

Setting the Context for the Closing Plenary

Advancing Policy for Ecosystem Restoration Funding

Defining the Scope of the Problem

In 2010, President Obama identified eight key watersheds or ecosystems of national significance: Chesapeake Bay, the Florida Everglades, the Gulf Coast, the Great Lakes, the Upper Mississippi River, the Sacramento-San Joaquin River Delta, the Columbia-Snake River System, and Puget Sound. This past May, the Department of Agriculture echoed those 2010 designations by naming eight “Critical Conservation Areas” across the country, including the Mississippi River Basin, Chesapeake Bay Watershed, Great Lakes Region, Colorado River Basin, Longleaf Pine Range, Columbia River Basin, Prairie Grasslands and California Bay Delta. The level of this national commitment to conservation and restoration, on paper, far exceeds the reality of the amount and means by which we commit federal resources toward these efforts through our traditional federal funding process (such as using the Water Resources Reform and Development Act project authorizations, US Environmental Protection Agency or US Department of Agricultural grants, or other individual project appropriations.) In short, restoration needs and requirements, especially for adapting to climate change through improved resilience and transformation, far surpass any estimates of the resources currently available for such efforts. Individual project funding over systems-based approaches dominate. Even where integrated planning is in place, financial needs far outstrip government resources. The defining characteristic of restoration funding over the last two decades has been after-the-fact disaster response.

Our nation must have a clearer framework for sustainable management of our ecosystems. And we must develop better, more dependable streams of funding for the work. After people, water is our most critical and strategic resource. Since the combined threats of aging infrastructure, climate change and population growth are so significant, the nation can no longer afford to postpone action.

- Counting only the counties along shorelines of the oceans or the Great Lakes, one finds 39% or 123 million of the overall US population living in less than 10% of the nation’s total land area. Expanding this to include coastal watershed counties (just under 20% of the land area), our coastal population rises to 52% or 164 million; all of whom are in harm’s way.
- It’s hard to imagine another natural catastrophe on the scale of Hurricane Katrina. The economic cost estimates from Katrina range upward of \$200 billion, or over 1% of US gross domestic product. Climate change may affect extreme storm intensity and frequency, with recent events such as Hurricane Sandy potentially becoming more common. Moreover, sea level rise is a growing threat to the country. With 53% of the county’s population living near major water bodies, both people and infrastructure increasingly lie in harm’s way.

Risk reduction and resiliency must be dealt with today, not tomorrow. It is imperative we initiate a focused effort to articulate a strategy to sustain the nation's water resources and ecosystems. Our nation's future growth and prosperity will depend upon the sustainable management of our environment.

Our nation's planning and regulations are fragmented from top to bottom, which results in less than optimal cost and effectiveness. The Federal government has more than 20 agencies responsible for understanding and managing water resources. As such, there is no clear sense of the Federal role and little understanding of the gaps and overlaps among Federal agencies. Furthermore, each state and many Native American tribes have one or more agencies responsible for managing water resources within their respective areas of jurisdiction. Existing governance structures and processes appear to have exacerbated already complex challenges in which lines of authority are not clear or organized for timely problem solving.

A successful strategy must take an integrated approach, recognizing that our water and natural resources are inextricably tied to other systems that are already part of the built and social environment, such as energy generation, land-use, and economic development. Examples of this approach are cited in "Economic Impacts of Climate Change" (RITES Journal) and "Green and good? The investment performance of US environmental mutual funds" (Journal of Business Ethics.)

Climate Change – Need to Incorporate Climate Adaptation with Ecosystem Restoration Efforts

The range of climatic changes anticipated from rising sea levels to the potential for stronger and more frequent storms and extreme temperature events will have real impacts on our natural environment, as well as human-made infrastructure and their ability to contribute to economic activity and the quality of life.

- All sectors of the economy – agriculture, energy and transportation – will be affected.
- Essential infrastructures that provide us reliable services and high standards of living – water supply and waste water treatment – will be impacted.
- Ecosystems, on which our quality of life relies, will suffer.

The costs of climate change will place major strains on public sector budgets, personal income and job security. The dominant benefit methodology and incremental approach to restoration and adaptation must be changed. A new methodological approach, perhaps using portfolio choice theory (i.e. how rational investors will use diversification to optimize their portfolios and how a risky asset should be priced or valued) needs to be explored. Tools from the theory of investment and finance under risk and uncertainty should be considered. We should fully engage around opportunities to value and price services ecosystem services. In short, we must begin to avoid the high costs of poor focus and inaction and make the programmatic investment in natural, human-made and social capital necessary to adapt and prosper in our changing world.

Sense of Urgency

Large-scale ecosystem restoration programs provide both the opportunity and the necessity to collaborate – among Federal agencies, with states, local and tribal governments, private industry, non-profit organizations and a wide variety of other stakeholders. We can leverage these potential partnerships to construct a proactive implementation approach to managing the risks we are facing, including the possibilities of funding mechanisms that encompasses the entire community. But we must begin to move away from the reactive, post disaster that characterizes our current approach to large scale protection and restoration.

Closing Plenary Panel Discussion

Given these sets of challenges for our industry, the closing panel will bring together experts who can provide provocative ideas and thoughts based on an understanding that, in broad terms, both our systems and levels of funding for ecosystem restoration need major recalibration.

The speakers will provide thoughts and perspectives on the following basic questions:

- How do we fund restoration work above and beyond current Federal and State levels;
- How do we create systems that, in addition to Federal and State funds, allow use of revenue sources provided by non-profits and for-profit entities;
- How do we implement valuation of ecosystem services; and,
- How do we concretely demonstrate and communicate restoration benefits to stakeholders and communities?

Call for Action – We Need Your Support!

To date this has been a collaborative effort of the Environmental Defense Fund, America's Wetland Foundation, The Nature Conservancy and the recently organized Large-scale Ecosystem Restoration Section (LERS) of the Society for Ecological Restoration. We encourage you to join our efforts and help unite the voice of the ecosystem restoration community. If you are interested in contributing please contact, the Chair of the LERS Board of Directors, Cheryl Ulrich, at cherylulrich@comcast.net. You may track our efforts through the LERS website <http://chapter.ser.org/lers/>

References:

- The US Economic Impacts of Climate Change and the Costs of Inaction. A Review and Assessment by the Center for Integrative Environmental Research at the University of Maryland. Oct 2007
- Deltas 2010 – World Delta Dialogues. Report of Findings. America's Wetland Foundation. Oct 2010

- Water Resources IMPACT. AWRA at 50: The Future of Water Resources in the US. Jan 2014