

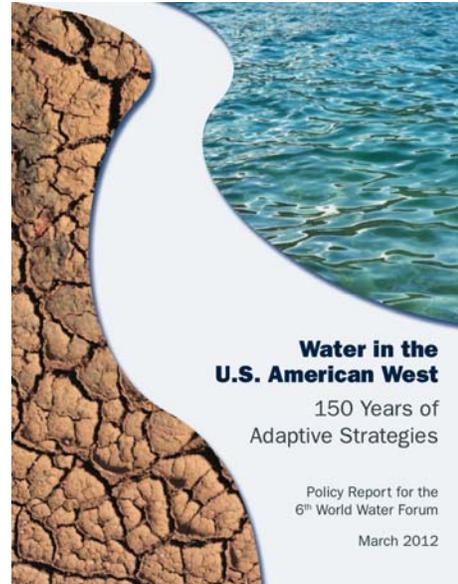


WATER IN THE US AMERICAN WEST: 150 YEARS OF ADAPTIVE STRATEGIES

Many nations throughout the world are faced with increasing demands on scarce and variable water supplies. They are also exploring the role of water in addressing social problems related to population growth, economic prosperity, public health, environmental quality, and social justice.

In the U.S. American West, water resource policy and investments has played a significant role in transforming the social, economic, and environmental dimensions of the region. This story can inspire, inform, and caution the international water community.

Water in the U.S. American West: 150 Years of Adaptive Strategies traces the history and consequences of water development, highlights a menu of adaptive strategies that continue to evolve, and concludes with a summary of key trends in policy and governance.



THE TRANSFORMATION OF A REGION

In just a few generations, an ambitious campaign to harness the rivers of the American West transformed the region, attracting tens of millions of new residents and encouraging a major growth-oriented economy. The multiple-purpose water projects constructed through the early to middle 20th century flattened the great variations in water availability, making possible extraordinary expansion of economic activity and quality of life for the new settlers.

Westerners enjoy many benefits of this era, but also face some unanticipated consequences. Today's challenges include reallocating water to meet new and changing demands—driven in large part by demographic shifts and legal mandates to protect and recover endangered species—and addressing the realities of aging dams and other infrastructure. Moreover, the traditional lifeways of indigenous peoples were adversely affected by this development.

The challenges of managing water in the U.S. American West have given rise to a variety of innovative and adaptive management strategies, many of which continue to evolve today.

Managing A Scarce & Variable Resource

Western states' water laws emerged as a conflict resolution tool in a historical period with few courts or government officials. The system of prior appropriation works as a means of allocating private rights to use water, while the ownership of remains in the hands of the public.

- Voluntary market-based water transfers help meet new and changing needs.
- Incentives for conservation and efficiency maximize the benefits from developed water



- supplies.
- Conjunctive management links surface and ground water.
- The federal government supports state primacy in water management with a large and ongoing investment in scientific research and data sharing.

Protecting River Ecosystem Values

Over time, societal values shifted and recognized the value of water flowing in rivers, where it supports natural ecosystem functions. New information reveals important linkages between development practices and the security of water for future generations. Projected impacts from climate change have focused attention on necessary measures to ensure healthy and resilient watersheds and rivers.

- Federal standards protect water quality and species diversity.
- State laws enable protection of environmental flows.
- River restoration includes multi-stakeholder partnerships that work out mutually beneficial plans for operating projects differently—in some cases, decommissioning them.

Honoring Indigenous Water Rights

Indian tribes inhabited the American West long before the formation of the United States. In ceding portions of their land, Indian nations reserved rights to hunt, fish, and continue other traditional uses of their historical homelands and reserved the water necessary to support those rights. They also reserved rights for irrigated agriculture and other uses necessary to a sustainable homeland. In subsequent years, the federal government did not adequately protect Indian reserved water rights, allowing subsequent development that led to conflicts.

- Indian reserved water rights are based on inherent sovereignty, protected by the U.S. Constitution.
- Indian water rights may be decided in federal court or in state court in general stream adjudications.
- Indian reserved water rights are increasingly settled through negotiation rather than litigation.

Engaging Diverse Stakeholders

Many competing interests wish to participate in governance of the West's valuable water resources. Sorting out these diverse demands through

enforcement of legal rights alone results in winners and losers, often costing a good deal of money and leaving many unsatisfied. Increasingly, westerners are discovering new means of dialogue and cooperation, often outside the strict boundaries of legal regimes, resulting in more creative and mutually satisfying outcomes that make better use of limited water resources and resolve problems creatively. Perhaps the key point is that there is no single formula for a successful collaborative initiative and no "best" scale at which to work.

Managing Water Across Boundaries

Water – both surface and ground – often cuts across state and national boundaries, creating conflicts related to allocation, water quality, and ecosystem values.

- Interstate compacts address conflicts, with creative, unique mutual efforts.
- The federal government may assert its authority to "equitably" allocate water as pursuant to the U.S. Constitution.
- States may enter into a variety of voluntary agreements with each other without Congressional consent or other federal involvement.
- International agreements offer similar benefits, and may foster broader approaches to river basin governance.

Innovative Tools for Financing Infrastructure

The federal government served as a major source of financial support to enable construction and operation of the water infrastructure that transformed the American West. Private investment has also been immensely important. In the latter part of the 20th Century, a lack of public and political support for new dams and new subsidized water for development resulted in a rapid deceleration of water-related construction. Today:

- Federal agencies focus more on conservation, efficiency, ecosystem restoration, and water security.
- Federal water funding programs emphasize grants that leverage state and local resources.
- Cooperative funding and user fee-based strategies have emerged as important means to deal with federal funding shortfalls and to accomplish goals that were not envisioned a century ago.

