



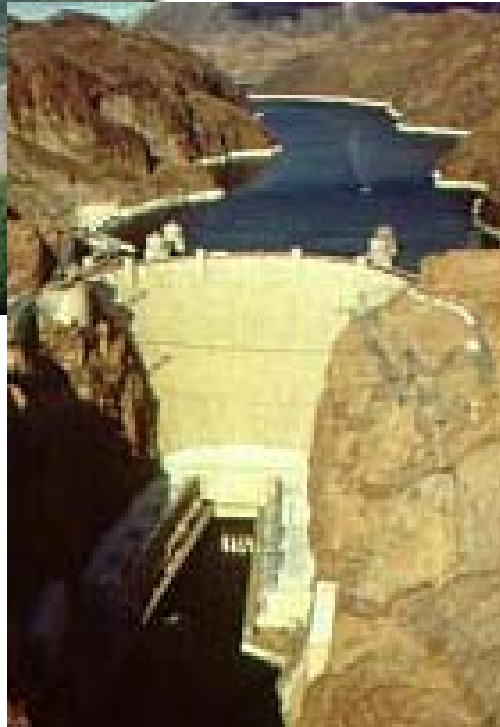
## Department of the Interior Office of Inspector General

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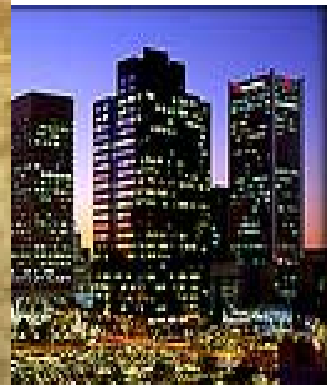


Irrigation in Colorado River Basin

**Failure to  
Implement  
Water Transfer  
Process Leaves  
BOR Unprepared  
To Facilitate  
Transfers**



Hoover Dam



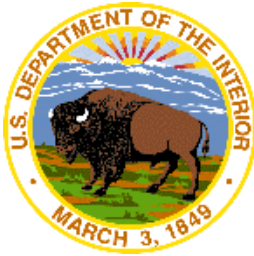
Phoenix, Arizona

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# Municipal and Industrial Water Transfers

## Bureau of Reclamation

**Report No. W-FL-BOR-0121-2002  
November 2003**



# United States Department of the Interior

Office of Inspector General  
Western Region  
Federal Building  
2800 Cottage Way, Suite E-2712  
Sacramento, California 95825

November 26, 2003  
7430

## Memorandum

To: Assistant Secretary for Water and Science

From: Michael P. Colombo   
Regional Audit Manager

Subject: Municipal and Industrial Water Transfers, Bureau of Reclamation  
(Report No. WFLBOR01212002)

Attached is our final report on the Bureau of Reclamation's (BOR) process for transferring water from agricultural to municipal and industrial (M&I) use, our third report on this issue since 1992. The history of our reporting has been long and contentious, with BOR's prior agreements to implement recommendations and our subsequent follow-up reports revealing that it had not done so.

Over the past decade, transfers have assumed ever greater significance as an acceptable and desirable means of reallocating water, primarily from agricultural to M&I use. In 1997, to resolve the recommendations in our 1992 report, the Assistant Secretary for Policy, Management and Budget recommended five action items. These action items, along with Recommendation 1 in our March 2000 report, laid the groundwork for a proactive water transfer process. Based on BOR's assurances that these actions would be implemented, the Assistant Secretary, with our concurrence, closed the recommendations in our March 2000 report in May of 2001.

Our current review, however, revealed that BOR did not live up to these assurances and has not, in fact, taken the actions necessary to implement a proactive water transfer process. Further, BOR's September 24, 2003 response to this, our third report, is a clear indication that it does not intend to do so. We are especially concerned that BOR did not agree with the first three recommendations of our report, since BOR had previously assured the Assistant Secretary that these recommendations were to be implemented. BOR's response also indicates a lack of understanding of both the significance of water transfers and BOR's role in Western water management and obscures the message presented in the report. For example:

- BOR asked us to revise our report to that of a follow-up only. While the scope of any audit is at the sole discretion of the Inspector General, our report was, in fact, a follow-up audit. The bulk of our work concentrated on whether BOR had implemented the recommendations in our March 2000 audit. In our current report, we simply restate and tailor the recommendations of the

2000 report to provide BOR with a more efficient means of implementing a proactive water transfer process.

- BOR stated that we mixed issues relevant to previous audits with the Secretary's initiative *Water 2025: Preventing Crises and Conflict in the West*. Our work was done well before *Water 2025* began; we reference the initiative only to help emphasize the urgency of water problems in the West and the necessity of being prepared. We find it odd that BOR would hold meetings throughout the West this year to urge collaboration to avoid future crises and conflict while at the same time refuse to take actions that could help accomplish that very goal.
- BOR stated that the Assistant Secretary for Policy, Management and Budget considered BOR's actions "to be sufficient to resolve the identified water transfer issues." BOR failed to mention that the Assistant Secretary closed the recommendations based on BOR's affirmation that the action items had essentially been completed.
- BOR stated that the General Accounting Office (GAO) concurred that BOR had met the intent of the audit recommendations in GAO's 1994 report. GAO's report recommendations, however, dealt only with transfer approval requirements and not with BOR establishing a collaborative effort with state and local users to anticipate water transfers.

BOR also stated our report did not support that BOR's lack of a water transfer process constituted a material weakness under Departmental criteria. We disagree for several reasons. First, the lack of a proactive water transfer process is a deficiency that affects BOR's core mission of delivering and managing water supplies in the West. As stated in the Departmental Manual, any impairment of that mission is a material weakness. Second, without such a process, BOR cannot meet the goals in its fiscal year 2000-2005 Strategic Plan to address the "contemporary needs in the West" and "chart a course for the future." In the Plan, BOR acknowledged that its "actions are important in satisfying a range of competing water demands." Third, water transfers have become much more than the simple recovery of interest for water converted to M&I. Water transfers are now increasingly recognized as one of the primary means of managing water to avoid conflicts that are inevitable when prolonged drought and limited supplies collide with explosive population growth. In that regard, *Water 2025: Preventing Crises and Conflict in the West* specifically cites market-based water transfers as part of the "five realities" to address "systemic water problems." As stated in the initiative, "One of the most important aspects of intelligent water management in the West is to have a system that allocates available water supplies in a rational manner when there is not enough to meet all demands for water."

BOR built many of the great water systems in the West and continues to manage 35 percent of the water delivered in the West. BOR will obviously continue to be a primary player in addressing Western water needs for years to come. We believe that until BOR implements a proactive water transfer process, it may, in effect, hinder rather than facilitate water transfers. Accordingly, we are asking BOR to reconsider Recommendations 1, 2, 3, and 4.

The legislation, as amended, creating the Office of Inspector General requires that we report to the U.S. Congress semiannually on all audit reports issued, actions taken to implement our audit recommendations, and recommendations that have not been implemented.

Please provide a written response to this report by January 12, 2004. The response should supply the information requested in Appendix 4. We appreciate the cooperation shown by BOR staff during our review. If you have any questions regarding this report, please call me at (916) 978-5653.

Attachment

cc: Audit Liaison Officer, Assistant Secretary for Water and Science (MS 7428)  
Commissioner, Bureau of Reclamation (MS 7060)  
Audit Liaison Officer, Bureau of Reclamation (D 7400)

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# Executive Summary

## BOR Failure to Implement Water Transfer Process Leaves the Agency Unprepared to Facilitate Transfers

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**The history of the American West is written in water, and no federal agency has had a greater role in writing it than the U.S. Bureau of Reclamation.**

—*The Christian Science Monitor*, June 20, 2002

**The West has literally grown up around Reclamation projects—the farms, the cities, the way of life.**

—John Keys, Commissioner, Bureau of Reclamation

Water is a finite and scarce resource in the desert landscape of the American West. Using that resource wisely to meet emerging and competing demands is the primary challenge facing water managers in the 21<sup>st</sup> century.

The last century saw the construction of large-scale water projects that turned much of the desert into farmland and allowed large cities to flourish. Chief among the builders was the Bureau of Reclamation (BOR), which was mandated by Congress to stimulate settlement of the western United States through the economic benefits provided by irrigated agriculture.

Today, BOR projects are in 17 western states and in essentially every major river basin.<sup>1</sup> The projects supply about 35 percent of all the water delivered in the West and make BOR the West's largest water resources management agency and a key player in resolving issues of water supply and demand.

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<sup>1</sup>The 17 states are Arizona, California, Colorado, Idaho, Kansas, Montana, Nebraska, Nevada, New Mexico, North and South Dakota, Oklahoma, Oregon, Texas, Utah, Washington, and Wyoming.



Harvest from early BOR project  
*Photo courtesy of BOR*

BOR, however, has failed to establish the process necessary to manage water transfers, which offer impressive benefits, not only in reallocating existing supplies to meet competing demands, but in recovering federal costs within a framework driven by market values rather than by subsidies.

Water transfers<sup>2</sup> (converting water from one use to another or selling or exchanging water among individuals or agencies) have assumed greater and greater significance as Western water managers have come to agree that water demands must be met primarily by existing water supplies. Nearly every

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<sup>2</sup> In this report we use the word “transfers” to include all voluntary changes in water use.

major river system in the West is already heavily developed and over appropriated, and the monetary and environmental cost of building new water storage projects can be prohibitive. BOR itself has acknowledged that constructing any new, large-scale water storage projects is unlikely.

Most BOR transfers involve transfers from agricultural to urban or municipal and industrial (M&I) use, which in effect reallocate supplies from a subsidized framework to a potentially market driven one. Much of the water supplied by BOR projects is for irrigation, which can account for up to 90 percent of water use in some areas.

Irrigation is heavily subsidized. Farmers not only receive most of the water, they also pay the least for it, as a result of subsidies established early on by Congress to ensure the affordability of agricultural water. Farmers, for example, pay little of the federal construction investment and none of the costs of financing construction over the repayment period.

Dramatic population growth in the West, however, is challenging the supremacy of agriculture and giving urban water users new muscle. In the last 25 years, the 17 western states served by BOR projects have been the fastest growing in the United States. Most of the growth has centered around large cities, with 86 percent of all Westerners now living in or near urban areas. This population growth, coupled with environmental concerns and prolonged periods of drought, has created demands that clash with the status quo and necessitate flexibility in water management.

When water is converted from agricultural to M&I use, Reclamation law mandates that BOR take the steps necessary to recover the appropriate interest from M&I water users. Unlike irrigators, M&I water users are required to pay all of the interest on their construction obligations.

We have been concerned with the issue of interest recovery on these conversions since the late 1980s. To that end, we addressed this issue in an August 1992 report and in a March 2000 follow-up report. Both reports contained recommendations to assist BOR in effectively managing water transfers by identifying projects that are experiencing or will experience transfers, developing example M&I rates, and forecasting urban demand.

In its response to our March 2000 report, BOR concurred with our recommendations and outlined the actions it would take for implementation. Please see Appendix 1 for a history of audit recommendations and the status of BOR implementation.

Given BOR's assurances to address the issue of transfers in our prior reviews, we found in our current review that BOR has made little progress. To date, BOR has issued some policy guidelines, but has failed to establish a process that would facilitate water transfers and allow recovery of appropriate federal revenues.

In our March 2000 report, we also asked BOR to report its lack of procedures to identify water transfers as a material weakness in its annual assurance

statements<sup>3</sup> to the Department of the Interior until such time that BOR established such procedures. BOR has not made such reporting.

The stakes are high for BOR, not only in meeting urban demands and protecting the agricultural economy, but also in maintaining the integrity of its leadership in Western water management. We believe it is time for BOR to acknowledge the urgency of establishing a process to judiciously manage water transfers and effect positive change in how water is allocated and valued in the West.

We do not believe, however, that BOR can address the issue of water transfers until it realizes that our recommendations should not be viewed as stand-alone actions, but rather as parts of an overall process for managing transfers. We therefore focused our report on establishing a process to manage water transfers.

Accordingly, we recommended that the Commissioner direct BOR to

- (1) establish and maintain a database of current and potential water transfers,
- (2) estimate M&I water demand in major urban areas served by BOR projects,
- (3) conduct periodic reviews of selected projects from the database to verify water use, and
- (4) report its lack of a process for water transfers as a material weakness in its annual assurance

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<sup>3</sup>Under the Federal Manager's Financial Integrity Act, each federal agency is required to prepare an annual assurance statement on the status of its management controls and report any substantial, or material, weaknesses in those controls. Congress passed the Act in 1982 to correct fraud, waste, and abuse that were occurring because of weak controls.

statements to the Department until such time that BOR implements a process.

In its September 24, 2003 response, BOR strongly disagreed with our conclusions and recommendations, stating that it was already facilitating water transfers, that broadening our scope had confused the objective, and that both the Assistant Secretary for Policy, Management and Budget (PMB) and the General Accounting Office (GAO) considered BOR's actions on water transfers to be sufficient.

We were perplexed by this response since BOR, in effect, was disagreeing with actions which it had assured PMB were being implemented, but which this review revealed had not been implemented. The recommendations in this report are essentially restatements of the recommendations in our March 2000 report (Appendix 1).

We believe BOR's response relegates BOR to a passive role in water transfers and is a rejection of the proactive approach needed if BOR is to be a full and ready participant in future transfers. Given the urgency and magnitude of the transfer issue, we are compelled to ask BOR to reconsider all of the recommendations.

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## Abbreviations:

BOR .....	Bureau of Reclamation
GAO .....	General Accounting Office
M&I .....	Municipal and Industrial
OIG .....	Office of Inspector General
PMB .....	Policy, Management and Budget



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# A Western Water Perspective

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In the arid and semi-arid West, people have always competed for limited water supplies. The availability and management of water determined the fortunes of cities and industries—where people would live and what enterprises would flourish. Although the nature of conflict may have changed over the years, conflict remained the norm.

Today, farmers, cities, environmentalists, and Native Americans compete for the same limited supplies. As noted by Secretary of the Interior Gale Norton, in a speech before the American Bar Association's Annual Water Law Conference in February 2003 (Norton 2003), "The reality that we face today is that in some areas of the West there is not enough water to go around, even in normal hydrological conditions."

Explosive population growth in western cities and unpredictable periods of drought significantly affect already limited supplies. Meeting water demand and avoiding conflict among competing uses will involve changes in the way water is valued and divided among users. One change is the emergence of water markets. Another is the increasing transfer of water from agricultural to M&I and environmental uses.

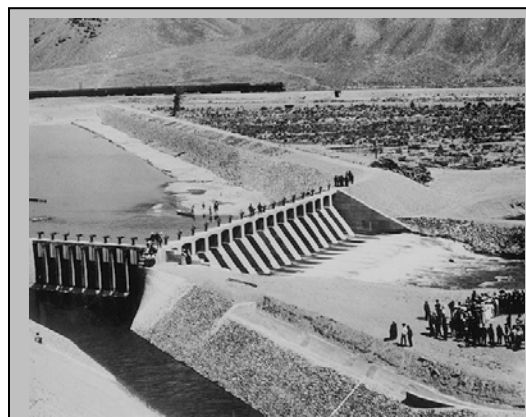
BOR is a principal and essential player in 21<sup>st</sup> century Western water management. A brief history of BOR's role in Western water development shows why and points to the leadership required of BOR to help prevent future water conflicts.

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## BOR's Role in Western Water Development

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BOR's role in the West began with enactment of the Reclamation Act of 1902. For the first 85 years of its history, BOR met the Congressional mandate of "making the desert bloom" and stimulating population growth through irrigated agriculture. BOR's massive irrigation projects allowed the West to flourish. Dams, reservoirs, and canals transformed river basins by controlling river flows and creating dependable water supplies particularly during the hot summer months when typically little or no rain falls throughout most of the West. Interbasin transfers moved water over long distances to supply areas of scarcity.

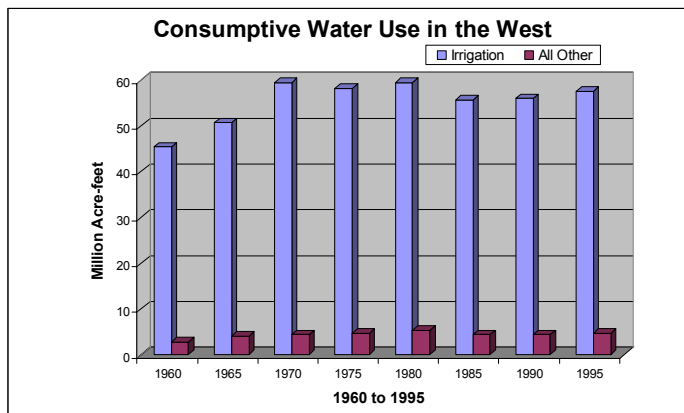


Dedication of Truckee River Diversion Dam in 1905. The Diversion Dam was part of the Newlands Project on the Carson and Truckee Rivers in western Nevada. The Project was one of the first projects built by BOR, with construction starting in 1903.

*Photo courtesy of BOR*

With the advent of large-scale water systems, water was not only readily available, it was also cheap as a result of

generous federal subsidies. Subsidized irrigation water supported the supremacy of agriculture, which drove Western economic development for most of the 20<sup>th</sup> century. The federal subsidy for irrigation has been estimated at up to 90 percent of the actual cost to provide water (Anderson and Snyder, 1997).<sup>4</sup> Irrigation and all other water uses, including M&I, are compared in Figure 1 (Goelehon, 1999).



**Figure 1**

Irrigation subsidies resulted from BOR's formula to allocate the costs of building and financing water projects among various users. As a matter of federal water policy, calculations were highly favorable to agriculture. Farmers paid little of the capital investment in the facilities and none of the interest incurred to finance the federal

<sup>4</sup> In the Truckee-Carson River Basins in Nevada, for example, irrigators paid a little over \$2.00 an acre-foot of water in 1995, while the actual cost of supplying the water was estimated at over \$33.00 an acre-foot. (An acre-foot is the amount required to cover an acre of land to a depth of 1 foot or approximately 326,000 gallons.)

investment over the repayment period.<sup>5</sup> Subsidized water not only supported agriculture, it allowed people to settle in areas where water supplies were inadequate to sustain significant populations. According to BOR Commissioner John Keys, "Our projects are the center of Western settlements. Phoenix, Salt Lake City, Boise, Spokane . . . all those cities were built around Reclamation projects."

## End of Large-Scale Water Development Ushers in New Water Management Paradigm

By the late 1980s, assumptions governing water development and use had dramatically changed from those of 1902. The physical locations most suited to large-scale development had already been used, and economic and environmental constraints for other, less favorable, locations were formidable. Many of the West's rivers were already fully allocated. In his November 2001 testimony before the Senate Committee on Environment and Public Works, Keys stated, "Nearly every major river system in the West – the Colorado, Columbia, Rio Grande and Missouri – is heavily developed and over appropriated. That trend is projected to continue" (Keys 2001).

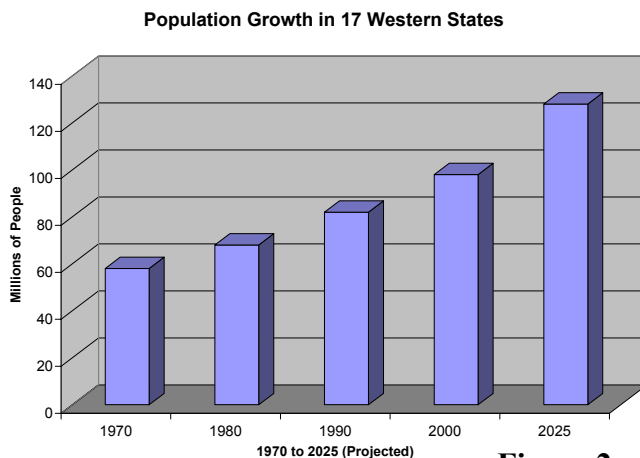
By the late 1980s, the era of large-scale development of federally subsidized water was over. A new paradigm of

<sup>5</sup> BOR calculated the amount of project construction costs allocated to agriculture and then determined the amount farmers could pay and still realize a profit. The difference between the actual amount owed by agricultural users and the amount farmers could afford to repay is eventually repaid, without interest, by project power users.

water management was emerging, shaped by unprecedented population growth, the realization that water was a finite and scarce resource, and the need to protect species, habitat, and water quality and to plan for periods of drought.

### **West Undergoing Explosive**

**Population Growth.** Western states are the fastest growing region of the United States. This new population is increasingly urban, with about 86 percent of all Westerners living in or near cities. Figure 2 shows population growth since 1970 and the projected growth through 2025 (U.S. Census Bureau 2000).



**Figure 2**

### **Enactment of Environmental**

**Legislation.** Along with the growth of cities has come a shift in public values—an insistence on better environmental stewardship to protect fish and wildlife species and habitat and water quality. Enactment of environmental legislation, such as the National Environmental Policy Act (1969), the Clean Water Act (1972), and the Endangered Species Act (1973), gave legal standing to environmental issues.

**Effects of Recurring Droughts.** The pressures of finding water to meet increased M&I and environmental needs are exacerbated by unpredictable and prolonged periods of drought. Currently, significant areas of the West are experiencing drought characterized as “extreme” (see Appendix 2). For example, in the seven states within the Colorado River Basin, 2002 rainfall was the lowest ever recorded, significantly reducing the water stored in Basin reservoirs. Between September 2001 and September 2002, Lake Mead (the reservoir created by Hoover Dam) dropped nearly 23 feet. Lake Powell, another Basin reservoir, dropped by more than 38 feet. These reservoirs, which were designed to hold up to 4 years of water supply, now held only a 1-year supply.

### **Emergence of Water Markets and Water Transfers as Ways to Reallocate Existing Supplies and Resolve Conflicts.**

Given the unpredictability and severity of drought and increasing and competing water demands, conflict over water supplies seems inevitable. However, the past quarter century has seen a quiet revolution—the growing consensus that competing needs must be met within existing supplies and that water markets provide the framework for solving water shortage problems and alleviating conflicts among competing uses. Market advocates point to the ability of markets to promote sustainable economic development by treating water as the scarce resource that it is.

Most importantly, water markets support the reallocation of existing supplies. A primary mechanism for such reallocation is water transfers; that is, the conversion

of water from one use to another or the sale or exchange of water among individuals or agencies. Transfers present opportunities to meet M&I demands, bolster environmental and recreational values, and shift water to new uses. Most transfers involve agriculture since it continues to be the major user of water in the West (see Figure 1), and an issue to be resolved is the effect of such reallocation on agricultural production and the national economy.

Water transfers have been occurring on BOR projects for some time, as population growth has spurred increasing M&I demand. The result is that some project facilities originally constructed to provide irrigation water will provide more and more water for M&I use. M&I water is not heavily subsidized as irrigation supplies. M&I users are expected to repay both the construction investment and the interest costs incurred by the Government to finance its investment over the repayment period. As water is converted or transferred from irrigation to M&I use, Reclamation law<sup>6</sup> requires BOR to identify and verify the changes in water use and ensure the recovery of an equitable portion of the federal cost to finance facilities that are now being used for M&I water.

We began reviewing the issue of water supply conversions on BOR projects in the late 1980s and reported on this issue in 1992 and 2000. In both instances, we found that BOR had not recovered

financing costs and indeed lacked the procedures to do so. Please see Appendix 1 for a summary of our prior audits and recommendations.

BOR has issued some policies regarding the water transfers, beginning with a 1988 policy for voluntary transfers and an announcement that it would facilitate water transfers (BOR, Policy WTR P02). Other changes in federal water policy have “loosened up” restrictions on where BOR project water could be used. Enactment of the Central Valley Project Improvement Act<sup>7</sup> in 1992, for example, set up a potential model for facilitating water markets by allowing Central Valley Project water to be transferred outside the Central Valley. In December 1997, then Secretary of the Interior Bruce Babbitt announced that he would allow Colorado River water to be transferred between states.

Although we began our review to determine whether BOR had implemented Recommendations 1 and 2 in our 2000 report, we realized that a new era of Western water management was underway in which transfers would play a primary role in reallocating existing supplies and avoiding conflict among competing uses. We therefore reported our findings within this larger context. See Appendix 3 for a summary of our audit methodology and locations visited.

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<sup>6</sup>Reclamation law refers to the total body of laws governing the reclamation program, beginning with the Reclamation Act of 1902 and including all laws amending and supplementing the Act.

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<sup>7</sup>The Act was Title 34 of an omnibus bill, the Reclamation Projects Authorization and Adjustment Act (Public Law 102-575).

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## Results of Audit: BOR Has Not Yet Implemented a Process to Effectively Address M&I Water Transfers

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BOR has yet to implement a process to effectively address the issue of M&I transfers and actively participate in water markets. This process is based on prior audit reports (see Appendix 1) and on conclusions reached from our current review. We believe the following steps represent the actions BOR must take to establish an effective water transfer process.

1. Establish a data base of projects experiencing or expected to experience transfers.
2. Estimate M&I demand in major urban markets near BOR projects.
3. Periodically review projects experiencing transfers to verify water use.

To emphasize the magnitude of this issue, we believe BOR should report its lack of a water transfer process as a material weakness in its annual assurance statements to the Department until such time as BOR establishes and implements a water transfer process.

### **Establish a Database**

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Without a database of the projects that are experiencing or expected to experience transfers, BOR cannot hope to take any of the other steps in the process. We therefore recommended in our March 2000 report that BOR report

on the individual quantities and prices of transfers that occurred each year. Over time, such reporting would establish a database of projects experiencing transfers. Although BOR agreed to our recommendation, it has yet to issue a report on projects experiencing M&I transfers.

To establish a database and provide a solid foundation for the rest of the process outlined in this report, BOR should do the following:

- Identify major urban areas in the West and BOR projects located in proximity to these areas,
- Identify which of these BOR projects are experiencing water transfers now and which projects are likely to experience transfers in the future, and
- Annually collect data on the acre-feet of agricultural and M&I water supplied and transferred for each of these BOR projects and the rate or prices charged per transfer.

Only after BOR establishes such a database can it identify the major markets that are prime candidates for ongoing and future M&I transfers and adequately implement the next step of the process: estimating M&I demand.

## **Estimate M&I Water Demand**

To determine where water transfers are and will be most necessary to fairly allocate water among competing interests in the West, BOR must facilitate water transfers by estimating M&I demand in major urban markets near BOR projects. To estimate this demand, BOR should conduct economic studies, which, at a minimum, include the following data: (1) projected population growth, (2) projected conversions of agricultural land to urban use, (3) changes in cropping patterns, (4) availability of water supplies – whether current supplies are sufficient to ensure adequate and dependable water for current uses and population growth, and (5) water rates from local water providers operating near BOR projects. BOR must then develop project-specific example rates to use in negotiations with local water authorities for future water transfers or for renegotiated contracts.<sup>8</sup>

In our March 2000 report, we recommended that BOR estimate the demand for water supplied by federal projects through economic studies. Although BOR concurred with our recommendation, it has not conducted economic studies or compiled data to estimate future M&I demand. BOR stated it had identified “research studies that have addressed the price elasticity of demand for water at the wholesale level.” BOR also stated it had

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<sup>8</sup>In this regard, BOR has issued two policies on water transfers (see Appendix 1, page 15). These policies are *Policy for Pricing Water Converting From Irrigation to Municipal and Industrial Service*, November 13, 1997 and *Reclamation Manual Policy #WTR P02, Voluntary Transfers of Project Water*, January 2001.

established an “ongoing effort to review, maintain, and conduct research on M&I wholesale water pricing . . . which should fulfill the requirement for an ongoing research effort.”

We reviewed the research studies referenced in the response and concluded that they were insufficient to allow BOR to estimate the demand for M&I water in major markets supplied by federal projects. In addition, a BOR official in the Denver Office’s Economics Branch, which compiled the review of the wholesale water pricing literature, told us there was “no ongoing effort” as stated in BOR’s response.

In our March 2000 report, we also recommended that BOR develop the example rates needed for negotiations with local water authorities. Without such rates, BOR will not be ready to negotiate market M&I rates when transfers to M&I use on specific projects begin to occur. M&I rates are time sensitive and must be project specific to accurately reflect water market values.<sup>9</sup> We reviewed documents that BOR stated contained example rates, as well as the policy, theoretical background, and methodologies for helping contracting officers establish example rates to use in negotiations with local water authorities. None of the documents had adequate example rates, as follows:

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<sup>9</sup>The November 13, 1997 policy memorandum states: “The preferred base (floor) negotiation rate will be an M&I rate established in existing Reclamation water service contracts found within the local area, provided that the rate reasonably reflects the existing market price. In the event that such contracts have not been executed, then a local market M&I rate will be used . . . The use of either a contract or local market rate serves as a good indicator of the price buyers and sellers are willing to pay to participate in water conversion activities.”

- *A Survey of Wholesale Water Rates in the Western United States*, dated September 1998. This document, which presented 1996 to 1998 wholesale water rates for 149 water contractors in 15 Western states, did not include project-specific example rates. In addition, we noted that the *Survey* has not been updated, and the rate information is no longer timely.
- *Water Prices and the Demand for Municipal and Industrial Water* and *General Findings of the Municipal Water Demand Literature* provided useful historical information, but did not have example rates for specific BOR projects.
- *Resource Book for Municipal and Industrial Water Pricing*, dated October 2000, incorporated and expanded on the above three documents. The rates discussed in the *Resource Book*, however, did not correlate to specific BOR projects on which future transfers were anticipated.

BOR has issued the methodologies for determining example rates, but has never developed example rates from these methodologies. Until BOR develops and tests these example rates against market rates charged in the area, it will not know whether its methodologies are adequate.

### **Periodically Review Projects Experiencing Transfers to Verify Water Use**

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We recommended that BOR conduct periodic reviews of projects experiencing transfers from irrigation to M&I use to verify the quantities of water delivered, the amounts of water used, the amounts paid, and conformance of use with water contracts. However, since

BOR has not established a project data base, it lacked the data to target its periodic reviews to those projects experiencing or expected to experience M&I transfers.

In its first report (*Report on Findings of 2001 Periodic Reviews of Water Deliveries with Respect to Contract Terms*), issued in December 2001, BOR reported on activities for 14 water districts primarily for water year 2000,<sup>10</sup> most of which provided water for irrigation and other purposes such as recreation, but not for M&I.

We also looked at 12<sup>11</sup> reviews completed for 2002 that BOR provided to us during our fieldwork. We found that for 6 of the 12 districts, M&I was not a project purpose. Again BOR did not target its reviews to projects that are experiencing or expected to experience M&I transfers.

BOR also did not adequately verify water use on the 14 projects reviewed in its December 2001 report. For the first 7 periodic reviews conducted for the December 2001 report, BOR did not report the contract quantities and the amounts delivered.<sup>12</sup> BOR improved its reporting of contract and delivery data for its review of the last seven projects. However, BOR's procedures were not sufficient to verify the accuracy of the

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<sup>10</sup> A water year is defined by the individual contractor and can vary.

<sup>11</sup> The 12 were part of the 22 reviews planned for 2002.

<sup>12</sup> BOR used a standardized Checklist for Review and Verification of Contractor Water Use. The Checklist was included in the September 2000 directive from the Commissioner (*Periodic Review of Water Deliveries With Respect to Contract Terms*), which directed BOR regions to periodically review projects and verify water use.

amounts of irrigation and M&I water use reported by the water contractors. Such verification of water use is essential for the projects we believe BOR should be targeting.

We evaluated four of these reviews<sup>13</sup> and noted that BOR officials who performed the reviews accepted the contractor's reported amounts at face value. We found no documentation that BOR had independently verified these amounts.

The issue of verifying water deliveries also arose during a recent BOR audit (see *Review of Central Valley Project Responsibilities Transferred Under Direct Funding Agreements Between BOR and Three California Water Authorities*, Appendix 3). We believe that the quality assurance program recommended in that report will help BOR ensure the accuracy of the amounts reported.

### **Report Lack of a Transfer Process as Material Weakness**

BOR has yet to establish an effective process for managing conversions of water from agriculture to M&I use, despite its agreement over 10 years ago to do so. To underscore the gravity of this issue, we recommended in our March 2000 report that BOR report the lack of procedures to identify water transfers as a material weakness in its annual assurance statements<sup>14</sup> to the

<sup>13</sup>The four reviews were the reviews of the Solano Irrigation and Goleta Water Districts conducted by the Mid-Pacific Region and the reviews of the Wellton-Mohawk and Mohave Valley Irrigation and Drainage Districts conducted by the Lower Colorado Region.

<sup>14</sup>Under the Federal Manager's Financial Integrity Act, each federal agency is required to prepare an annual assurance statement on the status of its

Department of the Interior until such time that BOR establishes a process to collect and verify annual water use data. To date, BOR has not reported its lack of a process as a material weakness.

### **The Future Is Now Era of Water Transfers Here**

**In January 2003, 10 agricultural water contractors in the northern Central Valley of California agreed to sell up to 205,000 acre-feet of water over the 2003 irrigation season to the Metropolitan Water District of Southern California, the largest M&I supplier in California.**

**The 10 water contractors receive irrigation water from BOR's Central Valley Project, the largest water supply project in the United States. Most of the 205,000 acre-feet will come from idling acreages used for rice, which is a high water-use crop.**

**The sale and transfer is made possible under the Central Valley Project Improvement Act, which allowed Project water to be transferred for uses outside the Project's service area.**

### **Recommendations**

By virtue of its long history in Western water development and the volume of water it controls, BOR is an essential player in helping to ensure the effective management of Western water supplies and the resolution of conflict among

management controls and report any substantial, or material, weaknesses in those controls. Congress passed the Act in 1982 to address fraud, waste, and abuse that were occurring because of weak controls.



competing uses. The era of subsidized water development is becoming an era of market-driven water supply, as stated by Bennett Raley, the Assistant Secretary of the Interior for Water and Science (Associated Press, June 2002):

We believe the best solution long-term for . . . complex situations where you've got competing demands is to let the market work. As we look to the next century, that is the way . . . we foresee that water will be shifted from existing uses to emerging uses.

A Department of the Interior initiative, *Water 2025: Preventing Crises and Conflict in the West*, announced in May 2003, addressed population growth, drought, water shortages, and competing needs. *Water 2025* discussed the inadequacy of "crisis management" in addressing "long-term systematic water supply problems" and the consequences of failing to address the problem of competing demands for a finite water supply. During the summer of 2003, BOR hosted public meetings throughout the West to discuss *Water 2025*.

BOR is aware of the changing perspective in Western water management. Its acknowledgement that it should change its mission<sup>15</sup> and issuance of policies regarding M&I water transfers are clear statements of the need for change. We believe BOR must now act to bring its practices regarding these transfers in line with its

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<sup>15</sup> In its *Assessment '87: A New Direction for the Bureau of Reclamation*, BOR acknowledged that its "primary role as the developer of large federally financed agricultural projects is drawing to a close" and that it must "change from an agency based on federally supported construction to one based on resource management."

vision. We therefore recommend the Commissioner take the following steps:

1. Establish and maintain a database by
  - (a) Identifying major urban areas in the West and BOR projects located in proximity to these areas,
  - (b) Identifying which of these BOR projects are experiencing water transfers now and which projects are likely to experience transfers in the future, and
  - (c) Annually collecting and maintaining data on the acre-feet of agricultural and M&I water transferred on each of these BOR projects and the rates or prices charged per transfer.
2. Estimate M&I water demand in major urban areas served by BOR projects by
  - (a) Researching factors that could affect water demand, such as expected population growth, projected conversion of agricultural lands, and the adequacy and availability of existing water supplies,
  - (b) Gathering water rate data from local water agencies near BOR projects, and
  - (c) Developing project-specific example rates to use when negotiating future water transfers with local water authorities and renegotiating existing contracts.
3. Conduct periodic reviews of selected projects from the database described in Recommendation 1 to verify water use. Projects selected for review should be experiencing or expecting to experience significant conversions. This verification includes confirming the

accuracy of water delivery amounts against the quantities agreed upon in the contracts by examining metering equipment, reviewing crop records, or using other indirect methods.

4. Report its lack of a process to manage water transfers as a material weakness in its annual assurance statements to the Department of the Interior until it implements Recommendations 1, 2, and 3.

## **BOR Response**

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In its September 24, 2003 response, BOR strongly disagreed with our conclusions and recommendations, citing the following reasons.

- First, our conclusion that BOR was not in a position to facilitate water transfers was in error; BOR cited past transfer activities as evidence that it did indeed facilitate transfers.
- Second, transfers should and could not be federally driven.
- Third, broadening the scope of our report beyond that of a follow-up audit mixed “issues associated with previous audits and a new initiative [the Department’s *Water 2025*] in a confusing manner.” BOR suggested that we “revise” the narrative of our report to address the original audit objective and “delete references to Reclamation’s efforts under Water 2025.”
- Fourth, the Assistant Secretary for Policy, Management and Budget (PMB) considered BOR’s actions to resolve recommendations in our 1992 report “to be sufficient to

resolve the identified water transfer issues.”

- Fifth, the General Accounting Office (GAO) concurred that BOR had met the intent of GAO’s recommendation in its 1994 report on water transfers.

BOR also stated that there were “no findings in [the] report to support a material weakness designation under the Department’s criteria.”

## **OIG Reply**

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We stand by our position that BOR cannot facilitate water transfers because it has not implemented the actions recommended by the Assistant Secretary for PMB<sup>16</sup> and our March 2000 report to do so. Nor has BOR proposed an effective alternative. Past BOR ability to react to individual transfer proposals does not equate to a proactive transfer management process.

We find BOR’s response perplexing because it strongly disagreed with actions that BOR has previously assured the Assistant Secretary were to be implemented. Based on these assurances, the Assistant Secretary, in May 2001, considered BOR’s actions sufficient to close the recommendations of our March 2000 report.

Our current review, however, revealed that BOR had not lived up to its assurances; that in fact it had not taken the actions necessary to implement our

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<sup>16</sup> In 1997, BOR agreed to implement five action items proposed by the Assistant Secretary for PMB to resolve the recommendations of our 1992 report. These five action items were included as Recommendation 2 of our March 2000 report.

recommendations, including the actions recommended by the Assistant Secretary.

Of the five action items that BOR stated were implemented, it had implemented only the two dealing with the issuance of policy. BOR had not implemented the three action items that embodied a proactive water transfer process. For example, Action Item 1 required BOR to develop example rates for facilities *expecting* future conversions/transfers. BOR's response stated: "It is not Reclamation's role to *anticipate* where transfers may occur in the future [emphasis added]." Action Item 3 required BOR to conduct economic studies and compile existing information to *estimate the demand for M&I water in the major markets supplied by federal projects*. BOR likewise rejected our restatement of this recommendation.

Our recommendations did not change the intent of the action items or Recommendation 1, but simply restated and tailored them to provide BOR with a more efficient way for implementation. For example, to comply with Recommendation 1, which asked BOR to review and verify water use on projects, we suggested that BOR target projects experiencing or anticipating transfers with significant impact, rather than accumulating data on all projects without regard to whether transfers would take place. We therefore restated and provided additional information on the five action items recommended by the Assistant Secretary and on Recommendations 1 and 3 of the 2000 report (Appendix 1).

BOR's response, in effect, affirms that BOR prefers a passive role in water

transfers and has rejected the proactive approach advocated by the Assistant Secretary for PMB and our March 2000 report. The recommendations in this report defined proactive as collaborating with state and local users and having a process in place to anticipate transfers, research market conditions, and negotiate transfer agreements. By assuming a proactive role, BOR would be better able to effect positive outcomes, rather than simply reacting to transfer proposals. We believe that only with a proactive process can BOR truly "facilitate" the reallocation of available water supplies (such as from agriculture to municipal and industrial uses) in a rational, orderly manner that prevents crisis.

We find BOR's advocacy of a passive role in transfers disturbing. BOR manages 35 percent of water delivered in West, and, by virtue of this fact alone, BOR is and must be an active participant with the states and parties involved in reallocating water. In assuming a passive role, BOR cannot be an effective partner with these interests.

Preparedness cannot be equated with transfers being "driven from the Federal level," as stated in BOR's response. Regardless of how BOR defines its role, it must be an informed and results-oriented player. BOR cannot effectively partner or collaborate with state and local interests if it waits until water transfer proposals are received to gather the information essential to completing transfers. Lacking timely and essential information, BOR is not in a position to address the inevitable water supply challenges and conflicts in the West.

BOR is adept at establishing policies; witness its implementation of the two action items that required development of policy and its development of a water transfer approval guidance in response to the 1994 GAO report. However, such policies provide only a general framework and are not an established set of procedures to implement a proactive water transfer process BOR-wide. For example, GAO's recommendation dealt only with transfer approval requirements: that is, what laws would have to be satisfied, what contracts would need amending, and what environmental requirements must be met. While we agree that these approval requirements are essential to react to proposed water transfers, they do not embody establishing a collaborative effort to anticipate water transfers.

BOR's failure to establish a proactive process constitutes a material weakness for several reasons. First, the lack of such a process is a deficiency that affects BOR's core mission of delivering and managing water supplies in the West. As stated in the Departmental Manual, an impairment of that mission is a material weakness.<sup>17</sup> Second, as stated by BOR,<sup>18</sup> it has an *"opportunity to reexamine its role in addressing contemporary needs in the West and chart a course for the future. Reclamation's actions are important in satisfying a range of competing water demands. . . . By setting goals and targets to accomplish these actions, Reclamation can be held accountable for*

*accomplishing the work outlined in the [Department's] Strategic Plan."*

We fail to see how BOR can effectively address the "contemporary needs in the West" and "chart a course for the future" without the proactive water transfer process recommended in our report. Third, water transfers have become much more than the simple recovery of interest for water converted to M&I. Rather, water transfers are increasingly recognized as one of the primary means of managing water to avoid conflicts that are inevitable when prolonged drought and limited supplies collide with explosive population growth. The Departmental initiative *Water 2025: Preventing Crises and Conflict in the West* specifically cites market-based water transfers as part of the "five realities" to address in systemic water problems.

BOR's intransigence in equating framework and policy with process and in refusing to be proactive limits its preparedness and by extension its ability to effectively manage water and transfers.

It is imperative that BOR view our recommendations as part of an overall process to manage water transfers, not as stand-alone actions. Given the urgency and significance of the water transfer issue, we are asking that BOR reconsider Recommendations 1, 2, 3, and 4 and provide the information requested in Appendix 5.

<sup>17</sup> 340 DM 2.7f(3)(c) which elevates to the level of material weakness conditions that significantly impair the fulfillment of the Department or Bureaus' mission.

<sup>18</sup> Bureau of Reclamation, Strategic Plan, Fiscal Years 2000-2005.

## References

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Anderson, Terry L. and Snyder, Pamela S. February 1997. *Priming the Invisible Pump*, Political Economy Research Center Policy Series, Issue No. PS-9.

Associated Press. June 18, 2002. "Has the Bureau of Reclamation Met the Needs of the Changing West?"

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Goelehon, Noel R. August 1999. "Water Markets, Implications for Rural Areas of the West," *Rural Development Perspectives*, Volume 14, No. 2, Economic Research Service, U.S. Department of Agriculture.

Keys, John, Commissioner, Bureau of Reclamation. November 14, 2001. Testimony in Oversight Hearing on Water Supply and Water Resources before the Senate Committee on Environment and Public Works.

Norton, Gale, Secretary of the Interior. February 2003. Speech before the American Bar Association's Annual Water Law Conference.

U.S. Census Bureau, Census 2000.

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## Appendix 1

# History of Audits on M&I Transfers and Status of Audit Recommendations and BOR Implementation

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### August 1992 Report

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We reported on the issue of M&I transfers in our August 1992 report *Repayment of Municipal and Industrial Water Supply Investment Costs, Bureau of Reclamation* (No. 92-I-1128). At that time, we were concerned primarily with the recovery of federal interest costs. We found that BOR was not recovering the federal cost of financing M&I water supply facilities primarily because BOR lacked the controls to identify changes in water use and its guidelines did not include provisions for interest recovery.

Of the three recommendations in our 1992 report (page 15), BOR agreed only with Recommendation 1, which asked BOR to establish internal controls to conduct periodic reviews of annual project water use to ensure that the quantity delivered conformed with that specified in the contracts. We subsequently referred Recommendations 2 and 3 to the Assistant Secretary for Policy, Management and Budget (PMB) for resolution.

In July 1997, the Assistant Secretary established five action items, which BOR agreed to implement in lieu of Recommendations 2 and 3.

### March 2000 Report

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Our March 2000 report *Followup of Recommendations Concerning Repayment of Municipal and Industrial Water Supply Investment Costs, Bureau of Reclamation* (No. 00-I-270) reported that BOR had not implemented either Recommendation 1 or four of the five action items. We did not evaluate Action Item 5 because BOR's milestone of March 31, 2002 for completing this action item was subsequent to issuance of our report.

We noted that although BOR had stated that it would develop Reclamation Instructions requiring periodic reviews, it had not done so. A November 1994 policy memorandum from the Commissioner to establish procedures to ensure that reviews were conducted and water deliveries verified did not result in the development of such procedures. Instead BOR regional offices offered a variety of other procedures for review and verification that did not meet the intent of the Commissioner's memorandum.

We again made recommendations to help BOR establish a process for managing M&I transfers. We modified Recommendation 1 of our 1992 report and included completion of the five action items as Recommendation 2.

To underscore the seriousness of the issue, we also included a recommendation (No. 3) that BOR report its lack of adequate procedures to identify water conversions as a material weakness until it had implemented Recommendation 1.

In its response to our March 2000 report, BOR agreed “in principle” with the desirability of implementing Recommendation 1 and concurred with Recommendations 2 and 3. Based on BOR’s response, we considered the recommendations resolved and referred them to the Assistant Secretary for PMB for tracking of implementation.

## **May 2001 Follow-Up Report**

An *Audit Followup Report* (No. 01-I-357), issued in May 2001, followed up on the status of selected outstanding OIG report recommendations for the 6-month period ending December 31, 2000. We reported Recommendations 1 and 3 as implemented based on BOR’s proposed cycle of field reviews of selected projects. Our current review found that BOR had not in fact implemented our recommendation. We have therefore restated these recommendations in our current review (see page 17).

<b>History and Status of Audit Recommendations</b>			
<b>August 1992 Audit Report</b>			
<b>Recommendations</b>	<b>BOR Response</b>	<b>OIG Action</b>	<b>PMB Action</b>
1. Establish internal controls requiring periodic reviews of annual project water use to ensure that the quantity delivered conforms with that specified in the contracts.	Concurred	Referred to PMB for tracking of implementation	Determined that recommendation was implemented
2. Review Bureau guidelines to provide for the Government to recover an equitable share of its financing costs incurred from the date of project completion through the date the water use changed from irrigation purposes to M&I purposes.	Did Not Concur	Referred to PMB for resolution	Replaced recommendation with five action items that BOR agreed to implement
3. Compute and recover the Government’s financing costs on the 11 projects included in our review and on any other projects where changes in water use have occurred, as identified through implementation of Recommendation 1.	Did Not Concur	Referred to PMB for resolution	Replaced recommendation with five action items that BOR agreed to implement

## March 2000 Follow-Up Audit Report

**We reported that BOR had not implemented any of the recommendations in the August 1992 report and made the following three new recommendations.**

<b>Recommendations</b>	<b>BOR Response</b>	<b>OIG Action</b>	<b>PMB Action</b>
1. Establish uniform and consistent control procedures that require periodic reviews of annual project water use to ensure that the quantity delivered and used is in conformance with the water contracts. These procedures should include provisions to collect and verify annual water use data, determine whether the use of the water is in accordance with contract terms, and maintain documentation of the verifications performed and the determinations made.	Concurred in principle	Referred to PMB for tracking of implementation	Determined that recommendation was implemented
2. Complete the five action items as agreed to with the Assistant Secretary for PMB. (Action Items are listed on the following page under our 2002 Review.)	Concurred	Referred to PMB for tracking of implementation	Determined that recommendation was implemented
3. Until Recommendation 1 is fully implemented, report BOR's lack of adequate procedures to identify water conversions in BOR's annual assurance statement on management controls as a material weakness under the Federal Manager's Financial Integrity Act.	Concurred	Referred to PMB for tracking of implementation	Determined that recommendation was implemented



## Status of March 2000 Recommendations Based on Findings of This Report

Recommendation/Action Item	Implemented	Not Implemented	Comment
1. Establish uniform and consistent control procedures that require periodic reviews of annual project water use to ensure that the quantity delivered and used is in conformance with the water contracts. These procedures should include provisions to collect and verify annual water use data, determine whether the use of the water is in accordance with contract terms, and maintain documentation of the verifications performed and the determinations made.		<b>X</b> BOR issued policy requiring periodic reviews, but its December 2001 report did not comply with the intent of the recommendation.	Recommendation 1 corresponds to Recommendation 3 of this report, which asks BOR not only to periodically review projects experiencing transfers but also to target its reviews. Recommendation 3 supersedes Recommendation 1 of the March 2000 report.
2. Complete the five action items agreed to with the Assistant Secretary for PMB, as follows:			
<b>Action Item 1.</b> Issue policy guidance to the regions and develop example rates for facilities expecting future conversions/transfers.		<b>X</b> BOR issued methodologies for example rates, but did not develop any rates to test its methodologies.	Recommendation 2(c) of this report supersedes this action item.
<b>Action Item 2.</b> Provide the Assistant Secretary for Water and Science with an annual report on the individual quantity and prices of the transfers and conversions that occurred during the year.		<b>X</b> BOR stated that its December 2001 report implemented this action item, but the report did not address projects experiencing transfers.	Recommendation 1 of this report supersedes this action item.
<b>Action Item 3.</b> Conduct economic studies and compile existing information to estimate the demand for M&I water in the major markets supplied by federal projects. Information will be distributed to the regions to be used in developing pricing policies for water converted or transferred from agriculture to M&I uses.		<b>X</b> BOR has not implemented this action item.	Recommendation 2(a) of this report supersedes this action item.
<b>Action Item 4.</b> Issue guidance regarding the incorporation of contract language to provide for the periodic reallocation of costs based on current water use at the time and for rate review at 5-year intervals.	<b>X*</b>		BOR issued policy on this action item. See Note*.
<b>Action Item 5.</b> Review water transfer guidelines and determine if additional steps are required to facilitate voluntary transfers of water.	<b>X**</b>		BOR issued policy on this action item. See Note **.
3. Until Recommendation 1 is fully implemented, report BOR's lack of adequate procedures to identify water conversions in BOR's annual assurance statement on management controls as a material weakness under the Federal Manager's Financial Integrity Act.		<b>X</b> BOR has not implemented this recommendation.	Based on the significance of the issue, we reinstated Recommendation 3 as Recommendation 4 of this report and asked BOR to report its lack of procedures as a material weakness until it implements the entire transfer and verification process outlined in Recommendations 1, 2, and 3 of this report.

## Notes:

\* In its response to Action Item 4, BOR incorporated in its November 13, 1997 *Policy for Pricing Water Converting From Irrigation to Municipal and Industrial Service* a requirement to review water rates at 5-year intervals. In January 2001, BOR issued Reclamation Manual Policy #WTR P02, *Voluntary Transfers of Project Water*, which provides for recovery of an equitable share of federal financial costs attributable to water supplies converted from irrigation to M&I use. In this regard, we believe BOR should enforce its policies on water transfers (see Appendix 1, page 15).

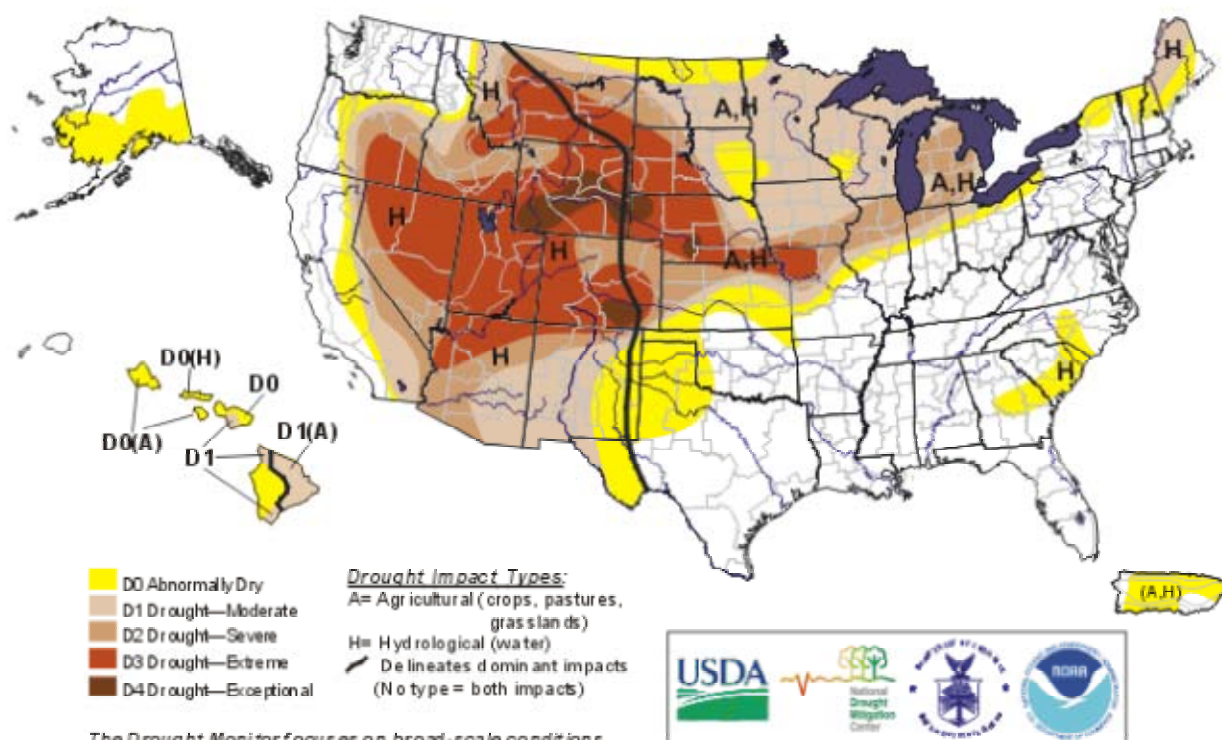
\*\* BOR met the intent of Action Item 5 by issuing its October 2000 *Resource Book for Municipal and Industrial Water Pricing*, which included three policies addressing water transfers:

- (1) WTR P02, *Voluntary Transfers of Project Water*,
- (2) WTR P03, *Prohibition on Future Contracts for the Sale or Use of Project Water or Surplus Project Water Pursuant to the Warren Act of 1911*, and
- (3) WTR P04, *Use of Excess Capacity in Reclamation Projects for the Impoundment, Storage, and Carriage of Non-Project Water*.

# U.S. Drought Monitor

March 18, 2003

Valid 7 a.m. EST



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

<http://drought.unl.edu/dm>

Released Thursday, March 20, 2003

Author: Richard Heim/Candace Tankersley, NOAA/NESDIS/NCDC

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## Appendix 3

# Objective and Scope

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The objectives of our audit were to determine whether BOR had taken the actions planned to implement Recommendations 1 and 2 in our March 2000 report and whether any new recommendations were warranted. Although we began our review as a follow-up, we realized that a new era of Western water management was underway in which transfers would play a primary role in reallocating existing supplies and avoiding conflict among competing uses. We therefore conducted our review within this larger context.

To accomplish our objectives, we evaluated the actions taken by BOR to implement the recommendations in our March 2000 report and other actions necessary to establish an effective water transfer process. We also interviewed officials from BOR's Denver Office and selected regional and area offices.

As part of our evaluation, we reviewed the 14 periodic review reports prepared by BOR for 2001.<sup>19</sup> We analyzed the reviews of the Solano Irrigation and Goleta Water Districts conducted by the Mid-Pacific Region and the reviews of the Wellton-Mohawk and Mohave Valley Irrigation and Drainage Districts conducted by the Lower Colorado Region. In addition, we reviewed various types of reports, such as water delivery and crop reports for these four projects for fiscal years 1992 through 2000 to identify conversions to M&I

use. We also reviewed contracts, legislation, and other documents to determine whether both irrigation and M&I use was authorized and whether contractors were being charged the applicable M&I water rates for converted water.

We conducted our audit from September 2002 through January 2003 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. We also reviewed the Department of the Interior's Reports on Accountability for fiscal years 2000 and 2001, which included information required by the Federal Manager's Financial Integrity Act, and BOR's annual assurance statements on management controls for fiscal years 2000 and 2001. We determined that no material weaknesses were reported that directly related to the objective and scope of our audit.

We also evaluated BOR's system of internal controls related to our audit objective and found that BOR had not established sufficient procedures to identify conversions of irrigation water to M&I use. In addition, the two regions we visited did not have systems in place to verify water delivery reports received by BOR. These internal control weaknesses are discussed in the Results of Audit section of this report. Our recommendations, if implemented, should improve the internal controls in these areas.

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<sup>19</sup> We also reviewed reports for 12 of the 22 entities BOR scheduled for review in 2002.

## **Prior Audits**

In addition to our 1992 and 2000 reports on M&I transfers, we issued a report related to BOR controls over ensuring the accuracy of water deliveries in September 2002.

This report *Review of Central Valley Project Responsibilities Transferred Under Direct Funding Agreements Between BOR and Three California Water Authorities* (No. 2002-I-0052) stated that neither BOR nor the three Water Authorities could verify the amounts of water delivered and ensure the accuracy of the amounts reported.

We identified actions that BOR could take to verify its water deliveries and recommended that BOR, in conjunction with the Water Authorities, establish a quality assurance program to ensure the integrity of water measurement activities.

BOR concurred with recommendations to establish a quality assurance program to ensure the integrity of water measurement activities. According to BOR, the target date for implementing the program is September 30, 2003.

## **Locations Visited or Contacted**

<u>Office</u>	<u>Location</u>
Office of Assistant Secretary for PMB* Office of Policy Analysis*	Washington, D.C.
BOR Office of Policy	Washington, D.C.
BOR Water Contracts & Repayment Office	Lakewood, Colorado
Mid-Pacific Regional Office South Central California Area Office	Sacramento, California Fresno, California
Lower Colorado Regional Office Yuma Area Office*	Boulder City, Nevada Yuma, Arizona
Great Plains Regional Office* Oklahoma-Texas Area Office*	Billings, Montana Oklahoma City, Oklahoma
Upper Colorado Regional Office Provo Area Office	Salt Lake City, Utah Provo, Utah
Pacific Northwest Regional Office*	Boise, Idaho
*Offices Contacted only	



United States Department of the Interior

BUREAU OF RECLAMATION  
Washington, D. C. 20240

IN REPLY REFER

TO:

D-7400

ADM-8.00

SEP 24 2003

MEMORANDUM

To: Office of Inspector General  
Attention: Western Region, Regional Audit Manager

Through: John W. Keys, II  
Commissioner

From: Michael R. Gabaldon  
Director, Policy, Management, and Technical Services

Subject: Draft Audit Report on Municipal and Industrial Water Transfers (  
Assignment No. W-FU-BOR-0 121-2002)

We appreciate the opportunity to review and comment on the draft audit report titled Municipal and Industrial Water Transfers. Attached is the Bureau of Reclamation's response to the recommendations as stated in the draft report.

Overall, Reclamation strongly disagrees with the draft audit report's conclusions that our water transfer process does not put Reclamation in a position to facilitate water transfers and to exert the leadership expected of us. Reclamation does facilitate water transfers as evidenced by past transfer activities, but in doing so must consider both state and Federal law. This follows Reclamation law as directed in Section 8 of the Reclamation Act of 1902. Furthermore, as stated in Water 2025: Preventing Crises and Conflict in the West, "Principles of Federalism and fiscal realities make it clear these decisions cannot and should not be driven from the Federal level." Reclamation questions why the complex relationship among state laws, Federal laws, and contract provisions associated with water transfers is neither recognized nor considered in the subject draft audit report.

The Office of Inspector General's (OIG) objective at the beginning of the review was to follow up on actions required in previous audit recommendations from the Follow-up of Recommendations Concerning Repayment of Municipal and Industrial Water Supply Investment Costs audit report issued on March 31, 2000. During the review process, the scope of the audit was broadened to include changes in water use and water transfers as the primary means of reallocating existing water supplies. As a result, the audit findings mix issues associated with previous audits and a new Reclamation initiative in a confusing manner. Specifically, the report places an emphasis on compliance with Water 2025. This is a recent effort by Reclamation

which is still being developed and implemented in the initial stages. It is premature for the OIG to have focused on portions of this developing effort. Reclamation suggests that the narrative of the draft audit report be revised to address the original objective of the audit and delete references to Reclamation's efforts under Water 2025.

Reclamation's policies, directives, and standards on voluntary transfers of project water, development of example rates for facilities expecting future conversions/transfers, and performance of comprehensive district water reviews were initiated and completed at the direction of and in cooperation with the Office of Policy, Management and Budget (PMB). These actions were documented in PMB's resolution of the OIG recommendations issued in the 1992 audit report titled Repayment of Municipal and Industrial Water Supply Investment Costs, Bureau of Reclamation. PMB considers Reclamation's actions to be sufficient to resolve the identified water transfer issues.

Additionally, the General Accounting Office (GAO) performed an audit and issued its report in 1994, Water Transfers: More Efficient Water Use Possible. If Problems Are Addressed. GAO recommended that Reclamation ". . . clarify the procedures and approval requirements for transfers, including when contracts would have to be amended, how the rates charged for transferred water will be determined, and what third-party concerns must be addressed from the Federal perspective." To address GAO's recommendation, a team was formed with representation from Reclamation's regional offices, the Commissioner's Office, the Office of the Solicitor, and PMB. This team thoroughly examined Reclamation's role in transfers from both a policy and legal perspective. Directives and standards for "Voluntary Transfers of Project Water" were developed and issued by Reclamation in January 2001. Subsequently, Reclamation received notification from the Department that GAO concurred that Reclamation had met the intent of the audit recommendation.

If you need further information, please contact Reclamation's Audit Liaison Officer, Tom Lab, at 303-445-3436.

Attachment

cc: Assistant Secretary - Water and Science  
Attention: Olivia Ferriter

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Bureau of Reclamation  
Office of Inspector General (OIG) Draft Audit Report  
Municipal and Industrial (M&I) Water Transfers, Bureau of Reclamation  
(Assignment No. W-FU-BOR-0 121-2002)  
September 2003

Recommendation 1.A

Establish and maintain a database by: Identifying major urban areas in the West and BOR projects located in proximity to these areas.

Response:

Concur. Reclamation will establish and maintain a database which will identify major urban areas in the West and Reclamation projects located in proximity to these areas. During the initial implementation of Water 2025, Reclamation identified the major urban areas in the West as a part of our collaboration efforts. The sites are identified, but not currently in a database.

The responsible official is the Director, Office of Program and Policy Services. The target date for establishing a database that identifies major urban areas in the West and Reclamation projects located in proximity to these areas is September 30, 2004.

Recommendation 1.13

Establish and maintain a database by: Identifying which of these BOR projects are experiencing water transfers now and which project may experience transfers in the future.

Response:

Partially Concur. Reclamation will establish and maintain a database that identifies Reclamation projects that are experiencing water transfers now.

Reclamation does not agree to establish and maintain a database which identifies Reclamation projects that may experience transfers in the future.

It is not Reclamation's role to anticipate where transfers may occur in the future. Reclamation is not the initiator of transfers; its role is to facilitate and encourage voluntary transfers and, as required, will prepare the necessary documents and work with the entities (state, Federal, private, or public) to complete a desired transfer.

The responsible official is the Director, Office of Program and Policy Services. The target date for establishing a database that identifies Reclamation projects that are experiencing water transfers now is September 30, 2004.



### Recommendation LC

Establish and maintain a database by: Annually collecting and maintaining data on the acre-feet of agricultural and M&I water transferred on each of these BOR projects and the rates or prices charged per transfer.

#### Response:

Nonconcur. This information is currently available within Reclamation. Water transfers from agriculture to M&I that are not already provided for in a contract or that cross district lines require coordination among the contractor, Reclamation, and the state. A database would not add value to this effort.

### Recommendation 2.A

Estimate M&I water demand in major urban areas served by BOR projects by: Researching factors that could affect water demand, such as expected population growth, projected conversion of agricultural lands, and the adequacy and availability of existing water supplies.

#### Response:

Nonconcur. Reclamation is not the controlling entity in water transfers; that is the state's role. Reclamation will facilitate and encourage transfers within state and Federal law, when requested, but it does not require transfers. It is not Reclamation's role to estimate expected water demands based on projected population growth, etc. Reclamation only needs sufficient information about local and regional water markets to allow it to negotiate with non-Federal entities when required. Much of this data is available from Federal and non-Federal data sources.

### Recommendation 2.B

Estimate M&I water demand in major urban areas served by BOR projects by: Gathering water rate data from local water agencies near BOR projects.

#### Response:

Nonconcur. Reclamation has developed a resource book for M&I water pricing. The purpose of this resource book is to assist in the development of prices for water converted from agriculture to M&I use.

### Recommendation 2.C

Estimate M&I water demand in major urban areas served by BOR projects by: Developing project-specific example rates to use when negotiating future water transfers with local water authorities and renegotiating existing contracts.

Response:

Nonconcur. Reclamation believes that there are too many variables to consider for the development of a water conversion rate for each project. Considerations include project purpose, laws, whether the project is paid out or not, contract provisions, etc. Further, establishing a rate for each project would leave no room for flexibility or negotiation in establishing a rate that the Secretary of the Interior "deems proper." (Section 9(c) 1939 Act; 53 Stat. 1194; and Act of February 25, 1920; 41 Stat. 451) Reclamation's resource book for M&I water pricing provides the information, where available, for market rates, although in some instances Reclamation is "the market."

Recommendation 3

Conduct periodic reviews of selected projects from the database described in Recommendation 1 to verify water use. Projects selected for review should be experiencing or expecting to experience significant conversions. This verification includes confirming the accuracy of water delivery amounts against the quantities agreed upon in the contracts by examining metering equipment, reviewing crop records, or using other indirect methods.

Response:

Complied. Reclamation will continue to conduct the district water reviews for the projects identified in the database as agreed in recommendation 1 to verify water use. Reclamation's district water reviews will select projects that are experiencing or expected to experience significant conversions. Reclamation's district water reviews confirm the accuracy of water delivery amounts agreed to in the contract in numerous ways, such as, but not limited to, comparison to state water records, meters, ditch rider information, individual user information, and in some instances, Reclamation's records of when we release water.

Recommendation 4

Report its lack of a process to manage water transfers as a material weakness in its annual assurance statements to the Department of the Interior until it implements Recommendations 1, 2, and 3.

Response:

Nonconcur. Reclamation disagrees that it lacks a process to manage water transfers. Reclamation is currently satisfying our oversight responsibilities given our existing authorities. We believe our process as described, in part, in appendix 1 of the draft audit report provides for the management of water transfers. Reclamation believes that there are no findings in the draft audit report to support a material weakness designation under the Department of Interior's material weakness criteria.

As addressed in our transmittal memo, GAO performed an audit of water transfers and is satisfied that Reclamation met the intent of its audit recommendation. Reclamation's corrective actions to address the GAO audit recommendation align with the Department's role of serving as a facilitator and encouraging water transfers within Federal and state laws.

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**Appendix 5**

**Status of Audit Recommendations**

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<b>Recommendations</b>	<b>Status</b>	<b>Action Required</b>
1, 2, 3, and 4	Unresolved	Reconsider the recommendations and provide a plan identifying actions to be taken, target dates for completion, and the titles of officials responsible for implementation

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