U.S. Fish & Wildlife Service – Pacific Region

Abernathy Fish Technology Center Newsletter

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Director's Greeting….

Greetings and welcome to the first issue of the U.S. Fish & Wildlife Service, Pacific Region, Abernathy Fish Technology Center's Newsletter! Our goal in bringing this newsletter to you is to give you not only an overview of our monthly research activities, but also to provide you insight into the people behind the research. This first issue covers three months and so is full of interesting information on research highlights, publications, meetings, workshops, and new employees. Future issues are planned every 1 – 2 months, making for a more condensed but just as interesting a read. We look forward to your comments. Enjoy!

Staff:

Administration:
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
Amanda Bryson, Biological Technician
Richard Glenn, Microbiologist
Will Simpson, Fish Ecologist

Hatchery Reform:
Don Campton, Senior Scientist

Abernathy Creek flowing down entrance road, into parking lot, then past Genetics Building. *P. Crandell/USFWS*

Creek Threatens Tech Center

December was pretty unusual with more than 24" of snow. While all that snow was still on the ground a weather pattern known as a "pineapple express" moved through the Pacific Northwest. This is when warm tropical air moves in from the Pacific Ocean and meets the cold air sitting over the northwestern United States. Needless to say that 6 - 9" of rain in 48 hours, plus temperatures in the high 40^{o}s to low 50^{o}s F makes for a lot of water. Abernathy Creek, for the first time in over 22 years, came out of its banks, rising 24" between 8 and 12 p.m. on the morning of January 8, 2009. It flowed into the parking lot, leaving as much as 8" of mud in places, and flowed downhill towards the entrances to the Main Lab and Genetics buildings. The staff was evacuated before the water in the parking lot was too deep and a snow berm was used to keep the water out of the buildings. Facility repairs will be made using American Recovery & Reinvestment Act dollars while measures are being taken to minimize future flood damage.

PROGRAM HIGHLIGHTS….

Nutrition

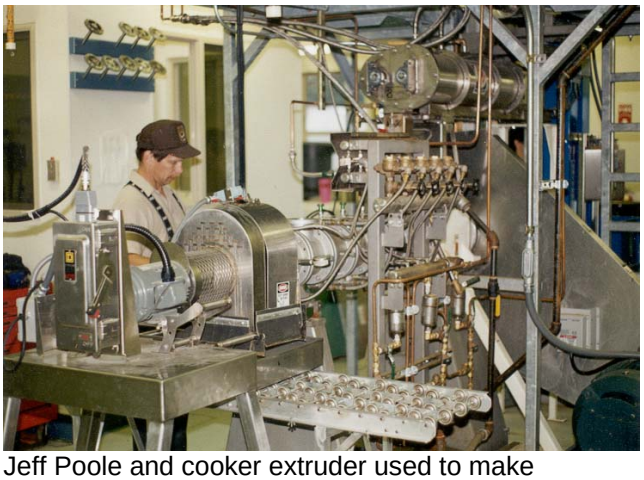
As part of the Fish Feed Quality Control Program, Pacific Region NFHs sent in 22 commercial fish feed samples this quarter. Susan Ostrand, Ron Twibell, and Ann Gannam analyzed the samples and no problems were detected. In addition, commercial fish feeds used at AFTC were also subjected to quality control analysis (8 samples).

Ann Gannam and Jeff Poole formulated and manufactured 800 lbs of fish-free herring feed for the USGS, Marrowstone Laboratory. This feed will be fed to fish to be used in a disease study.

Susan Ostrand, initiated a cooperative project with Richard Glenn of the Ecological Physiology Program called the “Effects of rosemary exposure on bacteria associated with fish diseases”. This study will help to determine if rosemary oil can act as a fish immunostimulant.

As the chair for two sessions, Ann Gannam attended a meeting of organizers for the Triennial Aquaculture 2010 Meeting. This will be a combined meeting of AFS Fish Culture Section, National Shell Fisheries Association, and the World Aquaculture Society.

Ann Gannam wrote a chapter titled “Nutrition and Feeds” for the NOAA/USDA, Joint Subcommittee on Aquaculture, Science and Technology Strategic Plan, with Mike Rust (NOAA) and Rick Barrows (USDA).



Jeff Poole and cooker extruder used to make experimental fish food. Photo USFWS

Conservation Genetics

Kevin Williamson joined our Program on March 1, taking the lead on our reproductive success and steelhead projects. Kevin recently completed a post-doc at NOAA, Northwest Fisheries Science Center in Seattle where he was working on the reproductive success of Wenatchee spring Chinook.

Brice Adams began work on March 29 as a Biological Technician in our Program. Brice is completing his master's degree at the University of Louisiana. Brice has experience working with a large variety of species including warblers, nutria, kit fox, burrowing owls, Tasmanian devils, walleye, northern pike, steelhead, and pink salmon.

Lindsay Godfrey compared DNA spin column extraction kits from two manufacturers for quantity of DNA obtained and microsatellite amplification success rate. Lindsay found that although more expensive per sample, the current method of extraction produced fewer failures and more DNA per extraction.

The Conservation Genetics Program purchased a flammable materials storage building on March 23 ^{to} store tissue samples from NFHs, and various species and populations of interest that have been, or will be, genetically characterized.

Lindsay Godfrey preps samples for analysis using the Janus Robotic Pipettor. Photo USFWS

PROGRAM HIGHLIGHTS cont….

Ecological Physiology

Ben Kennedy commenced his duties as a subject matter editor for the USFWS' new journal: *Journal of Fish and Wildlife Management*.

Kyle Hanson, Fish Physiologist and Lab Manager, began working for AFTC February 2.

Ken Ostrand and Maintenance Worker Jim Lowell completed plumbing work for the Program's wet lab which houses twelve glass and nine insulated twenty gallon tanks, with options for chilled ground and surface water.

Maintenance Worker Jim Lowell putting the finishing touches on the new wet lab facility. A. Bryson/ USFWS

Hatchery Reform

The NOAA Fisheries Hatchery Scientific Review Group, with Don Campton as the FWS representative, has completed its report to the U.S. Congress on federal, state and Tribal hatchery facilities in the Columbia River Basin and presented this information at a public meeting, March 27, in Portland, OR. Congressman Norm Dicks, a longtime supporter of this effort, was in attendance.

Co-chair Don Campton and the USFWS' Pacific Region's Hatchery Review Team continues its reviews of FWS owned and FWS-funded hatchery facilities in the Snake River basin under the Lower Snake River Compensation Plan. The draft of the first phase of this report covering NFHs operated by the FWS in the state of Idaho is expected to be available this April 2009. Later phases will cover facilities in the states of Washington and Oregon.

The Hatchery Review Team is conducting a second review of FWS facilities on the Olympic Peninsula. Don Campton was part of the first review conducted under the Western Washington and Puget Sound Hatchery Reform Initiative instituted by former Senator Slade Gorton. This new draft report for the Olympic Peninsula facilities (Makah, Quinault, and Quilcene NFHs) is available at http://www.fws.gov/Pacific/fisheries/hatcheryreview/stakeholder.html. A public meeting to discuss the Olympic Peninsula Review Team's draft report was held on February 19 in Port Angeles, WA.

New Faces at Abernathy….

Jeff McLaren
Biological Science Technician
Administration

Jeff comes to AFTC from Eagle Creek NFH. He was born in Corvallis, Oregon, and raised in Albany, Oregon. Jeff graduated from South Albany High School in 1984 and enlisted in the U.S. Marine Corps two months after graduation. He spent the next fifteen years overseas in Okinawa, Japan. During that time he married and had three beautiful children. Jeff came back to the states in 1999. Since returning stateside, he has been a locksmith, went through Vocational Rehabilitation for Fisheries Technology at Mt. Hood Community College. He has also worked at Roaring River Fish Hatchery in Scio, OR, Cascade State Hatchery in Cascade Locks, and Spring Creek NFH. Jeff enjoys fishing, camping, watching sports such as: NFL, NBA, some Major League Baseball, when it gets closer to the playoffs, NASCAR, NHRA Drag Racing, and playing Video Games

Kyle Hanson
Fish Physiologist
Ecological Physiology

Originally from Chicago, Kyle attended the University of Illinois at Urbana Champaign where he received a B.Sc. in General Biology and a M.Sc. in Ecology and Evolutionary Biology. While at UI, he worked for the Illinois Natural History Survey and his Master's thesis research focused on novel applications of acoustic telemetry techniques and the impacts of catch and release angling on parental behavior in largemouth and smallmouth bass. He then moved to Ottawa, Ontario, to pursue a Ph.D. at Carleton University with the Fish Ecology and Conservation Physiology Laboratory. At Carleton, his research focused on the relationships between morphology, physiology, and reproductive success in largemouth and smallmouth bass. Also during that time, he was involved in many varied research projects across North America including work looking at the physiology of adult sockeye salmon in British Columbia, recompression techniques for smallmouth bass in Ontario, and the effects of catch and release angling on bonefish in the Bahamas. Kyle likes to spend as much free time outdoors as possible, and particularly enjoys fishing, kayaking, and SCUBA diving.

Kevin Williamson
Fish Geneticist
Conservation Genetics

Kevin has lived in Silver Springs, MD; San Diego and Davis, CA; and Seattle, WA. In his words, he "has traveled to the four farthest reaches of the lower 48 States and Thailand, where civil unrest is oh so polite, but beware the unexploded ordinance while SCUBA diving". He has attended San Diego Mesa College "best education in regards to quality/price"; University of California, San Diego, "learning in the classroom one day, applying it on the job the next day"; UC, Davis, "learned the nuances of population genetics and dumpster diving…managed to get a very nice CD collection". Kevin interests include: single malt scotch, Belgian beers, and cooking "similar to lab work, but without the statistics".

Brice Adams
Biological Technician
Conservation Genetics

Brice grew up in Naples, FL where he lived until he went to college. He attended the University of Montana for his undergraduate degree, where he received a B.S. in Wildlife Biology. Brice is currently attending the University of Louisiana at Lafayette where he is finishing a M.S. in Biology studying the phylogeographic pattern of the endangered Golden-cheeked warbler across its breeding range. He has worked on a number of projects from fish in Minnesota, kit fox in the central valley of California, bird banding in Washington D.C., Tasmanian devils in Tasmania, Australia, and burrowing owls in North Dakota. Brice enjoys anything that puts him in the outdoors.

Workshops, Conferences, and Meetings….

Nutrition:

- Ann Gannam, Ron Twibell, Jeff Poole and John Holmes attended the World Aquaculture Society annual meeting, Aquaculture America 2009, February 15-18, in Seattle, WA. Ron Twibell gave a presentation titled, "Changes in whole-body fatty acid concentrations in first-feeding steelhead fed diets containing plant oil or marine fish oil".

- Ann Gannam, Ron Twibell, and Susan Ostrand attended the Fisheries By-Products Meeting, in Portland, OR, February, 25-26.

- Ann Gannam attended the Lower Snake River Compensation Plan Annual Stakeholders Meeting, Boise, ID, March 2-4, 2009.

- Ann Gannam participated in the Warm Springs NFH, Hatchery Evaluation Team Meeting on March 24, to present preliminary results of a contaminants project. Sampling was done at Warm Springs NFH over the last three years to examine fish and their feeds for the presence of contaminants (Gannam).

- On February 5, Ann Gannam was involved a teleconference to provide available information and discuss ongoing nutritional needs of reconditioned steelhead held by the Colville Tribe with the Northeast Region's Lamar Tech Center and N. Attleboro NFH, February 5.

Conservation Genetics:

- Pat DeHaan met with Mark Paluch from Eastern WA University to discuss bull trout rapid response protocols and procedures used in the analysis of Clark Fork River bull trout in cooperation with Avista Corp.

- Denise Hawkins attended a meeting at the FWS Western WA Fish and Wildlife Office in Lacey to discuss the results of a genetic analysis of bull trout from Baker Lake area conducted by WDFW and Puget Sound Energy. The report dealt with how the genetic results could help inform decisions about connectivity between Lake Shannon and Baker Lake and transport of fish around Baker Dam.

- Ruth Phillips, Research Professor, Washington State University, Vancouver, WA, and her graduate student Andy Harwood, met with Christian Smith and Denise Hawkins on January 15th to discuss preliminary results and progress on a cooperative project to develop improved genetic markers for identifying hybrids between Westslope cutthroat and rainbow trout.

- Pat DeHaan and Denise Hawkins attended a meeting of the FWS bull trout Board of Directors on January 23 to present the results of a bull trout range-wide genetics analysis to help inform the discussion of changes to the current co-terminus listing of bull trout.

- Pat DeHaan attended a meeting with Oregon Department of Fish and Wildlife in Springfield, OR on February 3 to present and discuss the results of an analysis of Willamette Basin bull trout. This information will be used in the development of a genetics management plan.

- Christian Smith presented a discussion of full parental genotyping and its uses in relation to the current coded wire tag system for determining age and origin of fish intercepted in ocean fisheries to the staff at AFTC on February 19. This analysis was in response to a request from Scott Marshall of the FWS Lower Snake River Compensation Plan.

- Pat DeHaan attended the American Fisheries Society, Oregon Chapter Annual Meeting in Bend, OR, February 25 – 27. He gave a presentation titled "Evolutionary Patterns in Bull Trout as Revealed by Genetic Markers".

Workshops, Conferences, and Meetings, cont….

Conservation Genetics, cont:

- Denise Hawkins attended the Lower Snake River Compensation Plan meeting in Boise, ID on March 2-3. Additionally she also attended the American Fisheries Society, Idaho Chapter's special session on Hatchery Supplementation March 4th in Boise, ID.

Ecological Physiology:

- Ken Ostrand attended the Sea Lion Partner's Forum, Vancouver, WA, January 28. He gave a presentation entitled "K.G. Ostrand, W. M. Simpson, and A. Bryson. 2009. Experimental Integrated Non-Lethal Sea Lion Abatement: Potential Behavioral and Stress Related Effects on Adult White Sturgeon."

- Ken Ostrand, Kyle Hanson, Ben Kennedy and Richard Glenn attended the USFWS, Spring Creek NFH, Hatchery Evaluation Team (HET) Meeting on February 19.

- Ben Kennedy attended the American Fisheries Society, Oregon Chapter Annual Meeting, Bend, OR, February 25 – 27. He gave a presentation titled, "Kennedy, B.M., Simpson, W.G., Gale, W.L., and Ostrand, K.G. 2009. Migration dynamics of released hatchery steelhead smolts determine type and magnitude of potential ecological and genetic risks."

- Will Simpson attended the American Fisheries Society, Oregon Chapter Annual Meeting, Bend, OR, February 25 – 27. He gave a presentation titled, "W. G. Simpson, B. Kennedy, and K. G. Ostrand. 2009. Seasonal Foraging and Piscivory by Sympatric Wild and Hatchery-reared Steelhead from an Integrated Hatchery Program."

- Richard Glenn attended the Warm Springs NFH Hatchery Evaluation Team meeting on March 24. He presented results from an ongoing study regarding using qPCR for early diagnosis of bacterial kidney disease during the production rearing cycle of spring Chinook salmon.

- Ken Ostrand attended the 2009 Kickitat White Salmon Fisheries and Watershed Science Conference hosted by the FWS, Bonneville Power Administration, and Yakama Nation Fisheries.

- Ken Ostrand and Kyle Hanson met with Eagle Creek NFH staff to discuss research projects related to hatchery production.

- Kyle Hanson gave a lunch time seminar to AFTC staff titled, "The relationships between morphology, physiology, performance, and fitness in two species of teleost fish" on March 17.

Outreach….

Kelso High School, 9th Grade Honor Students visited AFTC on March 11 as part of an after school program. The students were given the opportunity dissect rainbow trout to help them learn about internal organs, organ function and physiology in fish. Richard Glenn and Amanda Bryson are pictured assisting students with the hands on dissection. Photo: V. Bocci/ USFWS.

MESA (Mathematics Engineering Science Achievement) Day at Clark College, Vancouver, WA. "MESA is a nationally recognized organization bringing resources into K-12 schools to help close academic achievement gaps and build a pathway to careers in engineering and science. The organization serves students who are underrepresented in math and science based careers: African American, Native American, Latino, and female students. In the Vancouver area, Pacific, Cascade, Jemtegaard, Canyon Creek, Jason Lee and McLoughlin middle schools participate in southwest Washington MESA." Ann Gannam (upper left in picture) and Amanda Bryson joined middle and high school students and their teachers on March 21 for a day of science and fun! Photo: A. Bryson/ USFWS.

Cowlitz/Wahkiakum Sophomore Career Fair

Susan Ostrand presented FWS career information at the campus of Lower Columbia College on March 26. Over 1300 high school sophomores from eight area high schools attended sessions to hear professionals from many different occupations talk about their careers and the education and training required, job outlook, working conditions, and other information required to make an informed career choice. Over twenty different careers were made available to the students including all branches of the U.S. Military, representatives from Bonneville Power Administration, teachers, nurses, pediatricians, epidemiologists, pharmacists, fictional and non fictional authors, artists, cosmetologists. AFTC staff showed the FWS Conserving the Nature of America DVD, gave an overview of the FWS and introduced students to the various career options that the FWS offers. AFTC staff showed a power point presentation giving an overview of AFTC and its applied research programs. Time was also spent answering questions and informing students about mentoring programs that various fisheries science organizations offer to high school students.