

lake disturbance, after inundation of previously used nests in 1993, the significance of the inundation may be less than previously believed. Other wildlife species will benefit from the anticipated improvements to riparian resources.

VI. IMPLEMENTATION OF PLAN

A. IMMEDIATE STEPS

Once the Steering Committee approves the final proposed water management plan for Alamo Dam and the Bill Williams River, a public involvement process should begin that includes briefings with the Congressional delegation, regional legislative members, county and local officials, downstream landowners, and the City of Scottsdale. A press release on the Steering Committee-approved water management plan is recommended.

B. REMAINING ISSUES

Table 18 lists issues that may require consideration and resolution prior to final reservoir reallocation and reoperation steps.

Table 18. Remaining issues for the implementation of a revised Water Control Manual for Alamo Dam.

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- **Public involvement process**
 - **Instream water rights for the riparian habitat**
 - **Reallocation of reservoir storage vs. reoperation**
 - **Economic analysis of impacts and costs of reoperation vs. status quo**
 - **Cost sharing requirements**
 - **Planet Ranch pumping**
 - **Threatened and Endangered species**
 - **Biological and ecological monitoring studies**
 - **Securing Alamo storage rights and downstream base flows**
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A public involvement process will be decided by the Steering Committee. If significant public interest results from the press release, then informational, open house meetings should be held to advise the public of the process to date, the proposed changes, and probable implementation strategies. It is expected that any operational changes to Alamo Dam will require formal documentation by the Corps, which will necessitate full public involvement and National Environmental Policy Act compliance. Thus, a more formal public involvement process will occur prior to any changes in Alamo Dam operations.

Water rights and water conservation are significant issues to address. In October 1989, the AGFD and ASP submitted a joint application to ADWR for water storage rights (321,480 acre-feet per annum) to the Alamo Dam water conservation pool for fish, wildlife, and recreational purposes. This application was in response to the City of Scottsdale's efforts to gain additional rights to the waters of the Bill Williams River. BLM filed for an instream flow appropriation below Alamo Dam in April 1988. In 1994, the USFWS filed for instream flow water rights at the Bill Williams National Wildlife Refuge. Unquestionably, these water right applications will require future amendment when 1) revisions to Alamo Dam operations are implemented, and/or 2) the probable Interior Department's acquisition of Planet Ranch has been completed. The Technical Committee strongly recommends that water rights be obtained for lake storage and Bill Williams River instream flows that support and secure the 1125 foot proposed water management plan. It may be necessary to modify or withdraw these applications so that a single (or joint) entity may pursue water rights that secure the recommended lake storage and base flows under this proposal. These activities will require close coordination with ADWR and the Corps.

The 1125 foot target plan may result in a mean annual reduction of about 5,561 acre-feet of water delivered to the Lower Colorado River compared with current operations. Arizona has no binding requirement to deliver water from the Bill Williams River to the Colorado River. However, once Bill Williams River water reaches the Colorado River at Lake Havasu, it becomes subject to the Colorado River Compact and consequently the "Law of the River."

It was estimated by Stephens and Associates (1988) that there is an annual average available volume of surplus water of over 73,000 acre-feet from the Bill Williams River system. At present, this volume of water is lost to the Colorado River whereupon it is not appropriable under state water rights statutes. These and other studies demonstrate that a considerable amount of unappropriated public water is available for beneficial use from the Bill Williams River system.

In a May 1990 letter addressing water rights issues in the Bill Williams River, the Central Arizona Water Conservation District (CAWCD) expressed concerns that "Any depletion of the water supplies of the Bill Williams River will eventually require greater releases from storage on the Colorado River system to satisfy downstream demands and, directly or indirectly, reduce the water supplies available to mainstream users, including particularly the CAP." Since the Central Arizona Project (CAP) is the major junior rightholder on the Lower Colorado River, the CAP and its water users would be most affected by any reductions in Bill Williams River water supplies to Lake Havasu.

It is the opinion of the Corps that they can not formally reoperate Alamo Dam for environmental enhancements until reallocation of reservoir storage (Water Conservation Pool) is approved by Congress. There are specific institutional and procedural implications if the recommended operational changes are considered reoperation or reallocation. Reallocation of water storage at Alamo would include only the 362,560 acre foot Water Conservation Pool (1070-1171.3 feet) and would change its purpose from water conservation to threatened and endangered species, fish and wildlife, downstream riparian habitat, and recreation.

Native fish have recently become a more significant issue due to the listing of razorback sucker and bonytail chub as Federally endangered. In a 1994 Federal Register Notice, critical habitat for

bonytail chub included Lake Havasu. Although there are no conclusive historic records of threatened or endangered fish populations in the Bill Williams River, ongoing investigations into potential introduction sites for native fish recovery efforts have included the Bill Williams River. A future listing of the willow flycatcher as endangered would also have significant implications in evaluating Alamo Dam releases and their effects on downstream riparian habitats of the flycatcher.

Biological and ecological monitoring studies need to be established along with any reoperation proposal for Alamo Dam. Fish, wildlife, and riparian resources of Alamo Lake and the Bill Williams River corridor are valuable and unique and are expected to benefit greatly from reoperation of Alamo Dam. The question of how well these resources respond to enhanced water management and if they meet optimal goals can only be answered conclusively by establishing and maintaining monitoring studies. How these studies will be conducted, coordinated, and cost-shared among resource agencies will need resolution.

This Technical Committee report further serves the general, intended purpose of a Corps' follow-on water control study. A follow-on water control study was recommended in the 1990 Corps Alamo Lake Reconnaissance Study as a means to develop an optimum storage allocation and operation schedule of all Alamo Lake project purposes.

C. FUTURE ACTIONS, ACTIVITIES

It is important to recognize that reoperation of Alamo Dam itself may not be sufficient to fully achieve all resource potentials. Management and monitoring of environmental and recreational resources by agencies will continue to be a critical component in the overall optimization of resources associated with Alamo Lake and the Bill Williams River.

There are five principle, sequential administrative steps in reallocation by the Corps:

1. Preparation of a Initial Appraisal Report (IAR),
2. Preparation of a Reconnaissance Report,
3. Preparation of a Feasibility Report,
4. Approval of Feasibility Report recommendation by Corps' Office of the Chief of Engineers, and Secretary of Army, and
5. Congressional reallocation approval.

The IAR is a Corps internal document that tiers off the 1990 Alamo Lake Reconnaissance Study and considers the water management proposal in this report. An IAR is currently under development by the Corps and is a necessary precursor to a Reconnaissance and Feasibility Report. The issue identification, modeling and consensus building developed in this report will likely represent a substantial portion of the Reconnaissance Study. The Reconnaissance Study requires a non-Federal sponsor, but the Corps provides 100% of the funding.

The Feasibility Report will primarily address all impacts associated with the proposed 1125 foot target plan relative to current conditions. When Corps' project changes are for environmental enhancements, a variety of procedural criteria are involved. Determinations must be made

whether: 1) project benefits are local or national in character, 2) enhancements benefit threatened and endangered species, or 3) changes benefit values on federal lands. Federal lands in the project area include BLM lands and Wilderness areas, and the USFWS Bill Williams River National Wildlife Refuge. Some of the federal values may include fish and wildlife, riparian/wetland habitat, water rights, and long-term reliability of Lower Colorado River water deliveries. The Feasibility Report, which includes environmental and economic evaluations, requires a non-Federal sponsor to share, 50/50, study costs. If environmental benefits of a reoperation are largely of a federal nature, non-Federal costs may be reduced or replaced with congressionally approved funds.

Any additional Operation and Maintenance (O&M) costs to operate Alamo Dam under the proposed plan will require economic compensation to the Corps by either a non-federal entity or by congressional appropriation. Reoperation of Alamo Dam, according to the proposed plan, is not anticipated to result in any significant increase in Alamo Dam operation and maintenance costs. Further, reoperation of Alamo Dam according to the proposed plan will not require any foreseeable structural modifications to Alamo Dam facilities.

Since the magnitude of this reallocation (in terms of water storage) exceeds Corps' existing authority, it is anticipated that implementation of the proposed plan will require Congressional approval to reallocate the entire 362,560 acre-foot Water Conservation Pool for threatened and endangered species, fish and wildlife, riparian habitat, and recreation purposes. Congressional action may be requested by formal Corps recommendations from the Feasibility Report or prompted by legislation from the Arizona delegation.

Following Congressional reallocation of Alamo Lake storage, the final step for formal reoperation is to revise the Water Control Manual for Alamo Dam. It is estimated that all these steps may take from 3-5 years. During the interim period the Technical Committee recommends the Corps exercise operational flexibility, as legally allowed, under the current Manual to operate Alamo Dam in a manner approximating the proposed 1125 foot target plan. The Technical Committee also recommends that the Corps coordinate interim operations with them as has been done in recent years. In anticipation of the reallocation, advance preparations of a draft revised water control manual could occur to expedite this final implementation step. It is important to recognize that these steps may be reduced or expedited by specific Congressional actions in the future.

D. FUTURE OF THE TECHNICAL COMMITTEE

The Technical Committee will need direction from the Steering Committee on their role and involvement in implementing the proposed water management plan. There is merit in continuing in a cooperative, interagency framework to actively pursue resolution of the numerous remaining issues. Further, the Technical Committee demonstrated its effectiveness as a forum for collaborative input to the Corps on lake level management and Alamo Dam release prescriptions during the 1993 flooding.