



In this Issue:

Staff Directory	1
Detail to Washington	1
Program Highlights	2
Employee Spotlight	5
Training, Workshops, Conferences, Meetings	6
Reports and Publications	8

Director's Greeting...

This issue covers the months of December, January, and February, due to the dearth of news around the holidays. With the New Year, two of AFTC's staff found time to do details at other FWS offices. Ken Ostrand did his detail in the Aquatic Invasive Species Division in Fisheries and Habitat Conservation in the Washington Office. Pat DeHaan completed a detail in the Pacific Region's Oregon Fish and Wildlife Office with Ecological Services. This type of work experience is invaluable for the employee, the "home" station, and the "detail" station. If anyone is interested in coming for a detail, please let us know. We would love to have you join us!

Dr. Ostrand Goes to Washington!

Staff:

Administration/Facilities:

- Judy Gordon, Center Director
- Patty Crandell, Deputy Center Director
- Vince Bocci, Administrative Officer
- Toni Scholder, Administrative Assistant
- Mark Hack, IT Specialist
- Dan Gourde, Electrician
- Jim Lowell, Maintenance Worker
- Pete Taylor, Fish Biologist
- John Holmes, Fish Biologist
- Jeff McLaren, Biological Technician

Nutrition:

- Ann Gannam, Regional Nutritionist
- Ron Twibell, Fish Nutritionist
- Jeff Poole, Extruder Operator
- Susan Ostrand, Biologist

Conservation Genetics:

- Denise Hawkins, Regional Geneticist
- Christian Smith, Conservation Geneticist
- Pat DeHaan, Fish Geneticist
- Kevin Williamson, Fish Geneticist
- Lindsay Godfrey, Biological Technician
- Brice Adams, Biological Technician

Ecological Physiology:

- Ken Ostrand, Regional Eco-Physiologist
- Kyle Hanson, Fish Physiologist
- Ben Kennedy, Fish Ecologist
- Richard Glenn, Microbiologist
- Will Simpson, Fish Ecologist
- Kurt Steinke, Electronics Engineer



Ken Ostrand, AIS Branch Chief Craig Martin and Susan Jewel working on the proposed rule for the Boa Constrictor and other snakes.
USFWS: AnneMarie Eich

Ken Ostrand completed a month long detail in Washington D.C. with the Aquatic Invasive Species Program (AIS). While in D.C., Ken worked closely with Craig Martin, the Branch Chief, Susan Jewel, and Jason Goldberg. "Working with the AIS team was an extremely gratifying experience and I certainly would recommend that others consider taking a detail in the D.C. office" said Ken. While in D.C. he assisted the Lacey Act Tiger Team. Specifically, he wrote a performance measure white paper that dealt with constructing meaningful performance measures that can gauge the effectiveness of the Lacey Act and the injurious wildlife provision. The white paper justified and identified national performance measures that would effectively inform the Secretary, FWS leadership, and Congress of outcomes (i.e. a level of performance or achievement that occur as a result of outputs and desired achievement) that result from the Lacey Act. He also supported Susan Jewell's efforts in drafting the proposed rule to list the Boa constrictor, four python species and four anaconda species as injurious reptiles under the Lacey Act. Additionally, Ken assisted in the composition of a Zebra-Quagga mussel press release that required cross regional coordination, and other team tasks.

Program Highlights....

Nutrition

Feed was made (800 lbs) for a partner, Dr. Jonathan Eya, from West Virginia State University. The study will look at various protein/energy ratios to determine what works best for rainbow trout.

A cooperative study is underway with Purdue University investigating the effects of a plant oil versus a marine oil diet on the reproduction in rainbow trout (*Oncorhynchus mykiss*). AFTC manufactured the feed for the study. Ron Twibell is currently analyzing the rainbow trout eggs for fatty acid composition.

Working with partners, we analyzed fish for proximate composition from a Kentucky State University feeding trial. The study involves evaluating alternative protein sources to replace fish meal in the feed.

Ron Twibell is assisting Iron River NFH (Region 3) in designing a feeding trial with Klondike strain lake trout broodstock to improve reproductive success.

As part of Fish Feed Quality Control, the Twibell and Ostrand analyzed 36 feed samples sent in by the Pacific and Pacific Southwest Region NFHs. In addition, we received 6 feed ingredients for analysis to be used in the Abernathy Diet made by Rangen. As part of the routine analyses, 36 feeds were also checked for rancidity. Ann Gannam wrote the feed memos and contacted the feed mills when necessary.

We provided technical assistance to Washington Department of Fish & Wildlife (WDFW) fish health by checking some feeds for vitamins and rancidity.

Preliminary work is being done with Mora NFH & Technology Center looking at Gila trout broodstock success. We will get eggs and milt for fatty acid analysis.

Nutrition cont....



SCEP student, David Burbank, helped in the laboratory and in the feed making process. He will be stationed at Willard NFH after graduation where he will be a great asset to the Fisheries Program.

David is originally from Meridian, Idaho and completed his Bachelors Degree in Fisheries Resources at the University of Idaho in 2008. He is currently pursuing his M.S. degree in Fish Health at the University of Idaho under the direction of Dr. Ken Cain. His project is focused on the development of probiotics to control *Flavobacterium psychrophilum* in rainbow trout (*Oncorhynchus mykiss*). He served in the U.S. Army as well as the Army National Guard, including a deployment to Iraq in 2005. Prior to becoming a SCEP student, David worked for the Idaho Department of Fish and Game and Avista Utilities doing fisheries field work during the summers.



David Burbank assisting with feed production.
USFWS: Ann Gannam

Program Highlights cont....

Conservation Genetics

Brice Adams and Kevin Williamson wrapped up the 2009 analysis of Abernathy steelhead for our Bonneville Power Administration (BPA) funded Abernathy Creek project.

Lindsay Godfrey and Brice Adams worked on end of 2009 samples of bull trout and cutthroat trout for our collaborative projects with Avista Corp.



Juvenile bull trout collected in Graves Creek.
Avista Corp.: Shana Bernall

We installed software to enable the generation of sequence data in-house using one of our ABI 3130xl Genetic Analyzers (Applied Biosystems Inc., Foster City California). The capacity to generate in-house sequence data will provide us with more control over the primers used and data generated.



ABI 3130xl used to generate sequence data.
USFWS: Bill Ardren

Lindsay Godfrey worked on coastal cutthroat trout samples from many drainages in the Mt. Hood National Forest. The project will look at both population structure and hybridization between coastal cutthroat and rainbow trout.

Conservation Genetics cont....

Lindsay Godfrey and Brice Adams prepared for the upcoming rapid response season for two projects that use genetic identification to inform broodstock selection for winter run Chinook at Livingston Stone NFH and Hood River steelhead. Both of these projects compare the genetic signature of potential broodstock to previously characterized genetic baselines to determine if the returning adults are from the desired run-type.



Hood River winter run steelhead.
USFWS: Bill Ardren

Pat DeHaan did a three week detail in the FWS Oregon Fish & Wildlife Office. Pat observed and assisted with many of the day to day activities in the office including helping to prepare the final 10j rule for the Clackamas bull trout reintroduction.

Christian Smith, Kevin Williamson, Brice Adams, Lindsay Godfrey, and Denise Hawkins all spent the day making up sample collection kits of vials containing labels and ethanol to send out to collaborators for collection of genetic samples.

Brice Adams worked on a study of burbot (*Lota lota maculosa*) from the Wind River, WY. This project uses both microsatellite analysis and mtDNA sequence analysis to look at the relationships of the Wind River collections to each other and to other populations of burbot that have been genetically characterized including burbot from Garrison NFH.

Program Highlights cont....

Ecological Physiology

Richard Glenn completed laboratory analysis of Na^+ , K^+ -ATPase activity in juvenile coho salmon for a contract with the Columbia River Research Laboratory, US Geological Survey (USGS).

Richard Glenn continues to fulfill state drinking water requirements and maintains and coordinates safety regulations. He assisted and advised corrective actions for safety violations from the Regional Office Safety Officer, Al Williams. He conducted a facility inspection with the Fire Inspector from Cowlitz 2 Fire and Rescue.

William Simpson and Kurt Steinke performed maintenance on PIT-tag antenna arrays at irrigation canals on the Umatilla River. The antenna arrays are used to determine entrainment and survival of PIT-tagged juvenile steelhead diverted into irrigation canals.

William Simpson, Ben Kennedy, Kyle Hanson, Kurt Steinke, and Richard Glenn implanted 1,200 hatchery steelhead with PIT-tags. These fish will be released as part of a large BPA funded study that examines how hatchery steelhead from supplementation efforts interact with wild steelhead and how such releases may affect natural steelhead production.

William Simpson, Ben Kennedy, Kyle Hanson, and Kurt Steinke examined potential subyearling Chinook monitoring sites in the vicinity of Cottonwood Island on the Columbia River. AFTC and collaborating agencies want to use PIT-tag technology to monitor how Chinook smolts use shallow estuary habitats during their ocean emigration.

Kurt Steinke completed preliminary design and estimates for a PIT tag array for the lamprey ladder at the Bureau of Reclamation Feed Dam site in Umatilla.

Ecological Physiology cont....

Will Simpson and Kurt Steinke restored automatic data uploads and performed maintenance on PIT-tag antenna arrays at irrigation canals on the Umatilla River. The antenna arrays are used to determine entrainment and survival of PIT-tagged juvenile steelhead diverted into irrigation canals.

Will Simpson examined the influence of rearing environment, canal discharge, and river discharge on the annual entrainment and entrainment timing of wild and hatchery-reared steelhead smolts into irrigation canals within the Umatilla River Basin.

Kurt Steinke developed an SOP for configuring the box computers to interface the multiplexers to cellular modems which will allow for automatic data uploads at remote field sites.

Kurt Steinke completed AutoCAD 2010 3D training to better convey PIT tag antenna arrays as well as ancillary electronics equipment designs and plans that are ultimately used by partners and the Region to track ESA listed species.

The program has acquired a new 20 ft Alumaweld Super Vee L boat for use on projects on the main stem of the Columbia River. Her maiden voyage, to survey study sites, occurred on February 2. The boat will be essential for ferrying personnel and equipment to islands off the main channel for an upcoming project looking at habitat utilization by juvenile salmon.



Ecological Physiology's new Alumaweld research vessel.
USFWS: Kyle Hanson

Program Highlights cont....

Administration/Facilities

In December, January, and February, 66 adult salmonids entered the AFTC holding pond. Biological data and genetic and scale samples were collected on: 12 coho (6 adipose clipped) and 54 winter steelhead (46 adipose clipped). The winter steelhead included 35 that originated from the AFTC hatchery and 11 from outside the Abernathy system. Winter steelhead passed above the weir included 5 native origin and 1 hatchery origin steelhead. Adult collection will continue into June.

Al Williams from the Pacific Region Safety Office conducted an inspection of the facility.

Vince Bocci participated in reimbursable training over two days at the Pacific Region Office.

Patty Crandell presented information about working in the fisheries field to 7th and 8th graders in Mr. Whitton's Careers class on two separate days at View Ridge Middle School in Ridgefield, WA.

Carol Schuler, Assistant Regional Director for Science Applications for the Pacific Region visited AFTC for a day. Dr. Schuler toured the various laboratories and facilities and visited with Program Heads. She presented information about why Landscape Conservation Cooperatives (LCCs) are being developed and how they are anticipated to function. Her visit helped to clarify the purpose of LCC's, clarify AFTC's role within LCCs and provided additional talking points to use when speaking to partners.

Employee Spotlight....



Toni Scholder

Toni is Abernathy's Administrative Support Assistant. She is a 4th generation Californian from San Diego. While raising a family, she worked for government DoD contractors, Logicon, Inc. and Ball Systems Engineering, as a contracts analyst until she moved to the Pacific Northwest in 1991. Before coming to AFTC in 2007, she worked for the Woodland School District, Woodland, WA and the Ridgefield NWR.

Toni's "other life" and passion is as a shepherdess raising an award winning flock of purebred Romney sheep with her husband, John, on their farm in Winlock, WA. She is also a Ducks Unlimited volunteer working primarily with the Lewis River Valley/Woodland chapter.

Toni also loves to spend quality time with her granddaughter, Taylor, who has her own award winning Romney flock!



Taylor and 'Nana' showing off "Joy's" ribbons at the Lewis County Spring Youth Fair.

Stacy Loehner

Training, Workshops, Conferences, and Meetings....

Nutrition:

- Ann Gannam was a co-author on a presentation was given at the Northwest Fish Culture Conference, titled, "YFD (yellow fat disease) in Coleman NFH Late Fall Chinook". Ken Nichols, CA/NV FHC and Brett Galyean, Assistant Manager, Coleman NFH were the co-presenters.
- Ann Gannam attended COTR training.
- Ann Gannam and Ron Twibell participated in NOAA's monthly Alternative Feeds conference calls.
- Ron Twibell called in to the Hagerman NFH Hatchery Evaluation Team meeting.
- Ann Gannam called in to the web conference on LCC's.

Conservation Genetics:

- Pat DeHaan attended the Foundations course at NCTC.
- Christian Smith served as a panelist for the Central Valley Chinook Salmon Genetic Forum. This meeting of state, federal and university partners focused on development of genetic monitoring strategies for the reintroduction of spring run and fall run Chinook salmon to the San Joaquin River.
- Denise Hawkins attended a Conservation Genetics Community of Practice meeting to collaborate on a genetics overview document and other fact sheets.
- Denise Hawkins attended at meeting of the Clackamas bull trout Reintroduction Monitoring and Implementation Strategy Group. Plans for how to move forward with this project were discussed.
- Kevin Williamson and Denise Hawkins attended at meeting with Howard Schaller, Doug Olson, and David Hand of the Columbia River Fisheries Program Office (CRFPO) to discuss completion of a project report for work on Deschutes River steelhead.
- Pat DeHaan attended the US Army Corps of Engineers Willamette Fisheries Review Meeting at Spirit Mountain Casino. He gave a presentation titled "Analysis of genetic variation in upper Willamette bull trout populations". This study used a suite of 16 microsatellite loci to characterize levels of genetic variation within upper Willamette bull trout populations, examine the genetic relationships among bull trout populations, and determine how the relationships among populations had been affected by transfers of fry.
- Denise Hawkins and Christian Smith met with the Hatchery Evaluation Team for Warm Springs NFH to develop a strategy for monitoring Chinook salmon in the Deschutes River Basin.
- Denise Hawkins attended the Baker bull trout Article 104 annual consultation and coordination meeting. Topics included a review of the WDFW genetics report, 2009 surveys, proposed 2010 work, and future efforts.

Training, Workshops, Conferences, and Meetings....

Conservation Genetics cont....

- Pat DeHaan attended the annual meeting of the upper Willamette bull trout working group to discuss the DRAFT genetic management plan that uses the results of a genetic study of Willamette bull trout to provide guidance on what measures can be taken to maintain and monitor levels of genetic variability in these isolated populations.
- Christian Smith attended the Oregon Desert Fishes Workshop to discuss the work that AFTC has done with Modoc suckers and Foskett Springs speckled dace, and to develop study plans to address management information needs regarding Warner suckers and Alvord chub.
- Kevin Williamson presented the results of a genetic study of Upper Willamette River rainbow trout at the Oregon American Fisheries Society (AFS) meeting. The title of the talk was "Genetic origin of *Oncorhynchus mykiss* collected from the Upper Willamette River Basin, Oregon".
- Pat DeHaan attended the Oregon Chub working group meeting. He gave a presentation titled "Analyses of Genetic Variation in Natural and Re-introduced Populations of Oregon Chub (*Oregonichthys cramerii*)".
- Christian Smith and Denise Hawkins participated in a conference call with Ron Larson and Josh Rasmussen, FWS Klamath office, and Russell Rodriguez, USGS, Seattle. The group discussed on-going research in the USGS lab and additional information needs from the Klamath office for genetic analysis of Klamath Basin suckers.
- Christian Smith and Denise Hawkins attended a presentation by David Hand (CRFPO) titled "Warm Springs/Deschutes Hatchery-Wild Evaluations".
- Pat DeHaan met with staff from the FWS Wenatchee and Leavenworth offices and staff from the Forest Service and Grant PUD. Pat gave a presentation titled "Preliminary Genetic Analyses of Upper Columbia Bull Trout Populations".

Ecological Physiology:

- Kyle Hanson and Ben Kennedy attended a meeting at Pacific Northwest National Laboratory's Marine Sciences Laboratory to plan field activities in the Columbia River estuary for spring 2010.
- Kyle Hanson and Kurt Steinke attended Foundations training for new employees at NCTC.
- Kyle Hanson and Ben Kennedy attended the Oregon AFS meeting in Eugene. Ben Kennedy gave a presentation entitled "Ecological differences of juvenile steelhead produced by natural origin and local hatchery origin adult steelhead spawning in the wild".
- Richard Glenn provided safety training for AFTC staff focused on invasive plant species control and the use of laboratory spill kits. He also held training classes on our Emergency Action Plan, Continuity of Operations Plan, and using the chemical inventory database.
- Richard Glenn co-authored a presentation at the World Aquaculture Society meeting in San Diego CA titled "Inhibitory effects of rosemary oil *Rosmarinus officinalis* on six fin fish pathogens.

Training, Workshops, Conferences, and Meetings....

Administration/Facilities:

- Judy Gordon helped to develop options Federal Columbia River Power System flexible funding with other Fisheries Project Leaders at the Pacific Region Office.
- Patty Crandell and Christian Smith attended an Eagle Creek NFH Hatchery Evaluation team meeting.
- Patty Crandell, Kyle Hanson, and Ron Twibell participated in a Spring Creek NFH Hatchery Evaluation team meeting. Kyle presented initial results from an adult stress study conducted on Spring Creek's returning adult fall Chinook.
- Patty Crandell participated in a 2 day meeting as a member of the Fish Health Center (FHC) Workforce Planning Team. The Team is writing a white paper for the Fisheries Program line supervisors containing options for strategic placement of FHC program workforce capacity and infrastructure.

Reports and Publications....

Conservation Genetics:

Kevin Williamson completed two reports for the Conservation Genetics Program's contribution to the 2009 BPA funded Abernathy steelhead project. These two reports assessed genetic relationships among Abernathy, Mill, and Germany creeks and compared relative reproductive success of hatchery and natural origin steelhead spawning naturally in Abernathy Creek.

Kevin Williamson completed a report titled "Genetic origin of *Oncorhynchus mykiss* collected from the Upper Willamette River Basin, OR". The report summarized the results of a project with Oregon Department of Fish and Wildlife (ODFW) that compared rainbow trout from the upper Willamette River with hatchery trout that had been previously stocked in the basin and other rainbow trout populations from lower in the Willamette River and the McKenzie River.

Ecological Physiology:

Donaldson, M.R., C.T. Hasler, **K.C. Hanson**, T.D. Clark, S.G. Hinch, and S.J. Cooke. 2010. Injecting youth into peer-review to increase its sustainability: a case study of ecology journals. *Ideas in Ecology and Evolution*. 3:1-7.

Hanson, K.C., C.T. Hasler, M.R. Donaldson, and S.J. Cooke. 2010. Context-dependent shuffling of vertebrate locomotor performance hierarchies across seasons: Implications for studies of individual fitness. *Canadian Journal of Zoology*. 88:324-333.

Ostrand, K. G., W. G. Simpson, C. D. Suski, and **A. J. Bryson**. 2009. Behavioral and physiological response of White Sturgeon to and electrical sea lion barrier system. *Marine and Coastal Fisheries: Dynamics, Management and Ecosystems Science* 1:363-377.