

The Oregon Hatchery Research Center (OHRC)

Advisory Committee

Date: June 14, 2010
Time: 9:30 a.m. to 3:45 p.m.
Location: Oregon Hatchery Research Center
 2418 E. Fall Creek Rd.
 Alsea, OR 97324
 (541) 487-5510



Type of Meeting:	Oregon Hatchery Research Center (OHRC) Advisory Committee
Attendees:	Members: Reese Bender, Tom Ebert, Tom Gilg, Judy Gordon, Wayne Hoffman, Doug Hunt, Ron Mason, Barry McPherson, Denny Richey, Dave Russel, Susan Sahnou, Stan Van de Wetering, John Wooley Staff: Bob Buckman, Margaret Cleveland, Ryan Couture, David Noakes, Joseph O'Neil, John Thorpe Guests: Art Bass, Ron Griffiths, Grant Law, Camille Leblanc, Ben Ramirez Public: Joe Rohleder, Bob Oleson

Agenda

- 9:30 – Welcome, Introductions, Minutes – Chair Tom Ebert
- 9:50 – Barry McPherson – Ecological Interactions of Hatchery and Wild Steelhead
- 10:00 – Dr. Ron Griffiths (Aquatic Ecostudies) - Update On Benthic Ecology And Stream Channels
- 10:45 – Break
- 11:00 – Art Bass (OSU, Fisheries & Wildlife) – Movements And Survival Of Juvenile Coho Salmon At Tide Gates
- 11:45 – Public Comment
- 12:00 – Working Lunch – Staff Reports:
 - Housekeeping Issues – Tom Ebert
 - Outreach and Education – Joseph O'Neil
 - Recent Research Projects – Dr. David Noakes
 - Operations Update – Ryan Couture
- 1:20 – Ben Ramirez (graduate student of Jason Dunham) – Effects of Sculpin and Cutthroat Trout Predation Research
- 1:40 – Camille Leblanc (OSU, Fisheries & Wildlife) – Update Report on 2010 Steelhead Smolt Study
- 2:00 – Dr. Grant Law (CMOP) - Oregon Estuaries – Especially Yaquina and Alsea
- 3:00 – Dr. David Noakes – Mission and Activities Review
- 3:45 – Good of the order and adjournment

Welcome and Introduction

Meeting was called to order by Chair Ebert at 9:30 a.m. Introductions were completed in a round-table manner. New member John Wooley, representing watershed councils, was welcomed to the meeting. The March 2010 minutes were moved and seconded to be accepted as presented.

Ecological Interactions of Hatchery and Wild Steelhead

Barry McPherson attended the State of the Salmon conference in Portland, OR. There were more than 300 in attendance, representing many countries. Due to multiple languages, translators were available on headsets. There were many great presenters on topics ranging from competition to predation and disease, space to prey, fresh water to oceans. There were multiple scientific reports and discussions. Thumb drives including material and biographies of each presenter were included for each participant. The conference was a good networking experience. A summary of sessions included the opportunity of sharing and listening to counterparts. Some presenters used the conference as an opportunity to showcase their own work instead of ecological-focused material.

One study presented was a look into the future with climate change and rising temperatures, showing that by 2015 the ocean temperatures in the Bering Sea would be a major impact and by 2100 the effect would be “crushing”.

Breakout sessions were done by geographic regions, i.e. Japan/Russia, Alaska/northern British Columbia, California/Oregon/Washington, and Columbia River Drainage. These sessions were very productive with good interactions. Judy Gordon facilitated the northern BC/Alaska group. Science alone cannot resolve issues. We must be able to change public minds with communications.

General conclusions:

- Emphasis needs to be on maintaining ecosystems by monitoring and adapting plans to protect native populations.
- There has been a demonstrated spread of IHNV disease immediately below hatcheries.
- Presentations were predominately by NOAA, with no representation by USFWS.
- Recommendations were based on regional, not global issues.
- Russia is known to poach eggs to sell to China and Japan. Japan is known to ocean ranch. The Japanese are huge producers of chum salmon.
- Reduction in hatchery productions on Oregon coastal streams has improved the wild runs.

Update On Benthic Ecology And Stream Channels

Dr. Ron Griffiths presented an update on Benthic Ecology with history of hatcheries. The first hatcheries were established on Lake Erie in the 1880's. After a few years, they were discontinued.

OHRC's stream channels have been designed to research differences in diet and growth rate in hatchery vs. wild salmon. Benthic community composition is similar throughout the channels and is similar to Fall Creek. Riffle sample have been taken in the stream channels and Fall Creek. Results show differences between the head of channels and downstream.

The algae growth increases as the water flows through the stream channels. Additional observations show algae growth rates increases in unshaded areas. Density of mayflies stoneflies, cadis flies, beetles, and black flies are very similar in the shaded and unshaded sections. Biological gradient is changed with amount of shade vs. sun.

Fish growth is greater in upper pools where they can feed on larger invertebrates. Coho diet varied based on invertebrates available in feeding areas. Slide 20 has examples of food. Additional research topics that could be considered as following up on this study include riparian vegetation, storm pluses, and tributary effects.

A link to the full presentation is at [A Virtual Estuary](#)

Movements And Survival Of Juvenile Coho Salmon At Tide Gates

Art Bass has been studying tidal gates and the ecosystem the gates develop. The gates are part of the dyke systems for drainage of tidal areas. Most of the reclaimed land is used for estuarine agriculture. The focus of the study was on Palouse and Larson creeks. Tide gates impact habitat access passage, water quality, mitigation timing, rearing conditions (both better and worse), and predation. Coho nomads will grow at high rates in estuaries and move back to fresh water. Temperature and salinity combination of rearing conditions change the substrate and vegetation. Tide gate opening cycles makes passage possible, although passage during migration time could be interrupted by tide gate opening cycles. Winchester Bay was used as a control non-gated water flow. Variables included gate angle, tail water depth, and downstream passage during down-water times, higher gate angles and deeper tailwater at both gates. Upstream passage was also affected by the gate cycles. Statistically, the last one half hour of closing showed the most passage by fish in top-hinged gates. Survival analysis shows proportional hazards of regression. Censored data estimates timing and duration, group comparison, text fixes and time dependant explanatory variables.

Conclusion: increase fork length and temperature equated to emigration rate and salinity equated to decreased emigration rate.

Additional research is needed on predation at tide gates, including impact on Coho Nomads. Chinook appear to not be re-entering tide gates. Acoustic tags could be used to directly measure survival and follow smolts in the estuary. DIDSON tags worked well under dynamic conditions and could be used on additional species.

A link to the full presentation is at [Movements and Survival of Juvenile Coho Salmon At Tide Gates](#)

Public Comment

There was no public comment offered.

Working Lunch

Staff Reports:

Housekeeping Issues – Tom Ebert – In looking forward to the September, members were asked to consider nomination needed to select vice-chair. Tom Ebert will be

departing the chair position and Barry McPherson will be moving from the vice-chair position to chair position effective with the December 2010 meeting.

Outreach and Education – Joseph O'Neil – Ten different groups with a total of 193 persons visited OHRC during the spring quarter. A one-hour video was filmed as part of one of the visits, with OHRC benefiting in a ten-minute version.

In partnership with OCAMP, the facility was informed of the receipt of the Presidential Award from OCEAN:

Marine-Council Presidential Award to OSU and Partners

The Ocean Conservation and Education Alliance Northwest (OCEAN), a partnership of Oregon Sea Grant and several other coastal groups, will receive a 2009 Coastal America Partnership Award on Saturday, April 17, 2010 for outstanding efforts to engage students and inspire ocean science literacy.

The Presidential award was announced on November 6, 2009 by the Coastal America Partnership (<http://www.coastalamerica.gov>) and represents the highest-level national recognition for outstanding multi-agency, multi-stakeholder collaborations that pool resources from many sources to accomplish coastal restoration, preservation, protection and education projects.

Recent Research Projects – Dr. David Noakes – David Noakes participated in many education, seminars, conferences, publications, and research opportunities this quarter. He also hosted several national and international visitors. A link to the full presentation is at [Noakes Report June 2010](#)

Operations Update – Ryan Couture – The new drum filter is now installed and will greatly improve the water quality in the tanks, raceways, and wet-lab. Monthly reports are available for viewing at

[\(DRAFT\) JAN '10 OHRC Progress Report \(pdf\)](#)

[\(DRAFT\) FEB '10 OHRC Progress Report \(pdf\)](#)

[\(DRAFT\) MAR '10 OHRC Progress Report \(pdf\)](#)

[\(DRAFT\) APR '10 OHRC Progress Report \(pdf\)](#)

[\(DRAFT\) MAY '10 OHRC Progress Report \(pdf\)](#)

Effects of Sculpin and Cutthroat Trout Predation Research

Ben Ramirez has started a study of the effects of Sculpin predation on cutthroat trout in the Trask River. Due to limited resource and time, he used information from Mark Raggon and other shared resources. In developing this research project, he is looking at consequences, interactions, ecosystem changes, competition, survival, and other factors using Response Surface Designs. It is noted that Sculpin are benthic feeders. The committee will be updated as the research progresses.

A link to the full presentation is at [Effects of Sculpin and Cutthroat Trout Predation Research](#)

Update Report on 2010 Steelhead Smolt Study

Camille Leblanc gave a brief explanation of her 2009 study for the benefit of new advisory committee members. She described the use of acoustic telemetry on the 70 smolts that received the tags. Receivers were placed in pairs to detect the movement of and predation on the smolts. The field seasons of 2009 and 2010 revealed how the fish migrated to the estuary and then to the ocean. There were not as many smolts trapped and tagged in 2010 due to changes in water levels and ability to keep the trap in the water during changing hydraulic conditions.

Oregon Estuaries – Especially Yaquina and Alsea

Dr. Grant Law works at the Center for Coastal Modeling Observation and Prediction (CMOP) using virtual estuary models, looking at physical-biological links, subduction scenarios, salinity intrusion analysis, plume metrics analysis, physical habitat opportunity analysis, and other factors. He will be a good resource for analysis. He has a wealth of knowledge of variables that can be included in analyzing research projects.

Mission and Activities Review

In response to questions of how the Advisory Committee is adhering to its mission and goals, David led the members in a discussion of what types of research is being done at OHRC and how it relates to established mission statements. With the change in committee membership, it was good to look at the goals and role of the committee. The discussion was very helpful to the new members. Topics discussed included the following:

- How presentations are chosen for the meetings.
- Relevance of current research at the facility to the overall purpose of the facility,
- Connection with national and international collaboration,
- Sharing of information and research with other research facilities,
- Cooperative actions between OHRC, OSU, and ODFW, and
- Participation in outreach and education to benefit the future of salmon species.

Concerns were expressed over whether the activity at the OHRC, and particularly the material presented to the Advisory Committee was adequately focused on the mission of the OHRC. Committee members requested that the committee meeting agendas be focused on research directly relevant to the OHRC mission.

Good of the order and adjournment

Chair Ebert asked for any additional discussions. With none offered, he declared the meeting closed at 3:45.