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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.dnr.cornell.edu/cals/dnr/research/fwres/>

# NY Coop News

## NEWSLETTER OF THE NEW YORK COOPERATIVE FISH AND WILDLIFE RESEARCH UNIT

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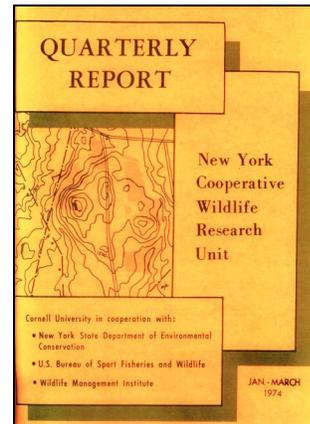
### Welcome

In 1962, the year after the New York Cooperative Wildlife Research Unit was established at Cornell University, Unit Leader, Dr. Dan Thompson began publishing a quarterly report about Unit projects and activities. These reports contained details about the Unit staff, students and cooperators, progress reports about Unit projects, and Unit activities including meeting presentations, publications, and technical assistance. These reports were published through 1974 when Dan left the Unit for a position with the USFWS in Colorado.

Unfortunately, there is not a similar series of reports available that chronicles the early history of the New York Cooperative Fishery Research Unit, which was established in 1963 under the leadership of Dr. Al Eipper.

In 1984, the Wildlife and Fishery Units were combined. Milo Richmond, who had joined

the New York Coop Unit staff in 1968 as Assistant Leader and took over leadership of the Wildlife Unit following Dan's departure in 1974, assumed



leadership of the combined Unit until his retirement in 2008. During Milo's 40-year career with the New York Coop Unit he contributed to wildlife management in New York and beyond and was a true ambassa-

dor for the Unit.

The New York Cooperative Fish and Wildlife Research Unit has a long and storied history of accomplishments in natural resource research, education, and technical assistance. These accomplishments are chronicled in student theses, scientific publications, agency reports, and other documents, which are a legacy to the dedication and hard work of many students and professionals.

This newsletter is intended to summarize Unit accomplishments for the purpose of communicating regularly with our cooperators and to leave a trace for future students, scientists, cooperators, and all those interested in the New York Coop Unit. I hope you find these newsletters informative, interesting, and above all useful. Welcome back to the New York Cooperative Fish and Wildlife Research Unit.—*Bill Fisher*

### Meet the Staff: Bill Fisher—Unit Leader

In each newsletter, we will feature a Unit staff member or student to help familiarize you with the people that make the Unit work.



Bill became Leader of the New York Coop Unit in 2008. Prior to assuming this position, he was Assistant Leader—

Fisheries for the Oklahoma Coop Unit at Oklahoma State University for nearly 18 years. Bill worked from 1988-1991 with USFWS National Ecology Research Center at Auburn University as an instream flow ecologist. He received his PhD in biology from the University of Louisville in 1987. Bill is a fisheries scientist and stream ecologist with interests in applications of geographic information systems in fisheries, management of

recreational fisheries, conservation of rare and declining fishes, and sustainable water resources management.

Bill, a native of Wisconsin, and his wife Kim are enjoying living in New York, especially the natural beauty, excellent fishing opportunities, and wonderful food. Their three boys have followed them east and are attending universities in New York and the Washington D.C. area.

## Projects

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

Trout populations in the Upper Esopus Creek are being affected by a water diversion from the Schoarie Reservoir that is creating increased turbidity, streamflow, and thermal refuge habitat. These alterations in stream conditions are thought to affect trout habitat selection, movement rates and patterns, thermal refuge use, and bioenergetics. Radio telemetry, bioelectrical impedance analysis, and bioenergetics modeling will be used to assess

the effects of the diversion on the trout populations. We hypothesize that the diversion results in decreased habitat selectivity and thermal refuge use and increased movement rates and energetic expense by trout.

Activities this quarter included reviewing relevant literature, preparing a draft thesis proposal, aging and measuring approximately 300 trout scales, analyzing data from the 2009 pilot study, preparing and sub-

mitting an application for the Doris Duke Conservation Fellowship, coordinating schedule for holding tank set-up and for summer trout collection efforts, locating summer housing options, and ordering equipment.

This project is funded by USGS and we are working in cooperation with Barry Baldigo at the USGS-NY Water Science Center and Cliff Kraft in the Department of Natural Resources at Cornell.



T. J. Ross tracking trout in upper Esopus Creek, NY

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

Environmental flows (also known as instream flows) are flows that sustain animals and plants in streams and rivers. Assessment of environmental flows is needed to aid water resource planners and policy makers in decision making. This project builds upon a previous study that classified Oklahoma streams and rivers based on eco-hydrological characteristics. The current project will identify how al-

tered flow regime in Oklahoma streams will affect the aquatic ecosystems, particularly fish assemblages.

During this quarter, I have completed the first stage of the study by determining the level of flow alteration for selected stream gages, and I am now assembling a fish dataset at the stream gage locations. I have also been collaborating on research proposals to study the impact of climate change on

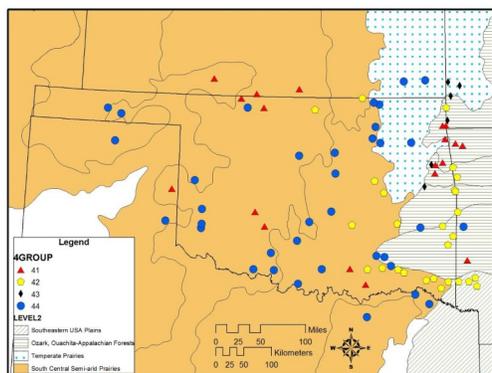
Oklahoma streams and another to classify environmental flow in the Great Lakes basin of New York.

This project is funded by the USGS through the Science Support Partnership program in cooperation with the USFWS Ecological Services Office in Tulsa, Oklahoma.

*Master's student, T. J. Ross received a prestigious Doris Duke Conservation Fellowship to support his research on trout populations in Esopus Creek.*



Titus Seilheimer measuring current velocity in a spring in central Oklahoma



A comparison of the four-group cluster analysis stream classifications and Level II Ecoregions of Oklahoma. Group stream classes are: 41 (red triangle) - perennial run-off, 42 (yellow circle) - perennial flashy, 43 (black diamond) - stable groundwater, 44 (blue circle) intermittent.

## Activities

*Bill Fisher received the 2009 Leadership Excellence Award at the Cooperative Research Units' All Hands Meeting in New Orleans, LA on 3 March 2010*



Angela Fuller, Assistant Unit Leader—Wildlife

*Angela Fuller received an Award of Appreciation from the Maine Cooperative Forestry Research Unit for 14 years of exceptional research and outreach, 14 April, 2010*

## Publications and Presentations

- Echelle, A. A., R. A. Van Den Bussche, and W. L. Fisher. 2010. Conservation genetics of fish in the Blue River, Oklahoma. Final Report, U. S. Fish and Wildlife Service—U. S. Geological Survey Science Support Partnership Grant, Tulsa, OK
- Fisher, W. L. 2010. Black bass distribution, abundance and management in eastern Oklahoma streams. Final Report, Federal Aid Grant F-77-R, Oklahoma Department of Wildlife Conservation, Oklahoma City, OK.
- Fuller, A. K. 2010. My evolution as an ecologist. Presentation to the Cornell University Student Chapter of The Wildlife Society. 30 March, 2010.
- Fuller, A.K, D. J. Harrison, and W. B. Krohn. Balancing landscape-scale biodiversity conservation and forestry. Invited seminar to the Maine Cooperative Forestry Research Unit, University of Maine, Orono, Maine. 14 April, 2010.
- Mallett, D. G., D. J. Harrison, and A. K. Fuller. Variable fix success of GPS collars across habitats used by Canada lynx: influences of habitat structure, topography, and satellite configuration. 66th Annual Northeast Fish and Wildlife Conference. Newton, Massachusetts. April 26, 2010.
- Ross, T.J., W.L. Fisher, B.P. Baldigo, and T.P. Baudanza. The effects of Schoharie Reservoir waters on trout in the Upper Esopus Creek: plans and preliminary results, NY Chapter of American Fisheries Society Annual Meeting. Lake George, NY, 10 February 2010. (Poster)
- Ross, T.J., W.L. Fisher, B.P. Baldigo, and T.P. Baudanza. The effects of Schoharie Reservoir waters on trout populations in the Upper Esopus Creek. Cornell Department of Natural Resources Graduate Student Research Symposium, Ithaca, NY, 20 January 2010.
- Seilheimer, T. S., and W. L. Fisher. Environmental flow assessment: Hydroecological Integrity Assessment Process (HIP), USGS NY Water Science Center, Ithaca, NY, 1 February 2010.
- Vashon, J. A., W. J. Jakubas, D. J. Harrison, A. K. Fuller, and J. F. Organ. Documenting the response of lynx to declining snowshoe hare populations in northern Maine. Presentation to the Maine Cooperative Forestry Research Unit, University of Maine, Orono, Maine. 14 April, 2010.

## Meetings and Training

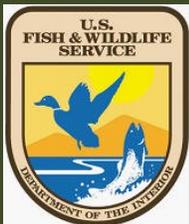
- Bill Fisher, Titus Seilheimer, T. J. Ross: New York Chapter of the American Fisheries Society Annual Meeting, Lake George, NY, February 11-12, 2010
- Bill Fisher and Angela Fuller: USGS, Cooperative Research Units, All-hands meeting, New Orleans, LA, March 1-5, 2010
- Bill Fisher: Oneida Lake Fisheries Team Meeting, Cornell Biological Field Station, Bridgeport, NY, March 29, 2010
- Angela Fuller: Introduction to Structured Decision Making, National Conservation Training Center, Shepherdstown, WV, January 11-15, 2010
- Angela Fuller: New York Department of Environmental Conservation Bear Team Meeting, Utica, NY, January 28, 2010
- Angela Fuller: New York Department of Environmental Conservation Furbearer Team Meeting, Ithaca, NY, March 10, 2010
- Angela Fuller: New York Chapter of The Wildlife Society Annual Meeting, Alexandria, Bay, NY, March 12, 2010

## NY COOP NEWS

Newsletter of the  
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Unit

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## Upcoming

The New York Coop Unit is filling the vacant **Assistant Unit Leader position**. We worked with our cooperators to define the position description and are very excited about the outcome. We are seeking a landscape ecologist that conducts applied research on vertebrates, investigating the responses of populations, communities, and/or ecosystems to environmental stressors. Our hope is to recruit an ecologist with spatial analysis and modeling expertise, which will nicely complement the strengths of the Unit staff. We anticipate that interviews will be conducted this summer.

Bill Fisher and Angela Fuller have worked with the New York State Department Environmental Conservation to determine their **fisheries and wildlife research and man-**

**agement needs** and have identified several research projects that we describe below.

Bill Fisher recently advertised for three graduate students that may begin their programs this fall. The first project will assess the status of black bass populations in New York lakes by evaluating relationships between fish populations and environmental characteristics. The second project will focus on stocked trout in New York. One student will assess fish population dynamics and angler harvest rates. The other will evaluate the statewide catch-rate oriented trout stocking model and one student will focus on field studies to be co-advised by Dr. Pat Sullivan in the Department of Natural Resources.

Angela Fuller recently advertised for two graduate stu-

dents to begin this fall on research related to black bear ecology in New York. One student will model bear-habitat relationships in the core of the black bear range and in areas of expansion of the population to develop models of landscape permeability in New York. The other student will design a large-scale DNA mark-recapture study using hair snares to be used for population abundance estimation. The student working on population estimation will be co-advised by Dr. Matt Hare, a geneticist in the Department of Natural Resources.

In addition, Angela and Bill are collaborating with **NGOs and our Federal partners** on several research proposals related to environmental flows and species vulnerability assessments.