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Director's Greeting...

We have successfully completed another year here at AFTC. I would like to take this moment to thank every one of AFTC's employees for their continued dedication to providing current best science to meet the ongoing challenges facing our natural resources. In FY2011, I will be participating in Cohort X of the Service's Advanced Leadership Development Program. I am confident that as we look towards the new fiscal year, AFTC staff will continue to provide the same excellent service to the Fisheries Program and its partners.

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

Nutrition:

Ann Gannam, Regional Nutritionist
 Ron Twibell, Fish Nutritionist
 Jeff Poole, Extruder Operator
 Nathan Hyde, Biological Technician

Conservation Genetics:

Denise Hawkins, Regional Geneticist
 Christian Smith, Conservation Geneticist
 Pat DeHaan, Fish Geneticist
 Brice Adams, Biological Technician
 Molly McGlaufflin, Fish 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

New ARD Visits AFTC



USFWS

New ARD Rich Hannan, Fisheries Supervisor Jana Grote, and Sydney Nelson, summer intern from Portland State University, visited AFTC in order to familiarize Rich with the Pacific Region's Fish Technology Center. Rich was previously the ARD for Budget and Administration in the FWS's Alaska Region and succeeded Dan Diggs, who retired in January. He began his duties in Portland in April and has visited numerous Fisheries facilities since that time. Rich was given an overview of AFTC by Director Judy Gordon and had lunch with AFTC staff. In the afternoon, he met individually with each of the 3 AFTC Applied Research programs, Nutrition, Conservation Genetics, and Ecological Physiology.

Program Highlights....

Nutrition

Ann Gannam is a cooperator on a U.S. Department of Agriculture (USDA) grant proposal that addresses the use of alternative proteins in aquaculture feeds evaluating plant-based diets and their effects on gene expression. The primary investigator on the project is Dr. Jonathan Eya (West Virginia State University). Other investigators include Drs. Carl Webster & James Tidwell (Kentucky State University), Dr. Rebecca Lochmann (University of Arkansas, Pine Bluff), Drs. Beth Cleveland & Brian Peterson (USDA), Drs. Bruce Manning & Menghe Li (Mississippi State University) and Dr. Ken Blemings (West Virginia University).

The Alternative Feeds Initiative report, "The Future of Aquafeeds", is being wrapped up. It is being vetted by USDA, National Oceanic and Atmospheric Administration (NOAA) and the Food and Drug Administration and will then be sent out for public comment. This report is a product of a NOAA and USDA collaboration. The FWS had input (Ron Twibell, Ann Gannam) in the proofing and Ron wrote one of the case studies included in the report, case study six, "Research on diets for threatened and endangered fish species held in captivity gains ground".

Feed was made by Jeff Poole, Ann Gannam and Ron Twibell for a feeding trial testing alternative lipids. The trial will take place under the supervision of our cooperator, Dr. Rebecca Lochmann, University of Arkansas, Pine Bluff.

Nathan Hyde and Ron Twibell analyzed 15 feed samples from NFHs for fish feed quality control. 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.

Nutrition cont....

Ann Gannam taught the Nutrition section, "Overview of Nutritional Needs and Common Nutritional Diseases", of the Fundamentals of Fish Health course held at Bonneville Dam. The three day workshop is sponsored by FWS and facilitated by Ray Brunson, Olympia Fish Health Center. Jeff McLaren attended the course.



Dr. Ann Gannam teaching at the Fish Health Course.
USFWS: R. Brunson

Working with the Mora National Fish Hatchery & Technology Center (MFTC), AFTC developed a low phosphorus test diet to be used with Gila trout to help determine their phosphorus requirements. This information will be used to determine which diets are best for the Gila trout and will also help reduce the phosphorus in the MFTC's effluent.

After acclimation, coho were started on the experimental diets used to determine digestibility of alternative ingredients. The diets were developed by the Bozeman Fish Technology Center (BFTC). The fecal collection for the study will start September 13th. This is a cooperative project with BFTC.

An abstract was submitted to the World Aquaculture Society (WAS) for their February 2011 meeting in New Orleans. The topic is alternative oils and proteins fed to coho.

Program Highlights cont....

Conservation Genetics

The big project in the laboratory has been to start the samples for our annual comparison of relative reproductive success between hatchery origin and natural origin steelhead spawning naturally in Abernathy Creek. This work is the continuation of a Bonneville Power Administration (BPA) funded project in collaboration with the Ecological Physiology Program.

Morten Limborg, a Ph.D. student at the Technical University of Denmark, visited AFTC to discuss a steelhead single nucleotide polymorphism (SNP) discovery project that he is working on in conjunction with the University of Washington and Washington Department of Fish & Wildlife (WDFW). While at AFTC, Morten gave a presentation of his work looking at population structure in European sprat, a small marine pelagic fish.

Joe Norvell, our summer student temporary employment program (STEP) student, left to return to school at Washington State University, Vancouver, where he is pursuing a biology degree. Joe assisted with several projects and learned to score microsatellites in addition to producing a record number of sample kits for distribution to collaborators for collection of genetic samples.



Joe Norvell extracting DNA from fish tissue.
USFWS: D. Hawkins

Conservation Genetics cont....

Andrew Matala and Vanessa Morman, geneticists from the Columbia River Inter-Tribal Fish Commission (CRITFC), worked at AFTC to subsample Chinook salmon and steelhead samples from the Pacific Region genetic sample archive. Our partners at CRITFC plan to use these samples to build an improved genetic baseline for Chinook salmon and steelhead in the Columbia River. These baselines will improve the ability of CRITFC, FWS and our other partner agencies to monitor migration of both species.

Pat DeHaan, Brice Adams, and Denise Hawkins traveled to Noxon, MT to meet with collaborators from Avista Corporation, Idaho Fish & Game (IDFG), Montana Fish, Wildlife & Parks, US Forest Service, and FWS, view study sites, and assist with field collections as part of an ongoing project funded by Avista Corporation to assist with bull trout passage and determine reproductive success of transported bull trout on the Clark Fork River. Pat DeHaan presented data from the parentage study and the group discussed the uses of different genetic markers.



Bull trout collected and released after collection of genetic samples.
USFWS: P. DeHaan

Program Highlights cont....

Ecological Physiology

The entire ecological physiology staff has been participating in electrofishing efforts to collect steelhead parr. These fish are being used to determine how population demographics, migration timing, and reproductive success of the Abernathy Creek population respond to hatchery supplementation with natural origin broodstock.

Will Simpson, Kurt Steinke, Jerone Anderson, James Samagaio, and Ashley McNamee retrieved data from 6 PIT tag sites on the Columbia River mainstem that support 36 individual antennas. These sites are being used to monitor how habitat restoration activities in tidal wetland areas are benefiting salmonids.

Richard Glenn and Ashley McNamee finished analyzing gill biopsies from hatchery and natural origin steelhead for Na^+ , K^+ -ATPase activity.

Kyle Hanson and Kenneth Ostrand prepared a manuscript discussing the potential effects of global climate change on NFH operations within the Pacific Northwest which was distributed and discussed at the annual Project Leader meeting.

Ecological physiology staff sampled fish around Cottonwood Island in the Columbia River by beach seining with research partners from Pacific Northwest National Laboratory as part of an ongoing study designed to determine sampling protocols that incorporate physiological variables to guide future estuary restoration activities in the lower Columbia River.

Ecological Physiology cont....

Kurt Steinke and Jerone Anderson completed several new antenna installations. An array of 6 passover antennas was installed in Graves Creek, MT for Avista Corporation to monitor bull trout passage. An installation was also completed at Spring Creek NFH where three pass-through antennas were installed in the adult fish ladder to count the number of PIT tagged adult salmon returning to the hatchery to spawn. The third installation took place in Rush Creek, WA where a pass-through antenna was installed for WDFW to monitor bull trout passage.



Three upstream passover antennas installed in lower Graves Creek, MT to monitor bulltrout movements.

USFWS



Passive integrated transponder (PIT) site located at Spring Creek NFH between two steps of the ladder when the ladder is dewatered. The site is equipped with electronics equipment that monitors PIT tagged adult salmon as they migrate back to the facility.

USFWS

Program Highlights cont....

Ecological Physiology cont....



A single antenna controlled by an FS2001F-ISO handheld Destron Fearing reader. The site is operated by WDFW and Installed in Rush Creek, WA to monitor bulltrout populations.
USFWS

Administration/Facilities

Ken Ostrand, Denise Hawkins, and Patty Crandell submitted a proposal to continue AFTC's largest and most integrated research project, the Abernathy Creek steelhead study. The proposal, which took a large amount of time to complete, was submitted through the Columbia Basin Fish and Wildlife Program's new projects and portfolios database system, Taurus (<http://www.cbfish.org/Home.mvc/>). Projects will be funded by (BPA) with guidance from the Northwest Power and Conservation Council using an independent scientific review process. Funded projects are "designed to protect and rebuild fish and wildlife populations affected by federal hydropower development in the Columbia River Basin."

A deer was killed over a weekend at AFTC near the pollution abatement pond and the likely culprit was a mountain lion. Construction crews working on the pond and AFTC employees were kept out of the area until the large doe was fully consumed.

Administration/Facilities....

John Baugher from BPA volunteered for a day with the Ecological Physiology crew and helped with annual electrofishing duties. John is the new manager of the Abernathy Creek steelhead study. Annual sampling and tagging of juvenile natural origin steelhead provides important genetic and behavioral information for this study. A large crew of people is needed to capture, tag, and collect data and samples from fish each year. Along with providing much needed assistance, John was able to gain a better understanding for the logistical difficulties associated with this large, complex research study.

Reports and Publications

Conservation Genetics

DeHaan, P. and Adams, B. 2010. Genetic Population Structure of Olympic Peninsula Bull Trout Populations and Implications for Elwha Dam Removal. Abernathy Fish Technology Center Report. For Olympic National Park, Port Angeles, WA.

Ecological Physiology

Ostrand K. G., B. M. Kennedy, and J. B. Samagaio. 2010. Fish assemblage structure of tidal forested wetlands in the Columbia River estuary. Abernathy Fish Technology Report. For Pacific Northwest National Laboratory, Marine Sciences Laboratory, Sequim, WA.

Workshops, Conferences, and Meetings....

Nutrition:

- Ann Gannam participated in a conference call to the Red Fish Lake sockeye meeting in Sun Valley, ID to talk about sockeye feed development. Participants included Ron Hardy (University of Idaho), Rick Barrows (USDA), Wendy Sealey (BFTC), Penny Swanson and Mike Rust (NOAA, Seattle) and IDFG staff.
- Ann Gannam coordinated conference calls with Eagle Hatchery (Dan Green, IDFG) and BFTC (Wendy Sealey) to discuss sockeye salmon feed issues.
- Ann Gannam attended the FTC meeting at BFTC. She met with the nutritionists there (Wendy Sealey and Gibson Gaylord) as well as members of the nutrition group who called in to the breakout session (Brian Hickson, R4; Catherine Sykes, R2; Steve Davis, R5; Ron Twibell, R1).

Conservation Genetics:

- Christian Smith attended the Applied Supervision course at NCTC.
- Denise Hawkins attended the annual FTC meeting, held this year in Bozeman, MT. While at the meeting, the Genetics Community of Practice Group met to discuss work products to explain the use of genetic data in conjunction with Landscape Conservation Cooperatives.

Ecological Physiology:

- Kenneth Ostrand met with Chelan Public Utilities District to discuss a collaborative project that involves a literature review on lamprey culture efforts. The project will focus on the lamprey culture methods and a facility review for such efforts.
- Kenneth Ostrand met at the Columbia River FPO (CRFPO) to assist with the completion of the draft Pacific lamprey conservation plan. The draft is currently under review.
- Kenneth Ostrand participated in the FTC annual meeting in Bozeman, MT.

Administration/Facilities:

- Judy Gordon participated in the FTC meeting at BFTC where she met with other FTC directors and deputies.
- Patty Crandell participated in a Spring Creek NFH Hatchery Evaluation Team meeting with staff from Spring Creek NFH, Lower Columbia FHC, and CRFPO.
- Judy Gordon, Denise Hawkins, Ken Ostrand, and Denise Hawkins drove to Bozeman, MT to attend the annual FTC meeting. The meeting included a tour of BFTC, break out meetings by group (Geneticists, Nutritionists, Physiologists, Directors), and lots of interactions among FTC employees from throughout the country.
- Judy Gordon and Patty Crandell took part in a three-day Pacific Region Fisheries Program Project Leader meeting. The meeting served to further introduce the new Fisheries Program Assistant Regional Director, Rich Hannan, to Fisheries staff, provide networking opportunities, and allow consensus to be obtained on important topics such as: Fisheries Strategic Plan Implementation, engagement in Landscape Conservation Cooperatives, Climate Change Science, response to projected Climate Change Impacts, Strategic Habitat Conservation, the Fish Health Center Workgroup Report, and Hatchery Reform Implementation.

The Faces of Abernathy....

New Faces....



USFWS

Molly McGlaufflin, new Conservation Genetics Fish Biologist, grew up in Bath, a small town on the coast of Maine. She attended college at Mount Allison University in New Brunswick, Canada. While in college, she worked for the Department of Fisheries & Oceans where she became interested in fisheries biology. She attended graduate school at the University of Washington and studied fisheries genetics. Her master's research was on sockeye salmon in southwestern Alaska on populations which support the Bristol Bay salmon fishery. Molly enjoys cooking, baking, hiking, knitting, skiing and gardening.

Departing Faces....



USFWS

After 22 years of military and civilian service with the federal government, Pete Taylor has decided to hang up his diagnostic tool kit and retire. AFTC staff had a dessert party in Pete's honor. He was presented with his service plaque and a gift card to a local nursery to allow him the opportunity to indulge in his passion for gardening. Congratulations, Pete!



USFWS

Lindsay Godfrey resigned her position at AFTC to attend the Oregon Health & Science University Medical Technician Program. Lindsay has worked in the Conservation Genetics Program laboratory since July 2007, during which time she took the lab lead on Chinook and steelhead rapid response projects and developed gene expression procedures. We wish Lindsay well in the next phase of her career.

Critter Camp...



Lindsay Godfrey and Ron Twibell with participants at Critter Camp. USFWS: A. Gannam

The City of Longview Parks and Recreation Department sponsored a summer day camp through the local Humane Society (Critter Camp) and AFTC was invited to give a presentation to 12 children (ages 8-10). Two high school students also attended, fulfilling their community service requirement for high school graduation. AFTC staff spoke about Pacific salmon species, Pacific salmon life cycles, and basic ichthyology. They also played the “smell your way home” game. Each participant was presented with a recyclable cloth bag filled with educational materials concerning Pacific salmon and other native species. Ron Twibell, Ann Gannam and Lindsay Godfrey participated in this outreach event.

A Day with Mom...



A Day with Mom
Longview Parks & Recreation

AFTC participated in the Longview Parks & Recreation Annual Mother and Son event at Lake Sacajawea by providing outreach materials about FWS and about AFTC.

Cowlitz County Fair...

Ann Gannam set up the AFTC booth at the Cowlitz County Fair, Longview, WA. Up to 60,000 people were expected to attend the four day fair and to benefit from the pamphlets and giveaways which Ann stocked each day.

On-station outreach activities have been curtailed lately due to safety concerns relating to stimulus project construction at AFTC. We expect the projects will be completed soon and visitors will be allowed at AFTC starting in October.