

## **Collaborative Restoration Workshop: Working Toward Resilient Landscapes & Communities**

### ***Water Stewardship and Climate Change – Managing water resources in a changing climate.***

#### **NOTES & SUMMARY**



*Thursday: April 28, 2016  
8 a.m. to 12 p.m.  
History Colorado (Denver, CO)  
Location: Martin Room*



#### ***Description***

Climate-related stresses have affected and will continue to affect the quality, quantity, timing, and availability of water resources. Since a primary responsibility of the National Forest System is to steward water resources, it is imperative that we work with partners to understand the potential impacts of climate change to water resources and manage our resources accordingly. In this session, the Forest Service and its partners will provide an overview of the latest climate science and how it relates to management of water resources. The session will also provide an overview of the latest assessment tools along with examples featuring applications in the field for restoration including climate adaptation strategies. Presentations and facilitated dialogue among participants will ensure an active learning environment with a focus on climate change vulnerability assessments for over 65 national forests and grasslands and how those assessments should inform priority setting in our shared water stewardship work.

#### ***Expected Outcomes***

- Overview of latest climate science as it relates to the impact of climate change on water and other related resources.
- Improved understanding of tools to assess risks to water related resources such as infrastructure, fisheries, hydrology, and recreation with the intent to inform restoration priorities and set priorities.
- Learning from the field – case studies and partnerships across various landscapes – an opportunity to dialogue with resource practitioners about future needs, challenges and opportunities.
- Identify critical challenges and needs to inform decision-making for water stewardship.

#### ***Hosted by***

U.S. Forest Service, Washington Office  
Watershed, Fish, Wildlife, Air & Rare Plants  
Chief's Office of Sustainability and Climate Change

#### ***Facilitators***

Dan Shively, U.S. Forest Service, National Fisheries Program Manager  
Karen Dante-Wood, U.S. Forest Service, Natural Resource Specialist

## **Session Summary and Synthesis from Rob Harper and Cyndi West**

1. Overall, there is a high level of interest around water stewardship across a diverse and broad geographic range of participants – federal, state, tribal, and non-governmental.
2. We have many excellent scientific and technical tools to assist in water stewardship in consideration of changing climate. Delivery and dissemination of these tools may be lacking.
3. There is a tremendous variability in the water stewardship challenges and opportunities we face across the nation – from Alaska to the Pacific Northwest to the Dakota Grasslands to the East.
4. Collaboration around water stewardship take different shapes and forms in different locations based on the unique characteristics of the ecological, economic, and social settings. Collaboration around water stewardship, from a coordinated national perspective, is really in its infancy when compared to collaboration around forest restoration across the country.
5. There is a clear need for greater emphasis on water stewardship and climate science pertaining to water issues in the East.
6. Capacity is clearly limited and has been acknowledged by many participants throughout today's session. This is a tough challenge to address and for the Forest Service in particular the rising cost of fire suppression efforts have and will likely continue to have an impact on the agency's capacity for water stewardship.
7. Restoration is expensive! It's much better and cost-effective to provide effective water stewardship up-front as opposed to dealing with expensive restoration measures after the fact.
8. Water stewardship and development of pertinent climate science takes time and relationship-building, the relationship-building piece of this is paramount and often the key factor for successful outcomes.
9. Climate change can be our "bridge" between the terrestrial and aquatic ecosystems and their parallel needs. Water is a vital component for healthy functioning terrestrial systems and the two ecosystems must be considered and managed in a coordinated manner to ensure holistic ecosystem restoration and resilience.
10. We have untapped partnerships in many regions of the country. There are excellent examples in many places, however, there is tremendous potential for more. We heard today of the many different types of drinking water provider partnerships in the West.

## **Key Next Steps**

1. Develop and deliver future collaborative settings and venues to specifically address and resolve water resource management.
2. Strengthen and improve our technical transfer and delivery of science, tools, and case study approaches around water stewardship and climate change.

## **Flip Chart Notes from Facilitated Discussions**

### **Challenges & Needs**

- We need resources (\$) to do what we know we need to do.
- How do we deliver tools and projects in an integrated manner (i.e., aquatics, wildland fire fuels reduction, etc.).
- We need to focus on the key policy gaps around water issues (e.g., storage). We need to better articulate what these key policy gaps are at the national-scale.
- We are lacking the fine-scale digital elevation models (DEMs) in Alaska, and therefore we're unable to apply many of the technical tools available and in use in the Lower 48.
- We need to make our partnership tools and authorities more efficient, user-friendly, and streamlined.
- We need larger support systems to facilitate implementation and delivery.
- We need to use our existing tools and science to identify important refugia.
- The government can provide the framework needed to facilitate trans-boundary partnerships.
- We need to enhance our technology transfer (especially in the southeast and northeast) to expand the influence of the Forest Service's work off the national forest system land base.
- We need to focus on aquatic invasive species. Greater resources are needed in this arena as well as more partnerships.
- We need to empower collaboratives to do more partnership related work, especially governance structure to ensure the process is not hijacked by one or a few participants with their own agenda.
- We need to focus on flow needs from hydrologic alterations.
- We need to tell our story in a more compelling and relevant manner that resonates with the public.
- We need stronger integration of aquatic restoration among Forest Service disciplines.
- There is a strong need for and importance of assessing ecosystem services. This is missing in a lot of the work we do.
- We need to be proactive with regard to assisted migration of fish species. It is very likely to become a greater and greater need into the future, especially with a changing climate.
- There can be better linkage of both our aquatic and terrestrial restoration activities.
- We need to explore and embrace non-traditional partners (i.e., those not directly participating in the collaboratives themselves).

- Don't forest about grasslands or other less common ecosystem types. They're equally as important as forested landscapes.
- We should explore and consider adaptive management "trial" experiments in collaboratives so everyone stays involved and engaged in the collaborative.
- As the landscape or playing field changes, we need to be nimble and adjust our business or partnership approaches.
- We need to shift towards and explain the benefits of moving to outcome measures to evaluate agency performance.
- How do we marry the many different efforts so we have a consolidated and unified approach (to water stewardship).
- We need to have an improved understanding of tribal water rights and cultural needs which is translated into meaningful actions with tribal benefits.

### **What Does Success Look Like?**

- Multi-partnerships:
  - replicated efforts (access to data)
  - partnerships across all entities
- Application/case studies with an aquatic focus
  - Large-scale, big data
  - Science (accelerating the pace of science)
- Recognition of "Refugia Landscapes" (management actions)
- Cross "FS boundary/green line"
  - Technology transfer (forest level → private/other lands)
- Collaborative multi-jurisdictional partnerships
- Policy structure for collaboratives
- 21<sup>st</sup> Century values – flow allocation (moving the dialogue forward)
- Shifting focus/conversation to maintenance (telling the story).
- Strategic framework
- Fish Habitat Partnerships (more emphasis and coordination via National Fish Habitat Action Plan)
- Adaptive management trials/partnerships
- Talk about outcomes & benefits of outputs
- Consideration of downstream users and winter flows