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**Director's Greeting...**

Greetings!

After completing my *Advanced Leadership Development Program's* (ALDP) 60 Day assignment as the Mountain-Prairie Region's Acting Assistant Regional Director for External Affairs, I can't say enough how much I appreciate the hard work and dedication of the FWS' External Affairs staff. These are the unsung heroes who communicate our story to the general public, Congress, Tribal groups, etc. Without their support, it would be difficult, if not almost impossible, to share our accomplishments. I am also very grateful for the fantastic job the AFTC staff (especially Deputy Center Director Patty Crandell, Regional Ecological Physiologist Ken Ostrand, and Regional Geneticist Denise Hawkins) did under difficult and stressful circumstances. Thank you all!

**Staff:**

**Administration:**

Judy Gordon, Center Director  
 Patty Crandell, Deputy Center Director  
 Vince Bocci, Administrative Officer  
 Toni Scholder, Administrative Assistant  
 Mark Hack, IT Specialist  
 Jim Lowell, Maintenance Worker  
 John Holmes, Fish Biologist  
 Jeff McLaren, Biological Technician  
 Scott Gronbach, Facilities Op Specialist

**Nutrition:**

Ann Gannam, Regional Nutritionist  
 Ron Twibell, Fish Nutritionist  
 Jeff Poole, Extruder Operator  
 Nathan Hyde, Biological Technician  
 Heidi Lewis, Fish Nutritionist  
 James Barron, SCEP Employee

**Conservation Genetics:**

Denise Hawkins, Regional Geneticist  
 Christian Smith, Conservation Geneticist  
 Pat DeHaan, Conservation Geneticist  
 Brice Adams, Biological Technician  
 Molly McGlaufflin, Fish Geneticist  
 Matt Smith, Fish Geneticist  
 Jennifer Von Bargaen, Lab Geneticist

**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  
 Jerone Anderson, Electronics Technician  
 James Samagaio, Biological Technician  
 Ashley McNamee, STEP Employee

**Modeling and Management Decision:**

Doug Peterson, Senior Scientist

**Slide Closes Access to AFTC**



WSDOT

A large slide on WA State Highway 4 blocked access between AFTC and Longview, WA for almost a week. The slide, which occurred as employees were arriving at work, left approximately two-thirds of the staff on the Longview side. Those who made it to AFTC before the slide occurred were forced to return home through Astoria, OR (a minimum of 120 miles) or take the ferry west of AFTC (with a two hour wait by car) across the Columbia River. For the remainder of the week, staff dealt with the emergency by either telecommuting or walking on to the ferry and catching a ride to AFTC. The fact that the slide occurred during the week that federal employees were almost furloughed gave AFTC staff an opportunity to practice their adaptive skills.

## Program Highlights....

### Nutrition

Ron Twibell has been analyzing Gila trout eggs for fatty acid composition and a short report on the results was submitted to the Mora NFH and TC. The data may give insight into egg quality. Winter Chinook eggs were also analyzed for fatty acids with similar interest in egg quality. Results were sent to the California/Nevada FHC.

The Nutrition Program received whole sturgeon bodies for lipid analysis. Mike Parsley from the U.S. Geological Survey (USGS) Columbia River Research Laboratory was raising the fish at different water temperatures to study bioenergetics. The level of lipid in the sturgeon will be an indication of how well the fish may be able to survive through the winter in the river. Heidi Lewis will be running the analyses.

A Mora NFH and TC study was completed. This study looked at various levels of phosphorus in the feed for Gila trout. We plan to use the data from this study to make recommendations to the Mora NFH and TC concerning the level of phosphorus required in the feed for Gila trout and the affect of the phosphorus in the feed on the effluent.

As part of Fish Feed Quality Control, Nathan Hyde, Ron Twibell and Heidi Lewis analyzed 33 feed samples. As part of the routine analyses, all feeds from the NFHs were checked for rancidity. Ann Gannam wrote the feed memos and contacted the feed mills when necessary. The Fish Feed Quality Control quarterly report written by Ron Twibell was sent out this month to Pacific & Pacific Southwest Regional NFHs and FHCs and state partners.

The egg analog feeding trial was started. Steelhead will be fed with an underwater feeder a commercial diet, steelhead eggs and a diet formulated at AFTC with and without red coloring. This is to evaluate the use of egg analogs and fish acceptance.

John Loannou from Shimadzu Scientific Instruments came to give us HPLC (high performance liquid chromatography) training. We will be able to use this instrument for vitamin and amino acid analyses.

### Conservation Genetics

Denise Hawkins began a detail as Acting Deputy Center Director this month, filling in for Patty Crandell who was Acting Center Director while Judy Gordon completed a 60 day detail as part of ALDP.

Jennifer Von Barga and Pat DeHaan began the process of screening 37 microsatellites for Warner sucker (*Catostomus warnerensis*) in the lab. The suite of markers includes some developed at Dexter NFH and TC as well as some from literature sources.



Warner sucker

USFWS: P. Dehaan

## Program Highlights cont....

### Conservation Genetics cont....



Warner sucker habitat in Twenty Mile Creek, Warner Basin, OR  
USFWS: P. Dehaan

Molly McGlaufflin and Jennifer Von Bargaen gave lunchtime seminars to AFTC staff. Molly's was titled "Population genetics and reproductive success of steelhead in Abernathy Creek: 2010 edition". The presentation detailed the most recent genetic results for the continuing station wide Bonneville Power Administration (BPA) funded project. Jennifer's presentation was "WDFW-MGL State Secrets: A brain wipe that did not hold". She summarized the different projects and techniques she was involved with during her time at the Washington Department of Fish and Wildlife (WDFW) Molecular Genetics Laboratory.

Jennifer Von Bargaen set up a meeting with John McCulley and Jason Smith (Applied Biosystems) to discuss potential applications of a new sequencing platform designed for high throughput sequencing at lower cost.

### Ecological Physiology

Ecological Physiology staff installed 6 Passive Integrated Transponder (PIT) antennas at AFTC to monitor the movements of tagged hatchery and wild juvenile steelhead in Abernathy Creek. An additional array of 4 antennas was installed at the mouth of the creek.



PIT antenna monitoring fish movement and survival near the mouth of Abernathy Creek.  
USFWS: J. Samagaio



Solar panel used to power the PIT antenna on Abernathy Creek.  
USFWS: J. Samagaio

Jerone Anderson and Kurt Steinke visited Rush Creek with Jim Byrne of WDFW to meet Eric Waters and engineering personnel from Destron Fearing to discuss testing and demonstration of Destron Fearing's new PIT tag reader.

## Ecological Physiology cont....

The AFTC Ecological Physiology staff has been busy taking gill biopsies from steelhead smolts both within the hatchery prior to release as well as at a screwtrap operated by WDFW at the mouth of Abernathy Creek. Saltwater challenges have also been performed on both hatchery and wild steelhead.



James Samagaio extracting blood from juvenile steelhead post saltwater challenge. USFWS: R. Glenn

Kyle Hanson performed laboratory analysis of cortisol content in steelhead eggs to determine the potential for carry over of maternal stress to offspring.

Jerone Anderson and Kurt Steinke visited Spring Creek NFH to retune the antennas in the adult ladder.

Ken Ostrand did a 30 day detail as Acting Deputy Center Director this month, filling in for Patty Crandell who was Acting Center Director while Judy Gordon completed a 60 day detail as part of ALDP.

Jerone Anderson and James Samagaio delivered a set of 6 PIT antennas to be used for monitoring fish movements to Avista Corporation in MT.

Ecological Physiology staff installed 6 PIT antennas at Elmer Dam to be used to monitor fish movements in Catherine Creek for Oregon Department of Fish and Wildlife (ODFW).

## Modeling/Management Decision Support

Doug Peterson and Kyle Hanson (Ecological Physiology) submitted a proposal to the North Pacific LCC to develop a framework and tool for assessing the vulnerability of salmon propagation programs to climate change.

A position description for a GS 11/12 level scientist in the Modeling Program was submitted to human resources. The position will provide expertise in geographic information system (GIS) and spatial analyses. We anticipate the position will be advertised in late summer and filled by the end of the calendar year.

Doug Peterson and Patty Crandell met with staff from the Pacific Region Fisheries Program, Winthrop NFH, and Mid-Columbia FRO as part of an assignment from the Regional Climate Board to develop a methodology for vulnerability assessments of NFHs in the Pacific Region.

## Administration/Facilities

Patty Crandell and Ken Ostrand met with neighbor Cary Snyder regarding some property he has for sale. The property is above AFTC and has flat areas and water from a different aquifer than that currently used by AFTC.

## Reports and Publications

### Conservation Genetics

Hawkins, D. and B. Adams. 2011. Genetic characterization of burbot (*Lota lota maculosa*) from three lakes in the Wind River watershed, WY. Abernathy Fish Technology Center Technical Report.

Smith, C., and J. Vonbargen. 2011. Genetic connectivity among hatchery and wild spring Chinook salmon collected at Warm Springs National Fish Hatchery. Abernathy Fish Technology Center Technical Report.

William R. Ardren; Patrick W. DeHaan; Christian T. Smith; Eric B. Taylor; Robb Leary; Christine C. Kozfkay; Lindsay Godfrey; Matthew Diggs; Wade Fredenberg; Jeffrey Chan; C. William Kilpatrick; Maureen P. Small; Denise K. Hawkins. 2011. Genetic Structure, Evolutionary History, and Conservation Units of Bull Trout in the Coterminous United States. Transactions of the American Fisheries Society, 140: 2, 506-525, First published on: 13 April 2011 (iFirst)  
To link to this Article: DOI:  
10.1080/00028487.2011.567875  
URL:  
<http://dx.doi.org/10.1080/00028487.2011.567875>

### Ecological Physiology

Ostrand, K.G., K.C. Hanson, and A.S. McNamee. 2011. Manual for the intensive culture of Pacific Lampreys. Chelan County Power (PUD), P.O. Box 1231, Wenatchee, WA 98807. Abernathy Fish Technology Center Technical Report.

## 2011 World Aquaculture Society Meeting New Orleans, LA

Jeff Poole, Ron Twibell, Heidi Lewis and Ann Gannam attended the 2011 World Aquaculture Society meeting in New Orleans.

Ron presented a paper in the Nutrition and Physiology of Finfish session:

“Growth response and fatty acid composition of juvenile coho salmon fed diets free of fish meal and fish oil”, Ronald G. Twibell, Ann L. Gannam, Nathan Hyde, John S. A. Holmes, and Jeff B. Poole”.

Heidi presented one paper and three posters and co-chaired the Alternative Feed Ingredients session:

“Alternative Feed Ingredients: Soluble canola protein concentrate enhances production performance of sunshine bass fed reduced fish meal, plant-based diets”, Heidi A. Lewis, Jesse T. Trushenski, and Chris C. Kohler

“Evaluation of a “soy maximized” feed for hybrid striped bass *Morone chrysops* x *M. saxatilis* production—growth and fillet quality”, Kate Zimmerman, Heidi A. Lewis, Jesse T. Trushenski, and Sylvia Smith

“Insoluble canola protein concentrate partially replaces fish meal in largemouth bass *Micropterus salmoides* diets without affecting growth performance”, Heidi A. Lewis, Brian Gause, and Jesse T. Trushenski

“Preliminary data suggest ascorbic acid can lengthen motility time of white bass *Morone chrysops* sperm”, Heidi A. Lewis and Jesse T. Trushenski

Ann spoke in the, Women in Aquaculture session. Her talk was titled: “Life, the universe and fish nutrition” (with apologies to Douglas Adams).

# Workshops, Conferences, and Meetings....

## **Nutrition:**

- Ann Gannam attended the Warm Springs NFH Coordination meeting held at Kah-Nee-Tah Resort on the Warm Springs Reservation.
- Ann Gannam participated in two conference calls with organizers to plan the “Co-manager workshop on age and size at maturity of Pacific salmon and steelhead” workshop to take place May 17-19<sup>th</sup>.
- Heidi Lewis and Ann Gannam participated in a conference call with Jay Davis, Environmental Contaminants, Washington FWO, and Alec Maule, USGS Columbia River Research Laboratory to discuss data and progress on reports for the project “Investigation of Contaminants in Feeds and Fish at FWS Pacific Region National Fish Hatcheries and the Ramifications to Human and Ecological Health”. Data from this project will be presented at the American Fisheries Society National meeting.
- Ann Gannam called in to the Climate Change webinar, “Climate Change and Aquatic Ecosystems of the Great Northern LCC”.

## **Conservation Genetics:**

- Christian Smith attended the 4th Annual Klickitat White Salmon (WA. Gorge) Fisheries and Watershed Science Conference in The Dalles, OR.
- Christian Smith attended the Warm Springs NFH Coordination meeting. Christian presented genetic data for hatchery and wild spring Chinook salmon returning to the Deschutes River. The genetic data are one piece of information that will be used by the Confederated Tribes of the Warm Springs Reservation of OR (CTWS) and the FWS as they collaborate to develop an Operational Plan for the NFH.
- Pat DeHaan attended a meeting of the Lewis River Bull Trout working group and gave a presentation titled “Genetic Analysis of Lewis River Bull Trout”.
- Denise Hawkins attended an IT Transformation Meeting hosted by DOI Office of the Chief Information Officer, Associate Deputy Chief Information Officer, Bill Corrington. The purpose of the meeting was to gather information on how field offices use IT and to provide information on the upcoming IT transformation process.
- Denise Hawkins attended a meeting at the Columbia River FPO and gave a presentation titled “Population structure and genetic characteristics of summer steelhead (*Oncorhynchus mykiss*) in the Deschutes River Sub-basin, Oregon”. The group was composed of representatives from ODFW, USGS, Columbia River Intertribal Fish Commission, CTWS, and FWS. After the presentation, the group discussed plans for future analysis of Deschutes River steelhead.
- Denise Hawkins attended a joint meeting of the FWS bull trout Technical Team and the multi-agency RMEG (bull trout recovery monitoring and evaluation group) at the Columbia River FPO. Denise and Tim Whitesel (CRFPO) presented the results of an analysis of incorporating fine scale genetic data into delineation of bull trout core areas for use in recovery planning.
- Christian Smith, Pat DeHaan, Jennifer Von Bargen, Matt Smith, Molly McGlaufflin, and Denise Hawkins participated in the second annual meeting hosted by WDFW in Olympia, WA. This is an information sharing and collaboration planning meeting attended by staff from WDFW Molecular Genetics Lab, University of WA International Program for Salmon Ecological Genetics, and AFTC Conservation Genetics Program. Molly and Christian both presented current work from our Program.

# Workshops, Conferences, and Meetings....

## **Conservation Genetics cont....**

- Pat DeHaan and Denise Hawkins participated in a conference call with Brad Thompson and Roger Tabor (Washington FWO) to discuss plans to assess population structure of Olympic mudminnow (*Novumbra hubbsi*).
- Christian Smith participated in a White Salmon Working Group meeting to discuss plans for the removal of Condit Dam.

## **Ecological Physiology:**

- Ben Kennedy and Patty Crandell met with the Lower Columbia Fish Recovery Board, WDFW, Washington State Department of Natural Resources, and Inter-Fluve consulting services in Longview to prioritize restoration alternatives listed in the draft Abernathy Creek Project Design Report.
- Ben Kennedy provided technical expertise to William Ardren and collaborators in Region 5 on the use of morphometrics to describe Atlantic salmon smolting patterns.

## **Administration/Facilities:**

- Patty Crandell participated in two Pacific Region Climate Change Board meetings. The meetings included discussion and finalization of updates from the four workgroups: Mitigation, Engagement, Adaptation I, and Adaptation II. The updates were given to the Regional Directorate for approval.
- Patty Crandell and Ken Ostrand participated in an FTC conference call. The purpose of the call was to discuss the upcoming Fisheries Management Team / Science Support Meeting, obtain feedback on the proposed session, and determine what should be accomplished. Judy Gordon later participated in a call where the meeting was cancelled and rescheduled for October.
- Patty Crandell participated in an Aquatic Conservation team (ACT) conference call. The call was intended to summarize activities and results from the previous three day ACT meeting.
- Patty Crandell, Ken Ostrand, and Denise Hawkins attended meetings with David Hancock and staff from contractor HB Stubbs and Vaughn Rupert from FWS visitor services. HB Stubbs will be responsible for creating and producing interpretive panels for AFTC's new kiosk. Ken and Denise will be responsible for working with the contractor on a design.
- Denise Hawkins and Patty Crandell participated in a call to discuss the Fisheries Program's anticipated travel reduction with Fisheries project leaders and RO staff.
- Denise Hawkins, Patty Crandell, and Scott Gronbach had a conference call with Kim Hubbard from the RO Fisheries Program to discuss the process for going forward with AFTC's approved deferred maintenance project to repave the parking lot and create "creek friendly" drainage.
- Patty Crandell, Eli Asher, Habitat Program Manager for the Lower Columbia Fish Recovery Board and staff from WDFW, the Cowlitz Indian Tribe, WDNR, and other groups met with contractors from Inter-Fluve in Vancouver to further discuss habitat restoration priorities for Abernathy Creek.
- Judy Gordon and Patty Crandell met in the RO with Fisheries Program staff Jana Grote and Julie Collins to discuss the FTC strategic plan and the future of the Hatchery Management Workshop.

## New Faces....



Scott Gronbach  
Administration  
Facilities Operations Specialist

Scott started working for Department of the Interior as a Planner/Scheduler/Maximo Administrator for the Bureau of Reclamation in 2008. Prior to working for DOI, he was a Navy Electronics Technician for nearly 10 years stationed in many places including Japan, San Diego, CA and Whidbey Island, WA. While serving on active duty, he obtained his bachelor's degree in Business Management from Columbia College of Missouri and has matriculated to Boston University in hopes of obtaining a Master's of Science degree in Project Management. When he is not working at AFTC or as a Naval Officer in the Reserves, you can find him playing Dad to his three children Nicholas (11), Julianna (9) and Janelle (5) as well as husband to Tammy. When his schedule allows it, he coaches soccer and Little League teams and tries to be active in the church community. In his youth, he was known to be surfing the Southern California beaches most days and taking in the sites around San Diego, CA. He has heard that people surf the WA coastline but he thinks they are just pulling his leg. Even still, he is going to give it a try this summer.

## MESA Day

Heidi Lewis attended Mathematics Engineering Science Achievement Day (MESA) at Clark College. Heidi judged the academic displays of middle and high school students' describing their wind energy experiments. The displays were evaluated based on technical explanations and data presentation; scaled drawing and cost/labor summary; form, key features, and organization; abstract; and creativity. More than 20 displays were judged.

## Mt. Hood Community College

The current students of Mt. Hood Community College's Fisheries Technology course made their annual site visit to AFTC. A visit to AFTC is part of the spring curriculum to demonstrate to future fisheries professionals how science is being done in support of fishery resources both in wild and hatchery environments. The 15 students were given a tour of the facility which included observing staff collecting biological information on adult steelhead, wild and hatchery, returning to Abernathy Creek as part of AFTC's steelhead reproductive success study.



Regional Geneticist, Denise Hawkins with the Mt. Hood students in the Genetics Lab.  
USFWS: J. Gordon

## Earth Day



Visitors at the FWS Earth Day Booth  
USFWS: A. Gannam

Ann Gannam staffed the FWS Earth Day booth at the Longview Earth Day event. The event was a great success. At least 200 children plus their parents visited the booth, many with questions and comments. Jane Chorazy, Tribal Grants and Outreach Specialist in the regional office, loaned AFTC two banners depicting Rachel Carson with a couple of her quotes as well as a table cover and many handouts.