Workshop on Climate Change, Fish and Fish Habitat in the North Cascadia Ecosystem
July 27-28, 2011

Location:
Watertown Hotel, Seattle, WA.

Background:
This workshop is one in a series of workshops on climate change vulnerability and adaptation held as part of the North Cascadia Adaptation Partnership (NCAP). These resource-specific workshops follow a series of four general climate change education workshops that were held at each of the four Forests and Parks participating in NCAP.

NCAP is developing climate change adaptation strategies and plans of action for four resource areas: 1) hydrology and fish, 2) vegetation and ecological disturbances, 3) wildlife, and 4) hydrology, roads, and access.

This is a two-day workshop on climate change effects on hydrology, fish populations, and habitats. The first day will focus on assessing the vulnerability of fish to projected changes in climate and hydrology. The second day will focus on developing adaptation strategies and examples of tactics that will help reduce the vulnerability of fish and their habitat to climate change. Results from this workshop will be incorporated into a final report on climate change effects, vulnerabilities, and adaptation plans for the North Cascadia ecosystem, which will be published in the form of a Forest Service General Technical Report in winter 2012.

Workshop objectives:

1) Identify key vulnerabilities of fish and fish habitat to changes in climate and hydrology in the North Cascadia ecosystem.
2) Review current management priorities and priority areas (e.g., key watersheds, stream reaches and/or species) for fish and fish habitat and share approaches that have already considered climate change.
3) Identify management priorities and/or priority areas (e.g., key watersheds, stream reaches and/or species) for climate change adaptation work on the Forests and Parks.
4) Use the latest scientific information on climate change and impacts to fish to identify adaptation strategies and tactics for fish habitat management that can be implemented by the Forests and Parks.
5) Identify policy issues and regulatory barriers to climate change adaptation in fish habitat management.
6) Identify opportunities to work with other stakeholders to develop adaptation strategies and tactics that cross jurisdictional boundaries in the North Cascadia ecosystem.

Agenda:

Day 1 – Vulnerability Assessment

9:00 – 9:15 **Welcome and statement of objectives**
Dave Peterson, Research Scientist, USFS PNW Station

9:15 – 10:00 **Overview Fish-Related Sensitivities to Projected Changes in Climate and Hydrology in the North Cascadia Region**
Nate Mantua, University of Washington, Climate Impacts Group

10:00 – 10:15 Break

Overview of Current Fish Management Goals and Objectives
It is important to put climate change sensitivities in the context of current management goals for fish and fish habitat. How will projected effects of climate change affect your ability to meet management objectives?

10:15 – 10:30 Mt Rainier NP – *Barbara Samora, Aquatic Ecologist*

10:30 – 10:45 North Cascades NP – *Ashley Rawhouser, Aquatic Ecologist*

10:45 – 11:00 Mt Baker Snoqualmie NF – *Loren Everest, Fish Biologist*

11:00 – 11:15 Okanogan Wenatchee NF – *Emily Johnson, Fish Biologist*

11:15 – 12:15 **Expert panel of research scientists**
Scientists will respond to the climate impacts and management goals and objectives presented in the morning session and offer their expertise on climate change effects on fish and management.

Tim Beechie, Research Fish Biologist, NOAA Fisheries
Ed Conner, Aquatic Ecologist, Seattle City Light
Pete Bisson, Research Fish Biologists, USFS PNW Station
Kit Rawson, Fish Biologist, Tulalip Tribe
Karl Polivka, Research Fishery Biologist, USFS PNW Station

12:15 – 1:30 Lunch – Bring your own or enjoy one of the local restaurants.

Working Session – Vulnerability Assessment for Fish and Fish Habitat

1:30 – 2:30 Small group brainstorming: potential climate impacts and sensitivities of fish and fish habitat to climate change.

2:30 – 3:15 Group discussion of identified impacts and sensitivities

3:15 – 3:30 Break

3:30 – 4:15 Prioritizations and ranking of climate change vulnerabilities for fish and fish habitat in the North Cascadia Region
Facilitator: David Patte, US Fish and Wildlife Service

4:15 – 4:30 Next steps and wrap up
Dave Peterson, Research Scientist, USFS PNW Station

Day 2 – Adaptation Planning

9:00 – 9:20 **Opening comments and statement of objectives**
Regina Rochefort, Science Advisor, NPS

9:20 – 9:40 **Summary of key points from the vulnerability assessment (Day 1)**
Crystal Raymond, Research Scientist, USFS PNW Station

Climate Change Adaptation Overview

9:40 – 10:00 **Overview of Adaptation Principles for Resource Management**
David Peterson, Research Scientist, USFS PNW Station

10:00 – 10:15 Break

10:15 – 11:00 **NetMap demonstration**
Dan Miller, Earth Systems Institute

Working Session – Climate Change Adaptation Planning for Fish and Fish Habitat

11:00 – 12:00 Small group brainstorming: identify challenges and opportunities for meeting management objectives with climate change.

12:00 – 1:15 Lunch – Bring your own or enjoy one of the local restaurants.

1:15 – 1:45 Open discussion: challenges and opportunities for meeting management objectives with climate change.
Facilitator: Crystal Raymond, Research Scientist, USFS PNW Station

1:45 – 2:45 Small group brainstorming: identify adaptation strategies and tactics to reduce vulnerability of fish and fish habitat to climate change.

2:45 – 3:00 Break

3:00 – 4:00 Open discussion: adaptation strategies and tactics for fish and fish habitat management. Prioritization of adaptation strategies and tactics.
Facilitator: David Patte, US Fish and Wildlife Service

4:00 – 4:30 Wrap up and next steps
Dave Peterson, Research Scientist, USFS PNW Station
Crystal Raymond, Research Scientist, USFS PNW Station