



Carpe Diem

WESTERN WATER & CLIMATE CHANGE
A PROJECT OF EXLOCO – PATHFINDING IN THE NEW WEST

F E D E R A L P O L I C Y

in

Western Water & Climate Change

An Evolving Role in a Warming West

WHITE PAPER

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Introduction

Although states play a primary role in allocating water rights, the federal government maintains an important and ongoing presence in western water policy. Historically, the federal government provided the financing and overall vision for regional water storage and distribution infrastructure.

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In the past several decades, the federal role transitioned to environmental regulation and coordination of complex water management initiatives. The predicted severe impacts of climate change on limited western water resources demand leadership from federal agencies with clear and consistent mandates and sufficient resources to implement them in partnership with the western states and other interests. This paper provides background and framing questions for a federal policy convening in March, 2009.

Since Fall 2007, the **Carpe Diem Western Water & Climate Change** project has been exploring climate change impacts on western water supply and ecosystems, and engaging a variety of western water experts in assessing and analyzing opportunities to develop a shared platform and action plan for science-based and equitable adaptation strategies.

Each of the Carpe Diem project's gatherings has had a different emphasis, but every discussion has included questions and commentary about the appropriate federal role in this response. The **March convening** focuses directly on the federal government's role in addressing the impacts of climate change on the West's water supply, water dependent industries, agriculture, and river ecosystems.

This paper provides a **brief summary of the evolving federal role** in western water management, **suggests the driving forces for change**, and **sets out questions to frame the discussion** at the March convening.

This white paper does not prescribe an agenda or a course of action, but it reflects the shared opinion of the Carpe Diem leadership team that ***the federal government cannot respond adequately to the scale of this challenge without a coherent water policy mission and a meaningful commitment to carry it out***—as expressed through clarified agency objectives and consistent financial support, even in a challenging economic context.

Summary

The federal role has evolved significantly and will profoundly influence our ability to respond to projected climate change impacts on western water.

Clearly we are witnessing an evolving relationship between the federal government and the many other interests who share concern for western water resources. The great potential of this shifting role is unlikely to be realized unless accompanied by a consistent overarching mission for federal water policy and a commitment to provide the resources to carry it out.

In discussing the role of federal water policy to address climate change and other pressures on western water, it may be helpful to consider the following questions:

- What is the mission of federal water policy? Are institutional changes necessary to integrate and coordinate disparate federal policies and mandates?
- Do we need to know more to clarify and rationalize the federal role? Is a new national water commission a necessary tool, or do we need to focus on implementation of the basic recommendations that have emerged through past inquiries?
- Given the lead role that states play in allocating water rights and resolving disputes among water interests, what practical steps can the federal government take to support improved state water policies and practices?
- What incentives might be added or obstacles removed to encourage productive cross-jurisdictional partnerships to address water issues in a larger geographic context? What does this suggest for new federal legislation, rulemaking, and agency practices?
- Is it the responsibility of the federal government to ensure access to clean and reliable sources of water for all Americans, regardless of the natural limitations of the areas in which they live?
- What is the federal role in addressing the equities of moving water between agriculture, municipal, industrial, and environmental uses?

How We Got Here

The Historic Federal Role in Western Water

Western water policy discussions often begin with the aphorism that states run the show and the federal government defers to state control of water. Like many shorthand references to complex ideas, it's important to understand the rest of the story. While states maintain the administrative lead over water rights and allocation processes, the federal role has evolved significantly and will profoundly influence our ability to respond to projected climate change impacts on western water.

Roots of Federal Power

The federal power to regulate water derives from the Commerce Clause of the U.S. Constitution. The federal commerce power includes authority to protect and promote interstate navigation, and thus water use. Courts have consistently ruled that this broad constitutional authority extends to the federal government's power to develop water sources for irrigation, hydropower, flood control, and municipal use, as well as to establish rules to prevent environmental damage and to restore waterways and their associated fisheries.

Federal authority over water also rises from the Constitution's Treaty Clause, under which the federal government negotiated with the sovereign governments of Indian tribes to accommodate non-Indian settlement. Although stated in various ways, tribes agreed to relinquish all but the lands included in newly delineated reservations in exchange for a variety of assurances of their ability to support themselves from the land—including an implied promise of sufficient water to pursue irrigated agriculture. The federal government assumed a trust responsibility to guarantee that these promises were fulfilled.

In the early years of western development, the federal government could have played a large role in determining the allocation of water from the vast federal estate, but chose not to exert its authority. Instead, the western states developed their rules regarding water rights based on practices developed in mining camps to sort out competing claims. The practical and utilitarian prior appropriation doctrine aimed at encouraging maximum beneficial use of water while minimizing conflicts among users throughout a river system.

Early irrigation systems proved inadequate to the task of watering the landscape over more than a limited area, so Congress stepped in to create the federal reclamation program in 1902. Irrigators participating in federal reclamation projects agreed to subordinate their state-granted water rights to allow water right consolidation and to assure continued supplies of water at highly subsidized costs.

Expansion in the Progressive Era

For most of the twentieth century, the agency created to build these facilities was the largest single provider of capital for water development in the West. Large multiple-purpose water projects constructed from the New Deal through the 1960s provided water for irrigated agriculture as well as the major urban areas in which most of the western population concentrated. Today the Bureau of Reclamation is the largest wholesaler of water in the country and the second largest producer of hydroelectric power.

Subsequent Congressional acts expanded the U.S. Army Corps of Engineers' authority over navigation protection and enhancement, and the Corps developed plans and managed flood control and navigation over entire river basins. Agencies that have evolved into the Western Area Power Administration and the Bonneville Power Authority market the electricity generated at federal dams in the western rivers.

During this period of sustained growth and development, the primary federal role in western water was in financing, constructing, operating, and maintaining the large physical structures that harnessed the power of western rivers. In what became known as "iron triangles," coalitions of federal agencies, key congressional committees, and local interest groups worked together to promote particular federal projects. In water, this was essentially a closed system, leaving out broader public interests, Native American communities (many of which held unfulfilled promises water supplies to support their reservations), and national taxpayers who might have choked on the large subsidies represented by the massive new infrastructure.

In a very literal way, federal financial support and project coordination shaped the western water landscape we know today.

The benefits of the Progressive Era are considerable: vast public works projects eclipsing anything achievable by individual irrigation districts or agricultural collectives; an energy grid providing low-cost power to fuel burgeoning defense industries and suburban housing developments; and vast tracts of irrigated farmland in what had once been considered an uninhabitable desert. In a very literal way, federal financial support and project coordination shaped the western landscape that we know today.

"All Sticks, No Carrots"

At the same time, growing awareness of the environmental costs of large water developments fueled new opposition beginning in the 1960s and contributed to the passage in quick succession of major federal environmental protection laws: the Clean Water Act, Endangered Species Act, Wild & Scenic Rivers Act, and the National Environmental Policy Act, as well as others. Simultaneously, expenditures on federal water projects declined, as other demands for federal investment assumed priority. New requirements that economic and environmental costs be balanced against project benefits slowed the approval of new dams, and an invigorated conservation community asserted new powers through lawsuits to enforce environmental review and mitigation measures.

The federal government's role shifted rather quickly during this period. The Bureau of Reclamation restated its mission as a water manager rather than a water developer. The Corps began reoperating and even removing dams to achieve restoration objectives. The Federal Energy Regulatory Commission began giving "equal consideration" to fish and wildlife values when licensing and relicensing hydroelectric facilities. New players such as the Environmental Protection Agency and other regulatory agencies are regular participants in western water discussions.

Professor David Getches summed this dramatic transition from developer to regulator: ***"With water project funding being curtailed even as its regulatory presence loomed larger, the federal government was left holding all sticks and no carrots."***¹

An Elusive Federal Water Policy

Today, a panoply of federal agencies and congressional committees exert various influences over western water. At least 15 federal bureaus and agencies have some authority over water management, all with different mandates and objectives.

There is no overarching mission that guides these many entities. As the congressionally chartered Western Water Policy Review Advisory Commission concluded in its 1998 review of federal water policy in the West:

[N]o single agency has legal authority to implement comprehensive basinwide solutions at a national scope. . . . Each of the major federal agencies is faced with redefining its role in an environment where there is no explicit agreement—at any level of government or among the agencies’ old and new constituents—about their appropriate missions.¹

Calls for national water policy are not new. In 1908, the Inland Waterways Commission called for a single federal agency to coordinate water resources development. Decades later, in 1973, the National Water Commission called for a rational approach to water planning, based on the irrefutable geographic reality of river basins,² and outlined themes that formed the basis of the Western Water Policy Review Advisory Commission’s recommendations in 1998:

- There is a strong federal interest in water development and management to promote water-use efficiency, overcome parochialism among states, and ensure equity in water distribution;
- The river basin is the basic unit for managing water; and
- The federal government’s programs need to be cohesive and coordinated, with newer regulatory mandates integrated with existing agency missions and authorities.

Many of these ideas were reflected in Interior Secretary Norton’s “Water 2025” initiative, announced in 2005.³ This statement marked a significant turn toward a reduced role in federal financing and a broad embrace of collaborative initiatives to reduce water demands and stretch limited supplies through efficiency improvements.

The notion of revisiting big-picture thinking on water remains appealing to many. In 2007, members of Congress formed the Congressional Water Caucus, aimed at “promoting dialogue about our nation’s water issues to have a meaningful educational venue and forum about how best to realize those goals.” One of the founders of that caucus, Rep. Linder (R-GA) is a proponent of a “21st Century Water Commission,” one of the goals of which is to articulate a “road-map” of national water policy for states to pursue.

Toward a New Partnership

Western water managers seeking reliable supplies to meet projected demands face challenges comparable to the private irrigation enterprises whose limited capital and jurisdiction doomed their projects and opened the door for federal action.

Although a full treatment of impacts attributable to climate change is beyond the scope of this paper, it is clear that the hydrological conditions in the western United States are likely to become less stable in coming decades. The forecasting practices of the past, which relied on the concept of a normal or average climate, will not be good guides to predicting the hydrological conditions in future decades—or, as expressed in the title of a recent essay on the subject: “Stationarity is Dead: Whither Water Management?”⁴

Western water managers seeking reliable supplies to meet projected demands face challenges comparable to the private irrigation enterprises whose limited capital and jurisdiction doomed their projects and opened the door for federal action. The scale of climate change impacts demands a broad response of the same magnitude, but of a different character.

Moreover, climate change exacerbates problems already challenging westerners— particularly rapid population growth and urban sprawl, accompanied by increasing demands for reliable water supplies. Growth predicated on continued extraction of fossil groundwater cannot be considered sustainable, and today’s water planners run into complex objections when seeking to tap distant sources.

There is increasingly clear data that demonstrates the water, energy, and climate change nexus and the need to address this relationship through integrated resource planning and management. According to the California Energy Commission, nearly 20 percent of total electricity and 30 percent of natural gas (non-powerplant) consumed in California are used to deliver, treat and dispose of water, resulting in significant greenhouse gas emissions. Efforts have begun to incorporate climate change impacts and risks into the planning and management of water resources. Existing water infrastructure also provides significant amount of hydroelectric power, and additional opportunities for renewable energy are being identified. The transition from fossil fuels to renewable sources will also require close integration of climate change, energy, and water policies, including future federal action for a greenhouse gas reduction program through cap-and-trade or similar market-based approach.

The urgency of the water supply situation in the West provides a timely opportunity through federal water policy, programs and investments to develop new wholesale water supplies, ensure long-term water reliability, and support aggressive energy and carbon reduction goals. Long-term water reliability will depend on a diversified resource portfolio that includes water conservation, efficiency, stormwater capture, groundwater management, drought, and flood risk mitigation—roles that traditionally have been led by state, regional, and local agencies.

In response to these many and growing challenges, it is timely to consider the compatibility and consistency of these diverse federal roles in western water management.

In the coming decades, the federal government will influence western water management by:

- *Supporting state water initiatives and policies that promote the use of water for economic activity and development.* Federal incentives could improve the capacity of state water agencies to address the challenges of climate change and growth through integrated resource planning and management, access to the best modeling information, and better coordination.
- *Directing capital investments for water infrastructure to support regional economic activities* such as navigation, hydropower, flood control, irrigation, and municipal and industrial water supplies. This includes, for example, financial support for municipal water districts that treat wastewater to the point where it can be used again, thus improving efficiency and encouraging integrated resource management.
- *Operating and maintaining federal water projects*, including actions to mitigate the perceived adverse economic, social, and environmental consequences of past water project development. Project reoperations, dam removals, and other mitigation efforts represent a large part of the current federal workload, and will be critical in responding to changing precipitation, runoff, and streamflow patterns.
- *Providing regulatory oversight* (whether by direct action or through delegated power exercised by states and tribes) of water pollution, endangered species protection, and other areas in which the federal government has asserted national interests.
- *Developing, analyzing, and disseminating scientific and other information.* The federal role can contribute to effective climate change responses by coordinating and helping to disseminate this rapidly growing information base. Additional science-based data, analysis and assessment tools are needed to assist policy and decision makers in determining which climate change scenarios to evaluate in planning for appropriate climate mitigation and adaptation response. These include better understanding of the range of impacts and the likelihood and risks associated with those impacts.
- *Convening and supporting collaborative multi-stakeholder efforts* (involving federal agencies, states, tribes, nongovernmental organizations) to address major interstate or regional issues. The “stick” of impending enforcement action under the Endangered Species Act or Section 404 of the Clean Water Act can prompt new enthusiasm for collaboratively developed approaches. Joined with the “carrot” of access to high-quality cutting-edge modeling information, technical expertise, and carefully targeted financial investment, we may see earlier and more enthusiastic engagement in such initiatives.

These diverse federal roles and activities offer many opportunities for new and improved relationships, and thus better use of developed water supplies. For their part, western state governors have repeatedly expressed a desire for a more productive partnership between states and

the federal government on water issues, and recently created a new position of “federal liaison” in the Western States Water Council to facilitate collaboration.⁵

Clearly we are witnessing an evolving relationship between the federal government and the many other interests who share concern for western water resources. The great potential of this shifting role is unlikely to be realized unless accompanied by a consistent overarching mission for federal water policy and a commitment to provide the resources to carry it out.

A Final Note

At this month’s American Bar Association’s Annual Water Conference, noted federal policy and water expert Professor John Leshy offered a suggested federal ‘to do’ list in his keynote address (the full text can be found at www.exloco.org/federal)

1. Congress should make more money available for essential data gathering and analysis by the U.S. Geological Survey.
2. National water policy needs to be closely connected to national energy policy.
3. National water policy needs to be closely connected to national agricultural and food policy.
4. The federal government should improve its efforts, including working more closely with the states, to ensure a base level of ecological health in every stream.
5. The federal government should create a mechanism for systematic, periodic review of federal dams and other federal projects, to ensure they are being managed to meet these objectives.
6. The federal government should move with vigor to complete the process of quantifying Indian and other federal water rights, favoring negotiated settlements wherever possible.

The primary author of this white paper is Sarah Bates, with substantial input from the other members of the Carpe Diem project leadership team. Additional review was provided by Gregg Garfin, Kathy Jacobs, John Leshy and John Shurts. Review and comment does not imply endorsement by the organizations affiliated with these individuals.

Information on the **Carpe Diem - Western Water & Climate Change Project** www.exloco.org

¹ Western Water Policy Review Advisory Commission, *Water in the West: Challenge for the Next Century* 2-35 (June 1998).

² National Water Commission, *Water Policies for the Future* (1973).

³ See <http://www.doi.gov/water2025/Water%202025-08-05.pdf>

⁴ P.C.D. Milly, et al., *Science* (Feb. 1, 2008).

⁵ Western States Water Council, *Water Needs and Strategies for a Sustainable Future* (2006 and 2008). The federal liaison position is staffed by an employee of the Bureau of Reclamation on a two-year detail to the WSWC, who focuses on helping state water managers access federal support.