Climate Change in Southeast Alaska – Fostering Strategic Collaboration and Informing Sustainable Management of Priority Resources

Interim Progress Report Submitted to the North Pacific Landscape Conservation Cooperative

December 31, 2016

Project start 8/1/2015, end 12/31/2017
Lead Agency: USDA Forest Service – Tongass National Forest
Project Manager: Julianne Thompson, Watershed Program Manager
Address: PO Box 309 Petersburg AK 99833
Telephone: (907) 772-5873
Email: jethompson02@fs.fed.us

Sponsors and Cooperators: Southeast Alaska Fish Habitat Partnership (SEAKFHP), Alaska Coastal Rainforest Center, Trout Unlimited, State of Alaska, Sitka Conservation Society, Forest Service Alaska Region, Forest Service Pacific Northwest Research Station, Central Council Tlingit Haida Indian Tribes of Alaska, University of Alaska Southeast, The Nature Conservancy, Alaska Climate Science Center, US Fish and Wildlife Service, Tongass Collaborative Stewardship Group

Purpose and Objectives

This project emphasizes two NPLCC Priority Topics:

- Effects of hydrologic regime shifts on rivers, streams, and riparian corridors
- Effects of changes in the hydrologic regime on anadromous fish

Cooperators identified resources important to stakeholders and vulnerable to climate-related stressors in Southeast Alaska. Project objectives align with "A Climate Change Vulnerability Assessment for Aquatic Resources in the Tongass National Forest" (EcoAdapt, 2014) and the SEAKFHP Strategic Action Plan. The project fosters collaboration between scientists, managers, and stakeholders by:

- sharing information about climate-related stressors and effects on NPLCC Priority Resources in the Tongass National Forest and southeast Alaska at large;
- developing strategic priorities for improving understanding, reducing risks, and increasing adaptive capacity and resilience;
- coordinating support for increasing knowledge and informing resource managers

The objectives are achieved through a workshop and development of an Action Plan.

Progress to Date (12/31/2016)

Workshop:

A workshop was held in Juneau, Alaska April 12-14, 2016. Speakers and participants represented tribes, city government, state government, federal government, academic institutions, conservation groups, and non-governmental organizations. Topics focused on the themes of streamflow and watershed classification, freshwater temperature, and anadromous fish and habitat ecology were presented to 130 attendees. Breakout sessions for each of the three

themes produced follow-on actions and priorities that were presented in closing out to all attendees. The workshop concluded with a panel discussion of how climate change information can inform management decisions. An evening social and poster session was sponsored by the Alaska Coastal Rainforest Center and Trout Unlimited.

The SEAKFHP coordinator played a significant role in the success of the workshop by convening the workshop steering committee, outreaching to a wide array of participants, and supporting workshop logistics. An experienced Forest Service facilitator kept the workshop on track and focused on outcomes.

Dissemination of workshop presentations and materials:

The SEAKFHP website hosts all workshop presentations and materials. Specific workshop outcomes and next steps were sent to the steering committee and also posted on the SEAKFHP website. Outcomes include:

- A Stream Temperature Working Group and Steering Committee continues collaboration on efforts related to freshwater temperature.
- Sharing of online maps of existing stream temperature data (University of Alaska Southeast's SEAKRegionalStreamTemperature and AKOATS)
- A stream discharge model guide that compares nine regional discharge models applicable to southeast Alaska.

A topic that continues to motivate discussion and collaboration is the natural variability of habitats and salmon life histories in the context of vulnerability and adaptation to climate change. New relevant publications by workshop presenters include:

- Sloat, M. R., Reeves, G. H. and Christiansen, K. R. (2016), Stream network geomorphology mediates predicted vulnerability of anadromous fish habitat to hydrologic change in southeast Alaska. Glob Change Biol. doi:10.1111/gcb.13466
- Adelfio, L.A. (2016), Geomorphic and climatic controls on water temperature and streambed scour, Copper River Delta, Alaska: implications for understanding climate change impacts to the Pacific salmon egg incubation environment. Master of Science Thesis submitted to Oregon State University.

Action Plan:

The Action Plan will guide collaboration and track progress on a core set of short term priorities for improving understanding, reducing risks, and increasing adaptive capacity and resilience. The scope of work described an Action Plan to be completed in 2015 for cooperator and stakeholder review. The Action Plan was not completed due to competing priorities leading up to and after the workshop. The workshop steering committee supported the concept of using the workshop to inform the Action Plan. A draft Action Plan has been circulated internally to Forest Service staff and will be distributed for broader review in 2017. Emphasis will be placed on prioritizing actions and aligning potential funding sources, given the realities of limited capacity.

Some of the action items identified at the workshop are well underway. These include:

- Stream Temperature Working Group conference calls

- Collaboration between agencies on restoring stream gages
- Southeast Alaska Watershed Coalition received NPLCC funds for training and community expansion of stream temperature network
- Initial planning of a small interdisciplinary workshop to develop guidance for incorporating aquatic climate change information into Forest Service project plans.

Regional Watershed Classification Procedure

Workshop participants agreed that a watershed classification procedure could be an important tool to integrate and display the diversity of water resources and fish habitats across southeast Alaska to inform protection, monitoring, and adaptation strategies. A potential classification tool is in development but is not yet available for review or application. Continued discussion with cooperators will be needed to determine feasible options for such a tool in the coming year.

Project Timeline:

The project is on track to achieve the outcomes described in the scope of work. Focused efforts on the Action Plan and the watershed classification tool are needed in 2017. Of the NPLCC funds awarded in 2015, about half remain for use through the end of the project. Use of the Westmark Baranof Hotel's meeting rooms for the workshop (free of charge in combination with workshop attendees lodging at the hotel) resulted in significant cost savings for the workshop venue.

Cost Element	Agreement Financial Plan – NPLCC funds (2015)	NPLCC Funds Spent to date (12/31/16)	NPLCC Funds Remaining (2017)
FS Personnel Salary	$13,000	$3,105	$9,895
Invitational Travel	$13,000	$12,740	$260
Workshop Venue, facilitation, supplies	$7,000	$630	$6,370
Total	$33,000	$16,475	$16,525

Year Two Outcomes for this project include:

State-sponsored stream temperature data repository and access strategy: The Stream Temperature Working Group is working on this. A status report will be requested in early 2017.

Watershed scale salmon habitat vulnerability assessment tool: Additional effort will be necessary to develop this tool in 2017. Several options are available depending on the cooperators involved. Funding uncertainty may be a limiting factor.

Regionally supported/endorsed stream temperature monitoring protocol: The Stream Temperature Working Group is considering endorsement of Cook Inletkeeper's Stream Temperature Data Collection Standards and Protocol for Alaska. At the workshop, break-out group participants generally agreed that this publication provides minimum standards for data collection. Most federal/state agency data collection efforts would exceed these standards.

Presentations to managers and stakeholders: Plans are underway to present relevant aquatic climate change information to District Rangers and other Forest Service managers and aquatic specialists in 2017.

Final report, including updated Action Plan: will be provided in December, 2017.

Communication and Outreach:

SEAKFHP facilitated initial engagement and support of the cooperators and the workshop steering committee. Use of SEAKFHP's website to host workshop materials and other climate change resources has greatly enhanced all cooperators' ability to rapidly share and update information as needed. The workshop was highlighted in the All-Alaska Fish Habitat Partnerships ESRI Story Map. Continued participation in SEAKFHP (and outreach to the Interagency Hydrology Committee of Alaska) have proven to be valuable venues for ongoing dialog with other agencies and stakeholders.

Workshop materials have been shared broadly to Forest Service managers and aquatic specialists in the Alaska Region. Several workshop participants attended the Southeast Alaska Climate Change Summit held in Ketchikan, Alaska, September 22-23, 2016. This provided further opportunity for communication and outreach on potential collaboration opportunities with tribes as they work on climate change adaptation plans in 2017.