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The aim of this newsletter is to provide a regular report on the activities of the New York Cooperative Fish and Wildlife Research Unit. The mission of the Unit is to conduct applied research on natural resource issues, participate in graduate education, and provide technical assistance and training for natural resource professionals. The Unit is a cooperative effort of the U. S. Geological Survey, New York State Department of Environmental Conservation, Cornell University, U. S. Fish and Wildlife Service, and the Wildlife Management Institute. For more information about the Unit call us at 607-255-2839 or visit our website: http://www.coopunits.org/New_York/

NY Coop News

NEWSLETTER OF THE NEW YORK COOPERATIVE FISH AND WILDLIFE RESEARCH UNIT

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Integrating SDM/AM in our Research

The Cooperative Research Units Program has been actively promoting an initiative to improve the integration of research, education, and technical assistance with conservation and management, by enhancing the program's expertise in structured decision making (SDM) and adaptive management (AM). We at the NY Coop Unit have embraced this initiative and would like to take this opportunity to inform you of our activities and plans to integrate SDM/AM into our cooperator-driven research.

What is Structured Decision Making and Adaptive Management?

Structured decision making is a process for helping make simple to complex decisions in a clear and transparent way. It is used to make sound decisions by determining objectives and achieving goals that are likely to be supported by stakeholders and accepted by others. This decision framework is based on defining the problem, evaluating objectives, considering alternatives and consequences of those alternatives, considering the tradeoffs associated with the different objectives, and ultimately making a decision and taking action. SDM is a process to distill complex problems involving multiple stakeholders that can be used to satisfy our cooperators research and management needs. Adaptive management is learning through management and adjusting management actions based on what

is learned. We feel that SDM/AM provides clear benefits for our cooperators, including making decisions that are transparent, rigorous, deliberative, and replicable.

What Training Has the NY Unit Received in SDM/AM?

Unit leader, Bill Fisher and Assistant Leader, Angela Fuller have both participated in two courses at the National Conservation Training Center (NCTC) in West Virginia that focused on Structured Decision Making and Adaptive Management. Bill Fisher observed a SDM/AM workshop in GA lead by Dr. Jim Peterson that focused on mussel conservation,

What is the NY Coop Unit Doing to Promote SDM/AM?

Angela Fuller organized and facilitated a workshop on adaptive management, estimation, and monitoring tools for conservation and management for the New York State Department of Environmental Conser-

vation in June. The workshop was instructed by Dr. Evan Cooch of the Department of Natural Resources at Cornell University. There were >25 staff members in attendance, and we received a lot of positive feedback about the value of the workshop. In August, Angela Fuller and Evan Cooch met with members of the NYSDEC Wildlife Division to begin discussions on how to integrate SDM/AM into future research.

What Are Our SDM/AM Plans For the Future?

Bill Fisher and Angela Fuller plan on continuing discussions with our cooperators to learn of ways that we can integrate SDM/AM into our research. Bill and Angela plan on teaching a multi-day SDM workshop to our cooperators in early 2011. The workshop will be followed by a SDM/AM workshop led by Dr. Mike Conroy, in which we will focus on a natural resource-based management problem. Angela Fuller will attend a SDM workshop at NCTC in September, 2010 and will assist in teaching a SDM course at NCTC in January, 2011. Angela plans on teaching a graduate seminar in SDM for Cornell University students during Spring, 2011.



Meet the Staff: Angela Fuller—Assistant Unit Leader

Angela became the Assistant Leader of the of the New York Coop Unit in November of 2009. Angela is a Wildlife Ecologist that has studied the habitat and population ecology of forest carnivores (including extensive research on Canada lynx and American marten). Her most recent work has focused on landscape-scale biodiversity conservation on industrial forest lands in Maine. She received her Ph.D. in Wildlife Ecology from the University of

Maine in 2006. Angela was a Post-Doctoral Scientist and



Associate Graduate Faculty Member at the University of Maine prior to beginning her career with the Cooperative Research Units Program.

Angela has her roots in the east; she was raised in Vermont and attended graduate school in Maine. Angela and her husband Andy (a wildlife biologist with the Ruffed Grouse Society) and their two boys (Collin, 4 and Nolan, 6) are enjoying the hunting and fishing opportunities in New York, and are excited to get the first farm animals in their barn. Although the monster lake trout of Cayuga lake has eluded her, she continues her quest.



Unit Leader, Bill Fisher, testing Unit boat on Cayuga Lake

Meet our New Graduate Students:

Matthew Adams



Matt is from Hyattsville, MD, a suburb of Washington, D.C. He graduated from Penn State with a B.S. degree in Wildlife and Fisheries Science. Prior to coming to the NY Coop unit, Matt worked in the game bird division of the Pennsylvania Game Commission. He also worked on a grassland songbird project for Penn State. In his free time, Matt enjoys hiking and bird watching. Matt will be researching the spatial ecology of black bears in NY under the advisement of Dr. Angela Fuller.

tionships between fish and various stressors in WY, CO, NY, and FL. In May 2010, he completed his M.S. at the University of Florida studying how a shift in

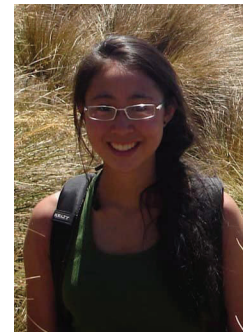


vegetated aquatic habitat affected small-bodied fish communities. After working on an interdisciplinary project modeling gag grouper in the Gulf of Mexico, Ed moved to Ithaca where he will study the ecological relationships and management of recreational fisheries at Cornell under Dr. Bill Fisher. Ed is an avid angler and runner, and looks forward to learning to hunt upstate New York.

Catherine Sun

Hailing from Delaware, Cat graduated from the University of Delaware in May 2010 with a B.S. in Biological Sciences with a Concentration in Ecology and

Organismic Biology. During her undergraduate career, Cat studied nemertean genomics, as-



sisted in horseshoe crab spawning surveys, and researched the effects of nonnative plants on spider communities. In the summer of 2010, Cat worked as a field research assistant for Delaware State University mist-netting veeries and dissecting their nests for leaf litter decomposition. In her spare time, Cat enjoys watercolors, reading modern philosophy, and adding to her insect collection. Cat will be estimating population abundance of black bears in NY, using non-invasive genetic approaches under the direction of Dr. Angela Fuller and Dr. Matt Hare.

Titus Seilheimer,
postdoctoral
associate, left the NY
Coop Unit in July for
a position with the
U. S. Forest Service in
St. Paul, MN. We
wish Titus well.

Edward Camp

Ed grew up in Rhode Island and graduated with a B.A. in Environmental Studies from Gordon College in May 2005. Over the next three years Ed worked as a technician researching the rela-

Projects

Trout Population Response to Water Diversion in Esopus Creek – T. J. Ross, M.S. Student

During the summer of 2010, T.J. Ross with the assistance of Cornell undergraduate field technician, Jackie Chen, completed his first season of field work on the Upper Esopus Creek in the Catskill Mountains of New York State. While in the field, they received help on various tasks from of State and Federal agency biologists.

T.J. and Jackie collected field data on: stream habitat, trout locations and movement using radio telemetry, trout water and lipid content using bioelectrical impedance analysis, and trout habitat use from snorkel-

ing surveys. They also collected a sample of trout for dietary analysis.

In a cooperative effort with Dr. Paul Bowser and Dr. Greg Wooster from the Cornell Veterinary School, Aquatic Animal Health Program, they collected trout to assess their physiological condition from blood serum chemistry, gill histopathology, and parasite occurrence.

Esopus Creek was hot and dry during the summer of 2010, which presented challenges for the fish telemetry portion of the project. Learn-

ing from these and other experiences, T.J. plans to improve the study design that will be implemented in 2011 by modifying the sampling schedule and developing a new protocol for the stocking and recovery trout with implanted radio transmitters.

This project is funded by the U. S. Geological Survey with support from the New York State Department of Environmental Conservation, the New York City Department of Environmental Protection, and Cornell Cooperative Extension.



T. J. Ross collecting GPS locations in Esopus Creek

Biological Assessment of Environmental Flows for Oklahoma – Titus Seilheimer, Postdoc

Using a stream classification based on eco-hydrological characteristics, we are identifying how altered flow regimes affect aquatic ecosystems, particularly fish assemblages. We are using publicly available streamflow information from USGS stream gages with existing fish collection records from University, State, and Federal sources to identify how flow alteration is linked to altered biotic communities.

During this summer, we completed the preparation of the fish assemblage database for each gaged stream site. Species were characterized based on functional groups (e.g. habitat preferences, feeding

strategies) to minimize the regional differences in species occurrences. Data were analyzed in groups of sites based on the degree of hydrologic alteration (e.g. reference, low, moderate, high), reference/ altered, and geographic location (i.e. east, west).

These analyses showed that reference sites had significantly fewer lentic (i.e. lake) species than all levels of altered sites. The fish assemblages at the reference sites could be characterized as containing stream specialists that were intolerant to water quality and habitat alteration, and preferred faster flowing water. The altered sites had species with more

general habitat preferences, were tolerant of water quality and habitat alteration, and preferred slower currents. Ordination of the sites also showed differences in the fish assemblages and functional groups between reference and altered sites, and between geographical areas.

This project is funded by the U. S. Geological Survey through the Science Support Partnership program in cooperation with the U. S. Fish and Wildlife Service, Ecological Services in Tulsa, Oklahoma.



Titus Seilheimer surveying stream habitat in an Oklahoma stream

Activities

Melinda von Gordon, our Administrative Assistant, gave birth to a baby boy, Landon Forrest von Gordon on August 20, 2010. Congratulations Melinda!

Publications and Presentations

Bill Fisher:

Fisher, W. L. 2010. GIS and spatial analyses in fisheries: challenges, opportunities and the future. Pages 3-14 in T. Nishida and A. E. Canton, editors. GIS/spatial analyses in fishery and aquatic sciences, volume 4. International Fishery GIS Society, Saitama, Japan.

Angela Fuller:

J. Vashon, D. Harrison, A. Fuller, D. Mallett, S. McLellan, W. Jakubas, and J. Organ. 2010. Documenting the Response of Canada Lynx to Declining Snowshoe Hare Populations in an Intensively Managed Private Forest Landscape in Northern Maine. Pages 57-60 In Meyer, S. R. (Ed.). Cooperative Forestry Research Unit: 2009 Annual Report. University of Maine, Orono, Maine. 82p.



Assistant Unit Leader, Angela Fuller, holding a yearling black bear

Meetings and Training

Bill Fisher:

Cornell Biological Field Station, Advisory Committee Meeting. June 15, 2010. Bridgeport, NY.

Angela Fuller:

Adaptive Management: Structured Decision Making for Recurrent Decisions. August 9-13, 2010. National Conservation Training Center, Sheperdstown, WV.

Northeast Black Bear Technical Committee Meeting, Moultonborough, NH. August 17-18, 2010.

Pennsylvania Cooperative Fish and Wildlife Research Unit Coordinating Committee Meeting. June 14, 2010.

Angela Fuller accompanied the Maine Department of Inland Fisheries and Wildlife in black bear trapping efforts, June 16-18, 2010

Technical Assistance

Angela Fuller:

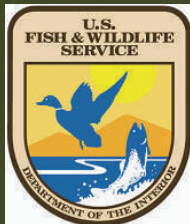
Coordinated and facilitated a workshop on adaptive management, estimation, and monitoring tools for conservation and management for the New York State Department of Environmental Conservation. Workshop was instructed by Dr. Evan Cooch of the Department of Natural Resources at Cornell University. June 22, 2010.

NY COOP NEWS

Newsletter of the
New York
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Upcoming

New Projects.—Unit scientists and students are preparing to begin new fisheries and wildlife projects. Our Unit has three new projects beginning this fall with graduate students Matt Adams, Ed Camp, and Cat Sun. Graduate students are working on study design and courses this semester and will hit the field next spring.

Technical Assistance.—We would like to increase our technical assistance service to our cooperators. To this end, we hosted a workshop on adaptive management, estimation, and monitoring as a first in a series of workshops. We have been thinking of other ideas for workshops and trainings that would be of use to managers and biologists. Our next planned workshop

will be taught by Bill Fisher and Angela Fuller and will focus on structured decision making. Future workshops or trainings could include topics such as use of GIS in fish and wildlife research, radiotelemetry skills, designing monitoring studies, chemical immobilization, animal trapping and handling, and wildlife health. We ask you to be thinking of ways that we can provide technical assistance. If you have a workshop or training idea, please let us know.

New Assistant Leader, Ecology.

—We are in the process of searching for a new Assistant Unit Leader, Ecology. We are excited about hiring a second Assistant Leader, which will make our Unit fully staffed. Stay tuned for updates regarding the search process!

