



Joint Stakeholder Advisory Committee (SAC) and Science Advisory Panel (SAP) Meeting

AGENDA

March 14, 2017

1:00 – 3:00 PDT

Call-in:

703-648-4848 (from DOI facilities)

855-547-8255 (toll free)

57166#

[Webex link](#)

Welcome	Rich Ferrero, Gus Bisbal
Brief general updates	Gus Bisbal
Science Advisory Panel (SAP) report	
• SAP objectives, status, and recent activities	Gus Bisbal
• Processing SAC management priority responses	Betsy Glenn
• SAP work groups and engaging with SAC members	Amy Snover, Marty Fitzpatrick
Status of the draft NW CSC Science Agenda 2017-2022	Gus Bisbal, Betsy Glenn
Preparations for SAC-SAP in-person meeting, May 3-4	Gus Bisbal

2017 Meetings:

SAC-SAP in-person meeting, **May 3-4**, Portland, OR

SAC-SAP in-person meeting, **October 18-19**, location TBD



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March 14, 2017

1-3 pm PDT

MEETING NOTES

Participants

Tribes

Affiliated Tribes or Northwest Indians – Don Sampson
Cow Creek Band of Umpqua Indians – Kelly Coates
Columbia River Inter-Tribal Fish Commission – Laura Gephart
Tulalip Tribe, Preston Hardison

States

Idaho Fish and Game – Leona Svancara
Oregon Department of Fish and Wildlife – David Jepsen

Federal Agencies

Bureau of Land Management – Louisa Evers
Bureau of Reclamation – Bryan Horsburgh
Environmental Protection Agency – Linda Anderson-Carnahan
National Park Service – Chris Lauver
National Oceanic and Atmospheric Administration – Mark Strom
Great Basin Landscape Conservation Cooperative – Rick Kearney
Great Northern Landscape Conservation Cooperative – Sean Finn
Natural Resource Conservation Service – Mike Stroebe
North Pacific Landscape Conservation Cooperative – John Mankowski
Northwest Climate Science Center – Gustavo Bisbal, Nicole DeCrappeo, Betsy Glenn
USDA Northwest Climate Hub – Bea Van Horne

SAP Members

Amy Snover, University of Washington
Marty Fitzpatrick, U.S. Geological Survey
Kyle Blasch, U.S. Geological Survey
Dominique Bachelet, Oregon State University
Lee Cerveny, U.S. Forest Service
Shaun Clements, Oregon Department of Fish and Wildlife
Brian Harvey, University of Washington
Bruce Marcot, U.S. Forest Service
Phil Mote, Oregon State University
David Pyke, U.S. Geological Survey

Observer

Alison Meadow, University of Arizona

General Updates

FY 2017 budget: Still no news on the FY17 budget, but plans are in place for multiple budget scenarios both at the national level (through our parent organization, the USGS National Climate Change and Wildlife Science Center) and at our center level.

Tribal Liaison Position: Don Sampson made an offer on behalf of ATNI and NW CSC this week. We will be hearing back from the candidate very shortly.

Science Advisory Panel (SAP) report

The NW CSC made a promise in 2014 to facilitate a dialogue between scientists and resource managers in the region. The Stakeholder Advisory Committee (SAC) has identified their collective management priorities through the Lightning Talks and a series of follow-up questionnaires. We convened the Science Advisory Panel (SAP) in 2016 to help assess the state of existing and needed knowledge related to those management priorities ([click here for the full SAP member list](#)). **Our ultimate goal is to develop the NW CSC Science Agenda for 2017-2022.**

With the help of the SAP, we have been processing the SAC's management priorities identified in their responses to the October 2016 questionnaire related to the "Tier 1" Lightning Talk topics of hydrologic regime shifts, ecological drought, invasive species, and ecological thresholds and triggers. Through that processing, we've now categorized the management priorities into six management-relevant themes:

- 1) Forest Management
- 2) Management of Aquatic Resources
- 3) Invasive Species Management
- 4) At-Risk Species Management
- 5) Rangeland Management
- 6) Management of Other Working Lands and Water (e.g., agricultural lands, reservoirs, tribal lands)

We've divided the SAP members into subgroups for each of the management-relevant themes. Each group is trying to understand the management priorities that fall under their theme, as well as the context and associated knowledge needs for these topics. They are looking to categorize existing and needed knowledge into the following bins:

- a. Knowledge and tools already exists but need to be publicized
- b. Relevant knowledge already exists but requires synthesis, assessment, interpretation, translation and/or tool development
- c. Relevant knowledge could be developed in the context of a 5-yr science agenda
- d. Relevant knowledge could be developed in 2022-2027 if the stage is set
- e. Developing relevant knowledge not feasible within scope of the NW CSC

Each SAP subgroup provided a brief update on the status of their work:

Forest Management subgroup: The first task was to move some management priorities into other themes, which left four topics for them to focus on. There are still some clarifying

questions they need to ask of the SAC members who provided management priorities on this theme. They are determining how much effort to put into compiling and synthesizing information vs. how much to mine from other services (like Joint Fire Science Program Knowledge Exchanges).

Management of Aquatic Resources subgroup: In terms of number of management priorities, this is the largest theme. They are finding the “desired outcomes” information to be very helpful. There was quite a bit of repetition in the management priorities under this theme, so they did a binning exercise and came up with four main categories: 1) hydrologic modeling, 2) thermal modeling, 3) infrastructure, and 4) understanding the life cycles of fish. They now need to go back to SAC members to ask clarifying questions. Thank you to SAC members for putting a lot of work into these responses! The SAP members want to make sure they fully understand what the SAC needs are.

Invasive Species subgroup: The management context is controlling invasive species, but this subgroup needs to understand the specific climate connection to that. Do SAC members need something more predictive (like what invasive species, pests, and pathogens may be coming in 5-20 years)? The current management priorities are centered on invasive species that are already present in the Northwest. The NW CSC could do more systematic, large-scale predictive work on invasive species or continue supporting project-level invasive species work.

At-Risk Species Management subgroup: This subgroup has come up with six main categories for their management priorities: 1) managing habitat for fish and wildlife under changing climates, 2) developing a collaborative climate monitoring program with co-occurrence of associated species of greatest conservation need, 3) conserving and managing wetlands, outside the context of fisheries management, 4) controlling disease, particularly chytrid fungus in amphibians, 5) controlling disease, particularly white-nose syndrome in bats, and 6) identifying triggers related to conservation planning for at-risk species). They did a quick survey of literature and quickly realized they could spiral into thesis level summary of information. They will go back to SAC members to help clarify management priorities.

Rangeland Management subgroup: This subgroup has binned their management priorities into the following: 1) control of invasive species, 2) grazing permits and climate planning, 3) energy development and mitigation, 4) plans for recovery of at-risk species in a changing climate. They also need to ask clarifying questions of SAC.

Other Working Lands and Water subgroup: The management priorities in this theme are highly variable. They will need to discuss these further with the appropriate SAC members.

The NW CSC would like to expand the role of social sciences in developing and implementing our Science Agenda. To that end, we recruited Lee Cerveny, Research Social Scientist with the U.S. Forest Service Pacific Northwest Research Station to assist us. Lee will be working across all the subgroups to help identify where we might be forcing natural resource questions onto what are really social science issues.

SAC members' participation in subgroups: We made recommendations for SAC members to join specific subgroups based on SAC members' responses to the questionnaires that they completed for us. SAC members are not "assigned" to these groups, and they can decline or move into different or more groups if desired. We will be following up with all SAC members about participating in these groups this week.

Draft NW CSC Science Agenda 2017-2022: We are compiling the materials necessary for this document. The SAC and SAP are helping with the drafting of the management priorities and science opportunities. You'll see drafts of this in the coming weeks and months. The goal is to adopt the new Science Agenda at our October in-person meeting.

Preparations for full SAC-SAP in-person meeting, May 3-4, 2017: We are reserving meeting space in Portland; this meeting will be facilitated by Donna Silverberg (who facilitated our Oct. 2016 meeting). We'll be working intensively on the Science Agenda document at this meeting, digging deeply into management priorities and research directions.



**Conference call between the NW CSC
Stakeholder Advisory Committee (SAC) and
Science Advisory Panel (SAP)**

March 14, 2017



WH Staff
\$\$\$ Congress
SAC NCCWSC Host
ACCNRS DOI



The Lightning Talk Experiment (2014)

- Promote **manager/scientist dialogue** on actionable science
- **Phase 1:** Management priorities related to climate change
- **Phase 2:** Science response & suggestions
- **Phase 3:** Iteration & refinement

	Stakeholder Advisory Committee (SAC)	Science Advisory Panel (SAP)
WHO?	Resource Managers, Cultural Stewards, Regulators, Decision Makers, and Climate partners	NW CSC Science Providers <ul style="list-style-type: none"> • USGS • NW academic partners • Fed/state/tribal
WHAT?	Focus on how changing climate will impact resources and the management priorities in a climate context	ID strategic-level Science Agenda Themes and Objectives that most adequately address management priorities articulated by SAC
HOW?	SAC members integrate mgmt. perspectives and urgencies of the programs they represent	SAP members tap into and integrate scientific expertise within their institutions and beyond

Why a Science Advisory Panel (SAP)?

To establish a regional dialogue on climate change management and science needs between scientists and natural/cultural resource regional stakeholders in the NW

What is the SAP's goal?

To assist the NW CSC with the development of its *Science Agenda for 2017-2022*

What is the SAP's role?

To identify strategic-level Science Agenda Themes, and Objectives within those Themes, that most adequately address management priorities articulated by the SAC

How will the SAP work?

Through internal discussion, iterative conversation with the SAC and, as necessary, consultation with additional scientific experts

What is the timeline?

The timeline for this effort is November 2016 through October 2017

Current SAP Membership

Leadership

Amy Snover, SAP co-lead, University of Washington

Marty Fitzpatrick, SAP co-lead, USGS FRESC

Gustavo Bisbal, Director, NW CSC

Members

Dominique Bachelet, Conservation Biology Institute

Kyle Blasch, USGS Idaho Water Science Ctr.

Lee Cerveney, U.S. Forest Service

Shaun Clements, Oregon Department of Fish & Wildlife

Oliver Grah, Nooksack Indian Tribe

Brian Harvey, University of Washington

Bruce Marcot, U.S. Forest Service

Phil Mote, Oregon State University

David Pyke, USGS Forest & Rangeland Ecosystem Sci. Ctr.

Staff support

Betsy Glenn, NW CSC

Nicole DeCrappeo, NW CSC

Process to ID top management priorities

2014-2015

Fall / Winter 2016 -17

Feb 2017

Tier 1 Topics

1. Ecodrought
2. Hydro
3. Invasives
4. Triggers

SAC
survey

SAC
Responses

Group by
Mgmt Priority

Management of...

1. Forests
2. Aquatic resources
3. Invasive species
4. At-risk species
5. Rangelands
6. Other working lands and water

Management priorities emerging from SAC input

Management Priority Category		Tier 1 Topic Addressed	Notes
1	Forest management	Drought Invasives Triggers	Includes changes in fire regimes and fire intensity.
2	Aquatic resources management	Hydro Drought Invasives Triggers	Management of fisheries, wetland, riparian, and coastal ecosystems are included in this category.
3	Invasive species management	Invasives	We recognize that many stakeholders have management programs that focus primarily on invasive species and/or at-risk species and habitats.
4	At-risk species and habitat management	Drought Invasives Triggers	
5	Rangeland management	Drought Invasives	Includes the shrub-steppe ecosystems, as well as other non-forested ecosystems east of the Cascades.
6	Management of other working lands and water	Hydro Triggers	Includes tribal resource management, dams, irrigation, roads and culverts, agriculture, and recreation management.

Process for identifying science opportunities associated with management priorities

1. Understand management priority, context, and associated knowledge needs for topics identified by the SAC We are here
2. Assess state of existing knowledge/tools in reference to those needs:
 - a. Knowledge/tools already exist, need to be publicized
 - b. Relevant knowledge already exists, but requires synthesis, assessment, interpretation, translation and/or tool development
 - c. Relevant knowledge could be developed in context of a 5yr science agenda
 - d. Relevant knowledge could be developed in 2022-2027 if the stage is set
 - e. Developing relevant knowledge not feasible within scope of CSC
3. Identify potential science opportunities to structure the 2017-2022 NW CSC Science Agenda

Iterate to confirm

Workbook of SAC Responses

Management Decision	Subcategory (Desired Outcomes)	Tier 1 Question	Other Mgmt. Priorities included	Agency/Org
Planning for wildfire response	a. Incorporate understanding of how climate change will/may affect fire regimes and inform restoration projects.	Ecodrought		USFS, GNLCC, NPS
Develop forest management practices that address climate change	a. Culvert placement – affected by changes in stream flow.	Ecodrought	Management of other working lands and waters	BLM, NPS, (USFS)
	b. Implement adaptive management approaches for silviculture, such as planting more drought-tolerant species or ecotypes, or planting at wider spacing, to reduce the risks of mortality and growth losses within the harvest land base.	Ecodrought		
	c. Improve understanding of how groundwater and soil moisture are related to forest health.	Ecodrought		
Guidance is needed to enable improved, refined prescriptions for forestry practices and establishment of (stream) buffers in light of climate change.	a. Water runs through sunny and shady areas – what is the cumulative effect of shade? How much can we influence stream temperature through riparian shade? Relationship between the degree of shade and stream temperature.	Hydrologic regime shifts	Management of aquatic resources	WDFW
	b. Will drought constrict downstream habitat? Will we lose fish distribution?	Hydrologic regime shifts	Management of aquatic resources	
	c. Will water temperatures push fish upstream and change the upper distribution line? Is it possible to anticipate this?			

Forest Management

Aquatic Resources

Invasives-Mgmt

at-risk spp and habitats

Rangeland Management

Other Working Lands & Water

Management priorities emerging from SAC input

Management Priority Category		Tier 1 Topic Addressed	Notes
1	Forest management (Brian H)	Drought Invasives Triggers	Includes changes in fire regimes and fire intensity.
2	Aquatic resources management (Oliver G.)	Hydro Drought Invasives Triggers	Management of fisheries, wetland, riparian, and coastal ecosystems are included in this category.
3	Invasive species management (Phil M.)	Invasives	We recognize that many stakeholders have management programs that focus primarily on invasive species and/or at-risk species and habitats.
4	At-risk species and habitat management (Bruce M.)	Drought Invasives Triggers	
5	Rangeland management (Dominique B.)	Drought Invasives	Includes the shrub-steppe ecosystems, as well as other non-forested ecosystems east of the Cascades.
6	Management of other working lands and water (Kyle B.)	Hydro Triggers	Includes tribal resource management, dams, irrigation, roads and culverts, agriculture, and recreation management.

Social Science Fields of Inquiry

Sociology / Anthropology

- How do social systems interact with ecological systems?
- How do socio-cultural groups perceive or use natural resources differently?
- How do socio-cultural groups attach value or meaning to places or resources?
- How are socio-cultural groups impacted differently by policy or law?

Economics

- How do we assign value to natural resources and forest products?
- How do we measure and monitor ecosystem services?
- How do we calculate the economic impact of policies or natural events to communities?
- How do we evaluate trade-offs (costs-benefits)?

Environmental Psychology

- How do we measure individual values, attitudes and beliefs?
- How do we change human behavior?
- How do we assess public preferences for management strategies?
- How do people develop attachment to places through experience and memory?

Political Science & Law

- How do we develop policy that reflects public values and best science?
- What laws and regulations can be developed to address a need?
- What are the impacts of policies and programs on the public?
- How do we interpret laws (e.g., water rights) under changing conditions?

Geography & Planning

- How does the climate affect human systems?
- How does the flow of goods and services occur across a landscape?
- How do we plan for and manage landscapes at various spatial scales?
- How do we plan for long term sustainable resource management?

Communication

- How can we best communicate information to the public?
- How do we engage the public in resource management?
- What is the best way to incorporate local knowledge?
- How do we create dialogue with stakeholders?
- How do we frame this issue so that people can understand its importance?

Lee Cervený, Ph.D.
Research Social Scientist
USDA Forest Service
Pacific Northwest Research Station
Seattle WA



I am a social scientist who has worked with USFS R&D since 2000. My early research dealt with the socio-cultural effects of tourism on rural communities in southeast Alaska. More recently, my work has focused on understanding how people value, use, and benefit from natural resources at the bio-regional scale through participatory mapping. Current projects are in the Olympic Peninsula, Central Oregon, North Cascades, and southern Colorado. This information is used by public land management agencies for decision-support. I also am studying community-based collaboratives to understand what makes them effective forms of multi-lateral governance. I typically gather data (quantitative and qualitative) through interviews, surveys, focus groups, public workshops, and online forums.

Where are we in this process?

- ▶ SAP
 - December 1, 2016 – Introductory SAP call
 - December 8, 2016 – First SAP/SAC call
 - February 6, 2017 – SAP call to determine subgroups
 - February 27, 2017 – SAP call to ID topics needing clarification
- ▶ Subgroups established to address each of the 6 Management Priorities
 - Review of 2016 SAC Questionnaire Responses → **Completed**
 - Identify topics in need of clarification by SAC → **In progress**
 - Contact SAC members to address questions → **In progress**

Potential SAC contacts for SAP

Management Priority (SAP subgroup)	Potential SAC contacts
Forest Management	Louisa Evers (BLM), Bea Van Horne (USFS), Chris Lauver (NPS), Kelly Coates (Cow Creek), John Mankowski (NPLCC)
Aquatic Resources	Dave Jepsen (ODFW), Chris Furey (BPA), Laura Gephart (CRITFC), Lynn Helbrecht (WDFW), Eliza Ghitis (NWIFC), John Mankowski (NPLCC), Mark Strom (NOAA)
Invasive Species	Louisa Evers (BLM), Sharon Kiefer (IDFG), Eliza Ghitis (NWIFC), Linda Anderson-Carnahan (EPA), John Tull (GBLCC), Sean Finn (GNLCC)
At-risk Species	Bea Van Horne (USFS), John Tull (GBLCC), Chris Lauver (NPS), Lynn Helbrecht (WDFW), Stephen Zylstra (USFWS), Mark Strom (NOAA)
Rangeland Management	Sharon Kiefer (IDFG), Sean Finn (GNLCC), Louisa Evers (BLM), John Tull (GBLCC)
Other Working Lands & Waters	Linda Anderson-Carnahan(EPA), Michael Strobel (NRCS), Bryan Horsburgh (BOR), David Redhorse (BIA), Chris Furey (BPA), Don Sampson (ATNI), Laura Gephart (CRITFC)

Draft Outline for 2017-2022 NW CSC Science Agenda

- I. Introduction
 - a. NW CSC mission
 - b. Actionable Science
 - c. Foundation/Pillars of the new agenda
- II. Regional Context for NW CSC-sponsored Science
 - a. Summary of projected future climate and management challenges in the NW
 - b. Identification of partners and stakeholders (including SAC & SAP)
 - c. Regional research inventory (OGEL)
 - d. Overview and evaluation of 2012-2016 Agenda
- III. 2017-2022 Science Agenda
 - a. **ID management priorities → developed with SAC**
 - b. **Key Science Opportunities → develop with SAP assistance through review of top management priorities identified by the SAC**
- IV. Dissemination of science products
- V. Process for measuring achievement



Preparations for SAC-SAP in-person meeting

- ▶ First F2F meeting with full SAP and SAC
 - May 3-4, 2017
 - Portland, OR – location TBD
 - Facilitated meeting
- ▶ Review of Science Agenda Early DRAFT
 - Clarification of any remaining management priority questions
 - Preliminary ID of Science Opportunities