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**From Reclamation to Sustainability: Water, Agriculture, and the Environment in the American West, by Lawrence J. MacDonnell**

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# BOOK REVIEW

## FROM RECLAMATION TO SUSTAINABILITY: WATER, AGRICULTURE, AND THE ENVIRONMENT IN THE AMERICAN WEST

LAWRENCE J. MACDONNELL

(In cooperation with the Natural Resources Law Center)

Niwot, Colorado: University Press of Colorado, 1999

Pp. 385, Price: \$34.95

The transformation in western water policy from an exclusive focus on economic purposes (primarily agriculture and power) to multiple uses is well underway, and Larry MacDonnell is both a keen observer and a participant in these changes. In this book, he begins with the people, visiting with them in basins across the West. Through these stories, he paints a West in transformation, and concludes with a series of gently stated thoughts as to how the West might most constructively move to a sustainable era in western water.

Agriculture is the starting point. Western agriculture is well represented in western water, accounting for 78 percent of all water withdrawn for uses, and with a political presence to match its preeminent role. Giant irrigation circles are visible as we fly over the West, and from our car windows green farms provide a visual oasis in the benighted landscape of many western cities. But, despite our awareness of the statistics of water use, the history, economics, and culture of western agriculture are surprisingly remote to most contemporary westerners. With less than five percent of the West's population earning its living from agriculture, the people who work on these ranches and farms are a mystery to most westerners.

MacDonnell sought to bring his readers into contact with the people and communities that are based in agriculture. He does so through case studies, in which he reports on a conflict or choice facing a region and how the different participants understand the issues facing the region. The Lower Arkansas Valley, the Grand Valley of Colorado, the Truckee and Carson Basins, and the Yakima Basin are the regions to which he traveled.

The richness of perspective brought through these vignettes challenges those who are active in, teach about, or think about western water. Through the history of how these basins were developed we are reminded of the substantial role of private entrepreneurs in developing water infrastructure in parts of the West, and how their decisions form the backdrop for subsequent federal and state roles. The demographic changes occurring in the West are evident, along with the challenges of drawing the next generation into the family heritage of farming. Recreation and tourism,

which seem unlikely bases for economies compared to selling the tangible products of agriculture, may bring greater monetary returns. The West is becoming a very different place, and rapidly enough that we can observe these changes within a decade.

MacDonnell's accomplishments include a Ph.D. in mineral economics and the economics of irrigated agriculture are referred to throughout the book, raising questions for further reflection. It is a truism that urban and industrial water uses (and indeed, even environmental uses) will be supplied using water currently available to agriculture, notwithstanding the occasional new dam. The discipline of the market, many advise, should apply to water as it does to other aspects of our economy. Ample examples of the beneficial effects of the market are provided. In the Yakima Valley, irrigators on two different water systems provide one point of comparison. One group received less than half its apportionment, while the other received about 80 percent. The group that was forced to conserve has spent money on improvements to the efficiency of water deliveries, built short-term storage, and converted ditches to pipelines. Farmers changed to different crops to reduce erosion. The group with a higher rate of delivery lacked the incentives to institute this degree of conservation, and generally had a lower return on crops. The comparison begs the question of allowing water transfers between districts, and MacDonnell explores the range of institutional changes that could benefit all interests in the basin. Elsewhere, discussing the infamous Newlands Project, he summarizes the economics of western agriculture: "Water is essential for irrigated agriculture, but most of irrigated agriculture depends on that water being very cheap. The value of the crops that are produced, for the most part, cannot tolerate high water costs." (pg. 173)

But, if one is tempted to draw the conclusion from these stories that the market will be the redeemer of western water policy, it is equally clear that cities won't be buying water on eBay anytime soon. A failed water transaction in the Arkansas Valley illustrates some of the reasons; MacDonnell gleefully recites the morass awaiting a corporation that thought it saw an opportunity to market agricultural water to the Front Range of Colorado. (MacDonnell estimates that a farmer might pay eight to twelve dollars for two acre-feet of water, while an urban water user might pay about \$300 for half that amount.) (pg. 65) This ripe opportunity ended in the way many such attempts to profit from the disparity between agricultural water and urban water end: it failed.

We live in an era in which efficiency is leading to unprecedented economic prosperity. It is hard to believe that a hightech economy will long be stymied by the preferences of alfalfa growing farmers. One recent study shows that "the pattern of economic activity in the West is very different

from the pattern of water use in the region."<sup>1</sup> This tension between the desires of the market and the historic institutions that control water point to continued conflict in the American West. But, MacDonnell is not a full-fledged adherent of the market. *From Reclamation to Sustainability* is imbued with an unstated poignancy, reflected in MacDonnell's obvious affection for the people and cultures that he encounters. His concern extends to those who were not the beneficiaries of the Reclamation Age, including Native Americans, environmentalists, and those who seek to protect watersheds, but it is clear that he reserves his greatest affection for the time when markets didn't operate perfectly, and a unique mixture of people and communities were able to coexist on the limited water of the arid west.

The paradox contained in water markets and the application of economics to water is illustrated in the discussion of how the costs of environmental enhancements should be distributed for federal water projects. He sympathizes with those who believe that irrigators should bear the burden: "There is no doubt in my mind that full-cost pricing is the most effective way to allocate limited resources." (pg. 253) Nonetheless, after sharing his thoughts (which range from admiration for "the original vision and purpose and . . . the benefits it [federal water project development] has provided and continues to provide" (pg. 253), to acknowledging his own "sense of responsibility for the harm caused by these projects" (pg. 253)) he resolves the issue on a pragmatic basis: resistance to change will be greatly lessened by having the national government pay for protection of environmental values.

The hardest questions about the future of irrigated agriculture are raised in this book, but the answers are not forced. MacDonnell cites another writer who reminds us of the fragility of irrigated agriculture; it is only three percent of the land area of the West, and, as every Westerner knows, neglecting to water can turn green lawns to brown in a few hot days. The people who farm and ranch, along with the well known economic factors, population pressures, environmental needs, tribal rights, and other grist for water policy mavens, get a good opportunity to be heard in this book. Being heard is probably the best prescription for a transition that respects the people who live here.

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1. PAMELA CASE & GREGORY ALWARD, U.S. DEP'T OF AGRIC., PATTERNS OF DEMOGRAPHIC, ECONOMIC AND VALUE CHANGE IN THE WESTERN UNITED STATES 17 (Report to the Western Water Policy Advisory Commission, 1997).