The Northeast Fish Rapper

Newsletter of the Northeastern Division of the American Fisheries Society
February 2012 Volume 28 Issue 1 ***eds. Ann B. Grote & Megan Altenritter***

President's Message

Greetings from Vermont! At the Seattle meeting in September, 2011, I officially became the president of the Northeastern Division (NED). I look forward to serving you and the Division in furthering the fisheries profession throughout the environmental world. Although I have recently assumed the responsibilities of the Division President, I have been actively representing the Division and our membership for more than a year on the Parent Society's (AFS) Management Committee and Governing Board. As you may know, in alternating (even) years the NED President-Elect is appointed to the Management Committee (and the Governing Board) for a two-year term. Our Division Representative is one of thirteen voting members of the Committee and offers a great opportunity to shape AFS to meet our member's needs.

The Governing Board's September retreat in Seattle was dedicated to discussing the "Invisible Affiliates" of AFS. Affiliate members are those interested professionals who are members of one or more of the AFS's subunits but are not members of AFS. Currently, we have chapters within our division and within other divisions with affiliate membership. Also, several AFS's sections have an affiliate membership category.

In the November, 2011 Fisheries Issue, President Fisher in his President's Hook message "How Large is AFS?" (Fisheries Volume36 Number 11, pages 529 and 571), notes that the AFS may have as many as 6,000 affiliate members. The challenge for AFS is how to reach out to these affiliates and include them in a wider range of AFS activities. One suggestion during the retreat was to improve our tracking of affiliates through on-line registration at chapter or section meetings. Through acquisition of contact information, AFS can reach out to and be more inclusive of these affiliate members.

With an AFS membership of approximately 9,000 active members, this potentially large affiliate membership (perhaps nearly as large as 66% of our regular membership) begs the question: "What can the AFS do to provide enough value for affiliates to become AFS members? Perhaps part of the answer rests in "What are your reasons for being an AFS member?" and "What can be done to increase AFS's value to you, affiliates and other AFS members?" If you have any thoughts or ideas on how we can reach out to affiliates, please feel free to contact me or other members of the NED EXCOM.

In addition to the many annual chapter meetings, the NED and AFS have annual meetings planned for this year. Be sure to mark April 15-17, 2012 on your calendar for the 68th Annual Fish and Wildlife Conference. This year's conference is being hosted by the West Virginia Division of Natural Resources at the Charleston Marriott Town Center, Charleston, West Virginia. The conference theme is "**Celebrating 75 Years of Success: A Partnership For America's Fish & Wildlife".** You can sign up by April 2, 2012 to

secure the lowest registration rate at http://www.neafwa.org/.

Also, I invite you to attend the Northeastern Division's business meeting on Monday, April 16th. In addition to normal NED business, I will be seeking input and ideas regarding the affiliate membership.

Of interest to NED students and educators, the Southern Division will be holding a student colloquium on April 14 – 15, 2012 in conjunction with the NEAFWA meeting. This colloquium should provide a great opportunity to NED members to network with others in academia. The theme of the Colloquium is **"North to South: Fish and Wildlife Biology and Management from Maine to Florida."** Information on hotel, travel, etc. is on the website (http://wvuafs.studentorgs.wvu.edu) or contact Dr. Pat Mazik, pmazik@wvu.edu or 304/293-4943 for more information. Don't forget that the NED has the two competitive Moring Student Travel Awards available for the NEAFWA meeting for those submitting abstracts to the conference.

The 142nd Annual Meeting of AFS will be held on August 19-23, 2012 in Minneapolis-St. Paul, MN. The theme of the meeting is **"Fisheries Networks: Building Ecological, Social, and Professional Relationships".** Call for papers and registration are already open at: www.afs2012.org. There are at least 49 symposia topics currently listed for this meeting.

As many of you may know, the 2014 AFS meeting will be held in Quebec City, Quebec, within the NED's and Atlantic International Chapter's geographic region. Our current Vice-President, Mr. James Armstrong, agreed to serve as a liaison to the Quebec City Planning Committee to offer Division assistance as needed. As this large conference draws nearer, there will be plenty of opportunities for AFS members to become involved in making this international meeting a success.

In closing, I want to express my appreciation for the opportunity to serve as the Division President. I will strive to make the Division more relevant to our membership and to provide lines of communication with AFS officers and staff. I look forward to interacting with you throughout the year and meeting with you in West Virginia in April.

Phil Downey
President, Northeastern Division, AFS
pdowney@aquatecb.com

In this issue:

Upcoming Meetings & Workshops

The 2012 AFS Annual Meeting will bring professionals together to network and share knowledge in fisheries science and management. Speakers will present a broad range of Fisheries topics at the plenary session, technical symposia and poster session as well as in continuing education courses. The Twin Cities meeting will feature a broad range of topics including ecological networks and trophic food webs, social networks that inform human-fisheries interactions, and professional networks that support and enhance interactions among fisheries scientists. For more information, please visit: http://www.afs2012.org

Abstract Submission: Abstracts for all papers and posters must be received by **9 March, 2012**. All submissions must be made using the AFS online abstract submission forms available at https://afs.confex.com/afs/2012/cfp.cgi

The Northeast Natural History conference is an excellent venue for sharing your current research efforts and interests with colleagues. Check out http://www.eaglehill.us/NENHC_2012/program/session-topics.shtml for an up-to-date listing of oral sessions (though presentations are accepted on any natural history topic, and additional sessions will be organized to include all accepted oral presentation proposals).

Abstract Submisions: Oral and poster presentation abstracts must be received by **15 February, 2012**. Presenters need to register for the conference and pay the applicable registration fee online at: http://www.eaglehill.us/NENHC_2012/registration/registration-form.shtml.

East Coast Trout Management and Culture Workshop V: *"Conservation and Management of East Coast Trout Resources in an Increasingly Crowded World"*

June 11 - 13, 2012
Frostburg State University, Frostburg, MD
First Call for Papers: Fisheries managers, culturists, researchers, administrators, and sportsmen are encouraged to attend this workshop and to submit an abstract(s) for review and inclusion in the conference program. Those wishing to present at this workshop must send an abstract to Alan Heft (aheft@dnr.state.md.us) for management topics or George Duckwall (george.duckwall@dgif.virginia.gov) for culture topics by March 9, 2012. Abstracts or extended abstracts should be in Microsoft Woed and follow the instructions for authors in the Manuscript Format section for the North American Journal of Fisheries Management:(http://www.tandfonline.com/action/authorSubmission?journalCode=ujfm20&page=instructions).

For additional meeting information contact Steve Moore (Steve_E_Moore@nps.gov) or Alan Heft (aheft@dnr.state.md.us).

The 13th Flatfish Biology Conference:

December 4-5, 2012

Water's Edge Resort & Spa, Westbrook CT

For more information please visit:
http://mi.nefsc.noaa.gov/FFpres

Notices and Announcements

Call for 2012 Northeastern Division Awards

Division Professional/Excellence Awards

The Division provides several awards recognizing excellence in professionalism/service. Four of these awards are administered by the Awards Committee: the Dwight A. Webster Memorial Award, the President's Award, the Meritorious Service Award, and the Special Achievement Award. The Dwight A. Webster Memorial Award has been presented annually since 1978. The President's Award was established at the 1993 annual business meeting. The Meritorious Service Award and the Special Achievement Award are the newest Division Professional/Excellence Awards, with the first awards given out at the 2000 annual meeting.

Division Professional/Excellence Awards will be presented at the 68th Annual Northeast Fish and Wildlife Conference Sunday, April 15 - Tuesday, April 17, 2012 Charleston Marriott Town Center, Charleston, West Virginia.

The strongest nominations typically include a resume of the nominee, a letter of nomination, and letters of support from employers, fisheries professionals, and AFS members and officers.

DWIGHT A. WEBSTER MEMORIAL AWARD

This award is presented annually and is the most prestigious recognition given by the Northeastern Division. It may be awarded for any of the following achievements:

1. Lifelong contributions to fisheries science and the profession in the Northeast or while working in the Northeast;
2. Meritorious/prestigious service to the profession and fisheries;
3. Significant academic or technical accomplishments; and
4. Long-term service in the Northeastern Division as an AFS member.

PRESIDENTS' AWARD

This award is presented to an individual who is selected by Past Presidents and the incumbent President; it is not limited to Past Presidents. The recipient need not be a current AFS member, and the award need not be presented annually. The award may be presented for any or all the following achievements:

1. Promotion of fisheries management;
2. Upheld ideals of professionalism; and
3. Dedication to AFS and employer.

MERITORIOUS SERVICE AWARD

This award is presented to an individual who must be an AFS member for any or all of the following:

1. Leadership and service to the profession and/or AFS;
2. Substantial achievements for AFS and the fisheries resource; and
3. Significant long-term service to the NE Division within the Division.

SPECIAL ACHIEVEMENT AWARD

This award recognizes an individual or group acting as a team or committee for any or all of the following special accomplishments:

1. Notable contribution(s) for conservation and/or the fisheries profession within the Northeastern Division; and
2. Administrative or project-related accomplishments.

The recipient(s) need not be an AFS member(s) and the award need not be presented annually.

To make a nomination for any of these awards, please send a resume of the nominee, a letter of nomination, and supporting letters by March 4, 2012 to:

Paul Perra
NOAA/NMFS
55 Great Republic Drive, Gloucester, MA 01930
Phone: 978-281-9153
Fax: 978-281-9135
Email: paul.perra@noaa.gov

Eagle Hill | Humboldt Field Research Institute
Eagle Hill Foundation

2012 Fish Seminar at Eagle Hill on the Maine Coast
June 10 - June 16, 2012

Species ID and Assessment of Northeastern Freshwater Fish Assemblages
with Dave Halliwell and Rich Langdon

http://www.eaglehill.us/programs/nhs/nhs-calendar.shtml

Freshwater fish in the northeastern United States number over 150 species, inclusive of native and introduced forms, resident to ponded and flowing waters of varying habitats and water quality. Sportfish species (trout, salmon, bass, pike and perch) are most recognizable, while many of the vast minnow (one-third of the fish fauna) and non-game species are more difficult to identify, particularly in the field. This seminar will focus on the taxonomy and field/laboratory identification of 28 freshwater fish families, inclusive of diadromous (migratory) species. Through lectures, actual field sampling (minnow trapping, beach seining, and backpack electrofishing), examination of fresh and preserved-aquarium specimens, and use of technical keys, participants will gain an understanding of the taxonomy, morphology, and ecology of freshwater fish. Fish origins, distributions, and conservation status will be emphasized and development of Indices of Biotic Integrity (IBI) and the Biological Condition Gradient (BCG) reviewed. There will also be an introduction to pre-Columbian fish remains found at Maine archaeological sites, and a listing of historical and current scientific literature will be provided. This seminar will be of great interest to aquatic-wildlife-conservation biologists-scientists, environmental consultants, natural historians, and others who wish to learn more about freshwater fish and resident fish species assemblages.

Please let us know if we can help with questions. Prior discussions of personal study objectives with instructors are welcome.

Humboldt Institute, PO Box 9, Steuben, ME 04680-0009
207-546-2821, Fax 207-546-3042
E-mail - office@eaglehill.us

NWETC
NORTHWEST ENVIRONMENTAL TRAINING CENTER

The Northwest Environmental Training Center (NWETC), a Washington-based, non-profit organization dedicated to environmental education, is seeking U.S. venues for its **2012 electrofishing courses.** Two 3-day courses are available: backpack electrofishing and boat electrofishing. Both courses consist of classroom work on the first and third days and field exercises on the second day. A 4-day course covering both backpack and boat systems, including two days of fieldwork, is also available.

To schedule a venue, NWETC seeks to (1) identify a local fisheries biologist willing to serve as field trip coordinator and (2) achieve an enrollment of at least 12 participants. (Those serving as coordinator earn a course tuition waiver.)

Individuals interested in scheduling a course in their locale should contact Ingrid Kimball, ikimball@nwetc.org, at NWETC for further information. Technical questions about course content should be directed to Jim Reynolds, jbreynolds@alaska.edu

Welcome New UMaine Wildlife Ecology Post-Doctoral Researchers

UMaine postdoctoral research associate Doug Sigourney (douglas.sigourney@maine.edu) is working with PIT (passive integrated transponder) tag technology to study the upstream migration of Atlantic salmon in the Penobscot River. Doug is using antenna arrays installed at several dams to develop mark-recapture models for the Penobscot River drainage. These models will be used to assess the speed of Atlantic salmon migration between dams, passage success at dams and ultimately the probability of successfully reaching quality spawning habitat. This work will also assess the influence of environmental covariates such as stream flow and temperature, and individual covariates such as length on the probability of passage success at dams. This information will be useful to managers and conservationists as they assess the impacts of dams on upstream migration and consider the possible impacts of dam removal.

Doug received his Ph.D. at the University of Massachusetts. His research interests focused on characterizing seasonal and individual variation in growth rates of juvenile Atlantic salmon. Doug developed a Bayesian hierarchical model that that captures temporal variation in growth. Because this model can be derived from general asymptotic growth theory, it should have wide applicability beyond Atlantic salmon.

Krista Capps (krista.capps@umit.maine.edu) is a new postdoctoral fellow working with the Sustainability Solutions Initiative at the University of Maine. Krista is a stream ecologist coming from Cornell University where she earned a Ph.D. in ecology and evolutionary biology. She has a M.S. in environmental science from Indiana University in Bloomington, Indiana and a B.S. in biology and political science from Hope College in Holland, Michigan. Krista also served in the Peace Corps in Honduras where she was a natural resource volunteer. She has spent much of the last decade working to understand and conserve the function of aquatic ecosystems in Latin America. Her dissertation research was conducted in Mexico and was focused on understanding changes in community structure and ecosystem processes to streams after armored catfish (Siluriformes: Loricariidae: *Pterygoplichthys*) invasion. Although Krista's postdoctoral work will be focused on wetland and amphibian ecology, she is also excited to support on-going projects devoted to understanding the functional role of fishes in New England watersheds.

Chapter and Subunit Updates

Southern New England Chapter

Submitted by Don Danila

Attendees of the winter 2010 Southern New England Chapter fill the URI Coastal Institute's auditorium in a well-attended meeting.

The Southern New England Chapter meeting, which was held on January 26 at the Coastal Institute of the University of Rhode Island's Graduate School of Oceanography, was the best attended winter meeting over the past decade. Response to the meeting notice was so great that online registration had to be curtailed prior to the meeting. With 124 attendees, the auditorium was filled and the overflow was accommodated in another room, viewing the presentations via a broadcast. The total included 39 students, which also was exceptional for a Chapter meeting, with this number only exceeded at the winter 2008 meeting. By virtue of their registration, 23 attendees who were non-members became affiliate members of the Chapter. Program Development Chair David Taylor of Roger Williams University put together a great program, with fifteen oral presentations and fourteen posters, with the latter also a record for our Chapter.

Seven oral and ten poster presentations were given by students. The presentations represented a diversity of topics, including freshwater, anadromous, and marine fishes, and marine invertebrates and mammals. Abstracts of all the papers and posters may be found on the Chapter's website, found at www.snec-fisheries.org.

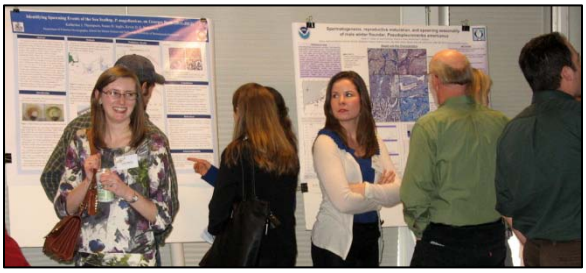
All seventeen of the students presenting papers and posters.

Education and Student Presentation Chair Karina Mrakovcich of the United States Coast Guard Academy noted that the Saul B. Saila Best Student Paper Award will be sent to Sarah Simons, presently a Ph.D. student at the University of Hamburg in Germany. Given at the summer 2011 Chapter Meeting, Sarah's presentation was entitled "Effect of Turtle Excluder Devices (TEDs) on the Catch Performance in the Northwest Atlantic Trawl Fishery". Her presentation was based on work done in conjunction with the NOAA Northeast Fisheries Science Center in Woods Hole while she was an M.S. student in a joint program at the

Universities of Ghent (Belgium), Algarve (Portugal), and Paris (France).

Dr. Karina Mrakovcich attended with five of her student cadets from the United States Coast Guard Academy.

Chapter President Sean Lucey noted that the summer 2012 Chapter Meeting is tentatively scheduled to be held at the Doyle Conservation Center in Leominster, MA. Student members may begin applying for the SNEC Student Travel Award through the Chapter website. A $500 award is to be used to defray the cost of traveling and attending the 2012 AFS Annual Meeting, which will be held in St. Paul, MN during August 19-23. This award is limited to a student presenting a paper or poster. A second award of $200 may be presented to either a presenter or a student attendee who is not presenting at this meeting. Chapter members are reminded that nominations for Secretary-Treasurer are needed prior to the upcoming June Chapter meeting. Please contact any of the current officers to make a nomination. Volunteers are accepted! Professionalism Chair Rodney Rountree also asked members to nominate individuals and organizations for various Chapter awards, all of which are described on the Chapter website.



The Chapter's poster session, which is only held during winter meetings, proved to be very popular.

SUNY-ESF Student Subunit:

Submitted by Kat DeVilbiss

Striving for Knowledge, Skills, and Abilities Development

One of the Subunit's goals over this fall was to increase student exposure to fisheries techniques and skills. While ESF is fairly comprehensive in incorporating hands-on experience in their courses, the thought was to provide students supplemental opportunities detached from grades, limited time frames, and competition with classmates. During the Subunit's Onondaga Fish Day in early October, members were familiarized with trap nets, gill nets, and boat electrofishing. Numerous fish species were observed, oggled over, and scrutinized for education. Graduate students from Neil Ringler's lab (Lucas Kirby and Stephanie Johnson) took charge of this event. In late October, the Subunit sponsored an opportunity to backpack electroshock on Limestone creek. Karin

Limberg's graduate student Chris Nack hosted the outing- including a celebratory cook-out. Members also accompanied chapter president Natalie Scheibel on a visit to Carpenter's Brook fish hatchery, where they transferred and counted yearling brown trout from pools set to be cleaned.

ESF students examining catch from trap nets, gill nets, and electroshocking boat during the Subunit's Onondaga Fish Day in October 2011.

While ESF AFS acknowledges the importance of networking, technical skills and knowledge are the backbone of fisheries professionals. Towards this end, the Subunit organized presentations and gatherings of fish folks throughout the semester. Highlights include Vice President Brian Henning's presentation on *Fishes of the St. Lawrence River* and ESF professor emeritus Dr. Bob Werner's discussion on *The Natural History of Skaneateles.* Most recently, in celebration of the season and end of the semester, the subunit co-hosted a banquet with the ESF Trout Bums Club, affording students the opportunity to mingle with local fisheries professionals. Tom Hughes from NY State parks supplied materials on the NY AFS youth aquatic education committee and Dr. George Ketola from USGS, Cortland rounded out the evening by presenting his work on *Thiamine in Fish*. ESF AFS would like to place further emphasis on professional-student interactions and networking come spring.

The Subunit is appreciative of the resources and generosity of all who've spared their time and knowledge. Thanks!

UMaine Student Subunit

Submitted by Ian Kiraly

The UMaine Student Subunit had a very eventful year! Last winter, members participated in a variety of events, including ice fishing and bowling competitions with The Wildlife Society Student Subunit, and a smelting trip to the Kennebec River. As spring approached, faculty and graduate students within the Department of Wildlife Ecology at UMaine began advertising job openings, primarily for field work; we held a job fair, which allowed undergraduate students to meet and discuss job opportunities with potential employers. The onset of summer brought many volunteer opportunities to us. Members assisted with activities at the Fields Pond Audubon for Endangered Species Day, operated a fish-printing booth at the Penobscot River Revival Festival, and worked with the Friends of Green Lake National Fish Hatchery on the construction of the Ed Hastings Memorial Trail. Volunteer assistance was also provided on a variety of ongoing fisheries

research projects. Other year-round activities were also plentiful. Volunteer members edited the Northeast Fish Rapper, a long-standing Umaine Subunit tradition. We hosted dinners for fisheries researchers that were visiting the University of Maine to present for the Wildlife Ecology Seminar Series; these researchers included Dr. Allen Curry and Dr. Rick Cunjak, both from the University of New Brunswick, and Chris Holbrook, a former graduate student who studied Atlantic salmon at UMaine. The Subunit also held multiple fisheries movie nights, along with fly tying sessions. Much was accomplished over the past year, and members are now looking forward to the next one!

UMaine Student Subunit Vice President Paul Damkot helps with fish print-making at the Penobscot River Revival Festival.

Research Roundup

2012 Atlantic Salmon Forum, Bangor, ME

Sharon MacLean and John F. Kocik, NOAA Fisheries Maine Field Station, NEFSC

The sixth biennial *Atlantic Salmon and Their Ecosystems Forum* was held at the Hilton Garden Inn Bangor, Maine, on 10-11 January 2012. The Forum lived up to its name with the focus on Atlantic salmon ecosystems of river, coastal and oceanic environments. The meeting stood out not only for salmon talks but also other species and an enhanced understanding of estuary and coastal habitats. Thirty-five oral and ten poster presentations were given, covering topics such as fish behavioral and ecosystem changes and river connectivity post-removal of dams; assessments of movement, growth and survival of various life-stage Atlantic salmon stocking efforts; enhancement of environmental quality of salmon river habitat; telemetry tagging, migratory behavior and trophic ecology in estuarine and coastal environments; and salmon physiology, pathogens and contaminants studies. Papers addressing the marine phase of salmon were presented that integrated diverse data sets to examine environmental and oceanographic conditions that may affect survival and growth. In his presentation, guest speaker Ted Ames of the Penobscot East Resource Center, illustrated the linkage between population declines in alewife, a principal prey of several important species, and the distribution and population structure of coastal gadid fisheries. The proceedings of all previous forums will soon be published electronically by NOAA Fisheries. The proceedings of the 2012 meeting will soon be available on the web as well.

California University of Pennsylvania

Submitted by David Argent,
Professor of Wildlife and Fisheries Sciences

The confluence of Mill Creek with the Allegheny River

Paddlefish Assessment: CalU expended 2500 net hours in 2011 to collect paddlefish. Three were captured in the Allegheny River. A combination of benthic trawls and plankton (tow/drift) nets were used to assess evidence of natural reproduction by paddlefish in the Ohio and Allegheny rivers - no larvae were collected.

Chris Warden and Jeff Ambrose with a paddlefish captured below L/D 3 on the Allegheny River.

Middle Allegheny River Assessment: CalU completed its assessment of fish communities from East Brady (L/D 9) to Franklin, PA. Many state T&E darters were collected. In addition, 10 selected tributaries were sampled. Sandy Creek yielded the largest diversity of fishes among tributaries sampled, including many T&E darters.

A variegate darter captured in the Middle Alleghany Assesment

Mon River Assessment: CalU assisted the PFBC with night-time boat electrofishing on the Mon River in selected pools and above/below Tenmile/Dunkard Creek. Populations of pollution sensitive species appear to be steady and rising in some areas; however benthic samples collected in 2010 by CalU indicate a decline among darter species river-wide.

Coldwater Fish Population Assessment of the Laurel Hill: When compared with the data of Sharpe et al. (1987), CalU documented an overall 65% decline in the abundance of brook trout across all streams. Age 0 and Age 1+ fish were the most severely impacted having experienced declines of 65% and 75%, respectively

Penobscot River Restoration Project

Submitted by Charlie Baeder, Monitoring Coordinator, Penobscot River Restoration Trust

This is an exciting year for the Penobscot watershed with the removal of **Great Works Dam** on schedule to begin in June 2012. The Penobscot Trust is preparing an event to kick off the removal – please visit the Trust's website at http://penobscotriver.org/ to follow the latest dam removal plans.

Penobscot River, June 2011 Credit: C. Baeder, with thanks to J. Zydlewski, D. Stich, and A. O'Malley

The baseline monitoring field work managed by the Trust on behalf of the Penobscot River Restoration Project was completed in 2011 and our investigators and their students are completing analyses and reports. We and our partners will be communicating pre-dam removal results to a variety of audiences. For example, researchers are preparing articles for submission to scientific journals, and NOAA and the Trust are co-chairing a section at the Maine Water Conference on March 14, 2012, *Evaluating Restoration Outcomes of the Penobscot River Restoration Project.*

Recent pre-dam removal monitoring highlights include:

- Geomorphology - completed photographic monitoring and acquisition of geophysical data.
- Wetlands - completed field work for all impoundment sites.
- Marine nutrients - final sampling was conducted in October 2011 to capture alewife migrations. Manuscripts are in preparation.
- Fish passage - conducted survival analysis of acoustic telemetry data from 2010 and 2011 released Atlantic salmon smolts. Manuscripts are in preparation.
- Fish passage - analysis of telemetry data from PIT-tagged adult Atlantic salmon for passage, speed and fall back for 2010 and 2011. Manuscripts are in preparation.
- Fish passage - Hydroacoustics - ADCP equipment was used to model tidal fluctuations that can be incorporated into the hydroacoustics data set.
- Fish community assessment - analysis of 2011 data, and draft manuscript for peer-review publication describing the effect of sampling effort on the accuracy and precision of fish assemblage metrics.
- Sturgeon - collected bathymetry data in the Veazie Dam-Great Works Dam reach, conducted additional ADCP validation surveys, and refined model.

- Water quality - benthic macroinvertebrate data were provided to ME DEP to determine attainment status and indices of community structure.

Post-dam removal monitoring for all of these parameters is planned after Great Works Dam and Veazie Dam have been removed. In the interim, the fish passage studies will continue during the dam removal transition period.

Also note that through the end of February, 2012 photographs from the *People in Nature: Conservation Photojournalism* workshop are in an exhibit focused on the Penobscot River Restoration Project at Maine Audubon's Fields Pond Nature Center in Holden, Maine.

A Watershed Scale Connectivity Project Nears Completion in Downeast Maine

Submitted by Scott Craig
U.S. Fish and Wildlife Service

With removal of the Rolford log drive dam (see photo), only two stream-road crossing sites remain in Project SHARE's (Salmon Habitat and River Enhancement) West Branch Machias River high priority focus area (Also see NFHAP "10 Waters to Watch"). SHARE's restoration strategy for improving brook trout and endangered Atlantic salmon habitat is to work with private landowners to restore "ecological stream function" or "aquatic connectivity" at all fish bearing stream-road crossings in this 125 km^2 (50 mi^2) high priority watershed. To date, 40 sites have been completed and they include 28 open bottom culverts, two bridges and 10 stream-road crossings that have been either decommissioned and/or retrofitted with concrete abutments for future (temporary) bridges. Proposals have been submitted for funding the final two sites. Contact Steven Koening (Project SHARE or Scott Craig (USFWS) for more Information.

Colby Bruchs (Maine DMR, Jonesboro) directs final cribwork removal at the Rolford log drive dam on the West Branch Machias River (July 12, 2011). Note: All work was conducted with a hand operated grip hoist with block and tackle. Note: Downeast Maine Stream Restoration Crews also use Grip Hoist technology to fell trees for other habitat complexity projects- LWD Movie. Photo by Scott Craig (USFWS)

Fisheries in the News

Merrimack River Salmon Restoration: A Shift in Strategy

Submitted by Matthew Carpenter, Fisheries Biologist, NH Fish and Game Department

It has been 35 years since the first salmon fry were released in the Merrimack River watershed under the current Atlantic salmon restoration program, which is funded by the federal Sport Fish Restoration Program. Before 1976, Atlantic salmon had been missing from the waters of the Merrimack since the first attempt at salmon restoration ended in 1895. The original salmon population was extirpated by dams built in Lawrence and Lowell in the early 1800s.

Optimism ran high in the early days of the program. Targets for adult salmon returns were set in the thousands. The program became a catalyst for habitat restoration, land conservation and fish passage projects throughout the Merrimack watershed, but the goal of achieving a sustainable salmon run has remained elusive. An average 121 adult salmon return to the Merrimack River each year.

A minimum number of 300 salmon was set as the threshold for holding salmon at the Nashua National Fish Hatchery. That is, the first 300 returning fish are held at the hatchery, where their eggs are used to produce the millions of juvenile salmon that are stocked throughout the Merrimack River watershed each year. Until 2011, this target was only exceeded once, with 331 salmon returns counted in 1991.

Trouble at Sea

Salmon populations throughout North America are in decline, despite the closing of an ocean fishery off the western coast of Greenland, where Atlantic salmon congregate before migrating back to their home rivers. Poor survival in the ocean has been a major obstacle to salmon restoration efforts throughout the region.

The Merrimack River watershed.

Determining the potential cause, or causes, is a major focus of current research. If ocean survival is cyclical, then it is reasonable to believe that salmon restoration can succeed. However, if there has been a fundamental shift in the North Atlantic ecosystem, because of a changing climate or other factors, then salmon restoration may not be possible.

It was with this uncertainty about the marine phase of the salmon's life cycle in

mind that the Merrimack River Technical Committee began, in 2010, to rethink the strategy of the Merrimack River Salmon Program. A common theme in the discussion has been scaling back and shifting focus toward evaluating the potential for natural salmon reproduction in the watershed, especially in the Souhegan River, where a recent dam removal has made salmon spawning habitat accessible for the first time in the history of the program. Releasing adult salmon and evaluating their ability to spawn in the wild, rather than waiting until we reach a minimum target of 300 fish, will tell us whether the Souhegan River contains habitat that is capable of supporting a sustainable salmon population if marine survival improves.

Record Returns

Ironically, marine survival did improve, at least for salmon returning in 2011. A record number of 402 Atlantic salmon were counted at the Essex Dam fish lift last spring. Similar increases were recorded on salmon rivers throughout Maine and Canada. The increase in numbers allowed us to take some big steps toward answering questions about natural reproduction. Adult salmon were released into the Souhegan, Baker and upper Pemigewasset rivers. Successful spawning was confirmed by monitoring radio-tagged fish and counting redds.

In two years, we will be able to sample for salmon parr, in areas where successful spawning was recorded. This will allow us to measure the reproductive success of salmon that spawned naturally in the watershed. Within five years, we should have a better understanding of what to expect from salmon that are allowed to run the river. This information, along with trends in ocean survival, will ultimately determine if successful salmon restoration can be achieved for the Merrimack.

Allegheny National Fish Hatchery Back in Business, Raising Lake Trout for Lower Great Lakes Fisheries

Submitted by Larry Miller
U.S. Fish and Wildlife Service

Warren, Penn. – For the first time since 2005, the Allegheny National Fish Hatchery is back in the business of raising lake trout to restore recreational fisheries in the lower Great Lakes, according to Larry Miller, hatchery manager. In November, five-year-old juvenile lake trout from another Service-run hatchery in western Massachusetts were the first released into the raceways at Allegheny National Fish Hatchery. These 2,200 fish will mature this fall and will produce eggs for future generations of lake trout raised at the hatchery.

In December, the hatchery received a total of one million lake trout eggs from the State of Vermont's Salisbury Fish Hatchery, the Sullivan Creek National Fish Hatchery in Michigan, and the Iron River National Fish Hatchery in Wisconsin. The eggs have hatched and the trout fry will be moved to outdoor raceways in spring. These fish will grow for 18 months and the trout "yearlings" will be stocked into lakes Erie and Ontario in May 2013.

All fish were destroyed at the Allegheny National Fish Hatchery in 2005 when lake and brook trout in the hatchery tested positive for infectious pancreatic necrosis (IPN). IPN is a highly contagious and incurable fish virus that can affect trout and salmon species, in some cases causing up to 90 percent mortality in young fish.

The hatchery was thoroughly decontaminated following the discovery of IPN. Tests were done before any fish were released on site in November, and the hatchery is virus-free, according to Miller.

Lake trout eggs are beginning to hatch; their fry will be moved to the outdoor raceways in spring. These fish will be grown for 18 months to "fingerling" size and then stocked into lakes Erie and Ontario in May 2013.

In the process of decontaminating the facility, significant infrastructure problems were discovered that prevented the resumption of fish production at the hatchery. In 2009, the Service received $1.13 million under the American Recovery and Reinvestment Act to complete necessary repairs. With additional funds from the Service's Great Lakes Restoration Initiative and hatchery maintenance accounts, the Service in March 2010 awarded a $1.7 million general construction contract to William T. Spaeder Co., Inc., to carry out the project.

Spaeder is a small family-owned local company located in Erie, Penn., established in 1919 by World War I Navy veteran William "Bill" Spaeder. Today, ten of Spaeder's grandchildren work for the company, including company president Terry M. Spaeder. The project supported about 25 jobs, including subcontractors.

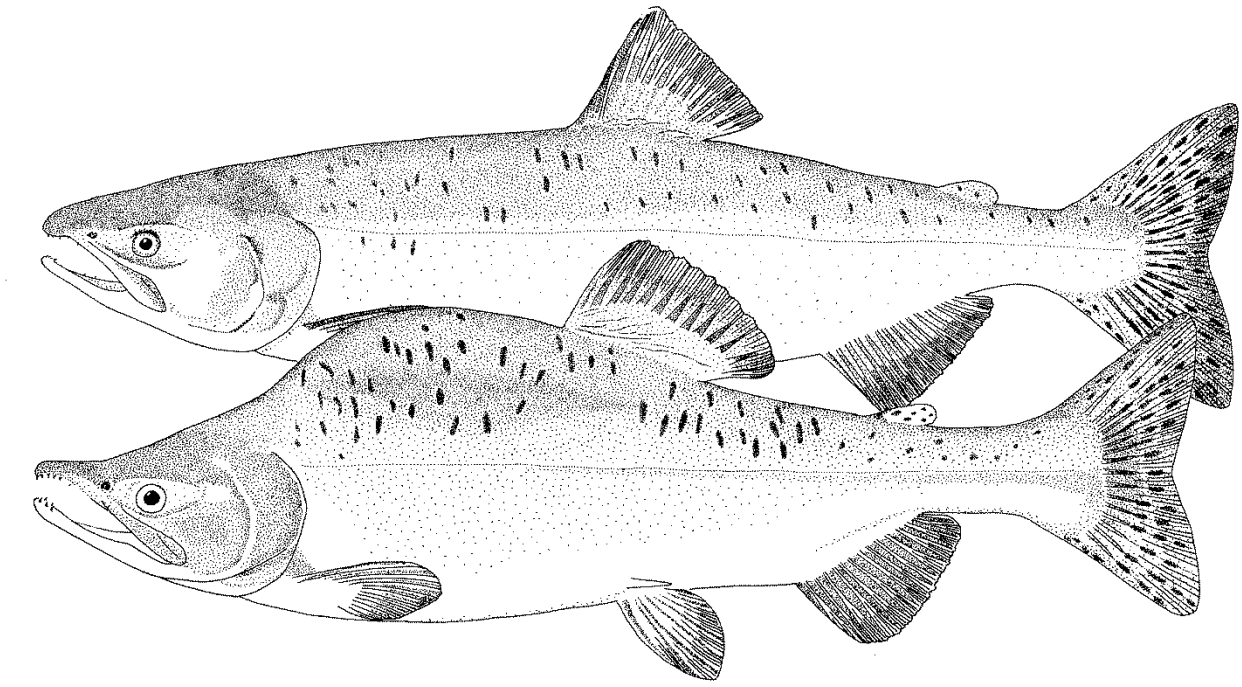
Spaeder constructed a new degasification system, a structure to house associated equipment, and installed a well-water treatment system. The ground water from the hatchery's four wells is supersaturated with nitrogen and must go through an aeration and degassing process to make it non-toxic for fish. The water is then injected with oxygen from a new oxygen generation system to enhance water quality.

Allegheny National Fish Hatchery will raise young lake trout to support recreational fisheries in lakes Ontario and Erie as part of the Great Lakes Restoration Initiative. The initiative is a partnership of 16 state, provincial and federal agencies working together to address the most significant environmental problems in the Great Lakes.

National fish hatcheries collectively contribute $900 million in industrial output and $550 million in retail sales in the U.S., according to Net Worth: The Economic Value of Fisheries Conservation report published by the Service in 2011.

From 1974 until 2005, the Allegheny National Fish Hatchery in Warren, Pennsylvania, produced as many as 1.3 million lake trout annually to help restore the populations in Lake Ontario and Lake Erie.

The mission of the U.S. Fish and Wildlife Service is working with others to conserve, protect and enhance fish, wildlife, plants and their habitats for the continuing benefit of the American people. We are both a leader and trusted partner in fish and wildlife conservation, known for our scientific excellence, stewardship of lands and natural resources, dedicated professionals, and commitment to public service. For more information on our work and the people who make it happen, visit http://www.fws.gov.



Artwork by John Cooper

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