore the results of their own \$10,000,000, three-year-long CAWCS study with its extensive public involvement sessions. In those sessions the vast majority of the urban metropolitan Phoenix attendees requested a **6** 200,000 cfs-wide floodplain! Why has this crucial, unmistakeable fact been omitted from this EIS? Hundreds of millions of dollars in the Cliff-Roosevelt Plan 6 package are dollars for narrowing that floodplain.

And now that the WRA Inc. report has been made public, it is reasonable to say that almost all of the \$600,000,000 Cliff-Roosevelt cost would have been for narrowing (developing) the floodplain rather than for dam safety!

7 It has been the experience of mankind throughout history that dams can (1) become unsafe, (2) silt-in, (3) be operated or designed incorrectly, (4) be the subject of political contentions about what percentages of their capacity will be used for flood control versus for water storage, (5) or disastrously and suddenly burst soon after construction as in the case of Teton Dam, a similar 300 foot high earthen dam built by the Bureau.

Page 8, paragraph 2, last sentence

It is most unlikely that plan 8, the no action alternative, could involve new dam construction now that the truth of the Bureau's exaggerated PMF is known. Also the ranking of plan costs in this paragraph, for example, stating that the Orme plan is the most costly and that the Waddell-Cliff-Roosevelt plan is cheaper, is not correct. The entire DEIS will have to be rewritten page by page and paragraph by paragraph since all the plans are so inextricably intertwined with the PMF nontruth. The Maricopa Audubon Society has no desire to go back to the Orme plan simply because it is cheaper. The Orme Dam is clearly passe-- unthinkable and unconscionable for a host of well known reasons. **8**

What the Bureau in the next CAWCS EIS must consider is cost-effective regulatory storage at the New Waddell site since no one has yet challenged the alleged energy benefits for that structure. Without the Plan 6 PMF numbers contrivance, there is no way to hoodwink Congress into funding an urban floodplain land development scheme for one of the most prosperous, fastest growing cities in the nation. New or stupendously enlarged dams for the Salt and Verde are now as extinct as dinosaurs. Let legitimate, cost-effective dam safety at Roosevelt and Stewart Mountain go forward-- just as it would have gone forward without CAWCS.

Page 13, Downstream Area

It is incorrect to say there are no streams of recreational value downstream from Plan 6. There are many miles of Salt-Gila ponds and streams used by duck and dove hunters, fishermen and birdwatchers. The Maricopa Audubon Society for the past 30 years has used the confluence of the Salt and Gila as the heartland of their Christmas Bird Count. Arizonans and Phoenicians may point with pride to the fact that this area has produced the highest numbers of species of birds in the United States for any non-coastal area during the month of December. Christmas Counts list the total number of birds identified in a 15 mile diameter circle during a 24 hour period. Of all the non-coastal Christmas Counts occurring in the U.S. and Canada, this metropolitan Phoenix area produced the highest number of birds (over 150 different species) on three different occasions in the 1970's-- thanks primarily to the burgeoning riparian Salt-Gila habitat. **9**

The Salt-Gila below the 35th and 91st Ave. wastewater treatment plants and the largesse of irrigation return flows have created a wildlife area which is fully dependent upon Salt-Verde spills. Without those spills the creation of cottonwoods and willows and the periodic sloughs and ponding areas with cattail and bulrush habitats would be non-existent. For example, when the author came to Phoenix in 1958 the riparian area downstream from 35th Ave. all the way to Gila Bend was a dense, impenetrable thicket of Salt-Cedar and a very few hacked-up, burned-over, senescent cottonwoods and willows and mesquite. The cattail and bulrush marshes had for the most part disappeared due to in-filling. All of this was the result of 25 consecutive years of no significant Salt-Verde spills.

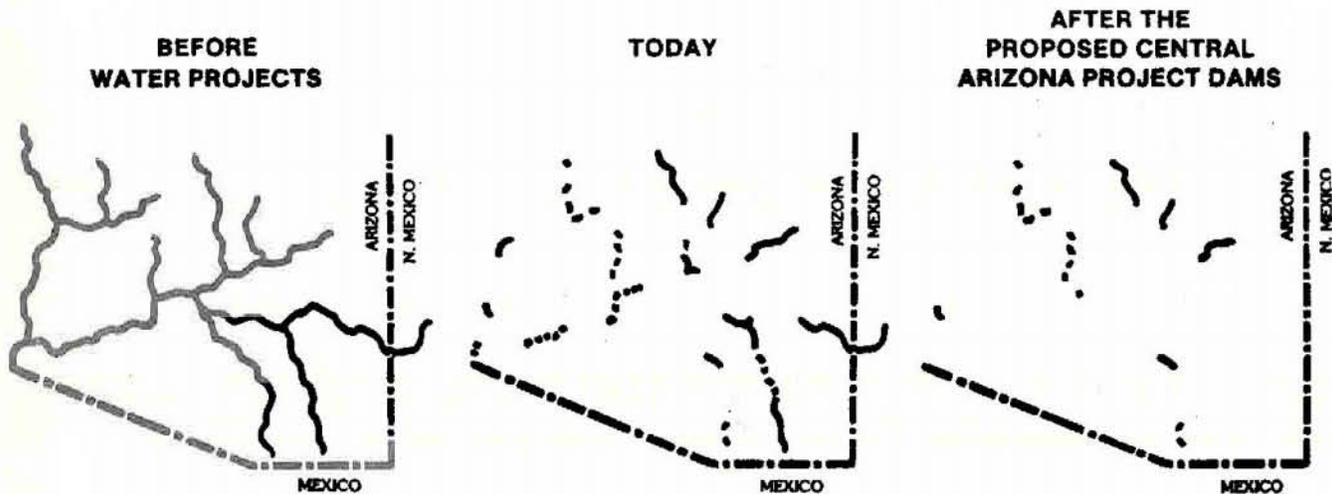
Following the New Year's Day flood of 1966, a vital and dynamic transformation occurred to the ecology of the area. The sandy alluvium necessary for cottonwoods and willows to germinate was created. The Salt-Cedar were washed out, accessibility to the riverbottom was possible, and the development of cattail and bulrush marshes in the natural low areas or cutoff bends in the river developed.

There are now several different generations of cottonwoods and

willows in this downstream area as a result of releases in the 60's, 70's and 80's. It has become a living riparian museum or classroom and a source of great satisfaction for the metropolitan wildlife-enjoying citizens of Phoenix. Cliff-Roosevelt or Orme, with their reduced riparian-restoring flows, would adversely impact this area as well as the rest of the Middle and Lower Gila. This very severe riparian impact has not been discussed and does not even appear to be understood by Bureau officials.

The undersigned, in a recent conversation with a Bureau official in Phoenix, was asked why the "The Bureau Strikes Back" brochure still omitted the Salt and Verde rivers (see adjacent illustration) in the

DEATH OF AN ECOSYSTEM



SAVE WHAT REMAINS OF THE SONORAN DESERT STREAMSIDE HABITAT*

*So incredibly productive that it supports the highest per-acre density of non-colonial nesting birds in the U.S.

after-Plan 6 scenario. The correct biological answer is that the Salt and Verde releases below Stewart Mtn. and Bartlett dam would now be attenuated to a maximum of 25,000 cfs and that ecologically significant spills would be less frequent. Large "Q's" are needed to maintain the dynamic new oxbows, cut-offs, the braided channels, and hardwood regeneration on the Ft. McDowell and Blue Point habitats. This has been overlooked and omitted in the DEIS.

Page 13, last paragraph

10 That the supposed flood control provided by CAWCS is not flood control but floodplain land development is substantiated by the Army Corps' CAWCS Nonstructural Analysis. That study showed that all of the private structures in the 100 year floodplain in the metropolitan area

could be protected for \$20,000,000 or a tiny fraction of the cost of the hundreds of millions of dollars in the Cliff-Roosevelt or Orme solutions.

How long will the Holly Acres community mentioned in this paragraph of the DEIS be held by the Bureau and the Corps as hapless pawns in the big dam game. It is a sad commentary of the bureacracy of this great nation that the self-perpetuating strategies of our nation's federal dambuilding agencies preclude the simple "nonstructural" alternative of floodproofing, relocation or segmental dikes when juicy plums in the form of huge new dams and riverbottom real estate deals are at stake!

Page 15, Mitigation

The Bureau here declares it is committed to a process of mitigation. This is empty, misleading verbiage. Besides the fact that there is practically no historic precedent for Congress, the Administration or the Bureau to vote or allocate funds to accomplish meaningful mitigation, the greatest problem is that mitigating for the Bald Eagle-destroying Cliff Dam of Plan 6 is impossible.

That dam destroys six more river miles of one of the last few streams remaining in the Sonoran Desert. Only the Salt and Verde river systems have suitable riverine nesting and foraging habitat. The tiny, beleaguered Bald Eagle population consisting of a total of 12 nesting pairs is dependent upon these rivers for their ecologic or life needs.

Not only are these the only Bald Eagles nesting in a seven state, 1000 mile diameter circle of the southwestern U.S., they are the only desert-nesting Bald Eagles in the world. Uniquely adapted to survival in the Arizona desert, they start nesting in mid-winter long before their northern U.S. and Canada and Alaska cousins commence nesting. Consequently, the Arizona eagles have their young off the nest by June before torrid desert temperatures would make nesting difficult.

The damming and diverting of Arizona's Sonoran Desert rivers by reclamation has removed almost all of the critical habitat which these birds need for their survival. Bathtub-ring, fluctuating-level, vegetationally-sterile shoreline reserervoirs do not provide comparable habitat for their fish prey or the nesting sites which these birds need for their existence. Biologists ascribe various reasons for why Arizona's desert reservoirs are disruptive to the Bald Eagle. Deep, turbid water, vegetation free shorelines, preference for trees as nesting sites, lack of shoreline foraging perches, and human disturbance have all been considered.

The Arizona Bald Eagle population is genetically unique as well as being geographically disjunct and behaviorally different. The Arizona Eagles are not known to interbreed with their larger northern U.S. and Canada Bald Eagle cousins which winter-over in Arizona. The smaller egg shell size and smaller adult bird size of the Arizona eagles along with their blood chemistry and chromosome analysis all support this genetic isolation.

Cliff Dam inundates six miles of the foraging and nesting area of two out of the last 12 pairs of eagles remaining in this population. Even worse, this DEIS says Cliff opens additional river miles and presently unoccupied reservoir miles to heavy recreational, boating, firearms and other man-caused disturbance. When does a 12 pair-sized population of Bald Eagles reach a critical mass which pushes the population over the brink into extinction? Cliff Dam clearly fits into this malevolent category.

Arizonans, and all Americans who respect the Bald Eagle, our national emblem, stand prepared to protect this priceless and irreplaceable population from a huge earthen dam on the Verde River which would abet a

floodplain land development venture. This dam has nothing to do with bona fide, cost-effective flood control or dam safety. As was evidenced in the testimony of National Audubon Society official Eugene Knoder at the June 22, 1983 public hearings in Mesa, this nation's conservation organizations are unquestionably prepared to protect this small, valiant and unique bald eagle population from extinction by Cliff Dam.

Page 17, Table 4

This chart must be rewritten, even if it were not for the PMF being incorrect and exaggerated. The second entry, the number of eagle pairs disrupted, demonstrates that the Bureau does not understand what happens to an Arizona riparian habitat when flows upstream from that habitat are attenuated. Large flows, though they may only occur once in a decade or so, are instrumental in the germination of hardwoods and the preparation of braided, meandering channel habitats with distinct rows of riparian hardwoods. Bald Eagles appear to select cliffs for nesting only when trees are not available. Vegetation-choked pools created by lack of normal annual flood flows make fishing by eagles difficult. It is a situation similar to the Salt-Gila below 91st Ave. as previously described.

As a result, all six eagle pairs would be impacted in all of the plans listed on the chart except Plan 2 which would still allow some moderate flood releases to occur. Re-write the chart to incorporate this important environmental impact of dambuilding.

12

The Bureau has many similar "downstream" riverkilling dams now being considered in other places in eastern Arizona and southwestern New Mexico such as Conner Dam, Hooker Dam, Quail Springs Dam, Camelsback Dam and Buttes Dam. The downstream impacts of those dams may be much more severe than their inundation impacts.

The portion of Table 4 which displays acres of riparian communities must stand as one of the classic examples of environmental anti-science by a federal dambuilding agency. Losses of large amounts of high quality eagle habitat have had subtracted from them acreages of low quality habitat. The reviewer then reads in the bottom column the "net" (woefully underestimated) riparian losses!

The remainder of the chart should be rewritten for similar reasons when the new PMF-determined plans are forthcoming. It would appear to the public that the Bureau in this table, and most of the other such tables throughout the remainder of the DEIS, is only going through the motions of filling and fattening pages of an environmental impact statement.

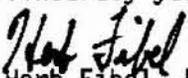
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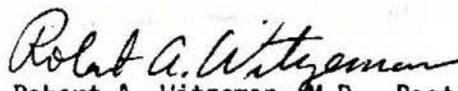
This DEIS discusses alternatives which must be wholly revised and recalculated since they are based upon a fictional Probable Maximum Flood.

13

The Maricopa Audubon Society and the other conservation organizations of this state and nation stand ready to assist and cooperate with the Bureau in every way possible to create a cost-effective, reliable and workable solution to the water storage, flood control and dam safety needs of this region.

Sincerely yours,


Herb Fibel, President


Robert A. Witzeman, M.D., Past President

Responses to Comment
Maricopa Audubon Society

- 55-1 The purpose of this EIS is to assess the impacts of the Regulatory Storage Division of the CAP. Overall impacts of the CAP were addressed in the Central Arizona Project Final Environmental Statement (FES 72-35).
- 55-2 See responses to General Comment #8.
- 55-3 See response to General Comment #9.
- 55-4 See response to General Comment #4.
- 55-5 Discussion of Rio Salado and its relation to the Regulatory Storage Division has been added to Section IV.B.7 of the EIS.
- 55-6 See response to comment 11-2.
- 55-7 See response to General Comment #9.
- 55-8 See response to General Comment #9.
- 55-9 The statement has been revised to reflect downstream recreation use.
- 55-10 See response to General Comment #8.
- 55-11 Identification and mitigation of adverse impacts to wildlife resources have been integral parts of the planning effort for the Central Arizona Project and in particular, the Regulatory Storage Division. Fish and Wildlife enhancement is a stated project purpose in the authorization legislation (PL 90-537) of 1968. Reclamation's commitment to mitigation is demonstrated by the wildlife mitigation project that is currently being implemented along the Granite Reef Aqueduct of the CAP, The Fish and Wildlife Service and the Arizona Game and Fish Department have given their support for this mitigation project.

The mitigation plan for Plan 6, detailed in Chapter IV, was arrived at through a cooperative effort by wildlife biologists from Reclamation, Fish and Wildlife Service, Arizona Game and Fish Department, and other wildlife and land management agencies. Reclamation is fully committed to implementing this plan concurrent with construction of Plan 6. The basic objective of this plan is to fully mitigate or compensate for wildlife resource loss and to enhance wildlife values where feasible. This objective is in keeping with Reclamation Instructions, the Fish and Wildlife Mitigation Policy, and the Fish and Wildlife Coordination Act.

Under Section 7 of the Endangered Species Act Reclamation has consulted with the Fish and Wildlife Service on the effect of Plan 6 on endangered and threatened species present in the project area. The Fish and Wildlife Service has issued a jeopardy opinion for Plan 6 with regards to the bald eagle. In their opinion the Fish and

Wildlife Service states that the bald eagle will suffer reduced production and possible nest abandonment due to construction impacts at Roosevelt and Stewart Mountain Dams and recreation impacts at Roosevelt and Cliff Dams and FWS further presents reasonable prudent project alternatives which would avoid jeopardy to Arizona's bald eagle population. These reasonable and prudent project alternatives are presented in Chapter IV. In order to implement Plan 6 Reclamation must be in full compliance with the Endangered Species Act which necessitates that the required project alternatives be integrated into the project action and implemented.

55-12 This table has been changed to reflect the Section 7 consultative opinion for the bald eagle.

The quality of riparian habitat has been taken into account in the mitigation plan and is depicted on Table IV-44. The information presented here only presents the total acreage of riparian habitat occurring in the project area without regard to quality. As pointed out in your comments the riparian community is a highly dynamic habitat that is in a constant state of successional flux due to the nature of the river systems which it borders. While constant flux results in changes in composition and maturity of the community the acreage available for the development of the community remains fairly constant. We feel that this table accurately depicts the situation.