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“Watershed Innovations: New Governance Models”

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We can throw a dart on the map and see communities that face water challenges across the Nation. These communities face challenges of water supplies, flows, and quality. They face challenges of aging infrastructure. They face challenges of degraded watersheds, habitat, and declining wildlife populations. Water challenges, in short, are national challenges.

Several trends complicate this 21st century water management tableau. First are the increased demands for water that result from growing populations, the pursuit of energy, and expanding cities, as well as the imperatives of sustaining ecosystems and wildlife. Second, we see fragmented governing jurisdictions and landscapes. Water management *is also land management*. Third, we see distributed roles and responsibilities across issues and decision sectors. Finally, we see the effects of a changing climate, which include changes in precipitation totals, timing, and flows; a lengthening fire season; changes in vegetation composition that can, in turn, affect water availability and demand; and many other landscape and watershed changes.

Dispersed authorities, multiple agencies, diverse jurisdictions, and competing demands make coordination difficult. Yet the challenges of water management and governance require collective action and decisions integrated across intersecting issues and spaces and over time. Consider a few examples. The Chesapeake Bay is situated among 128 municipalities and multiple states. Klamath Basin discussions that attempted to resolve long-standing water supply-demand imbalances involved 50 different signatories representing 50 federal, state, tribal, local, and private-sector entities. Discussions about the Apalachicola-Chattahoochee-Flint watersheds, relevant to addressing water constraints in the southeast, involve three states, dozens of municipalities, and multiple water users who tap water for multiple purposes. And, of course, we have management of the Colorado River, which involves seven states; dozens of municipalities; multiple federal, state, tribal, and local governments and agencies as well as Mexico, all linked through various compacts, treaties, laws, regulations, and local ordinances.

The saga of water governance and management in the United States is a long history of the episodic press for new governance structures, rule sets, tools, and forums. For at least a century, we have seen the periodic establishment of basin commissions, regional plans, collaborative dialogues—

thinking “big” is not new. And, despite fractured formal authorities and jurisdictions, we also have a long history of ventures in coordination and cooperative—as well as conflict and competition—within the Nation’s water basins.

It is tempting to think that meeting coordination challenges and addressing the pesky perceptions of dysfunction require grand designs and institutional overhauls. But such efforts, as Pat Mulroy of the Southern Nevada Water Authority suggests, are fraught with peril. They require immense political capital and hold tremendous prospects for creating new dysfunctions and different decision disruptions.

Experience in successful institutional innovation is often one of incremental experimentation and problem-solving. Nobel laureate Elinor Ostrom reminds us that “organization complexity is not the same as chaos.” She reminds us, through her empirical work on managing common pool resources, that the momentum for change often arises through the creativity of those within a situation who strive to modify patterns of interaction to address resource management problems. Such change also often requires a forward-looking reframing of the problem statement to open the door for new management concepts and the incorporation of broader value sets into decision making. We have seen, over 100 years along the Colorado River, for example, a gradual evolution from a focus on development of water resources to a broadened focus on sustainability. We’ve seen a reframing of decision boundaries to extend beyond the river to ecosystems.

I want to explore, for a few moments, continuing institutional innovations that are unfolding elsewhere across the Nation. These examples are best viewed as iterative and evolutionary changes rather than as dramatic course corrections or institutional reforms. One caveat: many of the efforts I describe involve rivers or stretches of rivers and watersheds much smaller than the Colorado River. They are, thus, not perfectly replicable models for the Colorado River. But they offer instructive ideas and concepts.

Sustaining watersheds and the ecosystems within which they are nested involves matters of governance, management, and markets. Before turning to governance, consider very briefly the matter of water management. Even within existing governance frameworks, there are many opportunities to rethink how we manage water systems. These opportunities include shifting from “grey” to “green” infrastructure for stormwater management and other urban services. They include integrating local water and land-use planning, as Tucson has now done. They include exploring opportunities to restore floodplains. And they include experimenting with flexible river and reservoir management such as pioneered by The Nature Conservancy and the Army Corps of Engineers along nine rivers to sustain water storage and flood protection while also improving ecosystem health.ⁱ

Though management innovations offer potential, my focus today is on governance forms and frameworks. Three main 21st century governance questions face all resource managers:

- **Linkages:** How can they enhance linkages and coordination where issues and agency missions intersect and overlap?
- **Flexibility:** How can they strengthen nimbleness to adapt in the context of complexities, volatility, and uncertainties?
- **Collaboration:** How can they enhance collaborative decision making among agencies and between agencies and the public?

These attributes are sometimes referred to as adaptive co-management.

In the context of these three questions, consider the emergence of what former Indianapolis mayor Stephen Goldsmith and his co-author William Eggers call “network governance.”ⁱⁱ Last year, I joined people from around the Nation to discuss landscape-scale resource management, conservation, and collaboration. Those assembled identified several characteristics that are important to sustaining structures, processes, and networks through which people can set shared goals and undertake shared actions.ⁱⁱⁱ I offer a quick summary of those characteristics and several examples of network governance.

- First is the need for governance—both formal and informal—that provides both accountability and resilience. How can decisions and actions adjust to new circumstances? Adaptive management offers one technical tool designed to enable managers to adjust actions based on the establishment of clear goals, selection of management interventions, monitoring of those actions to assess their achievement of the established goals, and making course corrections, where needed. But the policy context within which adaptive management is practiced often limits the ability to make substantive course corrections. And there is a second conundrum: the requisites of accountability for clear outcomes produce some tensions with the pursuit of resilience and adaptability.
- A second governance characteristic is the need for inclusivity in collaboration, accompanied by shared agreement on the processes and rules that will guide decision making. Who is at the decision making table? In what capacity? How much consensus is enough? When can an idea become a decision?
- A third characteristic is the need for ongoing learning, including ways to identify information gaps, frame questions, and generate relevant knowledge. Relevant knowledge includes not only scientific and technical knowledge; it also includes local and experiential knowledge—knowledge tied to time, place, experience, and situation.
- A final characteristic of successful collaborative governance pertains to the broader policy context in which regulations and other decision rules shape how well participants can coordinate actions and strengthen connections. Federal agency rules are often not well-aligned with facilitation of partnerships, collaboration, and cross-jurisdictional actions. (Consider, for example, the Federal Advisory Committee Act provisions, constraints on uses of Cooperative Agreements, and even budgets, which are often formulated by agency rather than by initiative.)

So, what might the future hold for watershed governance? Though I draw from examples at a scale much smaller than the Colorado River, these examples nonetheless present some relevant concepts. Governance options array along a continuum of very formal collaborative organizations to the very informal, organic blending of network participants.

At one end of the spectrum are initiatives that resulted in the formation of congressionally designated formal, collaborative organizations. Consider the Detroit River International Wildlife Refuge. The Congress designated the first international refuge and the creation of a formal governing organization—but one that displays an unusual structure of public and private lands, cross-boundary

coordination, and shared projects. The refuge involves a mosaic of land ownership, with management cooperation accomplished through a medley of cooperative agreements that advance the goals established in a single, comprehensive conservation and management plan. The refuge and decision makers include both U.S. and Canadian participants.

Along the continuum, we see the formation of new nonprofit organizations that provide an overarching “meta-organization” of groups to coordinate action among them. I offer two examples.

First, in the Las Cienegas Watershed south of Tucson, we see the formation of a Partnership that has a formal, nonprofit status, staff, and budget, and generates a set of shared goals and actions to implement in the watershed by a combination of public agencies and private entities. Facilitating this sort of collaborative effort is a new National Environmental Policy Act process described in Department of the Interior regulations. Those regulations allow action agencies to incorporate as the preferred alternative in NEPA deliberations management options developed through consensus-based, collaborative processes.

A second example is unfolding in Milwaukee and its surrounding watersheds, where the Metropolitan Sewerage District has helped create an organization to enhance collaborative watershed governance to address stormwater and flooding issues. The District provides wastewater and flood management to 1.1 million people in 28 communities serving 400 square miles. Borrowing the concept of collaborative governance from Chicago Wilderness, the District helped form an alliance of organizations and other participants—both public and private—with an array of different responsibilities and purposes. Giving formality to this network, the District worked with partners to create a Watershed Trust to provide a context for integrated water management across jurisdictions.

At the other end of the governance spectrum are loose confederations in which the individual identities and purposes of different place-based organizations operating in linked landscapes are sufficiently unique that blended efforts take the form of a loose constellation of solution-oriented joint actions. These efforts might be thought of as a series of Action Networks. They involve the loose affiliation of clusters of organizations and participants that form and reform around shared goals and conversations. This forming and reforming implies that issues framing is a key element that pulls disparate entities together. Action Networks offer opportunities to fill “action” gaps and cement together intersecting agencies through linked actions.

Each of these governance structures creates a context for facilitating coordination and collaboration among people and organizations that have shared goals, intersecting interests, and linked problems (see Appendix). Many other examples have emerged, such as the Platte River Restoration Implementation Plan and its Governance Committee, the Puget Sound Partnership, and the Walla Walla Partnership (given delegated authority by the State of Washington for local resolution of water allocation decisions).

I have very briefly described three models along a continuum, but there are infinite government forms. Which is appropriate depends on purposes, biophysical conditions, existing rules, community attributes and cultures, and the composition, duration, and needs of collaborative efforts in which people and organizations are striving to coordinate goals and actions in particular contexts.

Elinor Ostrom reminds us that no single governance rule-set underpins success. She does, however, identify some principles that seem relevant. The following list of principles adapts from and supplements those identified by Ostrom. Principles include:

- Clear decision boundaries
- Congruence with local and cumulative institutional conditions
- Clear decision rules and delineation of the rights, roles, and responsibilities of participants
- Monitoring of both users and resources
- Sanctions for improper action
- Linkages to the larger governance context

I conclude by contemplating this efflorescence of actions, emergence of organizations, and their interconnection with larger networks. I am reminded of the words of former U.S. Secretary of the Interior Stewart Udall, who described himself as a “troubled optimist.” As I contemplate communities, conservation, and watershed collaboration, I think I, too, am a troubled optimist. I am troubled because the challenges are persistent, complex, and perhaps even broadening and deepening.

But as the Chinese proverb reminds us, our challenges are also our opportunities—and therein resides my optimism. Communities, states, tribes, communities, and individuals are coalescing into partnered problem-solving ventures. I am not Pollyanna. My years at the Interior Department immersed me in the realities of Colorado River complexities as we strived to conclude the quantified settlement agreement and, later, the 2007 shortage sharing agreement, or as we undertook a high-test flow at Glen Canyon Dam.

But many building blocks of collaboration and network governance exist. Perhaps meeting the needs of the future requires a mix of:

- New management tools that emphasize green infrastructure and flexible operations
- Filling in governance gaps with additional networking glue; and
- Identifying policy misalignments that deter coordination and strategically (perhaps surgically) addressing them.

I conclude with the words of philosopher-ballplayer Yogi Berra, who opined that “The future ain’t what it used to be.”

Appendix

Prepared by Lynn Scarlett, Barbara Stinson, Don Boesch, and John Ogden for the National Conference of Ecosystem Restoration, Los Angeles, California, 2009

Conservation, Restoration and Collaboration: Network Governance Examples

Various institutional and land management governance options are emerging in various locations across the Nation as public and private organizations increasingly operate at landscape scales, across multiple jurisdictions, and with public, private and nonprofit participation. The following examples illustrate models of network (sometimes referred to as “shared”) governance.

Valles Caldera National Preserve

Synopsis: The Valles Caldera National Preserve was established by the Congress in 2000 through purchase of the 88,900-acre, privately owned Baca Ranch. In establishing the Preserve, the Congress chose to: 1) maintain the caldera as a working landscape; 2) establish a new system of governance for the Preserve distinct from the traditional land management model of the U.S. Forest Service or Bureau of Land Management; and 3) perpetuate multiple-use policy in the Preserve.

To meet these governance ends, the Congress established the Valles Caldera Trust, a wholly owned government corporation governed by a 9-member board of trustees who serve 4-year terms and may serve up to 8 consecutive years. The Board is composed of seven members selected by the President and two members representing the Santa Fe National Forest and Bandelier National Monument. The Board has full authority to make all decisions concerning the use and conservation of the Preserve. Public input is provided through the planning process, open board meetings, and volunteer participation in the stewardship of the Preserve. An Executive Director and a staff of 25 manage and carry out activities.

As a wholly owned government corporation, the Trust is subject to the Government Corporation Control Act and the Government Performance and Results Act. Under the Government Corporation Control Act, the Trust must obtain independent annual financial audits and report the results to the Congress. Under the Results Act, the Trust must develop an annual performance plan with measurable goals and objectives and report annually to the Congress how well it is meeting these measures.

The Board develops strategies and specific actions with accompanying outcome-based performance measures and timelines. The Board has a set of management principles that include coordinating with adjacent landowners to achieve a healthy regional ecosystem through science-based adaptive management that informs management decision making on the Preserve. Monitoring is a central component of the management regime. The Preserve receives some federal funding but also receives financial support from other sources. For this purpose, a nonprofit fundraising organization works with

the Trust. The Trust uses cooperative agreements with the Forest Service or other federal agencies to carry out joint actions, where appropriate.

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Northwest Straits Initiative and Commission

Synopsis: The Northwest Straits Commission provides guidance and offers resources to seven marine resources committees that represent seven counties located along the Northwest Straits. The Commission is a 13-member organization composed of gubernatorial appointees, one Secretary of the Interior Appointee, and a representative from each of the seven counties in the region. The Commission serves as a “board of directors” for the Northwest Straits Marine Conservation Initiative. Members represent the Marine Resources Committees, tribes, the Puget Sound Partnership, and other appointments of the Governor.

The committee mobilizes science to focus on key priorities and coordinates regional priorities for the ecosystem. The Commission uses performance benchmarks established by a citizens’ commission as measurable goals. Its principal work is to: 1) provide focus on the overall health of the marine ecosystem; 2) propose management recommendations to existing governmental authorities, and 3) coordinate scientific, technical, and financial support to the marine resources committees. Performance benchmarks relate to protection and restoration of marine waters, habitats and species of the region to achieve ecosystem health and sustainable resource use. Goals focus on marine habitats, marine life, water quality, the generation and dissemination of high-quality science, and education and outreach.

Accomplishments include surveying and monitoring of shoreline habitats, measures to report and remove abandoned fishing gear, mapping, restoration of oyster beds, and other restoration efforts. Key partners include the Puget Sound Action Team, the Washington Sea Grant Program, the Northwest Washington Treaty Tribes, the Washington State Departments of Ecology, Fish & Wildlife and Natural Resources, NOAA, and others.

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Las Cienegas National Conservation Area, Arizona

Synopsis: In the early 1990s, the Bureau of Land Management initiated a traditional planning process for creating the Empire-Cienegas Resource Conservation Area in southeast Arizona. Poor planning, lack of public participation, and exclusion of private and state trust land stakeholders in the process jeopardized the federal planning process. Shortly thereafter, citizens, local governments, and conservation groups concerned over the health of Las Cienegas Creek Watershed and concerned that restoration must include state trust and private lands formed the Sonoita Valley Planning Partnership. They joined with the BLM to establish (with Congressional approval) the Las Cienegas National Conservation Area. The partnership then developed a community-based management plan for the NCA, which was eventually adopted by the BLM as the preferred alternative in the Las Cienegas NCA planning document.

The partnership now works with the BLM to implement the partnership plan through community-based participation and adaptive, outcome-based management. The Las Cienegas NCA is the first major BLM-administered land area to simultaneously engage community-based planning and community-based implementation of the adopted plan through adaptive and outcome-based practices.

The federal legislation included establishment of a Sonoita Valley Acquisition Planning District to provide for future acquisition of important conservation lands within the region. The Planning District consists of 142,800 acres of land in the Arizona counties of Pima and Santa Cruz. In addition, the Act created the Conservation Area of 42,000 acres of existing public lands. The Act specifies management provisions pertaining to grazing, military airspace, access to state and private lands, motorized vehicles, hunting, and other management considerations. The BLM uses planning procedures under the Federal Land and Policy Management Act to develop comprehensive management plans consistent with the goals and objectives developed through the Sonoita Valley Planning Partnership process, as incorporated into the National Environmental Policy Act plan of October 2000.

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Eastern Nevada Landscape Coalition

Synopsis: The Coalition, formalized in 2001, is a public-private assembly that focuses on conservation under the larger umbrella of the BLM Great Basin Restoration Initiative that funds a variety of projects to restore and maintain the Basin's native plants and wildlife. The Eastern Nevada Landscape Restoration Project, centered in Ely, Nevada, a key component of the Great Basin Restoration Initiative, focuses restoration work on approximately 10-million acres in eastern Nevada administered by the BLM. The goals of the coalition include improving or maintaining: 1) habitat condition through invasive weed management and forest thinning; 2) watershed function and stability; 3) riparian area function and condition; 4) species diversity and composition. The Coalition also seeks to maintain and protect Native American cultural values and foster sustainable rural communities and economies.

The Coalition, a nonprofit entity, is a community-based partnership of more than 60 partners that represent agricultural, conservation, cultural, environmental, private enterprise, local, state and federal government interests. The Coalition assists in project planning and implementation by establishing goals and objectives, determining processes, advising on project implementation, and providing science inputs. A science committee that includes scientists from public land management agencies, the University of Nevada Reno, and nonprofit organizations such as The Nature Conservancy and Coalition Board members outlines the research agenda, baseline data requirements, data gaps for effective monitoring, and so on.

The Coalition uses cooperative agreements with the BLM, some multi-year in duration, to undertake restoration and related projects. Funds come from federal, state, nonprofit and private sources.

In 2007-2008, projects impacted more than 2,194,345 acres. Data collection included inventorying roads, trails, and range utilization, recording cultural sites, inventorying minerals notices, collecting vegetative monitoring information, especially on areas burned by fires. Actions including post-fire rehabilitation projects, rare plant protections, invasive plant removals.

A Trust, comprising BLM, cooperating agencies, community interests, and other stakeholders, provides oversight of the Coalition's activities and performance.

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Walla Walla Watershed Management Partnership

The Walla Walla River Basin is an over-appropriated system with limited water resources and critical needs to improve flows for endangered species. To address these challenges, the community came together in a collective commitment to enhance flows for fish and improve water management practices. Given this commitment, the Washington Department of Ecology supported flexible, community management of the Basin provided: 1) stream flows and water quality are enhanced and maintained to support fish and 2) any conflict is successfully handled within the basin. Through practices undertaken by the Partnership, a spring run of Chinook returned to the Walla Walla River for the first time in 80 years.

The Management Partnership has a governance structure with clear authority and function, addressing criteria set out in the Washington State supplemental budget of 2008 that endorses "Flow from Flexibility" pilot projects to augment stream flows and use of the Walla Walla Water Bank. The Partnership, launched in 2000, includes over 30 organizations and governments, including state agencies, tribes, local governments, water user groups, conservation organizations, and others.

The Management Partnership provides the primary governance structure for improved water management through collaboration. The Partnership has a nine-member Board who provide leadership, oversight and decision making. The Board is assisted by a Policy Advisory Group and a Water Resources Panel composed of technical experts from a range of disciplines and perspectives to ensure that decisions are informed by science and that knowledge is shared among people in the Basin.

Washington's Department of Ecology has representatives on the Advisory Group and Water Resources Panel. The Department also provides shared oversight of water management activities and approves water management plans jointly with the Partnership.

The Partnership basic activities are funded with approximately \$450,000 annually, but additional resources are required for specific projects, planning, and water bank administration. These funds come from a variety of sources.

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Platte River Recovery Implementation Program

Synopsis: The Platte River Recovery Implementation Program (Program) initiated in 2007 after a decade of negotiations through a “Cooperative Agreement for Platte River Research and Other Efforts Relating to Endangered Species Habitat along the Central Platte River, Nebraska.” The Cooperative Agreement and resulting Program agreement were signed by the Governors of Nebraska, Wyoming, and Colorado and by the Secretary of the Interior. In response to a history of concerns and litigation over endangered species and water uses along the river, the Cooperative Agreement and Program were designed to establish a shared vision and responsibility for managing the central Platte River.

The broad purpose of the Platte River Program is to implement certain aspects of the Fish and Wildlife Service’s recovery plan for four listed species along the river, in the context of sustainable and multiple water uses in a predominantly agricultural region. The four species are the endangered whooping crane, least tern, and pallid sturgeon and the threatened piping plover. Specific elements of the program include: (1) recovering more historical patterns of stream flow during relevant times of the year through re-timing and water conservation and supply projects, and (2) enhancing, restoring, and protecting habitats for the four listed species. A key component is an Adaptive Management Plan, which provides a systematic process to test hypotheses about management strategies that will most closely achieve Program objectives. Improvements in the status of the four species and associated river form and function will guide decisions about the most appropriate management strategies.

The Cooperative Agreement established a Governance Committee (GC) as the decision-making body for the Platte River Program. The Governance Committee has ten members, representing the three watershed states, two federal agencies (Fish and Wildlife Service and Bureau of Reclamation), water users from each of the three states, and representatives from two environmental organizations. Initially, the GC guided a planning process that culminated in a Final Program Agreement, signed by the three Governors and the Secretary of Interior in January 2007. The GC is now responsible for implementing the Program.

The GC contracts with a private natural resources consulting firm to provide an Executive Director and technical staff, including a Chief Ecologist, who report to the GC and are responsible for implementing the program. The Executive Director and staff work with official Program Advisory Committees on land, water, and science issues to implement the Program’s Land Plan, Water Plan, and Adaptive Management Plan. The Executive Director’s Office and the GC are advised by an Independent Scientific Advisory Committee on issues related to implementation of the Program’s Adaptive Management Plan.

ⁱ For a description of these efforts, see Lynn Scarlett, “Green, Clean, and Dollar Smart: Ecosystem Restoration in Cities and Countryside,” Environmental Defense Fund, 2010.

ⁱⁱ See Stephen Goldsmith and William Eggers, *Governing by Network: The New Shape of the Public Sector*,” Brookings Institution Press, Washington, D.C., 2004.

ⁱⁱⁱ For a discussion of landscape-scale conservation and collaboration, see Matthew McKinney, Lynn Scarlett, and Daniel Kemmis, “Large Landscape Conservation: A Strategic Framework for Policy and Action,” Lincoln Institute of Land Policy, Cambridge, Massachusetts, 2010.