



Pacific Coast Steelhead Management Meeting - 2010

EAGLE CREST RESORT — REDMOND, OREGON

MARCH 9-11, 2010

March 9th

TUESDAY

8:00 - 8:10 am

WELCOME, INTRODUCTIONS AND HOUSEKEEPING ITEMS

BOB LELAND, WASHINGTON DEPARTMENT OF FISH & WILDLIFE
STEPHEN PHILLIPS, PACIFIC STATES MARINE FISHERIES COMMISSION

SESSION ONE

STEELHEAD STOCK STATUS REVIEW AND ESA -

ROGER HARDING, ALASKA DEPARTMENT OF FISH & GAME

8:10 - 10:15 am

- 8:10 - **California** - Terry Jackson, California Department of Fish & Game
- 8:35 - **Oregon** - Kevin Goodson, Oregon Department of Fish & Wildlife
- 9:00 - **Idaho** - Alan Byrne, Idaho Department of Fish & Game
- 9:25 - **Washington** - Jon Anderson, Washington Department of Fish & Wildlife
- 9:50 - **Alaska** - Brian Marston, Alaska Department of Fish & Game
- 10:15 - Progress report on developing viability criteria for threatened Puget Sound steelhead - Jeff Hard, NOAA Fisheries

10:15 - 10:45 am

BREAK

SESSION TWO

RE-INTRODUCTION OF STEELHEAD -

MEGAN HILL, PORTLAND GENERAL ELECTRIC

The goal of this session is to provide an overall understanding of the complexities of a re-introduction program and introduce attendees to the various reintroduction programs and methods (including recolonization) being implemented.

10:45 - 12:05 pm

- 10:45 - **Documenting *Oncorhynchus mykiss* life histories in Rattlesnake Creek and White Salmon River prior to the reintroduction of anadromous fish above Condit Dam** - Brady Allen - US Geological Survey
- 11:05 - **Reintroduction of steelhead to the upper Deschutes River** - Megan Hill - Portland General Electric
- 11:25 - **Biological Evaluations of Collectors and Trap-and-Haul Programs for Steelhead Reintroduction Efforts on the Cowlitz and Toutle Rivers** - Tobias J. Kock, US Geological Survey
- 11:45 - **The Reintroduction of Late-Run Winter Steelhead into the Upper North Fork Lewis River, Washington, using F₁ Wild Broodstock Hatchery Adults** - Rich Turner, NOAA Fisheries

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12:05 - 1:00 pm

LUNCH



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TUESDAY - MARCH 9TH - CONTINUED

SESSION THREE

RESIDENCY/ANADROMY IN *O. MYKISS* -

JASON DUNHAM, US GEOLOGICAL SURVEY; **JOHN McMILLAN**, NOAA FISHERIES;
CHRIS JORDAN, NOAA FISHERIES

1:00 - 3:00 pm

Present and discuss current research on relationships between freshwater resident and anadromous *Oncorhynchus mykiss*, factors influencing expression of life histories and implications for monitoring, management and restoration.

- **1:00 - Linkages among physical habitat characteristics and life history patterns and genetic variation in Hood Canal *Oncorhynchus mykiss* populations** – Barry Berejikian, NOAA Fisheries
- **1:20 - Evidence for the influence of environment on expression of female anadromy and individual condition on male residency in *Oncorhynchus mykiss*** – John McMillan, NOAA Fisheries
- **1:40 - Partial migration in *Oncorhynchus mykiss* from the lower Klamath River Basin** – Brian Hodge, Humboldt State University
- **2:00 - Influence of resident rainbow trout on abundance of sympatric steelhead in the Upper Yakima Basin** - Ian Courter, Cramer and Associates
- **2:20 - Emigration behavior of resident and anadromous juvenile *Oncorhynchus mykiss*; exploring the interaction among genetics, physiology and habitat** - Sean Hayes, NOAA Fisheries
- **2:40 - Population genomics of coastal California resident and anadromous *Oncorhynchus mykiss* in Scott Creek, CA** - Devon Pearse, NOAA Fisheries

3:00 - 3:15 pm

BREAK

SESSION THREE CONTINUED

3:15 - 5:00 pm

- **3:15 - Physiological, morphological and behavioral correlates of anadromous and resident life histories in partially migratory salmonid populations** – Matt Sloat, Oregon State University
- **3:35 - Partial migration in *Oncorhynchus mykiss*: A spatially and sexually explicit approach** - Jason Dunham, US Geological Survey-FRESC
- **3:55 - Development of a temperature model to predict life-history expression and production of *Oncorhynchus mykiss* in the John Day River Basin, OR** - Jeff Falke, NOAA Fisheries
- **4:15 - Facilitated discussion on research and management issues related to residency and anadromy in *Oncorhynchus mykiss***

5:00 pm

ADJOURN UNTIL 6:30 PM

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TUESDAY - MARCH 9TH - EVENING SESSION

RECEPTION AND POSTER SESSION

6:30 - 8:30 pm

RECEPTION, POSTER SESSION - CAROL COYLE, ALASKA DEPARTMENT OF FISH & GAME

- **Calcein mark retention in Chinook salmon and steelhead trout fry in artificial and natural rearing environments** - Cory Quesada and Megan Hill, Portland General Electric
- **Focus on Alaska Fisheries: Using underwater video technology to monitor fish runs** - Ken Gates, US Fish & Wildlife Service
- **Fish behavior impedes estimation of adult steelhead using a DIDSON in Peterson Creek, AK** - Carol Coyle, Alaska Department of Fish & Game
- **Summer steelhead redd surveys above a weir: Deer Creek, OR** - Jim Ruzycki et al, Oregon Department of Fish & Wildlife
- **Steelhead smolt emigration: The first year of acoustic monitoring through the Lower American River and Sacramento San-Joaquin Delta system** - Erin Collins and Robert Titus, California Department of Fish & Game
- **Seasonality and sizes of salmonid smolts (*Oncorhynchus spp.*) in Fall Creek, OR** - Camille Leblanc et al, Oregon State University
- **John Day River Steelhead: Lost in the Columbia** - Jeff Neal and Jim Ruzycki, Oregon Department of Fish & Wildlife

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WEDNESDAY

SESSION FOUR

REPRODUCTIVE SUCCESS AND RELATED GENETIC STUDIES OF STEELHEAD - CAMERON SHARPE, WASHINGTON DEPARTMENT OF FISH & WILDLIFE

8:00 - 10:20 am

This session is intended to explore the incidence and effects of genetic interactions between hatchery and wild steelhead and between steelhead and cutthroat trout. Specific topics include evaluations of reproductive competence of hatchery fish spawning in the wild, the influence of interbreeding between hatchery- and wild-origin steelhead on genetic structure populations and new markers being used to detect hybridization events.

- **8:00 – Breeding dynamics and reproductive success; Forks Creek and Snow Creek, WA winter steelhead (domesticated hatchery and wild) –**
Todd Seamons, University of Washington
- **8:20 – Reproductive success of wild and hatchery-reared summer steelhead in Little Sheep Creek, OR (Imnaha/Snake River basin) –**
Ewann Berntson, NOAA Fisheries
- **8:40 – Natural reproductive success of first-generation hatchery steelhead spawning in the Kalama River, WA –**
Cameron Sharpe, Washington Department of Fish & Wildlife
- **9:00 – Where are all of the missing parents? Grandparentage analysis identifies reproductively successful residualized hatchery fish –**
Mark Christie, Oregon State University
- **9:20 – Stocking of captive-bred fish can cause long-term population decline and gene pool replacement: Predictions from a population dynamics model –**
Hitoshi Araki, Swiss Institute of Aquatic Science & Technology
- **9:40 – Genetic impacts of hatchery stocks on Steelhead in Lower Cowlitz river tributaries –**
Anne Marshall, Washington Department of Fish and Wildlife
- **10:00 – Genetic investigations of steelhead in the Central Valley of California**
Devon Pearse, NOAA Fisheries

10:20 - 10:35 am

BREAK

SESSION FIVE 1ST SECTION

ADULT STEELHEAD ABUNDANCE MONITORING - DAN RAWDING, WASHINGTON DEPARTMENT OF FISH & WILDLIFE

10:35 - 12 Noon

A variety of methods are currently used in monitoring adult steelhead escapement. Initial methods in the 1970's and 1980's often involved index dam/weir counts or redd surveys, which were considered by many managers to be adequate when steelhead stocks were healthy, and had low harvest rates and hatchery influence. Currently, twelve of fifteen Distinct Population Segments (DPS) for steelhead in the continental United States are listed for protection under the Endangered Species Act (ESA) and Canadian steelhead populations on the east coast of Vancouver Island and in the Fraser system are considered at risk. Therefore, there is need for more accurate and precise information on the adult abundance for status determinations and risk assessments. This session is intended to provide managers and biologists with recent developments in statistical designs for estimating steelhead abundance.

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WEDNESDAY - MARCH 10TH - CONTINUED

SESSION FIVE
1ST SESSION
CONTINUED

- **10:35 - A PIT tag approach to estimate abundance for multiple steelhead populations at Bonneville Dam – Jeff Fryer, Columbia River Inter-Tribal Fish Commission**
- **10:55 - Estimating the size of steelhead runs by tagging juveniles and Monitoring migrants - David Boughton, NOAA Fisheries**
- **11:15 - Adult steelhead abundance estimates based on PIT tag arrays in Idaho - Rick Orme, Nez Perce Tribe**
- **11:35 - Estimating viable salmonid population parameters for Snake River steelhead using genetic stock identification of adult mixtures at Lower Granite Dam - Tim Copeland, Idaho Department of Fish & Game**

12:00 - 1:00 pm

LUNCH

SESSION FIVE
2ND SECTION

- **1:00 - Calibration and methods of winter steelhead monitoring in coastal Oregon: GRTS-based steelhead monitoring designs – Eric Brown, Oregon Department of Fish & Wildlife**
- **1:20 – An approach to estimate the precision of redd-based steelhead escapement estimates – Bryce Glaser, Washington Department of Fish & Wildlife**
- **1:40 – Comparison of winter steelhead trap estimates in small basins to other escapement methods and the representativeness of ODFW life-cycle monitoring sites - Erik Suring, Oregon Department of Fish & Wildlife**
- **2:00 – The potential utility of juvenile steelhead abundance as a surrogate for adult winter steelhead escapement – Ron Constable, Oregon Department of Fish & Wildlife**
- **2:20 – Estimating adult steelhead abundance in high-sediment load stream: Bridge Creek, OR - Ian Tattam, Oregon State University**

2:40 - 3:00 pm

BREAK

SESSION FIVE
2ND SECTION
CONTINUED

- **3:00 – The use of a two trap design to estimate adult winter steelhead abundance in Cedar Creek in Southwest Washington – Josh Holowatz, Washington Department of Fish & Wildlife**
- **3:20 – A Bayesian approach to combine multiple sources of escapement data to estimate steelhead abundance – Dan Rawding, Washington Department of Fish & Wildlife**
- **3:40 – Facilitated round table discussion**

4:30 pm

ADJOURN UNTIL 6:30 PM

6:30 - 8:30 pm

DINNER

DESCHUTES RIVER GUIDE - BRAD STAPLES, GUEST SPEAKER

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THURSDAY

SESSION SIX

8:00 - 10:20 am

MOVEMENT IN TIME AND SPACE -

CHARMANE ASHBROOK, WASHINGTON DEPARTMENT OF FISH & WILDLIFE

This session literally starts with “In the beginning...” for *O.mykiss*. Then it proceeds through ways we have learned about their life history patterns, their migration as smolts and ends with their return behavior and how tracking their movement can indicate the impact of sport fisheries. Together, these talks provide a glimpse of the space-time continuum of this ancient fish.

- **8:00 - *O.mykiss* plasticity and evolution: genetics and geography –** Ken Currens, Northwest Indian Fisheries Commission
- **8:20 - Life histories of Central Valley steelhead: How does the American River stock fit in with the rest of the Sacramento Basin? -** Erin Collins, California Department of Fish and Game
- **8:40 -Tracking steelhead migration from the Columbia River through the Pacific Ocean –** Michelle Rub, NOAA Fisheries
- **9:00 - A comparison of life histories among selected Snake River steelhead populations –** Brett Bowersox, Idaho Department of Fish and Game
- **9:20 - What part of steelhead ‘ocean mortality’ can be explained by survival in lower rivers and estuaries. Or, another way of looking at it “How to get more accurate steelhead ocean survival estimates” –** David Noakes, Oregon State University
- **9:40 - Hooking survival and migration behavior of a Puget Sound steelhead population –** Charmane Ashbrook, Washington Department of Fish and Wildlife

10:20 - 10:35 am

BREAK

SESSION

SEVEN

10:35 - 12:15 pm

CONTRIBUTED PAPERS – HAL MICHAEL

This session is intended to present new ideas, challenge the current management doctrines and stimulate discussion.

- **10:35 - Value of repeat spawners to population persistence using age-structured modeling –** Nick Gayeski, Wild Fish Conservancy
- **10:55 - Kamchatka steelhead: Description of life history diversity and abundance –** Peter Rand, Wild Salmon Center
- **11:15 - South Prairie Creek: What happens when you have a catastrophic overescapement of salmon? –** Hal Michael
- **11:35 - Acoustic telemetry, steelhead and cutthroat hybrids in Big Beef Creek, WA –** Megan Moore, NOAA Fisheries
- **11:55 - Open discussion: Are there steelhead populations that are functionally extinct? How do we define them?**

CLOSING REMARKS, BOB LELAND, WDFW AND STEPHEN PHILLIPS, PSMFC