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**U.S. Department of the Interior  
Office of Inspector General**

## **AUDIT REPORT**

### **IMPLEMENTATION OF THE COLORADO RIVER BASIN SALINITY CONTROL PROGRAM, BUREAU OF RECLAMATION**

**REPORT NO. 93-I-810  
MARCH 1993**

This report may not be disclosed to anyone other than the auditee except by the Assistant Inspector General for Administration, Office of Inspector General, U.S. Department of the Interior, Washington, D.C. 20240



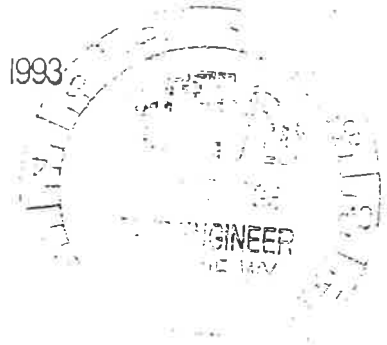


# United States Department of the Interior

OFFICE OF INSPECTOR GENERAL  
WASHINGTON, D.C. 20240



APR 13 1993



## MEMORANDUM

TO: The Secretary

FROM: Acting Inspector General

SUBJECT SUMMARY: Final Audit Report for Your Information -  
"Implementation of the Colorado River Basin Salinity  
Control Program, Bureau of Reclamation"

DISCUSSION: We concluded that the Bureau of Reclamation's ability to control salinity levels in the lower Colorado River through the Colorado River Basin salinity control program would be substantially limited and that program costs could significantly increase unless several critical issues were resolved. The program has already cost taxpayers about \$660 million through 1991 and could cost them as much as \$1.9 billion through 2010, with little assurance that program objectives can be achieved.

Specifically, we found that the Bureau lacked direct control over several key program elements, such as (1) finding a permanent water supply to replace Yuma Desalting Plant wastewater and Wellton-Mohawk Irrigation and Drainage District drainage in order to meet treaty obligations for water deliveries to Mexico, (2) reducing the amount of drainage from Wellton-Mohawk farming activities, (3) minimizing salt contributions from lands administered by the Bureau of Land Management, and (4) obtaining timely Congressional authorization to implement new cost-effective salinity control projects. In addition, we found that the Bureau had not implemented adequate procedures to control program operating costs and verify the effectiveness of salinity control projects. We estimated that the Government could save up to \$23 million annually in Yuma Desalting Plant operating costs if it secured a permanent replacement water supply.

Although the Bureau concurred with all six of the report's recommendations, we have requested the Bureau to provide additional information for the

Prepared by: Harold Bloom  
Extension: 208-4252



recommendation on securing a permanent replacement water supply and asked the Assistant Secretary for Water and Science to reconsider the actions taken in response to the recommendation on controlling program operating costs.

A handwritten signature in black ink, appearing to read "Joyce N. Fleischman". The signature is fluid and cursive, with a long horizontal stroke at the end.

Joyce N. Fleischman

Attachment





W-IN-BOR-004-92A

# United States Department of the Interior



## OFFICE OF INSPECTOR GENERAL

Headquarters Audits  
1550 Wilson Boulevard  
Suite 401  
Arlington, VA 22209

March 31, 1993

## MEMORANDUM AUDIT REPORT

To: Assistant Secretary - Water and Science

From: Assistant Inspector General for Audits

Subject: Final Audit Report on Implementation of the Colorado River Basin Salinity Control Program, Bureau of Reclamation (No. 93-I-810)

### INTRODUCTION

This report presents the results of our review of the Bureau of Reclamation's progress in implementing the Colorado River Basin salinity control program. Our audit objectives were to (1) determine whether program goals were accomplished in a timely and cost-effective manner and (2) follow up on recommendations made in our previous audit report on the program (No. 89-109, dated September 7, 1989).

### BACKGROUND

The Congress enacted the Colorado River Basin Salinity Control Act of 1974 to redress international and domestic salinity<sup>1</sup> control problems. The events leading to the passage of the Act are summarized in Appendix 2.

Title I of the Act authorized a program to improve and protect the quality of water delivered to Mexico without reducing the amount of water available for delivery to the seven Colorado River Basin states.<sup>2</sup> (Features of the Title I program are illustrated in Figure 1.) Title I also authorized the Bureau of Reclamation to implement the interim and permanent international salinity control measures that

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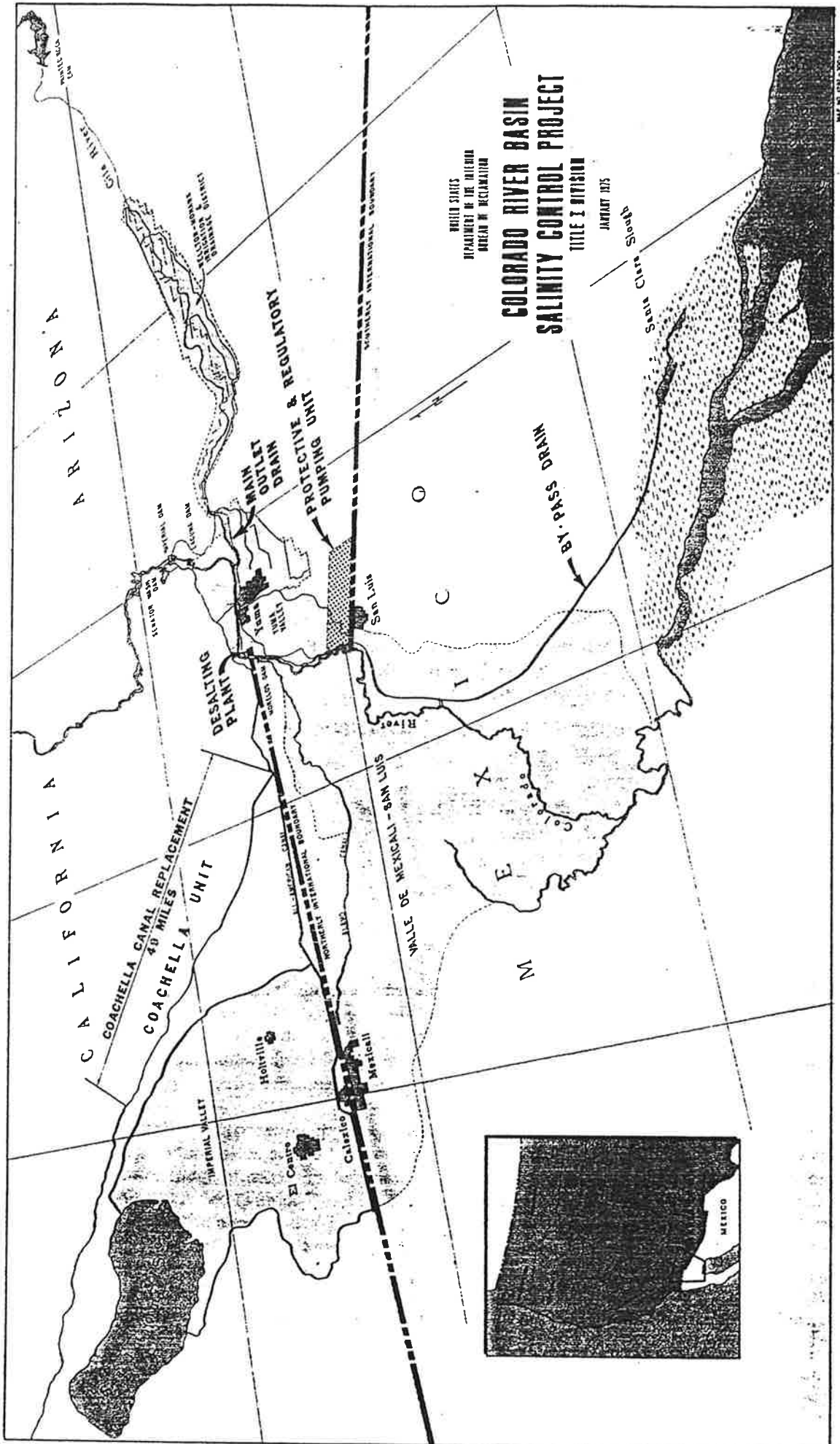
<sup>1</sup>Salinity is the amount of solids or salts dissolved in water. The level of salinity is generally expressed in parts per million or milligrams per liter (these measurements are essentially the same).

<sup>2</sup>The seven states consist of the upper Colorado River Basin states of Colorado, Wyoming, Utah, and New Mexico and the lower Colorado River Basin states of Nevada, Arizona, and California.





Drawn by L.F. Sanchez



Bureau of Reclamation map

Figure 1



were contemplated in a 1973 agreement between the United States and Mexico.<sup>3</sup> These measures included constructing a major desalting plant to treat drainage return from the Wellton-Mohawk Irrigation and Drainage District in Arizona, a major contributor to the increased salinity in the water reaching Mexico. Other measures included lining the Coachella Canal in California and allowing the Government to use, on a temporary basis, the resultant water saved to replace drainage water bypassed to Mexico; buying farm land to take it out of production and making irrigation system improvements to reduce the amount of drainage flowing into the Colorado River; and constructing a well field along the Arizona-Mexico border to collect water for delivery to Mexico. The Act also provided that no water would be taken from the seven Basin states' allocations to comply with the international agreement and that any desalting plant wastewater and excess drainage bypassed to Mexico would be replaced. As of September 30, 1991, the Bureau had spent \$372 million, or about 80 percent of the \$450 million that the Bureau estimates it will cost to construct and implement Title I salinity control measures. The Bureau also spent about \$23 million on the operation and maintenance of the Yuma Desalting Plant and related facilities by September 30, 1991. Based on Bureau estimates of annual operation and maintenance costs, we estimated that another \$200 million to \$600 million<sup>4</sup> will be incurred through the year 2010 to operate and maintain the Desalting Plant and related facilities. With only minor exceptions, Title I salinity control expenditures are nonreimbursable. A breakdown of the Bureau's capital expenditures and the implementation status of measures authorized under Title I of the Act are in Appendix 3.

Title II of the Act authorized a program to investigate and construct cost-effective salinity control projects to protect the quality of water delivered to the three lower Basin states while the Basin states developed their water allocations. The objective of Title II of the Salinity Control Act was to maintain salinity concentrations at or below the levels found in the lower portions of the Colorado River in 1972.<sup>5</sup> To

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<sup>3</sup>Under the agreement, the United States was required to ensure that the average annual salinity of Colorado River water delivered to Mexico would be no more than 115 parts per million (plus or minus 30 parts per million) higher than the water arriving at the Imperial Dam (near Yuma, Arizona). Thus the maximum allowable salinity level for water delivered to Mexico fluctuates according to changes in the salinity of water reaching the Imperial Dam.

<sup>4</sup>The wide range in potential program operation and maintenance cost estimates is attributable to the uncertainty regarding how often and to what degree the Desalting Plant will be operated in the next 18 years. The lower range of the estimate is based on a scenario of little or no desalting operations during this period and reflects annual Desalting Plant standby costs of \$10.6 million. The upper range of the estimate is based on a scenario of maximum desalting operations during this period and reflects annual Desalting Plant operation and maintenance costs of \$33.7 million.

<sup>5</sup>Numeric criteria for acceptable salinity levels were established above Imperial Dam (879 parts per million) and below Hoover Dam (723 parts per million) and Parker Dam (747 parts per million).

achieve this objective, the Act authorized the Secretaries of the Department of the Interior and the Department of Agriculture to investigate and construct salinity control projects throughout the Basin to reduce the amount of salt entering the River. Interior's Bureau of Reclamation and Bureau of Land Management and Agriculture's Soil Conservation Service jointly produce an annual report on the Title II salinity control program, which contains an implementation plan designed to accomplish the program objective. The 1991 report estimated that salinity control measures should be removing 1.5 million tons of salt annually by the year 2010. As of September 30, 1991, the Bureau of Reclamation had spent \$55 million to investigate and \$163 million to construct salinity control measures authorized under Title II of the Act. The Department of Agriculture also spent \$48 million on voluntary on-farm irrigation efficiency measures to assist in controlling Colorado River salinity levels. Through the year 2010, expenditures to implement, operate, and maintain Title II salinity control measures by the three primary Federal agencies are estimated at \$871 million. Between 25 and 30 percent of these expenditures will eventually be repaid primarily by Federal power users in the seven Basin states.

## SCOPE OF AUDIT

This performance review was made, as applicable, in accordance with the "Government Auditing Standards," issued by the Comptroller General of the United States. Accordingly, we included such tests of records and other auditing procedures that were considered necessary under the circumstances. Our review was conducted from July through November 1992 and included visits to or contacts with the offices listed in Appendix 4. To accomplish our audit objectives, we evaluated the Bureau's actions to implement prior audit recommendations; reviewed planning and status reports to determine the adequacy of information provided to the Secretary of the Interior and the Congress on the salinity control program; reviewed project planning reports and postimplementation monitoring activities to determine how Title II program accomplishments were measured; compared the salinity control project authorization processes of the Department of Agriculture with those of the Bureau of Reclamation to determine whether the Bureau's processes created impediments to program accomplishment; and interviewed officials from the Bureau of Reclamation, the Bureau of Land Management, and the Department of Agriculture's Soil Conservation Service concerning progress in implementing salinity control measures. In addition, we interviewed officials from the U.S. Fish and Wildlife Service, the U.S. Geological Survey, the U.S. Environmental Protection Agency, the Colorado River Basin Salinity Control Forum, and the Wellton-Mohawk Irrigation and Drainage District to obtain their perspectives on the program's progress.

As part of our review, we performed a limited evaluation of the Bureau's system of internal controls related to planning and implementing salinity control measures to the extent considered necessary to accomplish our audit objectives. We found an internal control weakness in the area of verifying Title II program accomplishments,

as discussed in the Results of Audit section of this report. Our recommended action, if taken, should improve the controls in this area. We also reviewed the Department of the Interior's Annual Statement and Report, under the Federal Managers' Financial Integrity Act, for fiscal year 1991 and determined that none of the Department's reported weaknesses were directly related to the objectives and scope of this audit.

## **PRIOR AUDIT COVERAGE**

During the last 5 years, the General Accounting Office has not issued any reports on the Colorado River Basin salinity control program. However, the Office of Inspector General has issued the following two reports:

- The report entitled "Survey Report on the Review of the Colorado River Basin Salinity Control Program, Bureau of Reclamation" (No. 89-109), issued on September 7, 1989, identified various economic and institutional impediments to accomplishing Title I and Title II salinity control program goals and objectives. (The identified impediments and the actions taken in response to the report's recommendations in these areas are described in Appendix 5.) In our opinion, actions taken by the Bureau in response to the report did not sufficiently address the alternatives to operating the Desalting Plant at full capacity, as discussed in the Results of Audit section of this report.

- The report entitled "Operation and Maintenance Contracts, Colorado River Basin Salinity Control Program, Bureau of Reclamation" (No. 93-I-258), issued on December 14, 1992, described inadequacies in the Bureau's negotiation and administration of salinity control operation and maintenance contracts with local water districts. These inadequacies occurred because the Bureau had not developed specific policies and procedures for (1) determining nonreimbursable base costs and cost indexes that were used to calculate annual reimbursements to the water districts and (2) controlling and verifying the costs incurred and claimed by water districts. The report made two recommendations to improve controls and correct the deficiencies disclosed during the audit, which the Bureau agreed to implement.

## **RESULTS OF AUDIT**

The Colorado River Basin salinity control program (Title I and Title II) faces several critical issues that, if not resolved, could substantially limit the Bureau's effectiveness in achieving salinity control objectives and could substantially increase program costs. The Colorado River Basin Salinity Control Act of 1974, as amended, directed the Bureau to head a coordinated, multiagency program to control salinity levels in the lower portions of the River. The Government has been able to meet program objectives to date through salinity control measures and abundant reservoir storage and because the Basin states have developed Colorado River water supplies slower

than expected. However, we believe that the Government's ability to continue to meet the program objectives will be adversely affected because the Bureau lacks direct control over several key program elements and has not implemented adequate procedures to control operating costs and verify the effectiveness of salinity control projects. As a result, there is little assurance that the program as planned will effectively attain and maintain the legislated salinity control objectives, even though the program has already cost taxpayers about \$660 million through 1991 and may cost them as much as \$1.9 billion through the year 2010. In addition, the Bureau could save up to \$23.1 million annually in Yuma Desalting Plant operating expenses if it can secure a permanent replacement water supply.

### **Permanent Replacement Water Supply**

The Bureau has not found a permanent water supply to replace Desalting Plant wastewater and Wellton-Mohawk drainage bypassed to the Santa Clara Slough in Mexico. Section 101(c) of the Salinity Control Act made the replacement of this bypassed water a Federal Government obligation. Since 1974, the Bureau has bypassed all drainage to the Santa Clara Slough and has released water from upstream storage facilities to meet the Act's requirements for deliveries to Mexico. Most of the replacement water has come from the Government's temporary entitlement to water (132,000 acre-feet<sup>6</sup> annually) that was saved by lining the Coachella Canal in California. The water conserved by lining the Coachella Canal can be used by the Government to fulfill its replacement obligation during an interim period that began with the completion of the reconstruction project (1982) and ends the first year the Secretary of the Interior delivers less water than requested by California water users under their water delivery contracts with the Department. Thus the Government's entitlement to this water supply could be lost if continued drought conditions result in the Secretary of the Interior's delivering less water than the California water users request.

The Government remains years away from developing a permanent replacement water supply as contemplated in the Salinity Control Act because all water supplies in the Colorado River Basin that have been or could be developed belong to the seven Basin states. Despite the Bureau's continuing efforts to investigate new water sources, the Bureau has yet to demonstrate the feasibility of any permanent new replacement measures. In addition, even if the Bureau identifies feasible measures, the process of obtaining the authorization and funds and of then fully implementing the measures could require many years of effort. For example, the Bureau's September 1992 report on Phase 1 of a vegetative management study estimated that replacing about 29,000 acre-feet of desalting plant wastewater could cost between

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<sup>6</sup>An acre-foot of water is the amount required to cover an acre of land to a depth of 1 foot (approximately 326,000 gallons).

\$22 million and \$225 million over a 20- to 30-year period. The replacement water would be obtained by removing existing vegetation along the lower Colorado River and replacing it with vegetation that consumes less water. Recognizing that Colorado River water deliveries are controlled by the "Law of the River,"<sup>7</sup> we believe that the Bureau should begin negotiating with the Colorado River Basin states and water users to extend the Government's use of the temporary supply to ensure that the Government can continue to replace all bypassed water. By extending the use of this water supply, the Government should be able to reduce the level or the frequency of desalting operations, which would result in saving all or a portion of the \$23.1 million in annual variable costs to operate the Yuma Desalting Plant (see "Program Operating Costs").

### Wellton-Mohawk Drainage

Acreage reduction and irrigation efficiency measures undertaken by the Bureau and the Department of Agriculture have not reduced the amount of drainage pumped by the Wellton-Mohawk Irrigation and Drainage District to expected levels. The measures to reduce the amount of Wellton-Mohawk drainage were initially authorized in 1974, and the scope of these activities was expanded in 1980. The Bureau had anticipated that the expanded activities would reduce the total costs of the program by allowing the Bureau to construct and operate a smaller desalting plant than that authorized by the Congress. As of September 30, 1991, the Government had invested \$45 million in various drainage reduction measures, of which \$17 million was for land purchases to reduce irrigated farming activities; \$18 million was for on-farm irrigation system improvements; and \$10 million was for on-farm technical services, irrigation management services, other irrigation efficiency programs, and administrative costs. These efforts were designed to reduce Wellton-Mohawk drainage to 108,000 acre-feet annually, which is the largest amount of drainage the Desalting Plant could accommodate. The amount of Wellton-Mohawk drainage declined to 119,000 acre-feet in 1986 but has increased steadily since then to a level of 147,000 acre-feet by 1991 (the last full year that such data were available).

In its special report to the Congress, the Bureau reported that it plans to investigate the causes of increased drainage and explore a program of additional irrigation efficiency measures to reduce the level of drainage. Based on our review, we concluded that the Bureau has not been able to reduce drainage to the 108,000 acre-foot level because of planning assumptions that have not transpired. Specifically, the Bureau assumed that:

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<sup>7</sup>The "Law of the River" is a series of Federal and state statutes, interstate compacts, court decisions, and an international treaty that govern the use of all Colorado River water.



- Cropping patterns in the District would remain relatively unchanged, with most acreage dedicated to growing alfalfa, cotton, and other crops that, when irrigated efficiently, consume 80 to 90 percent of the irrigation water delivered to the field. Instead, there has been a significant increase in the acreage of land used to grow lettuce and other vegetable crops that, even when irrigated efficiently, consume only 30 to 60 percent of the water delivered to the field.

- Farmers would continue to operate their farms at relatively high efficiencies after Government-financed technical assistance and irrigation management scheduling programs were discontinued in 1987. However, the Bureau now reports that the efficiency of irrigation water use in the District has declined significantly in the last 5 years, from a peak of 77 percent to about 60 percent.

- The District would pump only the minimum amount of drainage necessary to prevent groundwater levels from rising and causing damage to the crops. A District official acknowledged that the District had pumped excess groundwater in an attempt to comply with the terms of its water delivery contract.<sup>8</sup>

- The Government would not be required to desalt or replace the portion of the District's drainage that results from periodic floods in the Gila River.<sup>9</sup> However, the Bureau has never obtained a Solicitor's opinion clearly exempting the Government from responsibility for this source of drainage.

Because drainage reduction measures have not been as successful as expected, the Bureau is currently unable to treat all of the District's drainage with the smaller desalting plant that was constructed. This could significantly increase the Government's water replacement obligation. To illustrate, if District drainage remained at the 1991 level of 147,000 acre-feet, the Bureau would not be able to treat 39,000 acre-feet of this drainage at the 108,000 acre-foot capacity Yuma Desalting Plant and the excess drainage would be bypassed to the Santa Clara Slough. Thus the Government would be obligated to replace this 39,000 acre-feet of bypassed drainage, as well as the 29,500 acre-feet of Desalting Plant wastewater that would be generated by operating the Plant at its maximum capacity. Since the Bureau has not yet developed a viable method for permanently replacing the wastewater, this additional replacement obligation could not be met if the

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<sup>8</sup>Because the District's water delivery contract controls its use of Colorado River water on the basis of consumptive use (diversions less returns) rather than diversions alone, the District can increase the amount of water it diverts from the River for irrigation purposes by simply pumping more drainage.

<sup>9</sup>As floodwater in the Gila River passes through the District, some of the water sinks into the ground and commingles with unused irrigation water from the Colorado River. The two water sources become indistinguishable; thus both are pumped out by the District to prevent groundwater levels from rising.



Government loses its entitlement to the water supply attributable to the Coachella Canal.

### **Program Operating Costs**

A number of factors impact the operating costs of the Title I salinity control program, including Desalting Plant operations. Although the Bureau has substantially completed construction of the Desalting Plant, it has not developed operating criteria for determining how Title I program goals can be met in the most cost-effective manner. In its special report to the Congress, the Bureau indicated that it expects to operate the Desalting Plant at approximately one-third of capacity through calendar year 1996 at an estimated cost of about \$17 million annually for sustained operations, but the Bureau did not describe its rationale for selecting this level of operation.

In our 1989 report (No. 89-109) on the salinity control program, we recommended that the Bureau complete a study of alternatives to full operation of the Desalting Plant and incorporate the results into its special report to the Congress. Although the Bureau agreed to take the recommended action, it did not include this information in the Title I program report it sent to the Congress in June 1992. The Office of Management and Budget also required the Bureau to provide such a study as part of its fiscal year 1994 budget justification. However, the Bureau did not submit a study with its budget request, and a study was not available for review during the audit. Subsequently, the Bureau completed its study and submitted its report titled "Yuma Desalting Plant, Alternatives for the Interim Period" to the Department of the Interior and the Office of Management and Budget. We reviewed the Bureau's study and considered the information it provided in finalizing the audit report.

Based on our review, we concluded that the level and the frequency of required Desalting Plant operations are affected by (1) the availability of surplus water in the Colorado River, (2) the availability of replacement water from temporary or permanent sources developed by the Government, (3) the availability of water in storage that could be used by the Government, and (4) the amount of drainage the District pumps that the Government is responsible for desalting or replacing. For example, when surplus water is available in the Colorado River, bypassed drainage does not have to be replaced and the Desalting Plant does not have to be operated. Similarly, if drainage was reduced to 132,000 acre-feet or less, the Desalting Plant would not have to be operated as long as the Government retained its entitlement to the water saved by lining the Coachella Canal. Therefore, we believe that the Bureau should establish specific criteria to identify the most cost-effective means for meeting Title I program objectives and should annually redetermine the appropriate level of desalting operations in accordance with such criteria.

The Bureau expects to spend between \$10.6 million and \$33.7 million annually to operate and maintain the Desalting Plant, depending on the level of operations required. Based on these figures, we estimated that the variable cost of operating the Desalting Plant to recover an acre-foot of drainage water is approximately \$290.<sup>10</sup> To the extent that alternatives to desalting operations can be implemented at a lesser cost, we believe that they should be pursued initially to reduce the annual program costs. In our opinion, the most cost-effective means of currently proceeding with the program is to minimize operation of the Desalting Plant and to rely on existing replacement water supplies or water from upstream storage.

### Verification of Program Accomplishments

The Bureau and the Department of Agriculture conduct monitoring and evaluation activities to verify that project features function as planned and to confirm some of the technical assumptions made in planning the projects. While these activities provide evidence that the projects are removing salt, they do not directly measure the quantity of salt actually removed. The 1991 joint evaluation report on the Title II salinity control program stated that salinity control measures were removing 230,000 tons of salt per year, or about 15 percent of the 1.5 million-ton salt reduction required by the year 2010.<sup>11</sup>

Salinity control measures implemented at two locations currently account for over 60 percent (148,000 tons) of the 230,000-ton salt reduction. In the Grand Valley area of Colorado, salinity control measures implemented by the Bureau and the Department of Agriculture account for a combined total of 98,000 tons of salt removed. In the Uinta Basin area of Utah, Department of Agriculture salinity control measures accounted for another 50,000 tons of salt removed. According to the 1987 Bureau publication "Monitoring and Evaluation of Salinity Control Projects, Interim Guide for the Colorado River Basin Salinity Control Program," salt loading reductions this large should be reliably verifiable through downstream water quality measurements. In our opinion, it is particularly important to verify the effectiveness of voluntary on-farm salinity control improvements because (1) these projects are to provide more than half of the planned salt reductions to be accomplished by the year 2010 (790,000 tons out of a total of about 1.5 million tons) and (2) the effectiveness of on-farm salinity control improvements in reducing irrigation drainage and salt

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<sup>10</sup>Full operation of the Desalting Plant costs \$33.7 million and recovers about 78,500 acre-feet of drainage, while standby costs are \$10.6 million for no drainage recovery. Therefore, we estimated the variable cost of recovering 78,500 acre-feet of drainage to be \$23.1 million, or \$290 per acre-foot.

<sup>11</sup>In conducting the audit, we relied upon the accuracy of salt reduction goals developed by the Bureau of Reclamation using its Colorado River Simulation System, a complex package of computer programs and data bases that predicts future water quality in the Colorado River arising from proposed changes in the methods of operating the River or from proposed development of the River.

loading is highly variable, depending principally upon how these improvements are used by participating farmers. The Government's experience at the Wellton-Mohawk Irrigation and Drainage District clearly demonstrates that the effectiveness of these types of projects can change in a very short period of time and that initial expectations may have to be revised and additional or alternative measures undertaken.

### **Bureau of Land Management Activity**

The Bureau of Land Management has made little progress in investigating and planning salinity control measures, which could limit the overall effectiveness of the current plan for achieving salinity control objectives. In addition, the Government could miss opportunities to realize significant savings through measures that are more cost effective than those currently in the implementation plan. A 1984 amendment to the Salinity Control Act directed the Secretary of the Interior to develop a comprehensive program to minimize salt contributions from the 53 million acres of land administered by the Bureau of Land Management in the Colorado River Basin and to initially implement the most cost-effective salinity control measures. In a 1987 report to the Congress, the Bureau of Land Management estimated that the lands it administers in Colorado, Utah, and Wyoming contribute 700,000 tons of salt annually to the Colorado River and that measures to control some of this salt loading might cost only about \$35 to \$60 per ton of salt removed. These cost figures are two or three times more cost effective than other alternatives now being considered for the plan of implementation. However, the 1991 joint evaluation report includes plans for the Bureau of Land Management to remove only 50,000 tons of salt by the year 2010 without specifying where most of these salt reductions will occur or what they will cost.

The Bureau of Land Management investigates and implements salinity control measures as part of its land planning and management activities. However, the Bureau of Land Management requests less than \$1 million annually for salinity control as part of its overall soil, air, and water management activities, an amount that is significantly less than the \$8 million identified in the implementation plan. In our opinion, this lack of emphasis has contributed to the slow rate of progress to date in planning salinity control measures on land administered by the Bureau of Land Management. Based on the potential for significant cost savings through control measures on land administered by the Bureau of Land Management, we believe that investigative and planning activities should be expedited to quantify the cost and determine the feasibility of these measures as alternatives to the projects currently in the salinity control implementation plan.

## Authorization for Salinity Control Projects

The Bureau of Reclamation should seek changes in the processes for planning and authorizing new salinity control projects to facilitate the timely implementation of cost-effective measures. The Salinity Control Act authorized the Bureau to construct all or parts of 5 projects within a single cost ceiling and to investigate the feasibility of 12 potential projects. The Act also directed the Secretary to give preference to implementing salinity control measures that are the most cost effective. However, potential salinity control projects are currently subjected to the same justification requirements as any new water development project the Bureau proposes, including Departmental reviews and Congressional authorization. This process impedes the Bureau's ability to implement cost-effective salinity control measures in a timely manner.

To illustrate, the Bureau completed final planning for a potential Uinta Basin salinity control project in 1987. The Bureau's request that the project be submitted for Congressional authorization was initially returned by the Assistant Secretary for Water and Science to avoid having the new salinity control project compete for available funding with other ongoing water development projects. The Department finally referred the proposed new project to the Office of Management and Budget in November 1990; however, as of November 1992, the plan had not been submitted to the Congress with a request for authorization. As a result, the Bureau cannot implement salinity control measures at this location, where the planning report indicates that 25,000 tons of salt could be removed at an average cost of \$88 per ton, which is below the cost of currently authorized salinity control measures. In contrast, the Bureau is authorized to construct six segments of the Grand Valley project with costs ranging from \$147 to \$386 per ton of salt removed.

In our opinion, new salinity control projects should not compete for funding with other water development projects but should compete with other previously authorized salinity control projects. By obtaining authorization for identified cost-effective projects, program managers have a wider selection of measures from which to choose when deciding how salinity control funds can be spent most efficiently and effectively.

In addition, we believe the Bureau should request Congressional approval to use a process similar to the one under which the Department of Agriculture obtains Congressional authorization for its salinity control projects. The Department of Agriculture submits completed planning reports to the Congressional committees that provide oversight of Agriculture's activities and appropriations. If the Congressional committees do not disapprove the plans within 60 days, Agriculture can begin implementing the projects. We believe that new cost-effective projects could be implemented in a more timely manner under a similar process.

## **Recommendations**

We recommend that the Commissioner, Bureau of Reclamation:

1. Consult and negotiate with affected Colorado River Basin states and water users to extend the Government's entitlement to use water conserved by lining the Coachella Canal as a replacement for Desalting Plant wastewater and Wellton-Mohawk drainage bypassed to the Santa Clara Slough.

2. Develop a plan to expedite efforts to identify and implement cost-effective measures to reduce the amount of Wellton-Mohawk drainage the Government is obligated to desalt or replace. As part of this effort, the Bureau should obtain legal advice from the Office of the Solicitor to determine whether any portion of the District's drainage can be bypassed without replacement, in particular, Gila River floodwater.

3. Establish criteria for the Title I program that identify the most cost-effective level of desalting operations required, given the factors impacting the need for such operations. In this regard, we believe that the most cost-effective method currently available is to minimize operation of the Desalting Plant and to rely on existing replacement water supplies or water from upstream storage.

4. Establish procedures and timetables for verifying the accuracy of estimated salt reductions attributable to Title II salinity control measures. These actions should be coordinated with the Department of Agriculture.

5. Expedite the completion of Title II salinity control planning efforts in the Colorado River Basin to identify cost-effective salinity control measures on lands administered by the Bureau of Land Management. These actions should be coordinated with the Director, Bureau of Land Management.

6. Seek changes in Title II of the Salinity Control Act to simplify the process for obtaining Congressional approval of new cost-effective salinity control projects. These changes should be sought in coordination with officials of the Department and the Office of Management and Budget.

## **Bureau of Reclamation Response**

The March 12, 1993, response (Appendix 6) from the Commissioner, Bureau of Reclamation, stated concurrence with the six recommendations.

**Recommendation 1.** The response stated that the Lower Colorado Region will initiate consultations with the Coachella Valley Water District and the Colorado River Basin states to secure continued use of at least a portion of the water

conserved by lining the Coachella Canal for replacement purposes when it appears that the interim period will be ending. However, the Bureau said that it could not provide a target date for implementation because, based on the latest water use projections by the states, the interim period is not expected to end "in the foreseeable future."

**Recommendation 2.** The Bureau stated that the Lower Colorado Region will prepare a plan by January 15, 1994, to expedite efforts to identify and implement the means to reduce the amount of irrigation drainage from the Wellton-Mohawk Irrigation and Drainage District that the Federal Government is obligated to desalt or replace. The Bureau further stated that by April 15, 1993, it will request an opinion from the Office of the Solicitor to determine whether the Bureau is required to desalt or replace irrigation drainage that results from groundwater seepage that occurs from periodic flows in the Gila River. The Regional Director, Lower Colorado Region, is the official responsible for implementation.

**Recommendation 3.** The Bureau stated that it had submitted recommendations for the operation of the Desalting Plant during the interim period to the Department of the Interior and the Office of Management and Budget on January 23, 1993, in a report titled "Yuma Desalting Plant, Alternatives for the Interim Period." The response further stated that the report's recommendations will be implemented following approval from the Department. The response also stated that since the interim period is not expected to end in the foreseeable future, the majority of the bypassed irrigation drainage from the District will be replaced by water conserved by the lining of the Coachella Canal.

**Recommendation 4.** The Bureau stated that it has established a 20-station monitoring network throughout the Colorado River Basin to measure regional changes in salinity and has also established baseline (preproject) salinity conditions for each of Reclamation's salinity control units so that postproject improvements can and will be measured and verified. The Bureau also stated that it was its intent to measure the effectiveness of each unit upon completion of construction and that it will prepare an interim monitoring analysis to measure progress and expand this verification program to include Department of Agriculture units. The Assistant Commissioner for Resources Management is responsible for implementation, and the target date for establishing procedures and timetables is December 31, 1993.

**Recommendation 5.** The Bureau stated that it has "cooperated" with interested state agencies, the Department of Agriculture, and the Bureau of Land Management in "the scoping of rangeland management alternatives for salinity control." According to the Bureau, these preliminary studies indicate that rangeland management may be "very cost effective." The Bureau further stated that it will coordinate with the Bureau of Land Management to prepare a plan of study for the North Desert Study

Area by October 31, 1993. The Assistant Commissioner for Resources Management is responsible for implementation.

**Recommendation 6.** The Bureau stated that it will work with the Department of the Interior and the Office of Management and Budget on proposed legislation "to simplify the process" of obtaining Congressional approval for new salinity control projects. The proposed draft legislation will be provided to the Department of the Interior by September 30, 1993, and the Assistant Commissioner for Resources Management is responsible for implementation.

The Bureau also stated that the \$19 million reported as estimated annual savings is "overstated" because the Desalting Plant is not expected to operate all the time after the interim period or to always operate at full capacity when it is operating. The Bureau further stated that it has recommended that the Plant be operated at one-third capacity during the interim period, "which is not expected to end in the foreseeable future." The Bureau estimated the cost of continuous operation at one-third capacity to be \$18 million annually, which reduces the savings to \$5 million (\$18 million less \$13 million in standby costs.) However, the Bureau said, "Some time in the future (after the interim period ends) the savings could increase substantially."

### Office of Inspector General Response

Based on the Bureau's response, Recommendations 2, 4, 5, and 6 are considered resolved but not implemented and Recommendation 3 is unresolved. Additional information is needed for Recommendation 1. The four unimplemented recommendations will be referred to the Assistant Secretary for Policy, Management and Budget for tracking of implementation. The status of recommendations and the information needed for Recommendations 1 and 3 are in Appendix 7.

**Recommendation 1.** While the Bureau agreed with Recommendation 1, it indicated that it plans to wait until it appears that the interim period will be ending before implementing the recommended action. As discussed in the report (see "Permanent Replacement Water Supply"), we believe that the Bureau should begin working on this issue with the affected entities because of its future long-range potential for substantially reducing program costs. Therefore, we request that the Assistant Secretary for Water and Science provide a reasonable target date for beginning the negotiations to secure an extension of this important replacement water supply.

**Recommendation 3.** Although the Bureau said it had complied with Recommendation 3, it did not establish criteria for identifying the most cost-effective level of desalting operations required to meet program objectives and did not commit to making an annual reevaluation of the most appropriate level of desalting

operations in accordance with such criteria. Instead, the Bureau, in its January 1993 report on the Yuma Desalting Plant, evaluated alternative operating strategies for the Desalting Plant and recommended a preferred plan of action to be taken during the remainder of the interim period. The Bureau's preferred plan is to operate the Desalting Plant at one-third capacity (costs of \$16.5 million annually) based on the need to retain staff expertise and to continue long-term testing at the Desalting Plant. As such, the Bureau's operating plan is not based on meeting salinity objectives at the least cost, as recommended. Accordingly, we request that the Assistant Secretary for Water and Science reconsider the recommendation and provide a plan for establishing specific criteria for operating the Desalting Plant at the most cost-effective level. The plan should include target dates and titles of officials responsible for implementation.

Based on the Bureau's comments regarding estimated annual savings from minimizing Desalting Plant operations and updated figures in the Bureau's January 1993 report, we have revised our estimate to reflect a range of savings of \$5.9 million to \$23.1 million annually, as noted in Appendix 1.

As required by the Departmental Manual (360 DM 5.3), please provide us with your written comments to this report by June 11, 1993. Your response should provide the information requested in Appendix 7.

The legislation, as amended, creating the Office of Inspector General requires semiannual reporting to the Congress on all audit reports issued, the monetary impact of audit findings (Appendix 1), actions taken to implement audit recommendations, and identification of each significant recommendation on which corrective action has not been taken.

  
Harold Bloom

cc: Commissioner, Bureau of Reclamation  
Audit Liaison Officer, Water and Science  
Audit Liaison Officer, Bureau of Reclamation



## CLASSIFICATION OF MONETARY AMOUNTS

| <u>Finding Area</u>                                | <u>Funds To Be Put<br/>To Better Use</u> |
|--|--|
| Minimizing Yuma Desalting Plant<br>Operating Costs | \$5.9 million to \$23.1 million*         |

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\*These amounts represent an estimate of the range of annual savings that could be expected from implementing Recommendations 1, 2, and 3. The amounts were derived from Bureau of Reclamation cost estimates and reflect the difference between the cost of maintaining the Desalting Plant in standby status (\$10.6 million) and the cost of either operating the Desalting Plant at the Bureau's recommended level of one-third capacity (\$16.5 million) or operating the Desalting Plant at full capacity (\$33.7 million).

## EVENTS PRECEDING PASSAGE OF THE COLORADO RIVER BASIN SALINITY CONTROL ACT OF 1974

The Colorado River flows over 1,400 miles from its headwaters in Colorado, through a basin encompassing portions of seven western states, to its terminus in the Republic of Mexico. The River's water supply has been fully allocated for use by the seven states and Mexico in accordance with the "Law of the River." In 1944, the United States signed a treaty with Mexico that required the United States to deliver 1.5 million acre-feet of Colorado River water to Mexico annually; however, the treaty did not guarantee the quality of the water delivered. In the 1960s, Mexico formally protested the increasing salinity levels of the water it received under the treaty. The increased salinity was caused primarily by the operation of a new drainage system constructed for the Wellton-Mohawk Irrigation and Drainage District in Arizona and by reductions in River flows resulting from the completion of Glen Canyon Dam and the filling of Lake Powell in Utah.

The increasing salinity of Colorado River water delivered to users in the United States was also becoming a significant concern of the seven Colorado River Basin states and the U.S. Environmental Protection Agency, particularly because future development anticipated in the Basin would cause further declines in the water quality of the lower Basin. In 1972, the Environmental Protection Agency hosted an interstate conference on Colorado River water quality issues, where the states and Federal agencies decided that salinity levels should be dealt with as a Basinwide problem by implementing salinity control measures to prevent salinity in the lower reaches of the River from exceeding 1972 levels.

In 1973, after pursuing a series of temporary solutions to the salinity problem with Mexico, representatives of the two countries negotiated an agreement for a "permanent and definitive" solution. The agreement was formalized as Minute No. 242 of the International Boundary and Water Commission. Under the agreement, the United States was required to ensure that the average annual salinity of Colorado River water delivered to Mexico would be no more than 115 parts per million (plus or minus 30 parts per million) higher than the water arriving at Imperial Dam, near Yuma, Arizona. The Colorado River Basin states questioned the need for water quality commitments to Mexico and sought assurances that any commitments made by the United States would not cost the Basin states in terms of either money or water delivered. The Basin states also sought assurances that the Federal Government would support a program of domestic salinity control measures benefiting users in the United States. The Colorado River Basin Salinity Control Act of 1974 authorized salinity control measures to address both the international and the domestic salinity control problems.

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\*The "Law of the River" is a series of Federal and state statutes, interstate compacts, court decisions, and an international treaty that govern the use of all Colorado River water.

**COLORADO RIVER BASIN SALINITY CONTROL PROGRAM  
STATUS AND COSTS AS OF SEPTEMBER 30, 1991**

| <u>Program Feature Authorized</u>                    | <u>Status</u>                      | <u>Costs (in thousands)</u>           |   |
|--|------------------------------------|---------------------------------------|---|
|  |                                    | <u>Incurred<br/>as of<br/>9-30-91</u> | <u>Estimated<br/>Through<br/>2010<sup>1</sup></u> |
| <u>Title I Construction</u>                          |                                    |                                       |   |
| Yuma Desalting Plant                                 | Operating at one-third of capacity | \$225,693                             | \$284,475   |
| Drainage Canal to the Santa Clara Slough in Mexico   | Completed by 1981                  | 26,201                                | 26,201  |
| Drainage Reduction Measures                          |                                    | 38,962                                | 45,033  |
| Acreage Reduction                                    | Completed in 1978                  |                                       |   |
| Irrigation Efficiency Improvement                    | Completed in 1986 <sup>2</sup>     |                                       |   |
| Permanent Replacement Water Studies                  | Continuing <sup>3</sup>            | 2,502                                 | 2,158   |
| Coachella Canal Lining                               | Completed in 1982                  | 47,871                                | 47,871  |
| Protective Well Field                                | Twenty-one wells completed in 1984 | 19,572                                | 32,532  |
| Fish and Wildlife Mitigation                         | Ongoing                            | <u>11,488</u>                         | <u>11,796</u>                                     |
| Subtotal   |                                    | 372,289                               | 450,066   |
| <u>Title I Operation and Maintenance<sup>4</sup></u> | Ongoing                            | <u>22,988</u>                         | <u>600,000</u>                                    |
| <br>Total Title I                                    |                                    | <u>\$395,277</u>                      | <u>\$1,050,066</u>                                |
| <br>Total Title II                                   | Ongoing                            | <u>\$266,386</u>                      | <u>\$871,000</u>                                  |
| <br>Grand Total                                      |                                    | <u>\$661,663</u>                      | <u>\$1,921,066</u>                                |

<sup>1</sup>Assumes that construction of all Title I features will be complete by the year 2010.

<sup>2</sup>Irrigation efficiency measures completed in 1986 did not reduce irrigation drainage to the expected level of 108,000 acre-feet annually. Additional effort may be needed.

<sup>3</sup>Initial studies were completed and the results reported to the Congress in 1980. No viable measures to permanently replace Desalting Plant wastewater and excess Wellton-Mohawk drainage were identified. An ongoing study involves managing vegetation along the lower Colorado River to reduce water losses.

<sup>4</sup>The estimated cost through the year 2010 is based on operating the Desalting Plant at full capacity every year.

## OFFICES VISITED AND/OR CONTACTED

| <u>Offices</u>   | <u>Location</u>                           |
|--|---|
| <b>Department of the Interior</b>                          |   |
| <b>Bureau of Reclamation</b>                               |   |
| Office of the Assistant Commissioner, Resources Management | Denver, Colorado                          |
| Lower Colorado Regional Office*                            | Boulder City, Nevada                      |
| Upper Colorado Regional Office                             | Salt Lake City, Utah                      |
| Yuma Projects Office                                       | Yuma, Arizona                             |
| Grand Junction Projects Office                             | Grand Junction, Colorado                  |
| <b>Bureau of Land Management*</b>                          |   |
|  | Denver, Colorado, and<br>Phoenix, Arizona |
| <b>U.S. Fish and Wildlife Service</b>                      | Salt Lake City, Utah                      |
| <b>U.S. Geological Survey</b>                              | Salt Lake City, Utah                      |
| <b>Department of Agriculture</b>                           |   |
| <b>Soil Conservation Service</b>                           |   |
| Yuma Field Office  | Yuma, Arizona                             |
| Grand Junction Field Office                                | Grand Junction, Colorado                  |
| <b>U.S Environmental Protection Agency</b>                 | Denver, Colorado                          |
| <b>Non-Federal Offices</b>                                 |   |
| Colorado River Basin Salinity Control Forum                | Bountiful, Utah                           |
| Wellton-Mohawk Irrigation and Drainage District            | Wellton, Arizona                          |

\*Contacted only

**SUMMARY OF AUDIT FINDINGS, RECOMMENDATIONS,  
AND CORRECTIVE ACTIONS TAKEN IN RESPONSE TO  
OFFICE OF INSPECTOR GENERAL AUDIT REPORT NO. 89-109**

With respect to the Title I salinity control program, the audit report "Survey Report on the Review of the Colorado River Basin Salinity Control Program, Bureau of Reclamation," issued on September 7, 1989, noted that the high cost of operating and maintaining the Yuma Desalting Plant (then estimated at between \$6 million and \$25 million annually), the previous planning decisions to downsize the constructed capacity of the Desalting Plant, and the lack of a permanent replacement water supply for bypassed drainage and Desalting Plant wastewater could prevent achievement of program goals. The report concluded that the seriousness of these questions justified a Congressional reassessment of the Title I salinity control program. Accordingly, two of the report's recommendations requested that the Bureau (1) formally notify the Congress of limitations on the Department's ability to comply with provisions of the Salinity Control Act and (2) provide the Congress with additional information on which to judge the reasonableness of the existing program and any alternative means for complying with Title I salinity standards.

On June 16, 1992, the Bureau released its report "Title I Program, Colorado River Basin Salinity Control Act" to the Congress. Although the Bureau's report included limited discussions of the three specific program limitations identified in the prior audit report, we believe that the manner in which this information was presented obscured the significance of these issues. In addition, the Bureau did not include a substantive discussion of alternatives to operating the Desalting Plant at full capacity, which the Bureau had agreed to provide to the Congress to resolve the audit recommendations.

With respect to the Title II salinity control program, the September 1989 audit report noted that factors beyond the Bureau's control significantly constrained the planning and development of salinity control projects. We also found that the Bureau planned an expansion of private irrigation facilities (estimated to cost \$4 million) on one project without authority, primarily to induce local participation in the project. The report recommended that the Bureau (1) develop new planning policies which ensured that salinity control funds were not wasted on unproductive investigations and unnecessary construction and (2) not proceed with the unauthorized expansion project. The Bureau issued the planning guidance in response to the first recommendation but disagreed with the recommendation concerning expansion of private irrigation facilities. Under the terms of an agreement between the Inspector General and the Commissioner, Bureau of Reclamation, for resolving the audit recommendations, the Bureau was relieved of responsibility for taking any action on the latter recommendation because construction was already under way.



# United States Department of the Interior

BUREAU OF RECLAMATION

Washington, D.C. 20240



IN REPLY REFER TO:

MAR 12 1993

D-1200

Memorandum

To: Office of Inspector General  
 Attention: Assistant Inspector General for Audits

From: Commissioner *James D. Newwood*

Subject: Draft Audit Report on "Implementation of the Colorado River Basin Salinity Control Program, Bureau of Reclamation" (W-IN-BOR-004-92A) (OIG Audit)

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'93 MAR 12 P10:54

The Bureau of Reclamation (Reclamation) offers the following comments in response to the recommendations in the subject report:

### Recommendation 1

Consult and negotiate with the affected Colorado River Basin states and water users to extend the Government's entitlement to use water conserved by lining the Coachella Canal as a replacement for Desalting Plant wastewater and Wellton-Mohawk drainage bypassed to the Santa Clara Slough.

### Response

Concur. The Lower Colorado Region will initiate consultations with the Coachella Valley Water District and the Colorado River Basin states to secure continued use of at least a portion of the water conserved by lining the Coachella Canal for replacement purposes, when it appears that the interim period will be ending. Based on the latest water use projections by the states, the interim period is not expected to end in the foreseeable future. Therefore, a target implementation date cannot be provided at this time.

It should be noted that at the same time Reclamation would be negotiating with California to secure continued use, of at least a portion, of the water conserved by lining the Coachella Canal, Reclamation would also be reducing California's annual deliveries of Colorado River water as much as 700,000 acre-feet. It may not be realistic to assume that California would be willing to enter into such negotiations.

The responsible official is the Regional Director, Lower Colorado Region.

Recommendation 2

Develop a plan to expedite efforts to identify and implement cost-effective measures to reduce the amount of Wellton-Mohawk drainage the Government is obligated to desalt or replace. As part of this effort, the Bureau should obtain legal advice from the Office of the Solicitor to determine whether any portion of the District's drainage can be bypassed without replacement, in particular, Gila River floodwater.

Response

Concur. The Lower Colorado Region will prepare a Plan of Study to expedite efforts to identify and implement a means to reduce the amount of irrigation drainage from the Wellton-Mohawk Irrigation and Drainage District (WMIDD) that the Federal Government is obligated to desalt or replace. In the report, "Title I Program - Colorado River Basin Salinity Control Act", dated June 1992, Reclamation had already developed an action plan. However, this action plan will need to be modified as a result of the recent flooding.

In the interim, Reclamation will request an opinion from the Office of the Solicitor to determine whether Reclamation is required to desalt or replace the portion of WMIDD's irrigation drainage that results from groundwater seepage that occurs from periodic flows in the Gila River, and not from the application of Colorado River water.

The responsible official is the Regional Director, Lower Colorado Region. The target date for completion of the Plan of Study is January 15, 1994. The target date for requesting a Solicitor's opinion on the WMIDD drainage water issue is April 15, 1993.

Recommendation 3

Establish criteria for the Title I program that identify the most cost-effective level of desalting operations required, given the factors impacting the need for such operations. In this regard, we believe that the most cost-effective method currently available is to minimize operation of the Desalting plant and to rely on existing replacement water from upstream storage.

Response

Complied. Recommendations for the operation of the Desalting Plant during the interim period were submitted to the Department of the Interior and the Office of Management and Budget on January 23, 1993, in a report titled "Yuma Desalting Plant, Alternatives for the Interim Period." The report recommendations will be implemented following approval from the Department. As the interim period is not expected to end in the foreseeable future, the majority of the bypassed WMIDD irrigation drainage will be replaced by water conserved by the lining of the Coachella Canal.

Recommendation 4

Establish procedures and timetables for verifying the accuracy of estimated salt reductions attributed to Title II salinity control measures. These actions should be coordinated with the Department of Agriculture.

Response

Concur. Reclamation has established a 20-station monitoring network throughout the Colorado River Basin to measure regional changes in salinity. Reclamation has also established baseline (preproject) salinity conditions for each of Reclamation's salinity control units so that post project improvements can (and will) be measured and verified. It was our intent to measure the effectiveness of each unit upon completion of construction. Based on the recommendation of the OIG, Reclamation will prepare an interim monitoring analysis to measure progress. Also at the request of the OIG, Reclamation will expand this verification program to include the Department of Agriculture (USDA) units, some of which are being implemented adjacent to Reclamation units. Reclamation and the USDA staff will meet to establish procedures and timetables for verifying the accuracy of estimated salt reductions.

The responsible official is the Assistant Commissioner - Resources Management. Procedures and timetables will be developed by December 31, 1993.

Recommendation 5

Expedite the completion of Title II salinity control planning efforts in the Colorado River Basin to identify cost-effective salinity control measures on lands administered by the Bureau of Land Management. These actions should be coordinated with the Director, Bureau of Land Management.

Response

Concur. Reclamation has cooperated with interested state agencies, the USDA, and the Bureau of Land Management (BLM) in the scoping of rangeland management alternatives for salinity control. These preliminary studies indicate that rangeland management may be very cost effective. The USDA and state agencies are pursuing plans on private lands. Reclamation will assist BLM in developing cooperative studies to test the effectiveness of rangeland management techniques through measurement of actual improvements on test plots. Reclamation will use its hydrosalinity monitoring expertise to compliment BLM's experience in rangeland management. Reclamation will coordinate with BLM staff to prepare a plan of study for the North Desert Study.



The responsible official is the Assistant Commissioner - Resources Management. The plan of study will be completed by October 31, 1993.

#### Recommendation 6

Seek changes in Title II of the Salinity Control Act to simplify the process for obtaining Congressional approval of new cost-effective salinity control projects. These changes should be sought in coordination with officials of the Department and Office of Management and Budget.

#### Response

Concur. Reclamation will work with the Department of the Interior and Office of Management and Budget on proposed legislation to simplify the process of obtaining congressional approval for new salinity control projects.

The responsible official is the Assistant Commissioner - Resources Management. The proposed draft legislation will be provided to the Department of the Interior by September 30, 1993.

#### Monetary savings from recommendations (Appendix 1)

Appendix 1 concludes that \$19,000,000 could be saved annually if Recommendations 1 through 3 are implemented. This is based on maintaining the Yuma Desalting Plant (YDP) in standby status at \$13,000,000 annually versus operating the YDP at full capacity at a cost of \$32,000,000 annually.

#### Response

Reclamation believes the annual savings of \$19,000,000 is overstated. This amount is based on the assumptions that the YDP would always be operated at full capacity; that it can remain in standby status indefinitely; that the OIG's recommendations would result in never having to operate the YDP; and that if some alternative to operating the YDP is found, that it would be without cost. In fact, Reclamation has recommended that the YDP be operated at one-third capacity during the interim period, which is not expected to end in the foreseeable future. The cost of continuous operation at one-third capacity is estimated at \$18,000,000 annually which reduces the above savings to \$5,000,000 annually during the interim period. In addition, the YDP is not expected to operate all the time after the interim period, nor is it expected to always operate at full capacity when it is operating.

It is not possible to accurately estimate the operating time or the capacity of operation of the YDP following the interim period because these estimates depend on future Colorado water supply and unknown salinity conditions. In addition, Reclamation does not believe that implementation of the OIG's recommendations would completely eliminate the need for the operation of the YDP after the interim period ends.

Reclamation therefore believes that the maximum annual savings during the interim period would be \$5,000,000, but probably less. . Some time in the future (after the interim period ends) the savings could increase substantially. Reclamation has no way to determine what those savings would be at this time, but certainly believe the savings will be significantly less than \$19,000,000 annually (in current dollars).

If you have any questions or require additional information, please contact Luis Maez at (303) 236-9892.

cc: Assistant Secretary - Water and Science  
Attention: Margaret Carpenter  
Assistant Secretary - Policy, Management and Budget  
Attention: Phillip Haymond

## STATUS OF AUDIT REPORT RECOMMENDATIONS

| Finding/Recommendation<br>Reference | Status   | Action Required   |
|-------------------------------------|--|---|
| 1                                   | Management concurs;<br>additional information<br>needed. | Provide a target date for<br>negotiating an extension to the<br>Government's water use entitlement.   |
| 2, 4, 5, and 6                      | Resolved; not<br>implemented.                            | Recommendations will be referred to<br>the Assistant Secretary for Policy<br>Management and Budget for tracking<br>of implementation.   |
| 3                                   | Unresolved.  | Reconsider the recommendation, and<br>provide a plan for establishing specific<br>criteria for operating the Plant at the<br>most cost-effective level. The plan<br>should include target dates and titles<br>of officials responsible for<br>implementation. |



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