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Farewell Denise!



Staff:

Administration/Facilities:

Judy Gordon, Center Director
Patty Crandell, Deputy Center Director
Vince Bocci, Administrative Officer
Toni Scholder, Administrative Assistant
Mark Hack, IT Specialist
John Holmes, Fish Biologist
Shawn Swartout, Biological Science Aide
Scott Gronbach, Facilities Op Specialist
Jeff Poole, Water Treatment Plant Operator
Jim Lowell, Maintenance Worker

Nutrition:

Ann Gannam, Regional Nutritionist
Ron Twibell, Fish Nutritionist
Nathan Hyde, Biological Technician
James Barron, Biologist

Conservation Genetics:

Christian Smith, Acting Regional Geneticist
Pat DeHaan, Conservation Geneticist
Brice Adams, Fish Geneticist
Matt Smith, Conservation Geneticist
Jennifer Von Bargaen, Lab Geneticist
Dan Bingham, Fish Geneticist

Ecological Physiology:

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

Modeling and Management Decision Support:

Doug Peterson, Senior Scientist

On May 21, 2013, we held a farewell party during lunch for Denise Hawkins, Regional Geneticist. Denise took a reassignment to become the Fisheries Division Manager at the Washington FWO, in Lacey, WA. We had a team (thanks Doug, Chris, Matt and James) who manned the grills (Hey, May is also National Barbeque Month!) and volunteers brought salads in honor of National Salad Day (May 1). Since barbeque and salad are some of Denise's favorite foods, she didn't mind sharing the day with these food related festivities. Denise's ability to work well with a variety of people, her fantastic supervisory skills, and of course her excellent technical abilities made her AFTC's most respected and well liked employee. The Washington FWO's gain is certainly our loss. We'll miss her and wish her well in her new job!

Program Highlights....

Nutrition

The Nutrition Program analyzed 42 feed samples for fish feed quality control in May and June including six feeds for AFTC. As part of the routine analyses, all feeds from the hatcheries were checked for rancidity. Ann Gannam wrote the feed memos and then contacted the feed mills when necessary.

A test of the transfer diet, BioSupreme was completed at Makah NFH. This was a project done with Kyle Hanson. The data is currently being evaluated.

A study plan was developed with Kyle Hanson and Carson NFH to utilize an altered feeding regime and investigate its effect on precosity of spring Chinook. The study will start towards the end of July.

The Nutrition Program got larval lamprey from Matt Mesa at the US Geological Survey Columbia River Research (USGS) laboratory. These fish will be used in additional studies including density, feeding level and added nutrients.

The Nutrition Program, Ecological Physiology Program and Facilities are in the planning stages for converting some of our 10' circular tanks to ones with the flow dynamics of reuse tanks. These tanks will be used to study the effects of that environment on the nutritional physiology of Pacific salmon.

Two manuscripts were reviewed by the Program, one for North American Journal of Aquaculture and one for Aquaculture Nutrition.

Conservation Genetics

Dan Bingham and Jennifer Von Bargaen completed analysis of the original captive broodstock used to establish the AFTC steelhead population. Comparison of these fish with current populations of wild and hatchery fish will provide insight into the ways that hatchery propagation has (and has not) changed the hatchery population. This work is part of the Bonneville Power Administration (BPA) funded Abernathy Creek steelhead project.

Jennifer Von Bargaen and Christian Smith performed rapid response analysis of Chinook salmon trapped at Keswick Dam on the Sacramento River. The analysis was used to identify winter run Chinook salmon for use in the broodstock at Livingston Stone NFH. Jennifer and Christian also analyzed samples from Chinook salmon trapped in a ditch as part of an interagency rescue effort for those fish. Fish identified as winter run by the Genetics Program were incorporated into the broodstock at Livingston Stone NFH.

Brice Adams analyzed coho salmon from Abernathy Creek. The objective of this work is to test whether standardized microsatellite markers provide sufficient power to conduct relative reproductive success studies of the local coho salmon population.

Christian Smith collaborated with our partners at the Columbia River FPO, Oregon Department of Fish and Wildlife (ODFW), and the Confederated Tribes of the Warm Springs Reservation of OR to analyze genetic data from Deschutes River spring Chinook salmon.

Conservation Genetics cont....

Matt Smith and Dan Bingham worked with our partners at ODFW to remove fish traps from tributaries to the Deschutes River, OR. These traps are being used to monitor steelhead that enter and leave the tributaries, as part of a larger evaluation of the impacts of hatchery strays on wild populations in the Deschutes Basin.

Christian Smith collaborated with our partners at the Columbia River FPO, ODFW, and the Confederated Tribes of the Warm Springs Reservation of OR to analyze genetic data from Deschutes River spring Chinook salmon.

Brice Adams developed techniques to extract DNA from an endangered plant, Spalding's Catchfly. This project is part of a collaboration with the Boise FWO. The goal of the project is to characterize population structure within this species and thus to inform potential translocations identified in the species' recovery plan.



Spalding's catchfly (*Silene spaldingii*)
USFS: C. Menke

Conservation Genetics cont....

Jennifer VonBargen analyzed 96 Single nucleotide polymorphism (SNP) markers in 191 Chinook salmon captured in the Sacramento River, CA. The results were used to select broodstock at Livingston Stone NFH and to monitor juvenile Chinook salmon movement in the American River, a tributary to the Sacramento River.

Ecological Physiology

The Ecological Physiology Program wrapped up screw trap operations on Abernathy Creek for the year. We removed the antenna and solar panel from the station at the mouth of the creek. Screw traps are a large, rotating fish collection devices that are used to sample out-migrating steelhead smolts. This work is part of the BPA funded Abernathy Creek steelhead project.

The program is gearing up for electrofishing season and now has four volunteers ready to help. Volunteers are from Portland State University and Mt. Hood Community College.

Kurt Steinke built a passive integrated transponder (PIT) pack system using the FS2001F-ISO ("cheezblock") reader to recover PIT tags from dead fish or fish preyed upon by birds. It implements the following features in a watertight (but not submersible) case which connects between the reader and a portable antenna: a 12V battery pack to supplement the reader's battery, a charger for the battery pack, a loud beeper to signal when a tag is read, an adjustable tuning capacitor for the antenna and an ON/OFF switch for the PIT pack system.

Ecological Physiology cont....

Kurt Steinke and Will Simpson conducted field work at the Umatilla River diversion sites near Hermiston, OR funded by Bureau of Reclamation (BOR). They used PIT packs to scan the diversion canals for PIT tags from previously entrained fish. Unfortunately, two of the PIT system sites had been vandalized. An antenna cable was cut and stolen, and the antenna for the wireless modem at the site was stolen. The thefts were reported to the local authorities.

Ben Kennedy spent a day in Abernathy Creek consulting with biologists from the Lower Columbia River Fish Recovery Board and engineers from Inter-Fluve to help prioritize future Abernathy Creek habitat restoration projects.

Ben Kennedy, Kyle Hanson and Chris Taylor talked with Ken Ostrand of the San Marcos Aquatic Research Center about a PIT tagging study on a captive population of listed salamanders.

Chris Taylor is working with Christina Luzier and Carrie Cook-Tabor to setup a Lower Columbia Pacific Lamprey Implementation Meeting. We have tentatively set this for the week of July 22. The purpose of the meeting is to: identify and prioritize needed actions, research, monitoring and evaluation for Pacific Lamprey; identify agencies or organizations that can implement these needs; and identify entities that can fund them. We want broad representation from organizations such as tribes, federal, state and local agencies, utilities, universities and watershed councils.

Ecological Physiology cont....

Sarah West, a Walla Walla University undergraduate and 2012 volunteer with the Ecological Physiology Program, completed her undergraduate thesis based on data collected from Abernathy Creek. Her project was to examine steelhead fry, parr and redd distribution above and below the electric weir. Sarah plans to attend graduate school next year.

Modeling and Management Decision Support

Doug Peterson and Pat DeHaan produced a draft report on genetic monitoring of Arctic grayling in the Big Hole and Red Rock drainages in MT. The draft report was circulated for review by cooperating biologists with the FWS Mountain Prairie Region and Montana Fish, Wildlife and Parks (MFWP). The report will be finalized in July 2013.

Victoria O'Byrne, GIS (Geographic Information System) technician, completed her 6-month contract and her last day at AFTC was June 28. She contributed to a number of different projects in Modeling, Conservation Genetics, and Ecological Physiology during that time. In Modeling, she made major contributions to the climate change vulnerability assessments for NFH's in the Pacific Region, developed a geo-database of spatial information to support modeling of bull trout populations in the lower Clark Fork River, and assembled large spatial imagery dataset used to try to evaluate changes in riparian vegetation in the Big Hole and Red Rock lakes drainages in MT. Good bye Victoria and best of luck in your future endeavors!

Program Highlights cont....

Modeling and Management Decision Support cont....

Doug Peterson coordinated a two-day modeling workshop for Avista Corporation's Native Salmonid Restoration Plan for the lower Clark Fork River in Noxon, MT and conducted site visits at bull trout streams in ID and MT. More than a dozen fishery biologists from Avista Corporation; Idaho Fish and Game; MFWP; US Forest Service (USFS), and FWS Mountain Prairie Region participated in the workshop. Workshop products were conceptual models for: (a) bull trout production within spawning tributaries, and (b) bull trout survival in migratory and lake/reservoir habitats. Victoria O'Byrne, an AFTC contract employee, also attended and provided GIS and mapping support during the workshop.



Fish weir and trap on Graves Creek, a tributary to the Clark Fork River. The purpose of the weir is to capture out-migrating juvenile bull trout for transport past dams on the mainstem Clark Fork River. Pictured are Sean Moran (Avista Corporation, at left) and Ryan Kreiner (MFWP). In the background, biologists from Avista Corporation are checking the trap and removing debris from the weir.
USFWS: D. Peterson

Modeling and Management Decision Support cont....



Participants at the modeling workshop for Avista Corporation's Native Salmonid Restoration Plan for the lower Clark Fork River in Noxon, MT. Pictured (left to right) are Shana Bernall (Avista Corporation), Kenneth Breidinger (MFWP), Sean Moran (Avista), Wade Fredenberg (FWS Mountain Prairie Region), and Doug Grupenhoff (USFS).
USFWS: D. Peterson



Participants at the modeling workshop for Avista Corporation's Native Salmonid Restoration Plan for the lower Clark Fork River in Noxon, MT. Pictured (left to right) are Rob Ryan (Idaho Fish and Game), Ryan Kreiner, Lee Nelson and David Schmetterling (MFWP). Not pictured: Joe DosSantos (Avista), Victoria O'Byrne and Doug Peterson (AFTC).
USFWS: D. Peterson

Program Highlights cont....

Administration/Facilities

This year's trapping for winter steelhead adults ended on June 27th for the BPA funded Abernathy Creek steelhead project "Natural Reproductive Success and Demographic Effects of Hatchery-Origin Steelhead in Abernathy Creek, WA". Twelve natural-origin (9 released upstream, 3 retained for broodstock), 27 hatchery-origin (4 released upstream, 23 retained for broodstock) and 22 stray out of basin hatchery-origin steelhead were handled.

The third juvenile release (3800 smolts) for the BPA funded Abernathy Creek steelhead project occurred on May 14th. A total of 10,600 yearling steelhead were released into Abernathy Creek this spring.

To look at freshwater residence in the natural-origin steelhead population, digital images of adult scales were taken with the aid of a microscope. The example below shows a steelhead that spent 2 years in freshwater and 4 years in the ocean, returning as a 6 year old.



USFWS

Administration/Facilities cont....

Patty Crandell met with Jana Grote, Mike Carrier, Rich Johnson and Don Campton from the Pacific RO and Bill Gale from the Mid-Columbia River FRO about finalizing the Winthrop NFH Climate Change Vulnerability Assessment Report. RO staff provided direction with regards to finalizing the report as well as the schedule for the next vulnerability assessments. The Olympic Peninsula facilities will be the next NFHs to be assessed.

Shawn Swartout finished a three week detail at Willard NFH. Shawn provided assistance wherever it was needed, and the NFH provided hatchery experience for Shawn who is new to the FWS and salmon culture.

Judy Gordon participated in the Pacific Region Science Coordination Team conference calls to discuss the Pacific's Region's prioritization of science needs.

Judy Gordon, a member of the North Pacific Landscape Conservation Cooperative's (NPLCC) Science-Traditional Ecological Knowledge Subcommittee, reviewed and discussed rankings of proposals for FY13 NPLCC funding.

AFTC supervisors completed mandatory EEO and Diversity Training.

Administration/Facilities cont....

Judy Gordon participated in *Crucial Conversations* training held in the Pacific Regional Office. The goal of this NCTC (National Conservation Training Center) sponsored training is to provide participants with skills to initiate and conduct difficult conversations on issues involving strong emotions, differing opinions, and having high stakes.

Judy Gordon joined Robyn Thorson, Regional Director, Tina Ballard, Budget Division Chief, Marilet Zablan, Endangered Species Division Chief, and Erin Holmes, Tualatin National Wildlife Refuge Manager in a panel discussion entitled *Sharing Our Stories: The Women of Region One*. Hosted by the Division of Diversity and Civil Rights the goal of the panel discussion was to share the career paths of each panelist, choices made and the highlights encountered along the way and interact with the audience. Held in the Pacific RO, the well-attended event continues to receive praise. It is hoped that similar events will be held in the future highlighting the professional journeys of other groups in the Pacific Region.



Pictured left to right: Rebecca Toland (Biologist, Oregon FWS Office), Erin Holmes (Tualatin NWR Manager), Judy Gordon (Center Director, Abernathy FTC), Marilet Zablan (Endangered Species Division Chief), Robyn Thorson (Regional Director), Tina Ballard (Budget Division Chief).
USFWS

Administration/Facilities cont....

The Facilities Department was chock full of construction and demolition activities especially in and around the abandoned biofilter system. Jim Lowell led the way in designing and constructing a new electrical distribution building which houses the power source for the electric weir, the bridge antenna arrays and the fish spawning area. Jim, Scott Gronbach and Jeff Poole completed the removal of the pump house materials and aeration tower bio filter rings. In an effort to be eco-friendly, most of the demolition materials were separated by type and locally recycled. Other demolition activities included the proper abatement and removal of 200 sq. ft. of asbestos laden tiles from the main lab building by IRS Environmental of Vancouver, WA.

Scott Gronbach has worked as the lead assessor for the 5-year Comprehensive Condition Assessment (CCA) at Quilcene NFH. His CCA duties included a 2-day site visit to understand the hatchery's needs and problem areas as well as documenting the asset upgrades and decommissioning's since 2009. To date, Scott has completed the valuation and annotation of the asset/locations at Quilcene NFH and Kim Hubbard and Larry Telles have begun reviewing the findings at the RO.

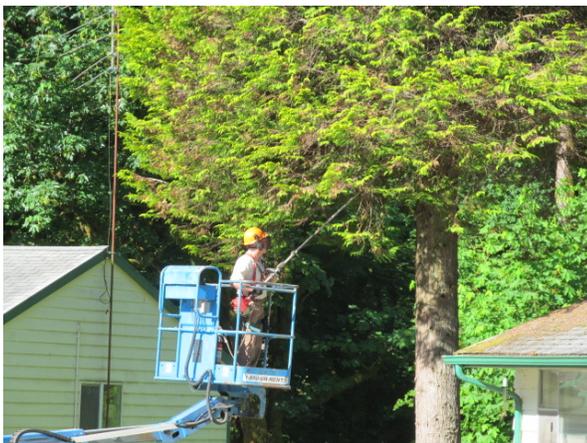
Jeff Poole visited Quilcene NFH in order to document and inquire about their highly automated water treatment system. From his visit, he hopes to make significant upgrades to AFTC's water treatment system such as installing quality monitoring instrumentation and streamlining the disinfecting process.

Program Highlights cont....

Administration/Facilities cont....

Jim Lowell and Jeff Poole carefully and methodically felled a diseased cedar tree near the Nutrition Office using a manlift and multiple chainsaws. The manlift was also used to install a dozen halo anchors on multiple facility roofs by Scott and Jim. These halo anchors will allow the Facilities staff to safely and effectively clean and repair the AFTC's roofs in order to prolong their life. Additionally, several annual preventive maintenance activities continued throughout AFTC including the routine cleaning and inspecting of the HVAC systems, heat pumps, and fuel burning furnaces.

Progression of a tree falling....



Jim Lowell begins the task.
USFWS: T. Scholder



Getting higher.....
USFWS: T. Scholder

Administration/Facilities cont....



Jeff Poole and Jim Lowell nearing the top.
USFWS: T. Scholder



Almost done....
USFWS: T. Scholder



Job done! Jeff Poole and Jim Lowell, AFTC loggers!
USFWS: T. Scholder

Program Highlights cont....

Administration/Facilities cont....

Safety events over the past few months were quite varied and included the meticulous review of AFTC's spill response prevention and control with the assistance of Nortek, Inc. AFTC's response guidance will be enhanced and its potential spill containment vessels will be hardened. Safety discussions encircled all-things CPR & First Aid and were led by Keep the Beat, Inc. From the training session, 24 staff members emerged as qualified recipients of Red Cross CPR & First Aid cards. Safety training was also provided about proper use and maintenance of fire extinguishers and was led by Vince Bocci.



Will Simpson and Vince Bocci getting hands on experience with AFTC's fire extinguishers. *USFWS: T. Scholder*



Scott Gronbach demonstrating proper use of a fire extinguisher. *USFWS: T. Scholder*

Administration/Facilities cont....

AFTC's administration employees enjoyed watching new life emerge this spring. The barn swallows return each year to AFTC and numerous nests can be found all around the station. One family uses a house which is right outside the main office window where we can watch the young grow and eventually fledge. This year a robin decided a large rhododendron outside the back door was the perfect location to protect her eggs and young from the rain and sun.



Barn swallow (*Hirundo rustica*)
USFWS: T. Scholder



American robin (*Turdus migratorius*)
USFWS: T. Scholder

Nutrition:

- Ann Gannam had a “Question and Answer” conference call with the Fish Health Centers in the Pacific Region.
- Ann Gannam participated in the Pacific Region Hatchery Evaluation Team (HET) conference call for Warm Springs NFH with Kyle Hanson.

Conservation Genetics:

- Pat DeHaan participated in the FWS Genetics Community of Practice meeting.
- Christian Smith participated in HET meetings for Warm Springs and Makah NFHs.
- Christian Smith completed annual role based security training requirements in order to gain administrative access to the laboratory computers, and the ability to back-up the Genetics Program’s database.
- Dan Bingham and Matt Smith met with biologists at the Columbia River FPO to present results of a genetic analysis of steelhead from Eagle Creek, OR.
- Jennifer Von Bargaen attended a supervisory skills workshop.

Administration/Facilities:

- Patty Crandell attended two Regional Climate Board meetings.
- Patty Crandell participated in several discussions with Bill Gale from the Mid-Columbia River FRO about organizing the Quilcene NFH vulnerability assessment.
- Jeff Poole attended a water distribution system course held by the Pacific Northwest Section of American Waterworks Association (PNWS-AWWA) - Lower Columbia Subsection on specialty valves and intends to use this info to update several of the facilities seized valves and inadequate flow measurement systems.
- Mark Hack completed role based security training in order to ensure his access to AFTC computers as an administrator.

Nutrition:

Trosvik, K. A., C. D. Webster, K. R. Thompson, L. A. Metts, A. Gannam and R. Twibell. 2013. Effects on growth performance and body composition in Nile tilapia, *Oreochromis niloticus*, fry fed organic diets containing yeast extract and soybean meal as a total replacement of fish meal without amino acid supplementation. *Biological Agriculture & Horticulture Journal* DOI:10.1080/01448765.2013.810123.

Hill, H., R. Twibell, J. Conway, A. Gannam and J. Seals. 2013. Influence of lineage, broodstock conditioning, and hormone injection on Gila Trout reproductive success and egg fatty acid composition. *North American Journal of Aquaculture* 75: 393-403.

Conservation Genetics:

Bingham, D., D. Olson and M. Kavanagh. 2013. Genetic analysis of juvenile steelhead (*Oncorhynchus mykiss*) samples collected in upper Eagle Creek and North Fork Eagle Creek, OR. AFTC Final Report.

DeHaan, P.D, B. Adams, and D. Hawkins. 2013. Genetic analysis of native salmonids from the Lake Pend Oreille and Clark Fork River system, Idaho and Montana. AFTC Final Report.

Hudson, J. M., D. Bingham, T. Whitesel, and D. Hawkins. 2013. Genetic population structure and contemporary effective population size of bull trout in the upper Imnaha River subbasin, Oregon. AFTC Final Report.

Von Bargen, J., and C. T. Smith. 2013. Genetic identification of endangered winter-run Chinook salmon in the Sacramento River, CA. AFTC Final Report FY2012.



A. Warner

Career Day

James Barron and Kurt Steinke represented AFTC at Olympic Elementary School's career day in Longview, WA. Kurt and James talked with 13 classes, from kindergarten through 5th grade, about working for the FWS and what it is like to be a biologist or engineer. They hope they inspired some of the kids to pursue careers with the FWS or in natural resources with their stories.

American Pika Watch

Will Simpson gave a presentation to 10 members of the general public on the life history of pika, how to identify pika (visually, by call, and by sign), their habitat, their potential susceptibility to climate change, and the importance of reporting presence/absence data over the internet for a citizen science project. After the presentation, Will led a field outing to pika habitat in the Columbia River Gorge where pika habitat was observed and pika presence was directly and indirectly observed. The training was held at the Hood River Library in Hood River, OR and was sponsored by the Columbia Gorge Ecology Institute. Will did his graduate studies on the American Pika.



American Pika (*Ochotona princeps*)
CDFW