Advisory Committee on Climate Change and Natural Resource Science (ACCCNRS) Meeting Summary

September 18-19, 2013

The Advisory Committee on Climate Change and Natural Resource Science (ACCCNRS) met for the first time on September 18-19, 2013 at the Hall of States in Washington, DC. Following is a summary of the discussions and meeting outcomes.

Summary of ACCCNRS Actions/Recommendations

- The ACCCNRS approved the Operating Procedures and Ground Rules, with one amendment, removal of reference to specific subcommittees in item 8.
- The Committee agreed to defer action on the creation of Science Subcommittee and its related Terms of Reference.
- The Committee decided to establish five initial Committee-member work groups: Program Evaluation, Refining the Role of NCCWSC and CSCs in the Climate Services Landscape, Actionable Science, Communications/Networks, and Tribal/Indigenous Matters.

Day 1 – Wednesday, September 18, 2013

Opening Remarks

Secretary Sally Jewell, U.S. Department of the Interior

USGS Acting Director, Suzette Kimball, and Associate Director, Climate & Land Use Change and ACCCNRS Co-Chair, Matt Larsen, introduced Department of the Interior (DOI) Secretary Sally Jewell to the Committee. Secretary Jewell spoke to the ACCCNRS about the critical need to turn theoretical science into actionable science in order to effectively address climate change. She noted that that budget constraints associated with the sequestration will limit the ability of the Department of the Interior (DOI) to do all that is needed to translate scientific knowledge to scientific information that managers can rely upon. Nevertheless, she stressed the importance of this task and stated that she looks forward to the Committee's advice to the DOI and greatly appreciates all of the Committee members' time and commitment.

Federal Advisory Committee Ethics Training

Nancy Baumgartner, USGS Deputy Ethics Counselor, presented on the federal advisory committee ethics standards. As stated in the ACCCNRS Charter, Nancy explained that if a Committee or Subcommittee member has a direct financial interest in a matter under deliberation by the Committee, such as a lease, license, permit, contract, claim, agreement, or litigation with the DOI, the member must recuse him/herself from discussion of and decisions about that matter. If a Committee member is the single representative of a quorum category and recuses him/herself in regards to a particular party matter, the quorum is not fulfilled and a decision may not be made regarding that matter. The quorum will remain fulfilled for other agenda items. Nancy's PowerPoint presentation can be found, here.

ACCCNRS Charge, Scope, and Operating Procedures and Ground Rules

Robin O'Malley, Designated Federal Officer (DFO) for the Committee, and National Climate Change and Wildlife Science Center (NCCWSC) Policy and Partnership Coordinator, reviewed the "Description of Duties" in the ACCCNRS Charter, clarified the roles of alternates, and introduced issues regarding the Science Subcommittee to be considered by the Committee. Jennifer Pratt Miles, Meridian Institute Senior Mediator, reviewed the proposed Operating Procedures and Ground Rules.

Discussion

Quorum Categories and Adequate Representation

A list of Committee members organized according to the interests or sectors outlined in the Charter was requested. A few Committee members questioned whether there are an adequate number of representatives for the private landowners and business categories. It was noted that increasing the number of Committee members must be approved by the DOI Secretary. NCCWSC staff encouraged all Committee members and alternates to reach out to their communities/ stakeholders[1] as best as possible in order to be effective liaisons between their constituents and the Committee.

ACCCNRS Co-Chairs and Committee Independence

There was discussion concerning the perceived or real independence and lack of neutrality of an advisory committee chaired by a representative of the entity being advised (i.e. Federal co-chair from USGS). This was presented both as a perception issue at present and a potential concern as administrations change over time. ACCCNRS members acknowledged the fact that

[1] For purposes of the ACCCNRS, stakeholder means anyone who has an interest in or will be affected by the work of the CSCs and NCCWSC.

the current co-chair is not a political appointee, but remain concerned. Co-chair Matthew Larsen (USGS) indicated that the Committee was not involved in regulatory and similar decisions, which, in his view, made the conflict issue less of a concern.

Committee Decision-Making

Through discussion, it was emphasized that a quorum of 50% + 1 of the Committee members and a balance of representation (i.e. at least one member from each of the sectors represented on the Committee as per the Charter and Membership Balance Plan) is required for decision-making.

A question was raised about what will happen if a subcommittee produces a draft product and some members of the Committee do not agree with it. Meridian and the DFO clarified that the Committee and any subcommittees will strive for consensus. However, if consensus is not possible, the range of views expressed among Committee members, and the reasons for the different points of view, will be conveyed to the Secretary of the Interior. Committee members expressed support for this approach, which will allow it to proceed in cases in which consensus cannot be reached (with the caveat from above that no decisions can be made unless a quorum is present). One Committee member emphasized that ACCCNRS is an advisory body, not a decision-making body.

Operating Procedures and Ground Rules

The Committee discussed the proposed Operating Procedures and Ground Rules, and decided to defer a decision on item # 8, which speaks to subcommittees, until this topic was discussed on the second day of the meeting.

Federal Climate Science Services and Programs and ACCCNRS Role

Robin O'Malley presented an overview of the federal climate science services and programs landscape, outlining the similarities and differences between climate change related services and centers. Robin's PowerPoint presentation can be found here and includes slides 1-11.

Discussion

Committee members discussed how both diversification (i.e. multiple agencies providing climate science) and communication/coordination between agencies within the federal climate science landscape are key to a successful national climate adaptation strategy. There was also discussion about the need for further clarification about various entities' roles, expertise, and niches to minimize confusion and redundancy. Preliminary ideas about opportunities for additional collaboration among federal agencies included:

- Memoranda of Understanding (MOU), between the DOI and other Departments such as Commerce, could be reviewed to determine if amendments, or provisions in future

MOUs, could facilitate and encourage coordination on climate science. The establishment of the USDA climate hubs presents an opportunity for this type of action.
- Agencies could communicate regarding and capitalize on relative strengths and expertise. For example, USDA plans to request downscaling projections from NOAA.
- Agencies could work together to review and disseminate existing guidance/develop new guidance on how to integrate climate change into planning.

It was noted that states, local governments, tribes, and non-governmental organizations (NGOs) are contributing valuable climate science work, and that it is important for CSCs and NCCWSC to continue and increase communication and coordination with these entities, as well as with other federal climate science entities.

NCCWSC and CSC Structure, Operations, and Partnership

Doug Beard, NCCWSC Chief, presented on the NCCWSC and Climate Science Center (CSC) structure, operations, and partnerships. Doug gave an overview of the NCCWSC and CSC staffing organizational chart and an introduction to each of the eight CSCs and their areas of focus. He also provided the USGCRP definition of actionable science as well as a list of guidelines for actionable science. Doug's PowerPoint presentation can be found here and includes slides 12-33.

Discussion

Communicating with and Collecting Feedback from Science Users

A Committee member asked if there is a process in place to get feedback from clients about the products they are receiving from the NCCWSC. Many ideas were discussed regarding communication with and collecting feedback from science users. Although there were not any formal Committee recommendations made, ideas included:

- Managers and decision makers need to be engaged in the science process so that scientists can identify and accurately incorporate their stakeholders' needs.
- Climate science entities should show, rather than just tell, managers how to use science to improve their climate adaptation efforts.
- In order to fulfill its role of evaluating the effectiveness of the DOI's science and communication mechanisms, many Committee members think that the Committee will need to gather feedback from science users and that surveys are one method for collecting this feedback. Such surveys should address both formal members of stakeholder committees, but also partners (government and nongovernment) not represented, or not eligible to be on the stakeholder committees.
- The NCCWSC could consider working with USGS Cooperative Research Units, which have formed close connections from user communities, to solicit input.

Regional Networks for Long-Term Monitoring

Some Committee members expressed concern about the lack of long-term monitoring in climate science. Staff explained that CSCs lack the funding and are not set-up to conduct long-term monitoring. Some CSCs may be able to provide support to their partner universities to conduct long-term monitoring, although options for creating extended CSC-university contracts would need to be explored. A number of ideas for addressing the need for long-term monitoring were discussed, including:

- regional networks could combine assets to create comprehensive monitoring systems;
- guiding principles could help CSCs to coordinate their work to have a stronger impact, as well as to assess what is being done well and what could be improved;
- a long-term monitoring protocol at the national level could facilitate more consistent and better aligned results; and,
- a method could be developed for collecting feedback from on-the-ground science users about the quality and accessibility of monitoring systems.

Engagement at the County/Local Level

The Committee discussed the possibility of providing actionable science to meet the needs of county, local, and tribal governments which play a significant role in climate adaptation. NCCWSC staff shared that DOI has had multiple discussions on how to bring climate science and output into planning at the local level, and is striving to achieve the right balance between allowing the focus of CSCs to be identified from the bottom up, and providing guidance from the top down about products needed from a national perspective. One opportunity might be for CSCs to amplify the on-the-ground work of local communities by combining multiple vulnerability assessments. It was also expressed that there is a need to demonstrate to local managers how scientific results and models from federal entities can augment locally-available science and be incorporated into their management plans and decisions. Finally, LCCs collectively engage with larger numbers of partners, often from smaller jurisdictions, and working closely with LCCs may be worthwhile in this regard.

NCCWSC/Science Planning Approach and NCCWSC Science Agenda

Shawn Carter, NCCWSC Senior Scientist, presented the NCCWSC Science Planning Approach and Science Agenda, including goals for science infrastructure and capacity, and thematic science activities. He stated that CSC science agendas are driven by the expressed needs of natural resource managers and decision makers; cover 5-year periods; and identify goals, objectives and timelines for research in a region. Shawn explained that the NCCWSC Science Agenda, on the other hand, was developed with inputs both from the bottom-up – by synthesizing themes from CSC science plans – and from the top-down – by comparing regional priorities and identifying opportunities for national efficiencies and advancement of national science. Shawn's PowerPoint presentation can be found here and includes slides 34-50.

Discussion

Managing Expectations and Communicating Uncertainty

Committee members discussed the importance of communicating the degree of uncertainty associated with climate science developed by the CSCs and NCCWSC, so that managers can factor this into their decisions.

Building Off the Work of States

Committee members noted that State Wildlife Action Plans articulate state conservation visions and that many states are already doing vulnerability assessments. Though no formal recommendations were made, it was suggested that that CSCs and NCCWSC can build on the work states are already doing and support states that have not yet done this type of assessment.

Communicating the CSC and NCCWSC Science

NCCWSC staff asked the Committee to provide input regarding the best way to communicate nationally about the work of the CSCs and NCCWSC, and to consider the challenge of communicating with the multiple generations that work within climate science and management.

Tracking and Disseminating Vulnerability Assessments

Multiple Committee members commended NCCWSC on the online registry they are developing for sharing vulnerability assessments. The registry will initially be able to accept entries from federal entities only, but it is expected that state, local, and tribal governments will be able to submit entries by next spring. A suggestion was made to ensure that the registry be easily accessible via search engines such as Google.

Translating Science for Management Application and Co-Production of Science

There was a lot of discussion surrounding the need for NCCWSC to expand the engagement of users beyond identification of needs, to actual incorporation of science into decision making. A couple of Committee members suggested that workshops and webinars be used to facilitate this type of interaction and to show, for example, how to use model results to inform land management planning. Staff noted that NCCWSC is partnering with USFWS on a webinar series to roll out tools to managers. One Committee member said that the notion of "delivering" actionable science is outdated, and the key to ensuring that science is actionable is to have scientists and managers work together from the beginning. NCCWSC staff said that some CSCs are trying to do this by engaging managers on study teams and/or having meetings with managers and stakeholders throughout the course of a study.

Links between Ecosystem Health, Climate Change, and Socio-Economic Impacts

One Committee member said that the supplemental bill before Congress mentions restoring ecosystems to increase climate resilience and suggested that it would be useful for NCCWSC to conduct a study comparing how coastal and inland areas with intact ecological systems fared in

recent natural disasters, such as Hurricane Sandy and the Colorado floods, relative to areas without natural systems.

Adaptation

A Committee member observed that the NCCWSC Science Agenda is largely focused on understanding the anticipated impacts of climate change on natural and cultural resources and suggested that it include more focus on socio-economic considerations referenced in the second part of NCCWSC's and the CSCs' charge, which is to answer questions about how managers can adapt to climate change. This led to a discussion about the "chicken and egg" nature of the current dynamic; managers are being mandated to incorporate climate change into their plans, but lack guidance on how to do this, and CSCs are ready to provide feedback, but are waiting for adaptation plans to be developed. It was noted that there are some examples of adaptation strategies outside of DOI, in academia, USDA, and USFWS. Staff said that NCCWSC has worked with USFWS to articulate how CSC science can support implementation of the National Fish, Wildlife, and Plants Adaptation Strategy.

Science Subcommittee: Functions, Tasks, and Terms of Reference

Shawn Carter explained that the original vision of ACCCNRS included a Science Subcommittee to provide the larger Committee with expert science and technical input. After conducting interviews with Committee members and receiving feedback on the drafted Science Subcommittee terms of reference (ToRs), it was decided that the Committee should reevaluate and discuss the need and potential role of a Science Subcommittee.

Discussion

Need for a Clear Charge

Some Committee members suggested clarifying what the Committee needs first, and then forming subcommittees based on those needs.

Evaluation

Staff spoke about the need to evaluate the climate science being done at the NCCWSC and CSC levels. One suggestion made was that a subcommittee could ask scientists, managers, and the public for their feedback on the quality and usefulness of climate science provided by the CSCs and NCCWSC. A Committee member raised the idea that a mechanism is needed for transferring information from CSCs to ACCCNRS to enable ACCCNRS to evaluate CSCs' effectiveness in responding to the needs of their regions.

Science Subcommittee and Structure for Advancing the Work of the ACCCNRS between Meetings

Committee members agreed to delay formation of a Science Subcommittee until a clear task has been defined. A lot of ideas were shared regarding how the Committee will operate and what members' roles will be in between ACCCNRS meetings. Such opinions included:

- There is a need for some structure to "move the ball forward" in between meetings.
- Either standing subcommittees or ad hoc work groups could collect information, further discuss topics, and draft recommendations for review by the Committee.
- The process of establishing subcommittees that involve members outside the Committee should be transparent and all potentially interested stakeholders should be informed about the opportunity to participate.

ACCCNRS Operating Procedures and Ground Rules

Given the decision to defer activation of the Science Subcommittee, ACCCNRS members asked that reference to this specific subcommittee be removed from item #8, and approved the amended Operating Procedures and Ground Rules.

Public Comment

Karl Martin (alternate, Wisconsin Department of Natural Resources/Midwest Association of Fish and Wildlife Agencies) recommended that the Committee identify ACCCNRS' needs before leaving the meeting so that the Committee is not still talking about the same issues at the next meeting.

Closing Remarks

David Behar said the Committee was off to great start. He asked the Committee to think about what they want their legacy to be and to develop a process and timeline for evaluating the NCCWSC and CSCs and submitting recommendations to DOI. Matt Larsen thanked the Committee for their energy and focused conversation.

Day 2– Thursday, September 19, 2013

Jennifer Pratt Miles reviewed key outcomes from the previous day and the agenda for September 19. The Committee then turned to a discussion about the role of the NCCWSC and ACCCNRS in the federal climate landscape.

Relationship of NCCWSC to Other Federal Climate Science Services/Programs

The goal of this discussion was for the Committee to provide feedback on: whether additional clarity is needed regarding the missions and roles of the various climate science services and centers; how to communicate about these entities' niches more clearly; how NCCWSC can coordinate with other federal and regional level climate science services and programs; and anything else of interest regarding the relationship between NCCWSC and other climate entities.

Discussion

Roles of and Relationship between CSCs and NCCWSC

Several Committee members said that some confusion is caused by the fact that CSCs have a broader mandate than the NCCWSC. Specifically, NCCWSC is focused on climate impacts on fish, wildlife, and plants, and CSCs' scope also includes cultural resources. NCCWSC staff explained that the original plan was for other DOI bureaus to fund staff at CSCs who would investigate social and cultural impacts, but that budget cuts have delayed this. It was also stated that the NCCWSC aims to develop synthesis products based on CSC work and to set a broad national science framework, which will both summarize the work of the CSCs at the regional level and identify gaps that CSCs can fill. Finally, while agreeing that this mandate issue was potentially problematic, NCCWSC staff indicated that most activities that involve cultural resources also involve extensive research about ecosystem functions and ecosystem services, which makes the distinction less clear, but also less problematic, given the need for ecosystem-based decision making, even for cultural resources.

Roles of and Relationships between CSCs and LCCs

Although no formal recommendations were made, individual Committee members made the following points regarding the roles of and relationships between CSCs and LCCs:

- The presentation, including the diagram showing the pathway of how findings are being used to inform decisions, has helped to clarify some of the confusion that surrounded the CSCs and LCCs.
- Confusion could be reduced further through coordination between the different DOI bureaus that are leading these efforts; it was asked if someone at the Deputy Secretary level could help with this.
- These entities and their relationships are still evolving, and clarifying these relationships will be an ongoing job.
- Staff explained that some of this confusion stems from the fact that LCCs were established before CSCs, which led some LCCs to develop their own science. Now that CSCs are in place, they are focusing on applied science needed by LCCs and other management partners, and some LCCs are shifting to focus on planning and management.

- Other distinctions between LCCs and CSCs observed by Committee members and NCCWSC staff included: LCCs' scope includes looking at social and cultural impacts of climate change; CSCs will focus exclusively on climate change, while some LCCs have decided to look at stressors such as land use change and invasive species, as well as climate change; and, LCCs provide more direct opportunities for NGO participation and input.
- A communications work group could be formed to tell the story of how CSCs, LCCs, and other climate science services and programs work together in a dynamic way.

Relationship between Adaptation and Mitigation

One Committee member noted that mitigation and adaptation activities can impact the outcomes of one another. The Committee member encouraged the ACCCNRS to think about how NCCWSC and CSCs can consider opportunities for mitigation as they develop actionable science for adaptation, so that adaptation and mitigation can be conducted in a synergistic way.

Mechanisms to Encourage Diversification and Coordination and Limit Duplication

More than one Committee member noted that having multiple entities creating climate science is positive because it can lead to innovation, and research shows that networks can be more adaptive than static institutions. However, several Committee members think there is a need for some sort of non-bureaucratic mechanism to identify efficiencies, foster collaboration on science, and reduce overlap among CSCs, RISAs, USDA Hubs, states, tribes, etc. For example, one Committee member said that some states have already done regional downscaling and developed community level adaptation plans, but expressed a need for NCCWSC and other federal agencies to convene those working on climate science to avoid redundancies. One idea was that some of these conversations can take place in the U.S. Global Change Research Program.

Building Capacity for Regional Climate Science

NCCWSC staff asked for advice on how to collect regional scale management questions and priorities. Several Committee members encouraged NCCWSC and CSCs to engage with regional and local level science entities that have been conducting actionable science for many years. One Committee member said that adaptation happens locally, so the science needs to support planning and implementation at this scale.

Clarifying Core Products of and Messages about Climate Science Entities

Federal agency staff said they have tried to distinguish the multiple climate science services and programs from each other, and the DOI now needs the Committee's help to more coherently convey this information. Some Committee members raised the question of whether there is a set of core products that the science community and science users can expect from any CSC. One idea was that a work group could consult with networks and communications specialists to develop messages to more clearly convey the relationships of multiple climate science services and programs.

Strategies for Ensuring NCCWSC and CSCs Deliver Useful Actionable Science

Defining and Achieving Actionable Science

Committee members discussed the importance of defining what is meant by actionable science and that one key aspect of actionable science is the engagement between scientists and decision makers. A Committee member suggested that for science to be actionable, scientists need to be informed about and take into account the political, economic, and social context within which the science will be applied. For example, there may be policy or legal barriers that could make science in-actionable. Some Committee members thought it would be beneficial to have a work group help identify a comprehensive set of criteria for actionable science. Such a work group could also help develop an evaluation metric for actionable science, as well as an evaluation metric for implementation of actionable science.

Joint Initiatives and Collaborative Funding

The Committee discussed the need for and possible ways to encourage joint initiatives and collaborative funding at the regional and local levels. Many Committee members expressed the importance of maintaining a balance of top-down and bottom-up management within the federal climate science landscape. One idea was that federal climate science programs can outline issues, such as sea level rise, and give funding to CSCs and other climate science entities to work on those issues from a regional perspective, creating a monetary incentive for climate science services and programs to work together. Another opinion expressed was that top-down management is also key in facing larger societal challenges, which, as staff explained, CSCs and regional entities do not have the ability to tackle individually.

Communication and Outreach

There was a lot of discussion about there being critical need for back and forth communication between managers, CSCs, and LCCs. This included reference to the fact that CSC stakeholder committees do not include non-governmental partners (either NGOs or landowners / resource users). Although no formal recommendations were made, it was suggested that either separate CSC efforts, or stronger links with LCCs, many of whom do include such partners, would help facilitate communication and coordination between CSCs and non-governmental partners. One example of an existing cooperation that CSCs and LCCs could use as a resource and/or partner with is the National Climate Predictions and Projections (NCPP) Platform, within which governmental and non-governmental users and scientists collaboratively generate, review, and analyze climate predictions and projections.

Presentation on Tribal/Indigenous Matters

Committee Members Gary Morishima (Quinault Nation) and Ann Marie Chischilly (Institute for Tribal Environmental Professionals) presented on climate related tribal and indigenous

matters, and discussed: the high level of diversity within tribes and Pacific Islanders; the unique and disproportionate climate change impacts on tribes and Pacific Islander communities; the recommendations made by Tribal and Pacific Islander representatives for ACCCNRS; and programs of the Institute for Tribal Environmental Professionals. Gary's and Ann's presentation can be found, here. As part of their presentation, Gary and Ann made the following recommendations to ACCCNRS:

1. Understand how Tribes and Pacific Islanders fit in the DOI context.
2. Recognize Tribal traditional knowledge.
3. Downsize regional models and analysis tools to be more useful for Tribes and Pacific Islanders and upsize the significance of impacts on tribal decisions/actions.
4. Build Tribes' and Pacific Islanders' capacity and funding for adaptation planning and implementation.

Work Groups

Based on the discussion, Meridian Institute proposed four potential short term work groups to advance the work of the ACCCNRS in the time before the next meeting. The goal of these Work Groups, which include Committee members and alternates only, will be to return to the January ACCCNRS meeting with a proposed work plan for their topic area. Committee members suggested one additional topic, resulting in the following five work groups:

- Program Evaluation
- Refining the Role of NCCWSC and CSCs in the Climate Services Landscape
- Actionable Science
- Communications/Networks
- Tribal/Indigenous Matters

There was substantive discussion regarding the proposed descriptions of the Program Evaluation Work Group and the Refining the Role of NCCWSC and CSCs in the Climate Services Landscape Work Group, which is reflected in the following two subsections.[2]

Program Evaluation

The Committee and staff discussed that some form of evaluation of the performance of CSCs and NCCWSC was needed. Staff indicated that the relatively lack of completed products to date

---

[2] In an email communication dated September 26, 2013, Meridian Institute on behalf of NCCWSC sent Committee members the proposed "charge" for all five work groups. The text below only addresses two of the five because those were the only two that were discussed at the concluding stage of the meeting. The bases for the other three work groups are described in earlier sections of this summary.

means that development of an evaluation system is appropriate, but implementation may need to wait a bit. It was suggested that a discussion of core products expected of CSCs be shifted from the Communications/Networks group to the Program Evaluation group. Another thought was that feedback from science users and managers needs to be collected before identifying what core products are needed and what gaps exist in information, tools, and resources.

Refining the Role of NCCWSC and CSCs in Climate Services Landscape

There was lengthy conversation about the confusion of and need to clarify the role of NCCWSC and CSCs in the climate services landscape and to potentially consider recommending a formal or informal framework be developed across departmental boundaries to encourage collaboration and efficiencies among the myriad of federal climate service enterprises. Although there were not any formal Committee recommendations made, there were many opinions expressed, including:

- There are many existing documents that can be utilized to help this work group compare and contrast the multiple climate science entities and assesses how they interact with each other.
- There is a critical need for more adaptation work within climate science, and a work group, whether it is the Federal Climate Services Landscape or the Actionable Science work group, could focus on that.
- There was debate about whether or not the work group, and Committee as a whole, should include climate science entities that exist outside of the federal landscape (e.g. tribes and universities) in their focus. Some Committee members said that doing so would be too large of a task and would be outside of the Committee's realm. Others said that because entities outside of the federal landscape often partner with those within the federal landscape, the work group and Committee should be focusing on all climate science entities.
- Some Committee members discussed that in order to better align the scope of NCCWSC and the CSCs, either the NCCWSC mandate needs to be broadened to that of the CSCs, or the CSC scope would need to be narrowed to that of NCCWSC.
- Given the evolving characteristics of climate science entities, it was suggested that instead of defining the federal climate landscape and the entities within it, the work group and Committee could focus on better understanding how those entities operate, interact, and collaborate.

Committee Membership

There was discussion about whether additional representatives from the landowner, private sector, Tribal/Pacific Islander, and county/local government could be added to the Committee. NCCWSC staff explained that the DOI and USGS spent an extensive amount of time identifying categories and soliciting nominations for the 25 ACCCNRS seats to ensure a diverse and balanced Committee. They agreed to give this more thought, and noted that when ACCCNRS Committee members' terms expire, their seat can be filled by a stakeholder from a different quorum category such that representation within the Committee may vary overtime.

Work Groups and Subcommittee Membership

The following guidelines for work group and subcommittees were suggested:

- ACCCNRS members and alternates who are part of a subcommittee or work group are welcome to consult with individuals outside of the Committee.
- Work group membership will be limited to ACCCNRS members and alternates. The DFO will be involved in each work group.
- A formal process will be developed for non-ACCCNRS stakeholders to join subcommittees. Each subcommittee will require at least one ACCCNRS Committee member and involvement of the DFO.

Closing Remarks

David Behar expressed appreciation for the substantive deliberations. He also said he enjoyed the style of the discussion and appreciated Committee members' forthrightness and honesty, which helped create quality conversation. Matt Larsen agreed and said he was very pleased with how the meeting went. Matt noted that the Committee has a number of both challenges and opportunities.

Next Steps

- Meridian Institute and NCCWSC will prepare a summary of the meeting and circulate it to attendees for review and comment.
- Meridian Institute and NCCWSC will provide a Committee list by interests outlined in the Charter.
- Meridian Institute and NCCWSC will outline the five work groups to be formed. Committee members and alternates will volunteer to participate in workgroups of their interest, and NCCWSC and Meridian Institute will assist in convening the work groups.
- NCCWSC will identify dates and location for the next Committee meeting in January based on members'/alternates' availability.
- Committee members and alternates will communicate with their communities, partners, and stakeholders to share information about the September meeting and to collect feedback, questions, and concerns to bring back to the Committee.

Appendix A

September 18-19, 2013 ACCCNRS Meeting

Attendee List

David Behar, co-chair, Climate Program Director, San Francisco Public Utilities Commission/Water Utility Climate Alliance

Paul Beier, President, Society for Conservation Biology, Member

Britta Bierwagen, U.S. Environmental Protection Agency, Pending Alternate

Gabriela Chavarria, Science Advisor, U.S. Fish and Wildlife Service, Member

Ann Marie Chischilly, Executive Director, Institute for Tribal Environmental Professionals (ITEP), Northern Arizona University, Member

David Cleaves, Climate Change Advisor to the Chief, US Forest Service, U.S. Department of Agriculture, Alternate

Natalie Dubois, Defenders of Wildlife, Alternate

Clifford Duke, Director of Science Programs, Ecological Society of America, Member

Herbert C. Frost, Associate Director, Natural Resource Stewardship and Science, U.S. National Park Service, Member

Peter Frumhoff, Director of Science and Policy, Union of Concerned Scientists, Member

Kimberly Hall, Great Lakes Climate Change Ecologist, The Nature Conservancy, Member

William Hohenstein, Director, Climate Change Program Office, U.S. Department of Agriculture, Member

Larry Irwin, NCASI Fellow, National Council for Air and Stream Improvement, Inc., Member

Matthew Larsen, co-chair, Associate Director Climate and Land Use Change, U.S. Geological Survey

Karl Martin, Chief, Wildlife and Forestry Research Section, Wisconsin Department of Natural Resources and the Midwest Association of Fish and Wildlife Agencies, Alternate

Noah Matson, Vice President for Climate Change and Natural Resources Adaptation, Defenders of Wildlife, Member

Richard Merrick, Chief Science Advisor, National Oceanic and Atmospheric Administration, Fisheries, Member

Gary Morishima, Technical Advisor to the Chairman, Quinault Nation, Member

John O'Leary, State Wildlife Action Plan Coordinator, State of Massachusetts and the Northeast Association of Fish and Wildlife Agencies, Member

Amber Pairis, Assistant Secretary for Climate Change, California Natural Resources Agency, Pending Alternate

Adam Parris, RISA Program Manager, National Oceanic and Atmospheric Administration, Alternate

David Patte, Senior Advisor, Pacific region, U.S. Fish and Wildlife Service, Alternate

Jeffrey Peterson, Senior Advisor, Office of Water, U.S. Environmental Protection Agency, Member

Bill Reeves, Chief of Biodiversity, Tennessee Wildlife Resources Agency, Pending Alternate

Sarah Ryker, Deputy Associate Director, U.S. Geological Survey, Alternate

Alessandra Score, Lead Scientist, EcoAdapt, Pending Alternate

Bruce Stein, Director, Climate Change Adaptation, National Wildlife Federation, Member

Jack Sullivan, Director, Science Services, Wisconsin Department of Natural Resources and the Midwest Association of Fish and Wildlife Agencies, Member

Bradley Udall, Director of the Getches-Wilkinson Center for Natural Resources, Energy and the Environment, University of Colorado, Member

Paul Wagner, Senior Environmental Scientist, U.S. Army Corps of Engineers, Alternate

Leigh Welling, Director Climate Change Program, U.S. National Park Service, Alternate

Jeffrey Williams, Manager, Climate Consulting, Entergy, Inc., Member

National Climate Change and Wildlife Science Center Staff

Douglas Beard, Chief, NCCWSC

Shawn Carter, Senior Scientist, NCCWSC

Emily Fort, Data and Information Manager, NCCWSC

Robin O'Malley, Policy and Partnership Coordinator, NCCWSC

Holly Padgett, Program Analysis & Outreach, NCCWSC

Meridian Staff

Rianne BeCraft, Project Assistant, Meridian Institute

Jeana Connaughton, Project Coordinator, Meridian Institute

Tim Mealey, Senior Partner, Meridian Institute

Jennifer Pratt Miles, Senior Mediator, Meridian Institute