



North Pacific Landscape Conservation Cooperative

*Steering Committee Meeting Summary
Victoria, British Columbia
September 10-12, 2013*

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Welcome and Introductions

Penny Mabie, EnviroIssues facilitator, welcomed everyone to the meeting.

Rory Annett, Steering Committee Co-Chair and British Columbia, welcomed the North Pacific Landscape Conservation Cooperative (NPLCC) Steering Committee (the Committee) to British Columbia. He sees that the NPLCC is gaining momentum but still has some maturing to do. He expressed his excitement to share British Columbia and Canada's climate change initiatives.

Lyman Thorsteinson, Steering Committee Co-Chair and US Geological Survey (Alaska), offered his appreciation for the depth of the meeting agenda. The NPLCC has made great progress as an organization in a short period of time. From the US perspective, this meeting is a tremendous opportunity to learn about the climate change activities of their international partners and from Tribes and First Nations.

Dave Peterson, Ministry of Forest, Land, and Natural Resources Operation (MFLNRO), welcomed the Steering Committee. He explained that this meeting is timely for its conversation around climate change and greenhouse gas management. Changes in climate are transboundary; including temperature swings, warming oceans, and species migration. Greenhouse gas management and climate change mitigation is a global environmental issue which the LCCs will be important in helping address. Dave is pleased to share practical tools to make effective decisions. Using a collaborative approach offers a formal basis for cooperative action and information sharing. British Columbia is leading the management of carbon including a carbon tax. This meeting is an opportunity to learn more about climate change impacts on First Nation communities.

Penny reviewed the meeting agenda and objectives:

- Foster greater awareness about international aspects of the NPLCC
- Provide guidance on S-TEK 2014 projects
- Review NPLCC Communications and Outreach Strategy activities
- Learn about NPLCC partners, projects, and Canadian partners and initiatives
- Discuss and determine next steps for Partner Engagement efforts

The Steering Committee approved the May 28th meeting summary to be posted on the website.

[Climate Change Policy & Research in British Columbia](#)

John Mankowski, NPLCC Coordinator, described that natural resource managers depend on key science information from science producers to make informed decisions. The NPLCC has connected with US science producers, such as Climate Science Centers. One goal of this meeting is to connect with British Columbia science producers and hear what they are working on. John introduced Tom Pederson, Pacific Institute for Climate Solutions, and Francis Zwiers, Pacific Climate Impacts Consortium, who work on climate change policy and research in British Columbia.

Tom Pederson gave a presentation ([Attachment 1](#)) about the work the Pacific Institute for Climate Solutions (PICS) is doing and how it ties into the work of the NPLCC. Tom explained that PICS is not a science organization, it is a solution orientation organization. Their mandate is to explore what British Columbia society can do when facing the impacts of climate change. PICS is a politically independent organization that was founded in 2008 with a \$90 million endowment.

PICS was established because of big changes evident across British Columbia, including the mountain pine beetle infestation and glacial retreats. These impacts have led British Columbia to take a number of actions, including:

- Established the first legislated carbon tax in North America which has resulted in a 17 percent reduction in fuel consumption.
- Developed a comprehensive Climate Action Plan for greenhouse-gas abatement which requires a 33 percent reduction of greenhouse gas emissions by 2020.

When PICS was established it was given the mandate to:

- Understand the patterns and magnitude of climate change.
- Evaluate the physical, economic and social implications (thus, PICS is fully interdisciplinary).
- Assess options and develop solutions, in the realms of both mitigation and adaptation.
- Communicate climate change issues to government, industry and the general public.

PICS accomplishes this mandate by engaging in a broad research program, providing outreach and education, developing white papers, and supporting academic and technical education programs. In order to increase their impact on climate policy, PICS is restricting their research program to direct interdisciplinary teams of scholars to focus on answering five key questions around:

1. Full-picture Liquefied Natural Gas (LNG) accounting
2. Grid integration
3. Transportation futures
4. Forest stewardship
5. Energy efficient buildings

Tom gave an example of looking to integrate the transmission grid so that providences that use hydropower could send electricity into providences without the ability to use hydropower. Currently, transmitting electricity from Manitoba to Alberta is not physically possible. Additionally, Canada is second in the world for its wind power potential. Yet a solution is needed on how to build an energy grid with extreme variants that occur when the wind isn't a constant source of electricity. PICS is working with BC Hydro and the Alberta Line to look at cooperation on a more integrated electric grid.

Francis Zwiers gave a presentation ([Attachment 2](#)) about the work the Pacific Climate Impacts Consortium (PCIC) is doing and how it ties into the work of the NPLCC. PCIC started in 1993 at the University of Victoria to provide climate services regionally and nationally. Their focus is to provide climate information to users and the public by translating results of climate research and undertaking applied science projects.

PCIC's strategic plan outlines three service themes to provide and interpret data for, including: 1) regional climate impacts, 2) hydrologic impacts, and 3) climate analysis and monitoring. The PCIC website hosts their data and acts as a prototype for additional services they are developing. Francis highlighted some of the key programs PCIC is working on, including:

- Climate change impact on BC watersheds
- Interpretation of climate extremes for the Georgia Basin Communities

He also discussed that PCIC is only one climate service delivery system in Canada. He explained that the delivery of climate services would benefit if each service develops critical mass in a few areas of particular interest to their users and coordinate across services. PCIC has a niche, focusing on statistical downscaling and application to regional/local scenario, climate extremes indices, and web based infrastructure.

Steering Committee Discussion

The following are the key points noted during the Steering Committee discussion:

Lyman Thorsteinson asked if Tom and Francis could elaborate on what opportunities they see for collaboration with the US.

Tom Peterson explained that currently PICS does not coordinate with colleagues in the US. He hopes to pursue more international conversation, especially with the University of Washington and UCLA. He also hopes to connect with counterparts in Asia.

Francis Zwiers responded that PCIC developed their hydrologic model in collaboration with the Climate Impacts Group at the University of Washington. PCIC is also in conversation with Oregon State University so they can access PRISM (Parameter-elevation Relationships on Independent Slopes Model).

Terry Williams, Tribes/First Nations (Washington), described that the Tulalip Tribe is also monitoring glacial melt and its impact on stream systems. They've noticed that spring flows are coming two to three months earlier than historically. In India, they have built a dam above 5,000 feet to store water and release it to provide additional water flow into the summer. The Tulalip Tribe has approached the US Forest Service and Army Corps of Engineers to discuss the possibility of building a dam on the Snohomish River. He hopes that the NPLCC can help broaden adaptation discussions in a way that functional solutions are considered.

Tom Pederson remarked that another big question is how to ensure minimum temperature for salmon habitat in the future.

Terry Williams responded that studies have shown some rivers to have a very dry summer yet still run cold because they are drawing on groundwater.

Preston Hardison, Tribes/First Nations (Washington), added that there are also needs to be consideration of the sediments and heavy metals that are brought downstream based on river flow. Also, with increased volumes running over impervious surfaces, the amount of groundwater is diminishing. More science needs to look at the infiltration impacts on temperatures in streams.

Panel Discussion

A panel was convened to discuss Canadian activities around climate change. Each panelist was asked to discuss the focus of their work, their organization's initiatives, the challenges they face, and how the NPLCC could work with them.

Eva Riccius, Parks and Protected Areas Division, Ministry of Environment, explained that she manages the conservation and land acquisition programs. British Columbia has a famed park system, the third largest in North America after Canada and the US federal park systems. About 95 percent of British Columbia is public land, with 14 percent of land being protected in parks.

Eva discussed a research study that found protected areas larger than 270,000 hectares are resilient and can sustain themselves. British Columbia asked the question how many of our protected areas are large enough to self-sustain themselves. There are 12 large protected area complexes in British Columbia. These areas are resilient ecosystems and will probably adapt to climate change impacts without the need for intervention. In these areas, we let natural disturbances occur. British Columbia Parks is looking at what they can do as managers to help the rest of the province think about development with minimal impact on natural and cultural resources.

Eva explained that one initiative British Columbia Parks is doing is long-term ecological monitoring across British Columbia. They are using a citizen science model with simple protocols to monitor plots in perpetuity. The program is being run without any extra budget and the staff is only committed to three days a year in the field for the program. The bulk of the program is based on the work of volunteers. Another recent development that the department has gone through is reviewing their conservation policies. After auditing the policies, they decided to reframe the policies to include a climate lens with the goal of encouraging their staff to think about climate change every day. Eva mentioned that BC Parks have also revisited their acquisition strategy. Lastly, they are working on a sea level rise model to help resource manager's plan for the future.

James Sandland, MFLNRO, discussed his work that related to building collaboration and partnerships. He discussed working with the Future Forest Ecosystem Science Council (FFESC). The Council is a body of research scientists from universities who collaborate on science and develop reports. He is working with groups collaboratively to deal with the obstacles of developing management tools based on new research.

James explained that MFLNRO uses a Forest Carbon Partnership program to work on restoring damaged ecosystems in Canada from wildlife and pine beetles. The partnership model has allowed them to leverage investments and business opportunities. It has led to science collaboration and they are now looking to partner with corporations in the private sector. The partnership with corporations has focused on replanting areas so that MFLNRO gets ecosystem restoration services and corporations get environmental social responsibility for doing the work.

Tasha Sargent, Canadian Wildlife Service/Environment Canada, explained she works on landscape planning, including working with the Pacific Coast Joint Venture. She discussed that there has been little guidance from the Canadian national government on climate change. However, British Columbia has done a lot of work around climate change. A lot of the work that is happening is through partnerships. The Canadian Wildlife Service is focusing on protecting habitat for species at risk and migratory birds. They have been collecting data, reviewing data gaps, and finding ways to get information to reduce those data gaps. Tasha mentioned that data is a large challenge in British Columbia related to ecosystem information.

Tasha has also been working with conservation collaborative throughout British Columbia to support biodiversity and connectivity planning. One of the projects has been re-evaluating estuaries to determine which ones are the most important and deserve initial focus. Work is also happening to improve ecosystem resilience and adaptability. This work is looking at species of risk and habitat hotspots and how to connect them and increase connectivity. They have created some tools, including the Green Bylaws Toolkit for local and regional governments.

Nancy Wilkin, Royal Roads University, explained that she currently runs the Office of Sustainability at Royal Roads University but she also works with the Nature Conservancy of Canada and is on the Skagit Commission. Nancy explained that in 2008, British Columbia passed legislation requiring all universities and health institutions to reduce greenhouse gas emissions by 33 percent by 2020. She announced that Royal Roads University has reduced their emissions by 20 percent.

To comply with the legislation, Nancy explained that she has to complete an Excel spreadsheet called a Carbon Action Report. The report requires her to review their buildings, paper use, utilities, and fleet vehicles. All of the information is input into a Smart Tool program which calculates the emissions. This is a daunting amount of work for every university and hospital to do every year.

Nancy described that when she first started working on campus, no one would speak the language of greenhouse gas emissions. That was not a part of the business model. Instead, she had to talk about energy, which brought more people on board. Discussing energy savings was the best way to begin getting departments to reduce greenhouse gas emissions. She found that energy was the number one issue. She explained that the university has made a lot of strides to reduce their emissions, including retrofits. She posed the question how can they now move from 20 percent to a 33 percent reduction.

Nancy discussed her work with the Nature Conservancy of Canada and on the Skagit Commission. The Conservancy uses climate change as a focus when acquiring land. They look at whether the property would increase connectivity, resilience, and connection to existing protected areas. These are criteria in how the Conservancy purchases land, which not all conservancies do. They also work with conservation partners to manage the land. The Skagit Commission makes decision in the Skagit watershed on what ecosystem management and research can be done with limited resources.

Facilitated Discussion

Penny Mabie facilitated a panel discussion by asking each panelist to answer specific questions.

1. Given the NPLCC's mission and goals, where do you see opportunities for collaboration given your programs and roles?

Tasha Sargent explained that listening to the panel and hearing from other organizations around the table allows her to identify opportunities for collaboration.

Nancy Wilkin responded that mayors of coastal cities are well organized and should be a leverage point. Giving these local governments opportunities to learn from each other and more regional governments is important to get adoption of climate change mitigation strategies.

Tasha Sargent added that there is an element of peer pressure and competition among local governments. Coastal communities especially will feel the impacts of climate change the most.

Eva Riccius explained that British Columbia Parks are working with the NPLCC and the Great Northern LCC. Working with the LCCs has catalyzed their work in collaborating across the international border. The agency has struggled with the question of how they as a park agency can encourage conversations on the role of protected areas in the broader landscape.

James Sandland answered that the number one goal is to maximize informed decisions. Scientists and researchers are not the ones making decisions. There needs to be alignment between science generation and policy tools.

2. How can we ensure that collaboration happens on a practical level?

Andy McKinnon, British Columbia Forest Service, responded that there are few cross-border research projects underway. A major reason these projects are diminishing is the difficulty for travel internationally. If the NPLCC could support funding workshops and cross-border projects, that could increase international collaboration.

Kim Hyatt, Fisheries and Oceans Canada, suggested that building collaboration through existing infrastructure can help form new partnerships. He mentioned that under current treaties, such as the Pacific Salmon Treaty, there can be more collaboration between Canada and the US.

Preston Hardison explained that all parties live in a non-stationary world. It is important to manage the landscape matrix to maintain functionality and public value. There is a need to shift the value conception of the landscape.

Terry Williams responded that in Washington State there are 250 local governments, each with their own regulations. There are not very clear baseline requirements for local governments regarding climate change. He noted, as an example, the Coastal Zone Act and that he found that other legislation did not align with the law. Creating a baseline and commonality with regulations will help encourage local governments to take climate impacts seriously and identify ways to offset those impacts.

Eric Morrison, Tribes/First Nations (Alaska), recounted his work with identifying Traditional Ecological Knowledge of historic and sacred sites in Alaska. The Alaskan tribes are concerned that increasing sea level and glacial melt as well as development pressure may impact these sites. The tribes are concerned with the holistic impacts of climate change and want to communicate across the international boundary with British Columbia and other First Nations.

3. Are there any strategic gaps that the NPLCC can play a bigger role in meeting?

James Sandland responded that the NPLCC could help produce adaptive capacity tools.

Eva Riccius identified the need for improving dialogue among organizations. The NPLCC can help bring people together to share information and ideas. There could be an opportunity to have a coastal issues meeting with local governments.

Nancy Wilkin answered that many citizens don't relate to climate science the way that those in the room do. A broader effort needs to happen to translate information to a wider audience.

Terry Williams explained that under the Pacific Salmon Treaty there is a group of scientists involved from British Columbia. There have been many science discussions on why certain plankton populations are diminishing. These discussions have revealed that climate science is rapidly evolving and it requires working together to find new information to understand what is occurring on the landscape.

Sally Sovey, Bureau of Land Management (Portland), said she attended the Pacific Northwest Climate Science Conference. While there, she heard Connie Roser-Renouf from California talk about communicating climate science. Her work showed that 50 to 60 percent of the public believe climate change is happening and understand the role humans have played in climate change. Additionally, a vast majority, 90 percent, of the public still believe the most valuable source of information is climate scientists.

Eva Riccius discussed that the NPLCC may want to engage large non-governmental organizations (NGO) in their conversations in the future. When doing so, she suggested framing the agenda and interest for them to help ensure the partnership is effective.

Tasha Sergeant suggested working with natural capital NGOs. She explained that the public often doesn't understand climate change until they experience its impacts, such as extreme weather conditions. Discussing natural capital could be a lens that could engage a wider audience in climate change information.

Project Highlight: Cascadia Partner Forum

Jen Watkins, Conservation Northwest, gave a presentation ([Attachment 3](#)) about the Cascadia Partner Forum (the Forum). The Forum was created when the NPLCC and Great Northern LCC realized there was a need for coordinating across their boundaries. The Great Northern LCC already had three partner forums where on-the-ground practitioners discussed key issues they were facing and identified science needs. The Cascades region sits across the boundary of the two LCCs, so in 2012 they went to both LCCs to try a pilot forum for the region. The LCCs funded the Cascadia Partner Forum on a pilot basis to see if it provides value across the landscape. Jen emphasized that the Forum was set up as a pilot to see if it added value and so was less interested in deciding a final structure and decision process.

Thus, the Forum started off with a pilot council, a diverse group including state and federal government agencies, NGOs, and researchers. The purpose of the Forum was to share what was happening around the Cascades. The Forum created pilot objectives, including:

- To identify and prioritize science and management needs and resources to increase adaptive capacity in the Cascadia landscape
- To highlight successes and challenges in implementation of adaptation actions
- To facilitate communication to share ideas and expand implementation of adaptive actions including identification of new approaches
- To draw attention to this unique landscape

At each meeting the council received updates from the LCCs and would have one member of the council present about their work. The Forum hired three fellows to do research and synthesize information on critical issues identified by the council. The Forum also focused its work on action priorities to look at habitat connectivity, water, iconic species (wolverine and sockeye salmon), and access management. They produced reports that synthesize the current state of each priority and where information gaps exist.

After the first year, the Forum felt they succeeded in allowing its members to collaborate better. The Forum was involved in developing the Great Northern LCC's science plan and supported the LCCs on multiple efforts.

Steering Committee Discussion

The following are the key points noted during the Steering Committee discussion:

Lyman Thorsteinson asked if Jen could list the members of the Forum.

Jen Watkins responded that the council has 15 representatives from foundations, federal government, NGOs, the Forest Service, National Park Service, Washington Fish and Wildlife and some Canadian groups. The Forum has heard that if they continue operating they should consider expanding the council to include Tribes and universities.

Barry Thom, National Oceanic and Atmospheric Administration (Fisheries), asked how the LCCs could help encourage the Forum to continue.

Jen Watkins answered that the LCCs can keep being an immediate audience for the products of the Forum. Also, ensuring the Forum adds value to the discussion is important to keep people engaged.

John Mankowski asked how the Forum funded their fellows and what work the fellows provided?

Jen Watkins responded that a foundation offered ten thousand dollars in the first year to allow them to hire fellows. The fellows researched information in the identified priority areas and produced reports on each area.

Louise de Montigny, Ministry of Forest, Land, and Natural Resources Operation, asked how the Forum was able to create enthusiasm and accomplish so much within one year.

Jen Watkins answered that the fellows did amazing work and those on the council understood the importance of collaborating and sharing information.

Partnership Engagement Strategy

Penny Mabie gave a brief presentation ([Attachment 4](#)) updating the Steering Committee on the progress of the Partnership Engagement strategy. Penny explained that Steering Committee members participated in a brainstorm and discussion session through MeetingSphere. MeetingSphere is a distance technology that allows for vibrant engagement through specific online activities. Penny reviewed that the NPLCC charter calls for a Partnership Liaison Subcommittee, but progress on convening such a committee raised a lot of important questions for the Steering Committee to consider. This Meeting Sphere session was intended to identify the need for engaging partners and looking at who the NPLCC is not engaging and how to engage them in discussions based on the NPLCC's mission and goals.

Penny explained that three themes emerged from this discussion:

1. Use what we have first. Steering Committee members articulated that the NPLCC should consider what engagement with partners could occur given its existing structure before creating additional structure.
2. Identify who are we talking about and what do we need to know about them.
3. Let's be strategic

John Mankowski added that it is important for the NPLCC to know who could be their potential partners. He explained that the NPLCC has been working with Erin Butts through a fellowship to inventory potential partners in the NPLCC region. She has created a database that includes information on about 500 potential partners whose work aligns with the mission of the NPLCC. This inventory can help the NPLCC engage targeted groups on a variety of topics.

Penny added that the inventory identified who the NPLCC could partner with, but does not identify where the NPLCC can help each partner and what each partner could bring to the NPLCC.

Penny asked the Steering Committee to brainstorm what successfully engaging partners would look like. After discussing, the Steering Committee identified the following success measures:

- Providing information that people find useful

- Connect people that work on similar topics and issues
- People know about the NPLCC and its work
- Partners feel included in the process and where to go for information
- Leverage resources in order to be efficient and effective
- Partners work together on common goals rather than duplicating efforts
- Partners effectively use information provided by the NPLCC in developing and implementing on-the-ground programs and projects
- Partners are willing to provide information to the NPLCC and see value sharing their information
- The NPLCC has a diverse funding structure with multiple organizations contributing financial resources
- Partners understand the expectations of being NPLCC partners

Penny explained that for a Partnership Engagement strategy, these success measures would become the basis for the strategy's objectives. The Steering Committee agreed that the identified success measures should be turned into strategy objectives. They added that the objectives should be measurable in order to evaluate success.

Steering Committee Discussion

The following are the key points noted during the Steering Committee discussion:

Various Steering Committee members identified potential partners the NPLCC should consider engaging, including:

- Pacific Salmon Commission
- Non-traditional partners such as energy producers and businesses that rely on natural resources
- NGOs that manage land

Barry Thom commented that engaging local governments will be critical in effecting on-the-ground change. Local governments are the ones often implementing policies and strategies that impact the landscape. Bringing them together and allowing them to use the information produced and available through the NPLCC can be very impactful.

Preston Hardison highlighted the need for NPLCC to balance engaging key and emerging players. Too often, networks focus on the key players at the expense of emerging players.

Several Steering Committee members discussed the value of connecting local Tribes and First Nations to the information network of the NPLCC. The NPLCC has the potential to allow Tribes and First Nations to identify and gather the information that is most important to them. Additionally, the NPLCC could be a venue for Tribes and First Nations to share their knowledge. Work is ongoing to develop protocols for the sharing of Traditional Ecological Knowledge (TEK). Establishing these protocols will allow greater sharing of TEK without hindering a Tribe's or First Nation's intellectual property rights.

The Steering Committee discussed that identifying promising potential partners to engage would be more effective than trying to reach out to all 400 identified potential partners. The Steering Committee recommended that the five S-TEK priority topics be used to identify partners that are focusing on those priorities as the first to reach out to.

Barry Thom recommended organizing partners by key topics and sharing that information on the NPLCC website. This would allow partners to identify and connect with each other. Additionally, tracking web usage could be a measure of the effectiveness of the Partnership Engagement strategy.

Lyman Thorsteinson suggested identifying any barriers for partners to engage with the NPLCC. Some barriers could include government-to-government coordination and co-management. The NPLCC could then work on ways to reduce these barriers.

The Steering Committee discussed that partners may have different interests and levels of engagement. It was suggested that a clear distinction between tiers of partners be developed. One Steering Committee member explained that their organization considers partners as clients, collaborators, or stakeholders. A client brings funding to the partnership; a collaborator provides in-kind services to the partnership; and a stakeholder gains benefits from the project the partnership is implementing. Defining clear categories of partners can help potential partners identify how they want to engage with the NPLCC.

- The Steering Committee agreed that along with defining categories of partners, the NPLCC should assess partner interest in engaging with the NPLCC. This assessment would allow the NPLCC to identify which engagement strategies should be used to encourage partner participation. One recommendation was to develop a self-assessment that potential partners could fill out that asked them what they needed from the NPLCC. Their answers would lead to an indication of which category they fit into and what that means for them.
- Several Steering Committee members were concerned with using the term stakeholder as a category of partner. They cautioned the use of the term, but felt that developing categories of partners made sense.

The Steering Committee identified the following next steps to progress developing a Partnership Engagement strategy:

- Staff should develop measurable partnership engagement objectives based on the success measures identified by the Steering Committee
- Staff and EnviroIssues should convene a working group to begin developing the Partnership Engagement strategy including participation from Sue Rodman, Chris Tunnoch, and Lynn Helbrecht. The working group would begin by:
 - Identifying potential partners that align with the five S-TEK priority topics
 - Developing and defining partnership categories
 - Developing a questionnaire to assess partner interest and how they want to engage with the NPLCC

LCC National Council

Penny Mabie gave a presentation ([Attachment 5](#)) about the LCC National Council. Penny reviewed the LCC National Council charter and the process for its adoption. She reviewed the composition of the Council:

- 6 Federal agency directors

- 3 U.S. Federally Recognized Tribal participants
- 1 Indigenous participant
- 4 State agency directors
- 4 NGO participants
- 1 LCC participant
- 2 Major partnership participants
- 4 International participants
- 2 “At Large” participants

Recruitment is currently underway for all the seats except the “At Large” participants, who will be chosen by the Council itself. Once recruitment ends, applications will be reviewed and participants will be selected. The application materials and information is available on the LCC Network website (www.lccnetwork.org).

Steering Committee Discussion

Barry Thom asked which federal agencies would be on the Council.

Penny responded that the six agencies include, Fish and Wildlife Service, Bureau of Land Management, National Park Service, Forest Service, National Resource Conservation Service, and the National Oceanic and Atmospheric Administration.

Barry Thom asked what the difference was difference between the tribal and indigenous seats.

Penny explained that there are federally recognized tribes in the US which are different from indigenous populations which are not federally recognized.

Rory Annett asked what the time commitment for a Council member would be.

Penny Mabie answered that over the first couple years the Council would meet twice a year in-person for a two day meeting. There would also be a couple of conference call meetings. She added that travel is only supported for the tribal seats on a needs basis.

Barry Thom asked if the LCC Representative seat is open to LCC Coordinators or members of an LCC.

Penny responded the seat could be filled by either a LCC staff member or a member of an LCC Steering Committee.

NPLCC Staff Updates

John Mankowski explained that NPLCC staff has been participating in conferences and workshops in the NPLCC region. They also helped sponsor the Pacific Northwest Climate Conference. Mary Mahaffy held discussions with the Climate Science Centers to review projects they were considering funding. NPLCC staff competed for federal funding for projects put forward by multiple LCCs. Nine projects were selected, four of which directly involved the NPLCC.

John Mankowski highlighted the work occurring at the National Network level. A national website was released (lccnetwork.org) where entities could learn about the network and see a database of all LCC funded projects. A new LCC National Coordinator, Elsa Haubold, was also selected to replace Doug Austin. The network is planning on holding a LCC conference in June 2014. Part of the meeting would be

to invite conservation organizations to discuss large-landscape conservation and integrating with the LCCs.

John discussed the budget outlook for the LCCs. He explained that the proposed budget in the House of Representatives is not favorable for LCCs, but the Senate did include money for LCCs. He expects that there will be a continuing resolution and anticipates about a five percent cut in the budget. This is a reminder of the importance for LCCs to communicate their value.

Steering Committee Discussion

The following are the key points noted during the Steering Committee discussion:

Terry Williams asked if the new National Council would be part of organizing the conference in 2014.

Penny Mabie responded that it is likely the National Council would be involved in the 2014 conference. However, since the Council has not convened, it is difficult to articulate how they plan to be involved.

S-TEK Strategy Implementation

Mary Mahaffy gave a presentation ([Attachment 6](#)) updating the Steering Committee on recommendations from the Science and Traditional Ecological Knowledge (S-TEK) Subcommittee's August 29th meeting. Mary discussed the four year S-TEK strategy that was adopted in November 2012 that identified five priority topic areas and four guiding principles.

The S-TEK Subcommittee is in the process of identifying recommendations on priority activities in order to identify how to allocate project funding in 2014. The Subcommittee initially identified hundreds of potential activities that they rated on importance to management. This resulted in 20 priority activities that were relevant to all five priority topics. Five focused activities were identified to receive support in 2013 and 2014 based on the priority activities. At their August 29th meeting, the Subcommittee reviewed the Priority Activities and recommended one minor change to include the effectiveness of management activities in Activity Code 11.

To date, the NPLCC and its funding partners have funded over \$2 million worth of projects in three years. The S-TEK Subcommittee reviewed how the funded projects address the five S-TEK priority topics. They found that currently no projects have been funded that looked at the topic of invasive species, diseases, pests and their effects on biological communities. All other priority topics have projects that focus on them.

Mary presented the S-TEK Subcommittee's recommendation for priorities to focus on in 2014, including:

- Keeping the same Focused Activities for FY14 as FY13
- Updating and modifying the Specific Actions for all Focused Activities
- Focused Activity 5 not identified (Partner initiated)
- Fund projects for all Focused Activities – with emphasis on Focused Activities 3 and 4
- Release RFP in fall for pre-proposals for Focused Activities 2 and 4 – primarily focus on Priority Topics B, C and E (complements FY13 RFPs)

Steering Committee Discussion

The following are the key points noted during the Steering Committee discussion:

Terry Williams explained that an emerging marine issue is the need to reduce ocean acidification impacts on kelp seaweed and eel grass. The US Geological Survey is working on the east coast to understand greenhouse gas impacts and absorption by these species. This is an area the NPLCC should invest funds in.

Mary Mahaffy responded that ocean acidification is not currently one of the NPLCC priority S-TEK topics. The current priorities were based on the climate impacts to resources and what topics the NPLCC could contribute without being redundant. This topic could be evaluated and become important for FY 2015 and 2016 priority topics. She identified that the S-TEK implementation strategy will need to be updated to consider new science after 2014. She added that the National Oceanic and Atmospheric Administration (NOAA) is working on ocean acidification along the coast of Washington State and could provide additional information.

Terry understood the restraints of what is currently reflected in the S-TEK implementation plan, but asked how the NPLCC can ensure it is adaptive to shifting science.

Mary Mahaffy answered that the S-TEK Subcommittee will meet in January 2014 to review and evaluate the S-TEK strategy. This is the opportunity to discuss if the strategy leaves out any important topics. She did caution that the NPLCC can only focus on a narrow list of topics. If ocean acidification does merit additional consideration by the NPLCC then a different topic may not be a priority for the NPLCC.

Lyman Thorsteinson, US Geological Survey (Alaska), suggested that the NPLCC could work on hosting a webinar from NOAA on the current state of science about ocean acidification and species representative of shallow and deeper water.

ACTION ITEM: NPLCC staff will work to host a webinar with NOAA about ocean acidification and its impacts on kelp and eel grass.

Preston Hardison asked if social science and cultural resource managers will be engaged in the 2014 priorities.

Mary Mahaffy responded that she will make sure social science and cultural resource managers are included in the announcements about FY 2014 funding.

Sue Rodman, State of Alaska, appreciated that the NPLCC plans ask for a letter of intent from proposal submitters to allow the NPLCC to connect those that may be seeking to do similar work.

Mary Mahaffy explained that the NPLCC can send a letter of intent this year because they are able to release an RFP in November. This gives staff enough time to review proposals and meet contracting deadlines.

Eric Morrison asked if the emerging issue of ocean acidification and concern for shellfish is part of the S-TEK implementation plan.

Mary Mahaffy responded that ocean acidification is a topic that the NPLCC can support by convening groups and discussing the issue without funding specific projects.

[NPLCC S-TEK Resources](#)

John Mankowski introduced Tom Meiwald, who is the data coordinator for the NPLCC. John explained that Tom is a great expert on communicating data. John has heard that the LCC needs to be the place to discover, access, and manage data. Tom has been working on developing a one-stop shop for landscape scale information called the Conservation Planning Atlas (CPA).

Tom gave a presentation ([Attachment 7](#)) on the NPLCC data management system and the CPA. Tom explained that across the LCC they heard that the NPLCC needs to synthesize and inventory information and bring datasets together in one place. An ad hoc data management team was formed to inventory data management systems that are available. The team identified ScienceBase/LC-Map and DataBasin as the top two existing systems to meet the emerging needs. In 2013, a series of focus group workshops were held across the NPLCC to assess data needs. These focus groups allowed NPLCC staff to better understand the users of a NPLCC data platform, those higher level tasks needing support, and the data and function/capabilities that could better support those tasks.

Tom reviewed that this information is being stored in the CPA, which functions include:

- Gateway to NPLCC-produced data.
- Curated set of data sets for priority topics
- Gateway to the GIS Data Inventory
- “Mixing zone” of data from other data publishers
- Visualization of geospatial data
- Community development
- Case studies and guides on using data

The next steps for the CPA are to further refine and launch its first version. Then Tom will work with data partners on compatible web services and identify additional content.

Patricia Tillman, National Wildlife Federation, gave a presentation ([Attachment 8](#)) on the NPLCC interactive climate map. The purpose of the map is to visualize the impacts of climate change and build understanding for climate science by managers, practitioners, and others. The map is a tool to better communicate with the public and decision-makers. The National Wildlife Federation has developed reports on the current status and impacts of climate change on freshwater, marine water, and terrestrial ecosystems. This map is a way to showcase this information dynamically and accessibly.

The map divides the NPLCC by Omernik Level III ecoregions. Climate change impacts were synthesized from the three National Wildlife Federation reports. The map shows these impacts and key resources. Each impact has specific information for each region. Patricia then gave an overview of how the map functions. Currently she is working on finishing the information synthesis for the map. The map will then be tested with target audiences and refined before being completed.

Steering Committee Discussion:

The following are the key points noted during the Steering Committee discussion:

Terry Williams asked if the CPA included models that showed the interaction of the mixing of freshwater zones with marine water.

Tom Meiwald responded that the CPA will allow data publishers to post and access information and data. Any new information can be uploaded into the CPA

Louise de Montigny asked if Tom has worked with GIS participants in BC.

Tom Meiwald answered that he has been working with a few BC GIS developers. He would appreciate engaging with more GIS developers that represent additional sectors in BC.

Louise de Montigny said she would send Tom the names and contact information for people who may be interested in supporting the CPA development.

Sally Sovey was supportive of the interactive climate map and the idea of distilling information so it is accessible.

Rory Annett observed that the information synthesis will be a challenge. Often science conflicts over nuances and that is a challenge to articulate.

John Mankowski responded that he wants to be sensitive to the synthesis. He asked if the Steering Committee would like to review the information before it launches. The map focuses on science and key facts.

Partner Highlight

John Mankowski explained that it is important for the NPLCC to get to know its partners and what activities they are working on. He has asked Thom White, Climate Action Secretariat – Ministry of Environment, to discuss what the province of British Columbia is doing from a policy perspective on climate change and adaptation.

Thom White gave a presentation ([Attachment 9](#)) about climate change initiatives and research occurring in British Columbia. Thom discussed that there are three pillars that make up the provincial framework for adaptation efforts:

1. Investments in science and decision support tools with a regional focus
2. Consider climate change impacts in planning and decision making across government
3. Assess risks and implement priority adaptation actions in key climate sensitive sectors

In 2007, the International Panel on Climate Change (IPCC) released their fourth report which discussed sea level rise. British Columbia recognized the need to plan for sea level rise and establish local estimates. The province commissioned a study to develop those estimates. However, these estimates were place-based and did not show how sea level could impact the entire British Columbia coast. Thus, the province created a sea level rise sensitivity index which allows them to see how sensitive terrain may be to climate change. This has ultimately led to the development of mapping and planning guidelines for local government to use in planning for sea level rise. This primer discusses a whole range of options for local government from policy to structural and nonstructural measures.

The province of BC is also looking at climate and meteorological work. The province signed an agreement with various meteorological networks. This effort allows them to gather weather data for local areas. This data is publicly accessible online and can be used in climate models. The province is also interested in atmospheric rivers. In March 2013, a workshop was held to discuss the pineapple express-related events. These events impact flooding and the province is interested in learning how better forecast these types of events.

Thom also discussed the different resources the province offers communities. One resource is the province's Greenshores Program. The program looks at non-structural protection measures for coastal

shorelines. This would act as a rating system that developers could use. The Pacific Climate Impacts Consortium has also developed some tools and simple messages about climate change for communities. Their work with visualization has helped the public visualize the impacts of climate change on their communities.

Steering Committee Discussion

The following are the key points noted during the Steering Committee discussion:

Lynn Helbrecht, State of Washington, asked if the province has received push back on their climate change initiatives from climate science doubters.

Thom White responded that public opinion surveys in BC show high acceptance of climate science, between 80 and 90 percent. The civil service is working to understand what they need to do to respond to climate change. In terms of adaptation, they focus on local issues rather than the global discussion on climate change. This lessens the political controversy because people see the impacts that are being discussed.

Barry Thom commented that BC seems focused on sea level rise more than climate change impacts on interior forest landscapes and precipitation.

Thom White answered that BC has focused adaptation on sea level rise because it is more predictable and is easier to understand.

John Mankowski asked how the Ministry of Environment works with the Pacific Climate Impact Consortium (PCIC) to set science priorities and how they ensure their policies are incorporated into other ministries.

Thom White responded that PCIC has its own governance level ex-officio positions through their board of directors. The Ministry of Environment is represented on the board and reviews PCIC's five year research plans. The ministry also works with PCIC on individual projects. The ministry has developed voluntary requirements for ministries to report their greenhouse gas emissions.

Lyman Thorsteinson asked for Thom to discuss aspects of the Ministry of Environment's communications strategy and how it informs how they work with local governments.

Thom White answered that the ministry is fortunate to work with two organizations, the Fraser Basin Council and Columbia Basin Trust, that provides access to 190 local governments in BC. The ministry works through these organizations to reach their partners. The ministry also works with the Union of BC Municipalities. Their work focuses on reaching out to these organizations stakeholders.

British Columbia First Nations

John Mankowski reminded the Steering Committee that the NPLCC's organizational chart calls for a Tribal/First Nations Committee. Out of seven NPLCC goals, six of them call out specific focus on cultural issues and sharing Traditional Ecological Knowledge (TEK) to better understand how climate change impacts our communities. The NPLCC recognizes that there are sensitive issues around sharing TEK, but want to incorporate TEK when possible in management. This section of the meeting will allow the Steering Committee to hear from those in British Columbia working on First Nations' issues and concerns related to climate change.

Lindsay Wood, Ministry of Aboriginal Relations and Reconciliation (MARR), gave a presentation ([Attachment 10](#)) of climate change initiatives MARR is doing with BC First Nations. MARR works with First Nations on climate change through three initiatives, the First Nations Clean Energy Business Fund (FNCEBF), the Atmospheric Benefit Sharing Agreements (ABSAs), and the Remote Community Electrification (RCE). The FNCEBF was established under BC's Clean Energy Act in 2010. The fund was initially created with \$5 million with additional revenues from eligible land and water rentals. The program was created to facilitate increased First Nations participation in clean, renewable energy projects. The fund allows First Nations to invest funds in projects within their territories and allows revenue sharing. All applications require community involvement. To date, over \$3.7 million has been used in over 70 aboriginal communities.

The ABSAs are part of a larger reconciliation agreement. They offer the opportunity for First Nations to take carbon recognized in their territories and sell it to the market in order to support socio-economic initiatives in their communities. The RCE is a working group among BC Hydro, the federal and provincial government, and First Nations to reduce their use of diesel generators.

Morgan Hocking, Central Coast Indigenous Resource Alliance, gave a presentation ([Attachment 11](#)) about salmon projects that are priorities for the Central Coast First Nations. Morgan explained that the world is complex and climate change impacts cultures and resources. He is working to identify stewardship strategies to conserve resources for the future. He works in the Bear Rainforest in BC, which is managed under ecosystem-based management. This region is home to many vibrant First Nation communities, which are increasingly involved in resource management.

Morgan explained that his work focuses on the salmon ecosystem, which is central to human function. His first work focused on how salmon affect biodiversity and then how changes in salmon abundance impacted biodiversity. Working with the Hakai Beach Institute, Morgan has worked with researchers across universities to better understand the social-ecological systems. The Institute has invested in long term terrestrial and marine monitoring.

Many First Nations are realizing the importance of working together and the amount of science they need to inform their resource management initiatives. Morgan has spent time traveling to different First Nations asking them about their research priorities. These priorities were used to develop a Marine Use Plan for their collective territories. Morgan finished his presentation by discussing specific projects that have been implemented based on the plan.

Laurie Whitehead, Heiltsuk Integrated Resources Management Department (HIRMD), gave a presentation ([Attachment 12](#)) on implementing ecosystem-based management in the Central Coast of BC. Laurie explained that the Heiltsuk territory extends 200 miles out west into the ocean. She provided the following definition for ecosystem-based management:

Ecosystem-based management is an adaptive approach to managing human activities that seeks to ensure the coexistence of healthy, fully functioning ecosystems and human communities. The intent is to maintain spatial and temporal characteristics of ecosystems so species and ecological processes can be sustained, and human wellbeing supported and improved.

She then explained that the Heiltsuk First Nation applies ecosystem-based management by:

- Incorporating it into their Heiltsuk Land Use Plan and Marine Use Plan
- Make it a criteria in access to conservation financing to fund stewardship office and projects
- In their government to government processes, by:

- Maintaining ecological integrity by protecting areas in conservancies and identifying reserves in ecosystem-based management areas
- Sharing decision-making responsibilities
- Requiring logging practices that maintain habitat for fish, other species, cultural values and sites
- Monitoring activities, practices, results over time
- Practicing adaptive co-management - with university researchers and local knowledge holders doing scientific research to inform decisions, update plans as needed

The rest of her presentation discussed the specifics of how the Heiltsuk apply ecosystem-based management.

Steering Committee Discussion

The following are the key points noted during the Steering Committee discussion:

Terry Williams explained that measures for habitat restoration are important for First Nations when identifying benefit sharing. The first step is to get businesses and the economy going in tribal country. From tribal perspectives, it is about resources; however, it is often difficult for tribes to get funding to conserve their resources. He asked if MARR had considered funding habitat restoration.

Lindsay Wood explained that MARR has not discussed funding habitat restoration. She will take that suggestion back with her and it may be something MARR could do in the future.

Eric Morrison asked how the revenue sharing aspect of the FNCEBF worked operationally.

Lindsay Wood responded that revenue sharing with First Nations depends on their territories and is issued on that basis.

John Mankowski explained that MARR seems to focus on energy independence and communications with First Nations. The NPLCC focuses more on adaptation and vulnerability assessments. He hopes to continue building a network with First Nations and thinks working with MARR can help to share information.

Lindsay Wood agreed and expressed that she had already identified a few opportunities for MARR to work with the NPLCC.

Eric Morrison explained that hatcheries enhance fisheries. In Sitka, AK they developed a hatchery and increased Chinook runs. However, only the native people noticed that after the hatchery all the herring were killed. It is critical to look at the environment holistically to understand cascading impacts.

Morgan Hocking responded that hatcheries are a tricky issue. On one hand they generate food for communities, but they can compromise wild populations. Work is starting to research the whole impacts of hatcheries and the importance of salmon diversity.

Lyman Thorsteinson asked how much collaboration and sharing of data on salmon resources is occurring in the region.

Morgan Hocking explained he is building relationships with regional agencies to access and share data. He wants to better connect the First Nations with provincial and national agencies to better manage salmon.

John Mankowski asked, beyond salmon and bears, what are the important resources for First Nations.

Morgan Hocking answered that there are a range of marine species central to traditional use. Marine invertebrates and traditional plants are major concerns.

Thomas White asked if First Nations are concerned about a particular marine change caused by climate change.

Morgan Hocking responded that it is the whole suite of impacts. In rivers, the shifts in wind patterns in spring have affected the timing of spring blooms of phytoplankton which are being mistimed with sockeye runs.

Louise de Montigny, Ministry of Forest, Land, and Natural Resources Operation, asked if Morgan had advice for building partnerships and attracting funding.

Morgan answered that building human relationships and building networks requires spending time in the communities and getting to know people personally.

Eric Morrison asked if the Heiltsuk have experienced large acres of dead cedar as a result of climate change.

Laurie Whitehead responded that there has been a big die off of yellow cedar caused by climate change.

Tribes/First Nations Committee

John Mankowski recounted that NPLCC staff have begun work to convene the Tribes/First Nations Committee. They met with tribal representatives on the Steering Committee to discuss how this committee could work and how it should be formed.

Eric Morrison explained his hometown is in Sitka, AK, but that he works for the Douglas Indian Association in Juno, AK. When he first joined the Steering Committee he was excited to have the opportunity to be involved with BC First Nations and increase communications. Currently there are five tribal members on the Steering Committee.

Eric discussed that the purpose for the Tribes/First Nations Committee is to allow Tribes/First Nations to engage with each other with the goal of protecting their resources. The Committee can discuss how to share TEK priorities and interact with various agencies on TEK issues. The Committee will also focus on bringing more Tribes/First Nations to the table and communicating with government agencies. Additionally, the Committee can identify ways for Tribes/First Nations to support outreach with each other. Many Tribes/First Nations have limited resources, and Eric gave the example that his tribe recently learned they were bankrupt because of the recent federal government sequester budget cuts. Eric represents 20 tribes in Alaska, of which quite a few would love to be at the table with the NPLCC.

John Mankowski added additional information about the Tribes/First Nations Committee's structure and support:

1. Committee functions in an advisory capacity
2. Encourage participation from as many Tribes/First Nations as possible
3. Begin with existing Tribes/First Nations representatives on the Steering Committee
4. Consider travel support to encourage participation in gatherings

5. Establish a communications network to facilitate the exchange of ideas and information

The Committee may look to convene a forum of Tribes/First Nations on climate change. John also mentioned he is looking for a tribe to represent Oregon on the Steering Committee.

Steering Committee Discussion

The following are the key points noted during the Steering Committee discussion:

Barry Thom asked if the Committee would include non-tribal representatives. EPA has an annual meeting with tribes and he suggested giving a presentation to that group.

John Mankowski answered that membership for the Committee is not decided. It is difficult to ask a Tribe to represent other Tribes. The Committee will look to recruit other interested members and will work with existing contacts to leverage resources.

Preston Hardison explained that allowing non-tribal members on the Committee has implications that should be considered. Having discussions about TEK is very sensitive for tribes. Tribes need to work behind closed doors to get direction on where they want to engage and share TEK. It will be important to allow tribes to meet by themselves to have these discussions. This committee seems like it should allow that before offering ideas to a larger audience.

Lyman Thorsteinson remarked that he knows Preston and Terry Williams have been working on TEK intellectual property concerns. He is interested if Tribes are comfortable sharing their priorities by moving TEK into a GIS framework. This information would be good for the NPLCC and agencies to have when doing resource management.

Preston responded that Tribes do want to move quickly to get values reflected in GIS work. However, it is important that protocols are established with protections for information TEK can provide before government to government conversations can occur. Tribes are not comfortable revealing their sacred sites because it could put them at risk unless they are guaranteed protections.

Joe Hostler, Tribes/First Nations (California), added that Tribes often move at a slow pace. Engaging smaller tribes that do not have a lot of capacity or funding can be difficult.

Communications & Outreach Strategy

John Mankowski discussed the implementation of the Communications and Outreach Strategy. The strategy outlines four audiences, each with a certain set of needs and objectives for communications and communications tools. John explained that the priority for communications is to hire a communications specialist. NPLCC staff has developed a job description and have secured funding to hire someone. The job will include website content management, social media, list-serve management, development of communications products, and planning and coordinating outreach events. John has a few leads on where to find someone but asked Steering Committee members to let him know if they were interested in pooling resources to share a communications specialist.

John also discussed a new communication material the NPLCC is producing called the Climate Science Digest. The digest is compiled by David Patte at the US Fish and Wildlife Service and reviewed by John for materials relevant to NPLCC members and partners. The email digest is sent through MailChimp, a

service that allows the NPLCC to track metrics on opens, shares, and readership. John explained that he has already heard a lot of compliments on the digest and plans to send these out monthly.

Steering Committee Discussion

The following are the key points noted during the Steering Committee discussion:

Lyman Thorsteinson asked who is currently managing the NPLCC's website.

John Mankowski responded that the website is currently managed in combination with NPLCC staff and EnviroIssues.

Chris Tunnoch asked if the Communications and Outreach Subcommittee has discussed sharing information with news media. She has some contacts who may be interested in information about climate change.

John Mankowski answered that the Subcommittee has not discussed news media yet, but he felt it would be an interesting area for the NPLCC to consider.

Strategic Plan

John Mankowski discussed the development of the NPLCC's strategic plan. He is working to ensure that the NPLCC's mission and seven goals connect to the objectives of the different strategies adopted by the LCC. This will allow the NPLCC to measure its success. The strategic plan is built on the four strategies of S-TEK, Communications and Outreach, Tribes/First Nations, and Partnership Engagement. Each strategy has objectives, which will be rolled up into the strategic plan. The next steps for the plan will be to pull language together from the existing strategies.

Next Steps

Penny Mabie reviewed the action items from the meeting:

- NPLCC staff will draft a strategic plan for Steering Committee review
- NPLCC staff will schedule Steering Committee meetings for 2014
- NPLCC staff will coordinate with NOAA to hold a webinar on ocean acidification
- NPLCC staff will identify and share what work is being done on eel grass and kelp carbon sequestration
- Mary Mahaffy will send out S-TEK decision information asking for approval of the changes to the focused activities for 2014
- NPLCC staff will develop a process for Steering Committee members to review the interactive map and its content before it is published live
- Mary Mahaffy and the S-TEK Subcommittee will discuss how to ensure the S-TEK priorities are adaptive as new science becomes available

- Steering Committee members will contact John if they have ideas/resources to help support/share an outreach coordinator with the NPLCC. If not, John will pursue hiring a Pathways student.
- NPLCC staff will continue developing and mailing out Monthly Climate Science Digests
- NPLCC staff will develop measurable partnership engagement objectives based on the success measures identified by the Steering Committee
- NPLCC staff will convene a working group for development of the partnership engagement strategy
- The partnership engagement strategy work group will identify potential partners that align with NPLCC mission/goals and work on the five priority S-TEK topics as the ones to focus on initially, develop and define a three tier classification for partners such as client/collaborator/stakeholder, and develop questionnaire to assess partner interest and how they want to engage with the NPLCC
- NPLCC staff will begin planning a forum for tribes to come together and discuss climate change
- NPLCC staff will secure a tribal representative from Oregon to sit on the Steering Committee
- John Mankowski will meet with Preston Hardison to discuss his database with partner information

Attendees

Steering Committee Members and Alternates

Rory Annett	British Columbia & <i>Steering Committee Co-Chair</i>
Chris Tunnoch	British Columbia
David Redhorse	Bureau of Indian Affairs
Keith Hatch	Bureau of Indian Affairs
Sally Sovey	Bureau of Land Management (Portland)
Tasha Sargent	Canadian Wildlife Service (Pacific/Yukon Region) & Pacific Coast Joint Venture (Canada)
Barry Thom	National Oceanic and Atmospheric Administration (Fisheries)
Mike Tranel	National Park Service (Alaska)
Sue Rodman	State of Alaska
Dave Brittell	State of Washington
Lynn Helbrecht	State of Washington
Eric Morrison	Tribes/First Nations (Alaska)
Joe Hostler	Tribes/First Nations (California)
Terry Williams	Tribes/First Nations (Washington)
Preston Hardison	Tribes/First Nations (Washington)
Bill Hanson	US Fish and Wildlife Service (Alaska Region)
Terry Rabot	US Fish and Wildlife Service (Pacific Region)
Wayne Owen	US Forest Service (PNW Research Station – Alaska)
Lyman Thorsteinson	US Geological Survey (Alaska) & <i>Steering Committee Co-Chair</i>

Jan Curtis	USDA National Resources Cons. Ser. (National Water/Climate Center)
Jeremy Littell	Climate Science Center (Alaska)
Gustavo Bisbal	Climate Science Center (Northwest)
Josh Foster	NOAA RISA (Climate Impacts Research Center)

Others in Attendance

Andy MacKinnon	BC Forest Service
Paul Knowles	BC Natural Resources
Kim Hyatt	Fisheries and Oceans Canada
Jordan Benner	Simon Fraser University
Louise de Montigny	Ministry of Forest, Land, and Natural Resources Operation
Dave Peterson	Ministry of Forest, Land, and Natural Resources Operation
Charlie Short	Ministry of Forest, Land, and Natural Resources Operation
James Sandland	Ministry of Forest, Land, and Natural Resources Operation
Tom Pederson	Pacific Institute for Climate Solutions
Francis Zwiers	Pacific Climate Impacts Consortium
Eva Riccius	Parks and Protected Areas Division, Ministry of Environment
Thomas White	Climate Action Secretariat, Ministry of Environment
Nancy Wilkin	Royal Roads University
Jen Watkins	Cascadia Partner Forum
Patricia Tillman	National Wildlife Federation
Lindsay Wood	Ministry of Aboriginal Relations and Reconciliation
Laurie Whitehead,	Heiltsuk Integrated Resources Management Department
John Mankowski	North Pacific LCC Coordinator
Mary Mahaffy	North Pacific LCC Science Coordinator
Tom Miewald	North Pacific LCC Data Management Coordinator
Penny Mabie	EnviroIssues
Daniel Brody	EnviroIssues

Steering Committee Members Absent and Not Represented by an Alternate

Madeline Maley	British Columbia
Jim Fincher	Bureau of Land Management (Anchorage)
Joyce Kelly	Environmental Protection Agency
James Partain	National Oceanic and Atmospheric Administration (Regional Climate)
Chip Jenkins	National Park Service (Seattle)
Tom Dwyer	Pacific Coast Joint Venture (US)
Armand Gonzales	State of California
Brett Brownscombe	State of Oregon
Rick Kearney	US Fish and Wildlife Service (Pacific SW Region)
Jeff Walter	US Forest Service (Pacific Northwest Region)
Frank Shipley	US Geological Survey (Pacific Northwest)
Marcus Miller	USDA National Resources Cons. Ser. (West Region NTSC)

Attachments

- Attachment 1 (Presentation): [Why Pacific Institute For Climate Solutions, and What Do We Do?](#)
- Attachment 2 (Presentation): [Pacific Climate Impacts Consortium: Providing User-Motivated Climate Science](#)
- Attachment 3 (Presentation): [Cascadia Partner Forum](#)
- Attachment 4 (Presentation): [Partnership Engagement](#)
- Attachment 5 (Presentation): [LCC National Council](#)
- Attachment 6 (Presentation): [S-TEK Subcommittee Report](#)
- Attachment 7 (Presentation): [NPLCC Data Management System and Conservation Planning Atlas](#)
- Attachment 8 (Presentation): [NPLCC Interactive Climate Map](#)
- Attachment 9 (Presentation): [Climate Change Initiatives/Research in BC Climate Action Secretariat](#)
- Attachment 10 (Presentation): [MARR Climate Change Initiatives with BC First Nations](#)
- Attachment 11 (Presentation): [Salmon-human ecosystems in the Great Bear Rainforest](#)
- Attachment 12 (Presentation): [Implementing Ecosystem-based Management in the Central Coast of BC](#)