WATER STRATEGIST

QUARTERLY ANALYSIS OF WATER MARKETING, FINANCE, LEGISLATION AND LITIGATION

Editors: Rodney T. Smith and Roger Vaughan October 1993 Volume 7 No. 3

Acreage Limitations Revisited: The NRDC v. Beard Settlement

On September 16, the Natural Resources Defense Council (NRDC) announced the signing of a "landmark settlement" ending, for now, a five-year challenge by environmental groups and advocates of small family farms to federal rules on the pricing of federal project water. Under the settlement, the Bureau of Reclamation will drop its appeal of a 1991 federal district court opinion holding that Reclamation violated the National Environmental Policy Act when it issued regulations implementing the 1982 Reclamation Reform Act without first preparing an environmental impact statement (EIS). In addition, Reclamation will reconsider all rules and regulations governing water pricing and water conservation, including acreage limits on the size of farms eligible to receive water at prices below the "full-cost" of delivery. To this end, it will prepare an EIS and issue new regulations on a regulatory fast-track.

The plaintiffs perceive the settlement as a major step in the transformation of federal water policy. According to NRDC attorney Hal Candee, lead counsel in the case, "for the first time since Congress revised the subsidy laws in 1982, the Bureau of Reclamation will finally take a hard look at the enormous environmental impacts of providing taxpayer-subsidized water to large farms and rewrite all of its rules accordingly." Added co-plaintiff Tom Haller, Executive Director of the Community Alliance with Family Farmers, "the Bureau's existing rules have allowed huge agribusinesses to receive unlimited subsidies, hurting small family farmers and the environment."

In this article, *WS* examines the origins of the controversy, the terms of settlement, and the possible consequences of changes in Reclamation regulation. The debate during the controversy as well as the terms of the settlement signal major changes in reclamation policy. Those changes, in turn, may have a substantial effect on the economics of irrigated agriculture, primarily on land values and secondarily, if at all, on water use. To understand one's likelihood of being affected by the forthcoming regulations, one must consider the policy and legal issues behind the settlement. But even those parties not affected by the change in Reclamation policy can learn four important lessons from the saga of acreage limitations:

- When statutory language does not conform with the expectations of key congressional leaders, enduring controversy will follow.
- When policy objectives do not conform with economic conditions, arrangements adapt to lessen the impact of new rules.

continued on page 2 . . .

In This Issue . . .

"Acreage Limitations Revisited" examines the September 1993 settlement between environmental groups and advocates of small family farms and the Department of Interior concerning federal rules on the pricing of federal project water. The settlement promises to be the first step in a major transformation of federal water policy for all western states. Reclamation agrees to prepare an EIS concerning the implementation of the Reclamation Reform Act of 1982, which will explore a vast array of policy alternatives. The changes may have a substantial effect on the economics of irrigated acreage, primarily on agricultural land values and the organization of farm business, and secondarily, if at all, on water use.

"The 1993 Annual Legislative Review" reviews what has happened to the 203 state water bills tracked by *WS* this year. Most enacted legislation concerned changes in the administration of water policy and planning responsibilities, in clarifying the definition of and in protecting water rights, and in public trust. Water quality and water conservation were much lower legislative priorities this year.

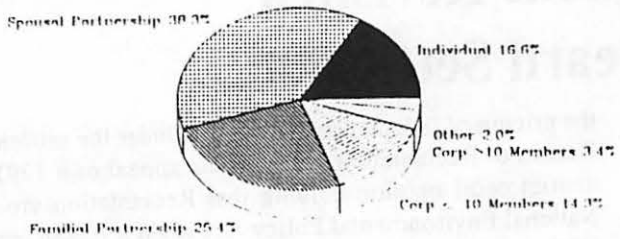
"Finance Update" describes the results from the 176 bonds issued to raise $3.29 billion in the third quarter. Refinancings accounted for almost two-thirds of total volume. Water financings continue to pay rates below the Bond Buyer Index.

"Litigation Update" reviews a Colorado Supreme Court decision concerning the United States's intent to appropriate water for the Dominguez Reservoir Project and a California appellate court decision upholding the constitutionality of fees imposed only on direct dischargers of pollution from point and nonpoint sources.

Acreage Limitations Revisited

. . . *continued from page 1*

Figure 1
Farm Operations by Type of Business Organization



Source: 1981 DEIS on Acreage Limitation, Department of Interior

- When new arrangements become perceived as "loopholes", the political pressure for another round of reform intensifies.
- When government is no longer divided (*e.g.*, the legislative and executive branches are under the control of the same party), the pace of reform can quicken.

BACKGROUND

From 1902 to 1982, Reclamation delivered water at rates that excluded any interest on the federal government's investment in the irrigation component of federal water projects. Water delivered at these rates is termed "subsidized water" because irrigators did not pay any interest. Until 1982, federal law allowed water to be delivered at subsidized rates to owned land of up to 160 acres. Although not initially provided for by federal law, Reclamation permitted married couples who owned a farm to irrigate up to 320 acres with water sold at subsidized rates. In 1960, Congress passed a law recognizing Reclamation's policy.

Not all federal water projects are subject to acreage limitations. Some projects, like the Colorado-Big Thompson, received a statutory exemption from Congress. Other projects, like Elephant Butte in New Mexico, become exempt after repayment of all federal obligations. And perhaps most prominently, the U.S. Supreme Court ruled in a 1980 decision that acreage limitations did not apply for lands developed in the Imperial Irrigation District (IID) in California before the construction of the Boulder Canyon Project (Congress passed legislation in 1980 exempting the remaining 10 percent of lands in IID not covered by the court decision).

Until 1982, federal law was silent on the status of leased acreage. As a matter of policy, Reclamation delivered federal project water to large farms consisting of thousands of acres of leased land. For many years, advocates of small family farms argued that this policy did not conform with the intent of the 160-acre limitation in the 1902 Reclamation Act.

So matters stood until Congress passed the 1982 Reclamation Reform Act. At that time, almost 10 million irrigable acres were included in federal water projects subject to acreage limitations, with almost two-thirds of the acreage located in California (40%), Idaho (17%), and Washington (10%)—see Table 1. Four other states (Arizona, Nebraska, Oregon, and Utah) had between 400,000 and 500,000 irrigable acres subject to acreage limitations. About half the irrigable acreage were in farm operations operated by either sole individuals or spousal partnerships (see Figure 1). About another one-fourth of the irrigable acreage was in farm operations in partnerships that included other family members. Corporations with less than 10 members accounted for 14.3% of irrigable acreage, while corporations with more than 10 members accounted for 3.4%.

Many expected the 1982 act to put an end to the dispute over acreage limitations. The act's provisions applied to any district which:

- enters into a contract with Interior after October 12, 1982, or
- amends an existing contract to receive supplemental or additional benefits, or
- amends its contract to comply with the 1982 act.

Generally increasing the limit from 160 acres to 960 acres, the act prohibited the delivery of water to owned land above the new limit. For the delivery of water on leased lands above the limit, Reclamation must charge the "full cost" of water, defined as an annual rate that amortizes, with interest, federal construction expenditures allocable to irrigation facilities in service over repayment periods specified in federal law or applicable contracts. This charge would be in addition to charges for operation, maintenance, and replacement.

The differences between subsidized rates and full-cost rates vary among federal projects. In

Table 1
1981 Irrigable Acres in Federal Projects Subject to Acreage Limitations

State	*Acres (1,000)*	*% Total*
Arizona	412.8	4.2
California	3,929.1	39.8
Colorado	249.4	2.5
Idaho	1,668.5	16.9
Kansas	72.6	0.7
Montana	342.7	3.5
N. Dakota	31.7	0.3
Nebraska	498.7	5.1
Nevada	73.0	0.7
New Mexico	176.8	1.8
Oklahoma	47.1	0.5
Oregon	478.5	4.8
S. Dakota	81.0	0.8
Texas	115.1	1.2
Utah	434.1	4.4
Washington	909.2	9.2
Wyoming	354.3	3.6
Total	9,874.6	100.0

Source: Compiled from *1981 DEIS on Acreage Limitation* by Department of Interior
Note: Includes about 1.8 million acres for industrial and residential uses and other land not under cultivation in federal projects.

continued on page 11 . . .

Acreage Limitations Revisited

. . . *continued from page 2*

1988, for example, the subsidized rate under the water service contract for California's Westlands Water District was about $17/af, while the full-cost rate was $42/af. Under the repayment contract for the Quincy Water District in the state of Washington, subsidized water costs about $2/acre, while full-cost rates range from $54/acre to $73/acre.

The 1982 act gave water districts and individual farmers an option. Districts could receive irrigation water under new or amended contracts and be immediately covered by the provisions of the 1982 act. Alternatively, they could continue receiving water under their existing contracts. For four and one-half years (until April 12, 1987), water could be delivered at subsidized rates to unlimited leased acreage. After April 12, 1987, water would be delivered to leased lands in excess of 160 acres at the full-cost rate. If a district elected to be covered, then all farmers were automatically covered by the act. However, if a district did not elect to be covered, each farmer could independently elect to be covered. Districts could elect to come under the act at any time, even after April 12, 1987. A district's or farmer's decision is irrevocable.

As of July 1988, more than half of the water districts subject o acreage limitations had amended their contracts to receive ubsidized water. About 70 percent of those district's that had not amended their contracts were located in the Mid-Pacific Region (which includes Central and Northern California, and portions of Nevada and Oregon).

ORIGINS OF CONTROVERSY

The administration of the 1982 act failed to meet the expectations of reformers. Two significant developments provide the context for the September settlement: the characterization of acreage limitations by a 1989 study by the U.S. General Accounting Office (GAO), and a 1991 federal court decision.

GAO Study. Congressmen George Miller requested that GAO examine the implementation of the 1982 Reclamation Reform Act. The study found a dichotomy between congressional expectations and the 1982 act's language. According to GAO, "conferees several times affirmed their expectation that large farms would receive federally subsidized water on only 960 acres." While Congress's leaders spoke of "farms" and "farming operations", the act only defined the acreage limit in terms of "landholding". The key question, on which the act was silent, was whether multiple landholdings could be operated together as one large farm while still qualifying individually for federally subsidized water on up to 960 acres.

In implementing the 1982 act, GAO concluded, Reclamation did not preclude multiple landholdings, each within the 960 acre limit, to continue to be operated together and remain eligible for subsidized water. While the regulation followed the act's language, GAO argued, it did not meet congressional expectations. Characterizing this difference as a "loophole", GAO noted that some farmers reorganized their farms into multiple, smaller landholdings through various partnerships, corporations, and/or trust arrangements. If Congress did not agree with Reclamation's regulations, GAO recommended that it amend federal law.

To realign statutory language with congressional expectations, GAO recommended that Congress add the following definition of "farm" or "farm operations" to the 1982 act, which would be used in the definition and administration of acreage limitations:

> "The term 'farm' or 'farm operations' means any landholding or group of landholdings farmed or operated as a unit by an individual, group, entity, trust, or any other combination or arrangement. The existence of a farm or farm operation will be presumed, subject to contrary evidence, when ownership, operation, management, financing or other factors, individually or together, indicate that one or more landholdings are farmed or operated as a unit."

In its study, GAO used the following "indicators" of circumstances where landholdings had been jointly operated as a single farm in contradiction of the type of acreage limitations envisioned by Congress:

- landholdings and farm assets combined as collateral for loans
- principal owners or lessees agree to cover loan defaults of other principals
- farm manager or operator bears an economic risk from production and sale of crops
- same individuals make management decisions for multiple landholdings
- owners of farm management company that operates small landholdings are same individuals who owned or leased the land before reorganization
- small landholdings leased from large farm that existed before reorganization
- same individuals own or lease small landholdings
- single farm management company operates multiple landholdings
- crop subsidy records indicate landholdings interrelated
- small landholdings share equipment or labor, sometimes without charge
- farm manager or operator acknowledges that small landholdings are operated collectively as one farm

These "indicators" may help translate which business practices would fall under any newly-defined acreage limitations.

Federal Court Decision. In 1991, a U.S. District Court judge for the Eastern District of California held that Reclamation violated the National Environmental Policy Act when it issued rules implementing the 1982 Reclamation Reform Act without first preparing an EIS. When promulgating the rules, Reclamation issued an environmental assessment with a find-

continued on page 12 . . .

Acreage Limitations Revisited

. . . *continued from page 11*

ing of no significant impact. It reasoned that farmers unable to obtain subsidized water would switch to groundwater, but would use the same total amount of water. The increased pumping by farmers not eligible for subsidized water would be offset by decreased pumping by other parties who would purchase the abandoned federal project water.

In holding that an EIS must be prepared, the judge did not find Reclamation's decision fully informed and well considered. He observed: "the presumption that farming operations which had to switch to groundwater would use the same amount of water is wholly unsupported and appears insupportable." "If, as appears likely," the judge argued, "the cost of groundwater is greater than the cost of surface water, farmers are as likely to switch to crops that use less water, or convert to dry land farming as switch to groundwater." Moreover, for situations where farmers will switch to groundwater, the adverse consequences from increased groundwater overdraft, land subsidence, and salinity must be considered. And since the 1982 act requires the Secretary to consider "prudent and responsible water conservation measures . . . where such measures are shown to be economically feasible," Reclamation must consider water conservation alternatives.

TERMS OF SETTLEMENT

Under the September 1993 settlement, the Department of Interior agrees to prepare an EIS concerning proposed regulations and alternatives implementing, on a westwide basis, the 1982 Reclamation Reform Act. Proposed rules and a draft EIS shall be published no later than December 1, 1994. Final rulemaking action and the final EIS shall be completed no later than August 1, 1995.

Interior specifically agrees to consider a broad array of alternatives and actions, including the following:

TIERED PRICING. Adopt a system of tiered pricing to encourage conservation. Such a system was included in the *Central Valley Project Improvement Act*. For new, amended or renewed contracts, contractors pay the contract price for 80 percent of the water available under the contractual entitlement, halfway between the full-cost price and the contract price for the next 10 percent, and the full-cost price for all deliveries above 90 percent of the contractual entitlement. In earlier House versions of the legislation introduced by Congressmen Miller, the contract price would have been paid for 60 percent of the water under the contractual entitlement, halfway between the full-cost price and contract price for the next 20 percent, and the full-cost price for deliveries above 80 percent of the contractual entitlement.

CONSERVATION RULES. Implement water conservation rules comparable to the Mid-Pacific Region's 1993 "Summary Criteria for Evaluating Water Conservation Plans". These criteria were required for the Central Valley Project under the 1992 legislation. The criteria are based on the concept of "best management practices", which are defined as a policy, practice, rule, or use of devices, equipment or facilities that are either:

- an established and generally accepted practice among water suppliers that results in more efficient use or conservation of water; or
- practices for which sufficient data are available from existing projects to indicate that significant benefits can be achieved.

In the latter case, the practices must be technically and economically reasonable, not environmentally or socially unacceptable, and not otherwise unreasonable for most water suppliers to implement.

CONSERVATION, RESTORATION, AND REVENUE RECOVERY. Achieve to the greatest degree possible under federal law, water conservation and environmental restoration and return a maximum amount of revenues to the United States. To these ends, Interior will consider, among other actions:

1. require capital and full operation and maintenance costs to be paid whenever a district amends its contract;
2. treat trusts holding farms as legal entities and subject to the Reclamation Reform Act in the same way as any other legal entity, and treat trustees who serve as operators or farm managers of trust property in the same way as a lessee otherwise would be treated;
3. eliminate the practice of allowing the "equivalency" provisions and the land classification procedures to increase ownership and pricing limitations for land with drainage problems or other conditions that "could cause or exacerbate water quality or migratory bird problems";
4. implement congressional language concerning the intent of the 1982 act to "reduce the subsidy for larger farming operations" by applying the full-cost pricing provisions to "any landholding, farm, or operation, however structured, that exceeds the applicable acreage threshold";
5. apply the discretionary provisions of the 1982 act to any contract that is amended "to provide any 'supplemental or additional benefits,' no matter how minor those benefits might be."

WATER FOR FISH AND WILDLIFE. Make available for fish and wildlife and other environmentally-beneficial purposes, water conserved through enforcement of the 1982 act. Interior may consider proposing that President Clinton submit to Congress additional legislation "to authorize the use of project water so conserved."

REDUCED IRRIGATION AND DIVERSIONS. In the EIS, Interior will also consider other factors not addressed in previous environmental assessments. Interior agrees to consider the beneficial and adverse impacts on water quality from reduced irrigation, particularly on the problems of irrigation drainage and selenium contamination. It also agrees to consider the beneficial and adverse impacts on fisheries and water quality from different pricing requirements, stronger conservation

requirements, and stricter acreage limitation enforcement.

CONSEQUENCES

Until Reclamation promulgates the regulations, the consequences of the settlement remain speculative. But the perceived dichotomy between congressional expectations and past regulations, the conclusions of the GAO study, the reasoning of the federal court decision, and the terms of the settlement all portend three outcomes:

1. Acreage limitations will be based on the concept of "farm operations" rather than landholdings.
2. Many users of federal project water will pay higher prices.
3. All users of federal project water will find their water use practices subject to increased scrutiny.

The first outcome is central to the view of reformers that past regulation constitutes "a broken promise of reclamation reform." The second is an inevitable consequence of the first. The third is expressly stated in both the federal court decision and the September settlement. What are the likely consequences?

DEFINITION OF FARM OPERATIONS. Judging by the factors considered in the GAO study, the definition of what constitutes a farm operation will not be simple. Reclamation will decide which financial, contractual, operational, and marketing arrangements constitute "loopholes" and which do not. Reliance on professional farm management services, equipment sharing, and non-debt financing seem especially likely to trigger full-cost pricing of water. Such parties will face the following choice: adjust relationships to comply with the new regulations, or pay the full-cost of water. As parties find imaginative ways to adjust to new regulation, will another dichotomy between the spirit of reform and the language of the regulations ensue? Only time will tell. But what will be the effects on those faced by full-cost pricing? The answers may prove surprising.

ECONOMIC EFFECTS. The key involves the implication of a general fact noted in the 1991 federal court decision: the cost of groundwater is greater than the current cost of federal project water. The economic consequences of full-cost pricing of federal project water depends on whether the cost of groundwater pumping is greater, or less than the full-cost price. To understand why, consider the following comparison of growers in two districts currently paying a contract price of $10/af and now facing a full-cost of water of $60/af.

Consider a typical grower in District A who currently uses 2.5 af/acre of federal project water and pumps 1.0 af/acre of groundwater. Pumping costs are $80/af (representative of the circumstance of CVP water users in the southern San Joaquin Valley). Despite facing the higher full-cost of project water, project water is still cheaper than groundwater. Provided that the grower would stay in business (see below), he would still purchase 2.5 af/acre of available project water and pump 1.0 af/acre of groundwater! Why? Because full-cost pricing of federal project water has not changed the incremental cost of water to the grower, which remains $80/af.

While the grower in District A would not change water use, the imposition of full-cost pricing has significant economic consequences. The grower's cost of operations have increased by $125/acre (2.5 af/acre times the difference between the full-cost price — $60/af — and the contract price — $10/af). Capitalizing this loss at a 8% interest rate, the grower's land value will decline by about $1,560/acre. Therefore, if the market value of land was $3,000/acre before the imposition of full-cost pricing, land would now be worth only $1,440/acre. Provided that the use of land in other alternatives is worth less than $1,440/acre, the land will remain in production.

Now consider a typical grower in District B who also currently receives 2.5 af/acre of federal project water and pumps 1.0 af/acre of groundwater. Pumping costs are cheaper than in District A, say $40/af (representative of CVP water users in the Westlands Water District). Faced with a full-cost price of $60/af, the incremental cost of water is now $20/af greater. In response, growers would use less water per acre because water is more expensive, and would pump more groundwater to displace the purchase of more expensive federal project water. Assuming that water use per acre declines by 0.5% per $1/af increase in incremental cost, total water use would decline from 3.5 af/acre to 3.2 af/acre, or 0.3 af/acre. Assuming that for each 10 percent increase in the value of water pumping increases by 5 percent, pumping would increase from 1.0 af/acre to 1.2 af/acre. As a result, purchases of federal project water (the difference between water use and pumping) would decline from 2.5 af/acre to 2.0 af/acre. As argued in the federal court decision, the increase in pumping (0.2 af/acre) does not fully offset the decline in the purchase of federal project water (0.5 af/acre).

Like the grower in District A, the grower in District B suffers a significant economic loss, which has three components. First, because the cost of federal project water increases, the grower spends more money on the amount of federal project water purchased, or $100/acre (the $50/af price increase multiplied by the *smaller* amount purchased, 2.0 af/acre). Second, because the grower uses less total water, he suffers a loss of farming income (in this example, $3/acre). Third, the grower incurs increased costs due to the pumping of additional groundwater (in this example, $8/acre). The total annual loss suffered by the grower in District B ($111/acre) would be less than the total annual loss suffered by the grower in District A ($125/acre), mostly because the grower in District B has access to cheaper groundwater to offset the cost of the increased price of federal project water. For the grower in District B, the annual loss of $111/acre translates into a capital loss of $1,390/acre. In other words, if the market value of land in District B were, say, $3,500/acre before the imposition of full-cost pricing, land would now be worth $2,110/acre. Provided that the use of land in other alternatives is worth less than $2,110/acre, the land will remain in production.

continued on page 14 . . .

Acreage Limitations Revisited

. . . *continued from page 13*

In principle, the water no longer purchased by growers subject to full-cost pricing could be reallocated in three ways:

1. sold to other project contractors at contract rates
2. marketed to non-project water users
3. reallocated to environmental purposes

In its analysis of its earlier regulations, Reclamation predicted the first alternative. Proponents of water marketing may prefer the second. The September settlement expresses a preference for the third.

If Reclamation implements the preference in the settlement through its 1995 rulemaking, any water "conserved" by the imposition of full-cost pricing will, from the perspective of consumptive users, disappear from the water supply system. Of course, any such reallocation of water for environmental purposes may indirectly benefit consumptive users if that reallocation resolves environmental problems which otherwise would have had a claim on other water supply sources.

In sum, the first order impact of full-cost pricing will be a reduction in agricultural land values, the second order impact a reduction in water use. For areas where current pumping costs are above the full-cost price of federal project water (such as the grower in District A), *all* the impacts will be found in reduced land values. For areas where current pumping costs, while above the contract price are below the full-cost price of federal project water (such as the grower in District B), the impacts will be divided between reduced land values and over all water use and increased pumping.

Whether the imposition of full-cost pricing has a greater effect on water use and pumping or land values depends on the difference between original pumping costs and the full-cost price of water. The lower the original pumping cost in comparison to the full-cost price, the more groundwater pumping will displace the purchase of surface water and the greater

Figure 2
Effect on Water Use

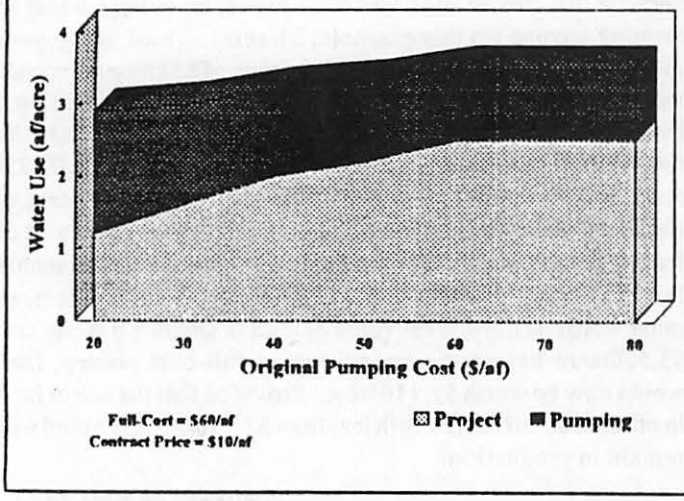
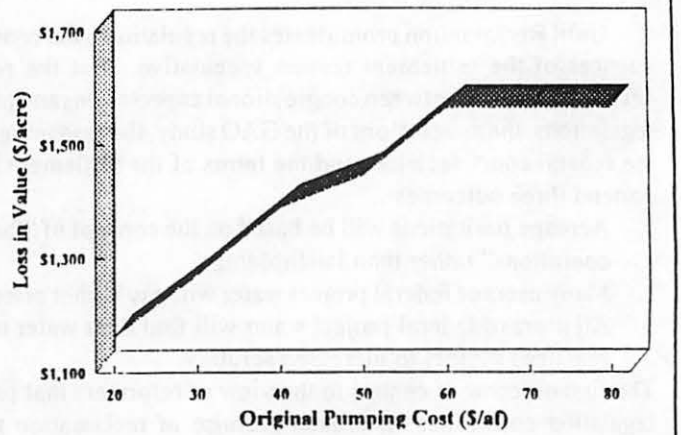


Figure 3
Effect on Land Values



the decline in total water use (see Figure 2). At the same time, the lower the original pumping cost in comparison to the full-cost price, the smaller the reduction in land values (see Figure 3). In other words, where pumping costs are relatively low, the imposition of full-cost pricing will have its greatest relative impact on water use and pumping and its least relative impact on land values. Where pumping costs are relatively high, the opposite is true. And where original pumping costs exceed the full-cost price, water use and pumping are unaffected and land values will decline by their greatest amount.

CONCLUSION

The consequence of reclamation reform turns on the extent to which pumping costs exceed the full-cost price of water, not the popular comparison of the full-cost price of federal water with current contract rates. In the end, reclamation reform may prove more capable of reducing agricultural land values than reallocating water. If so, what will then be the next step — mandatory water conservation under the guise of best management practices? Time will tell.

As one assesses the prospect of forced conservation, it may pay to reconsider the four important lessons from the current saga of acreage limitations stated in the introduction. If regulatory language can not implement expected outcomes, controversy will reappear. If the objectives of reform do not conform with economic conditions, outcomes will prove disappointing. If new arrangements emerge which become perceived as new "loopholes", pressure will emerge for another round of reform. With congressional and executive branch leadership sharing a common vision, prompt action is guaranteed. □