

Society of American Foresters



NJ State Tri-Society Meeting

***Strategies for
Stewardship of
New York's
Natural Resources***

January 27 - 29, 2000

Wyndham Syracuse
6301 Route 298, Carrier Circle, East Syracuse

Meeting Objective:

The purpose of this multi-disciplinary conference is to provide a forum where members of the New York professional societies of fisheries, forestry, and wildlife can develop strategies and address challenges related to natural resource management and professional development.

Attendees will qualify for continuing education credits from their respective professional societies Contact current chairperson for details.

Sponsors:

New York State Department of Environmental Conservation

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New York Chapter of:

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Friday, January 28, 2000

CONCURRENT SESSIONS

Session 1: Sustaining Our Biotic Heritage

Moderators: *Chad Covey, NYS DEC and Sandy Bonano, TNC*

Outcome: Learn strategies and applications to maintain and enhance biological diversity

8:30 A historical perspective on the changing Lake Ontario ecosystem

David MacNeill, SUNY-Brockport

9:00 The ecological significance of managing the hardwood unit pattern

Gregory McGee, SUNY-ESF

9:30 Biological diversity in forested ecosystems: Why does it matter?

Shawn Carter, SUNY-ESF

Session 2: Distance Education: Options for Application

Moderators: Ross Jacobs and Chuck Spuches, SUNY-ESF

Outcome: Experience current technologies for distance education

8:30 Participants travel to SUNY-ESF Distance Learning Center
(limited seating, sign-up at registration)

Session 3: Community-based Management

Moderators: *Mark Lowery, NYS DEC*

Outcome: Understand how to work with local communities to manage natural resource issues

8:30 Concepts of community-based management.

Tania Schusler and Daniel Decker – Cornell University

9:00 Deer management in Cayuga Heights, NY

Paul Curtis and Sharon Anderson – Cornell University

9:30 Fish, cormorants and people: Eastern Lake Ontario

James Farquhar, NYS DEC and Albert Schiavone, NYS DEC

10:00 BREAK

Session 1: Sustaining Our Biotic Heritage, continued

10:30 Doing more with less on the eastern shore of Lake Ontario

David Forness, NYS DEC

11:00 The American Chestnut research and restoration project

Charles Maynard, SUNY-ESF

11:30 Community-based conservation in an agricultural watershed

Susan McAlpine, The Nature Conservancy

Session 2: Distance Education: Options for Application, continued

Taking place off site

Session 3: Community-based Management, continued

10:30 Community Involvement in Coastal Habitat Restoration: A flexible model from Long Island Sound

Lisa Holst, NYS DEC

11:00 Citizen participation and the USFWS Comprehensive Planning Program

Thomas Bonetti, U.S. Fish and Wildlife Service

11:30 Discussion with questions and answers

Session 7: Employment skills for natural resource students

Moderators: John Homa, Ichthyological Assoc.; John Wagner & Larry VanDruff, SUNY-ESF; & Margaret Murphy, Research Assistant, SUNY-ESF

Outcome: Students will learn a variety of skills they can use to improve their employment options.

1:30 Private fisheries consultant. How I have used my education in my job. Combining business skills with natural resource knowledge.

Margaret Murphy, SUNY-ESF

1:50 Education for foresters in the forest products industry

Hugh Canham, SUNY-ESF

2:10 Career and counseling services. Job searching tools and techniques.

Preparing a resume. Preparing for an interview.

Tom Slocum, SUNY-ESF

2:30 BREAK

Session 4: Contributed Papers (fisheries), continued

3:00 Biotic and abiotic influences on forage fish abundance in eight New York lakes

David M. Warner, Cornell University

3:20 Comparison of seasonal pelagic fish abundance in embayments and the nearshore of Lake Ontario using hydroacoustics, with particular emphasis on the alewife (*Alosa pseudoharengus*)

Robert A. Klumb, Cornell University

3:40 Alewife (*Alosa psuedoharengus*) spawning in Lake Ontario: Do adult spawning behaviors affect age-0 survivorship?

Darran L. Crabtree, SUNY-ESF

4:00 Exotic cuisine – the importance of *Bythotrephes cederstroemi* in the diet of rainbow smelt (*Osmerus mordax*) in eastern Lake Erie

Sandra L. Parker, Cornell University

Session 5: Contributed Papers (wildlife), continued

3:00 Using a habitat-suitability approach to evaluate landscape patterns for eastern wild turkey

Kathleen K. Fleming, SUNY-ESF

3:20 Alternative delivery methods in hunter education - a review with NYS implications

David J. Adams, NYSDEC

3:40 Wolves and coyotes in New York State: Then and now

Robert E. Chambers, SUNY-ESF

4:00 Lake Sturgeon (*Acipenser fulvescens*) ecology in the lower Niagara River

Thomas C. Hughes, SUNY-Brockport

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Alternative Delivery Methods In Hunter Education - A Review With NYS Implications

DAVID J. ADAMS - NYSDEC, 21 S. Putt Corners Road, New Paltz, NY 12561.

W. JONES - NYSDEC, 50 Wolf Road, Albany, NY 12233.

Over the past 50 years, the New York State Hunter Education Program has evolved from a simple gun safety course to a sophisticated course instilling the values of responsibility, safety and conservation. The results have been phenomenal. Today's hunters are the best trained, safest sportsman and women in history. Hunting injury rates have dropped over 60 percent since 1967. As hunting, trapping and sound wildlife management face new challenges in the next millennium, education will be a critical factor in continuing the intelligent action and support of hunters and trappers. In an effort to remove impediments to Hunter Education, such as time constraints, competing extracurricular activities and travel, NYS is experimenting with several alternative delivery methods.

"New technologies and delivery methods such as public television, video instruction, interactive video, CD-ROM, Internet, etc., are becoming increasingly prevalent and a continuing trend. The new technologies are not direct substitutions for traditional teaching methods. Their effectiveness is directly dependent on the skills of the instructors using them and the role they play within the context of the overall program.

Home study courses offer an important alternative method of delivering hunter education course material to students. This method is particularly well suited for introductory material and/or supplemental material. Providing an array of options, including home study, to deliver hunter education is another way agencies can strive for better constituent service. Home study programs also may have public relations and outreach benefits, as well as the potential to enhance social and cultural values of hunting by encouraging family participation."

NYSDEC is completing a two year pilot study in the use of a home study manual. An early pilot study showed that home study students did as well on standard exams as students in traditional courses. By assigning students homework via a Home Study Workbook volunteer instructors were able to reduce the classroom instruction to eight hours, rather than the previous minimum of ten hours. This allows instructors to teach a shorter "finishing" course concentrating on interactive activities such as classroom discussions, range and field work, and improved evaluation and testing of student skills, knowledge and behavior.

An educational software producer and several state agencies have developed the equivalent to the home study workbook on CD-ROM. These products are more exciting for many students due to their colorful interactive computer presentation. NYS is currently evaluating the use of this new tool in the delivery of Hunter Education. Actual implementation will require a regulation change allowing students to pay for the independent portion of the course.

New York State is one of several states utilizing interactive shooting simulators as (1) a teaching tool in addition to live fire experience; (2) an alternative to live fire where live fire is not possible; and (3) a means to attract interest in the hunting, hunter safety, hunter education, and shooting sports.

Sustaining Our Biotic Heritage:

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In New York State and elsewhere in this country we have been engaged in conservation of land and water for well over a hundred years, but we have still not protected a sufficient number and distribution of healthy natural systems to sustain all of our native species. Urban sprawl, recreational and second home development, alteration of hydrologic regimes, the filling of wetlands, invasion by non-native species, certain agricultural and forestry practices, a loss of natural processes like fire and flooding, overfishing of marine species, and damage to the coastal environment all pose significant threats to biological diversity.

State governments and the Federal government have addressed those threats through the Endangered Species Act, the Clean Water Act, and other regulatory, land acquisition, and technical and financial assistance programs, but many species and some whole natural communities remain in jeopardy. Over the last ten years, political factors have gotten in the way of a more systematic approach to conservation of plant and animal species.

The Nature Conservancy, an international non-profit conservation organization, working cooperatively with many partners, is trying new approaches to conserving biological diversity across the entire North American landscape. These include;

Preparing ecoregional plans for each of this country's 63 ecoregions. These plans identify the "portfolio of sites" which, if protected, would sustain the diversity of species within each ecoregion.

- Using a consistent method of assessing threats to biodiversity at the sites identified and creating strategies to reduce those threats.
- Placing more emphasis on "functional landscapes" including aquatic systems.
- Further decentralizing the Conservancy's operations to undertake many "community based, landscape scale projects."
- Finding innovative ways of cooperating with forestry and ranching interests to sustain the biological value of their lands.

While the success of these strategies is by no means certain, the Conservancy's work may be helpful in building upon and enhancing New York State's longstanding leadership in land and water conservation. In addition, there is, today, unprecedented public support for funding conservation initiatives. If in New York and elsewhere we can bring together innovation in conservation science with long term sources of funding, we can enter the 21st Century with a renewed sense of hope that we can save our country's exceptional biotic heritage for all the years to come.

**Silviculture and Timber Harvesting in New York State:
“How are we doing as forest land stewards in New York?”**

RUSSELL D. BRIGGS¹, RALPH D. NYLAND and JAMIE SCHULER. – ¹SUNY College of Environmental Science and Forestry, One Forestry Drive, Syracuse, New York 13210. Phone: 315-470-6989. Email: rdbriggs@esf.edu.

This paper poses the question “How are we doing as forest land stewards in New York?”. Our objective is to examine the use of best management practices (BMPs) for silviculture and for water quality.

Data from the recent NY-SAF timber harvesting assessment give some clue to the quality of forestry practices in New York, and indirectly provide some measure of our professional practice as well. In 68% of the 62 stands sampled, cutting increased the variability of stocking across a site by at least 1.5 times, making conditions more patchy and more irregular in site utilization. In 44% of the stands, cutting reduced the quadratic stand diameter by at least 0.5 inches, and also removed at least 46% of the sawtimber volume. In about 50% of the stands, harvesting left less than 60% of the basal area in trees of potential sawtimber quality. All factors considered, timber harvesting left silviculturally desirable conditions in only about one-fifth of the stands. In addition, skid trails in 56% of the stands had poor initial design or placement, or deep rutting. About one-third of the sampled stands had more than 10% of the surface areas in skid trails.

These observations about skid trails essentially agree with findings from an assessment to evaluate use of 42 water quality BMP's, and to determine their effectiveness in preventing water quality impacts. These BMPs were evaluated on 61 timber-harvested sites in the Catskill region, and 53 timber harvested sites in the Adirondack region during the summers of 1997 and 1998. Appropriate haul road and skid trail BMPs were used in 78% and 59%, respectively, of the instances observed. The BMPs were most commonly used on landings (87% of instances observed) and for equipment operation (88%). BMPs dealing with buffer strip design and use were applied in 73% of the instances observed. Findings from these investigations suggest a need to improve forestry practices associated with timber harvesting in New York. They indicate greater opportunities to influence the outcomes for better guidelines for planning and operations and for educational programs aimed at the people who plan timber sales and implement them on the ground.

Biological Diversity in Forested Systems: Why does it matter?

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Forest ecosystems arguably contain the most diverse biotic communities on earth, largely because of abundant, spatially-partitioned biomass that provides many niches. Recent studies underscore the importance of maintaining biodiversity when implementing conservation and management strategies. A small but growing body of research using relatively simple systems suggests that reduced biodiversity decreases ecosystem stability, resilience, and productivity. Whatever the criterion, ecosystem function may provide a tractable basis for examining the roles that functionally significant taxa play in forest ecosystems.

Functional taxa provide important ecosystem services to entire communities. For example, in forest ecosystems top-down predation by birds can structure invertebrate prey communities thereby changing rates of insect herbivory. Also, microinvertebrate predation by salamanders may provide a critical trophic link for biomass cycling, and decomposition facilitated by burying beetles can speed forest nutrient cycling and limit disease. These taxa have narrow habitat requirements that can be linked to woody structure. Forest gleaners forage on standing dead wood and spiders (significant insect predators) use small fallen branches for web-spinning and cover, while salamanders and burying beetles both require robust amounts of decayed wood and organic material for reproduction.

The degree to which forest management practices can alter niche habitat for these important species is unknown. Small-scale habitat alteration by substrate disturbance and shrub layer removal may disrupt local communities, yet landscape biodiversity may prove resilient to disturbance. Thus, forest management practices that maintain or promote structurally-complex woody microhabitats for functional taxa may directly influence ecosystem processes. Understanding relationships between forest management, important indicator taxa, and ecosystem processes can help guide conservation aimed at preserving biological diversity and ultimately, ecosystem sustainability.

Selected References:

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- Naeem, S and S Li. 1997. Biodiversity enhances ecosystem reliability. *Nature* 390:507-509.
- Schulze, ED and HA Mooney, editors. 1993. *Biodiversity and ecosystem function*. Springer-Verlag, Berlin, Germany. Ecological Studies 99.

Real Men (and Women) CAN DO Distance Education!

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Technological advances can be confusing, even for persons who consider themselves to be somewhat technologically literate. Often, unless an individual must work with software packages and equipment on a somewhat regular basis, the advances lead to an inability to make use of the most modern technologies, whether the tasks involve simple information dissemination or more formal instructional activities. This presentation focuses on ways that the "average" professional can use modern, yet easily available and inexpensive ways to conduct distance education with the kinds of things most offices are equipped with in today's world.

In the 1993-94 academic year, Dr. Conroy conducted a research project and several pilot activities designed to improve communication between university faculty and staff responsible for inservice education for secondary agricultural teachers and others. Problems with inservice workshop attendance and other issues were resulting in miscommunication as well as low workshop attendance, in spite of the fact that workshops were free to participants. Ideas gleaned from those activities have evolved into several successful and cost-efficient ways to communicate that are in use at Cornell today. Based on personal and professional experiences, Dr. Conroy will share her "toolbox of ideas" for enhancing communication and information sharing with a clientele base.

The Interview Process and Help in Answering the “Tough Questions”

LELAND CRAWFORD – International Paper Manager of Operations

Discussion – Please use this page for notes.

Challenges and Strategies Before us in NY

PETER DUNCAN – NYS Department of Environmental Conservation, 50 Wolf Rd., Albany, NY 12233. Phone: 518-457-0975.

Peter Duncan's talk will focus on the challenges that both professional natural resource scientists and natural resource managers face in conserving the state's rich and diverse natural resource base. The talk will focus on the need to ensure that natural resource professionals in the 21st century better integrate science based research and management with changing public values. This will require managers and scientists to extend efforts to engage the public through a variety of outreach methods to understand better the values that the public expects natural resource professionals to promote in their management and research. While this is a tremendous challenge, it also provides an opportunity to better educate the public on the scientifically-based underpinnings of natural resource management.

Using a Habitat-suitability Approach to Evaluate Landscape Patterns for Eastern Wild Turkey

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Understanding how landscape patterns affect turkey distribution and growth is important for effective regional management of populations. Our objectives were to (1) develop a habitat suitability model compatible with satellite imagery to evaluate reproductive habitat for wild turkeys, and (2) apply this model for statewide evaluation of New York. Habitat patterns relating to landscape composition and configuration were measured from the EPA/Multi-Resolution Land Characteristics (MRLC) satellite image classification for New York State. Two separate habitat models were developed to represent habitat relationships associated with nesting and brood rearing. We used average prenesting and brood-rearing ranges for wild turkeys in New York to define spatial scales for model habitat measurements. We used an edge index (km edge/km²) within a hen prenesting range to quantify the suitability of nesting habitat. We derived a brood-rearing model from data on poult survival of radiotagged hens (n = 16) in New York. The resulting linear regression model used forest core area standard deviation to predict suitability of landscapes for brood rearing. Overall habitat suitability was defined for each pixel in the land-cover classification as the average of the 2 models. We incorporated spatial variation in rainfall departure and number of heating degree days in May and June into a separate weather model to identify the effects of spring weather on nest success and brood survival. We discuss the assumptions involved in this type of model and its value to wild turkey managers.

Earn-a-Buck at the Arnot Forest: Applying QDM in New York

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The "Earn-a-Buck" program (a version of Quality Deer Management) was initiated at Cornell University's 4,000-ac. Arnot Teaching and Research Forest during the 1999 deer hunting season. The goal is to reduce the deer population to allow successful regeneration of desirable tree species for sawtimber management. A policy was implemented whereby hunters are allowed to harvest a buck only after documenting the harvest of two antlerless deer at the forest. Objectives include reducing the reproductive potential of the herd, establishing a more balanced buck to doe ratio, and allowing more bucks to mature into the 2.5+-year age classes. We obtained 25 Deer Management Assistance Program (DMAP) permits under the new program administered by NYSDEC, Bur. of Wildlife. We staffed a deer check station at the forest during the '98 and '99 seasons. Hunter cooperation has been good, and we will reach our harvest goal of adult does this season. Ongoing research will focus on population and biology parameters of the deer herd, and human dimension characteristics of the hunters. Future efforts will include monitoring browse damage and tree regeneration success inside and outside fenced enclosures at the Arnot Forest in comparison to State Forest lands elsewhere in DMU 7R where traditional deer management is occurring.

Selected References:

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- McDonald, JE, Jr, MR Ellingwood, GMVecellio. 1998. Case studies in controlled deer hunting. Northeast Deer Technical Comm., NH Fish and Game Dept., 2 Hazen Dr., Concord, NH. 16pp.

Natural Resource Management in Post Industrial Society

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Global trends are reshaping the contours of New York State's rural and urban communities. Technological innovation, restructuring of production, and globalization of exchange have greatly reduced the need for agricultural labor in the United States and have shifted the location of manufacturing as the demand for services has increased. Correspondingly, the demand for jobs has shifted and new skills are necessary to obtain high incomes. Declines in birth rates, combined with delayed marriage, greater marital instability and nonmarital childbearing have fundamentally changed the nature of family life. New patterns of immigration in conjunction with racial and ethnic differences in family size are altering the ethnic mix, especially at younger ages. Each of these trends has contributed to substantial economic inequality.

If natural resources managers are to successfully navigate this changing social environment, new approaches must be deployed. These approaches should avoid the submerged rocks of competing and often contradictory demands, while laying the ground for a sustainable future.

Selected Reference:

Hirschl, Thomas A. and Tim B. Heaton (eds.). 1999. *New York in the 21st Century*. Westport, CT: Greenwood Press.

Lake Sturgeon (*Acipenser fulvescens*) Ecology in the Lower Niagara River

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The lake sturgeon (*Acipenser fulvescens*) is the only sturgeon endemic to Lakes Erie and Ontario. Historically very abundant, the lake sturgeon initially was regarded as a “nuisance” in the Great Lakes because it damaged fishing gear and provided no commercial value. By the mid-1800s, the importance of lake sturgeon as a commercial species had been recognized. Overexploitation by the commercial fishery and several other factors, including destruction of spawning habitats, damming, pollution and reduced water quality led to a dramatic decline in lake sturgeon abundance. Today, the lake sturgeon is a protected species over much of its range and it is federally listed as a “species of concern.”

Since the summer of 1998, we have collected 33 lake sturgeon by SCUBA diving, gill nets and baited setlines, and 20 fish have been fitted with ultrasonic transmitters to monitor their long-term movements in the lower Niagara River and its confluence with Lake Ontario. The objectives of our study are to compare daily, seasonal and diel movement patterns and macro- (e.g., river, main lake) and micro- (e.g., high flow, back eddy) habitats between juvenile and adult lake sturgeon. Preliminary findings are: (1) juveniles (<1000 mm TL) seem to prefer nearshore, slow (mean bottom velocity 0.18 m/s) water currents while adults (>1200 mm TL) seem to prefer the faster currents (mean bottom velocity 0.37 m/s) of the river and its confluence with the lake, (2) juveniles (mean depth 9.5 m) and adults (mean depth 10.8 m) occupy similar depths, and (3) locations in the river have been identified that are occupied exclusively by adults (particularly during May and early June). Information about fish movements and habitat use will enable us to identify key spawning and feeding habitats in the river in order to better manage, protect and enhance the lake sturgeon population.

Identification of Biodiversity Focus Areas in the Hudson River Valley: Targets for conservation

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In 1987 New York State passed the Hudson River Estuary Management Act which directed the New York State Department of Environmental Conservation (NYSDEC) to develop a management program for the estuary and its associated shore-lands. From this program several commitments were made, including the conservation of terrestrial biodiversity in the Hudson River Valley (HRV). Adequate knowledge of the abundance and distribution of plants, animals, and ecological communities is essential to a successful conservation program. Through complimentary efforts involving the NYSDEC, New York Natural Heritage Program (NHP), The Nature Conservancy (TNC), National Audubon Society, and U.S. Fish and Wildlife Service (USFWS), focus areas representing important elements of biodiversity have been identified within the HRV. Focus areas were intended to promote and direct conservation action where it may have the greatest benefit to biodiversity across the HRV. The NHP approach has focused on identifying, documenting, and mapping the presence and distribution of rare and exemplary plant and animal species and ecological communities. The process included compiling existing information on these elements from secondary sources followed by detailed field surveys. Focus area boundaries were determined by identifying relatively large landscape units encompassing multiple occurrences of target plants, animals, and ecological communities. Subsequent to field surveys, expert-opinions obtained from the USFWS and the National Audubon Society (e.g., Important Bird Areas (IBA)) were utilized to refine and expand boundaries of focus areas. This approach identified 25 biodiversity focus areas in the HRV. Several of the focus areas were closely aligned with the Significant Habitat Complexes identified by the USFWS for the New York bight watershed. Identifying Biodiversity Focus Areas is an iterative process based on current information on dynamic, natural systems. Future work is being planned by NHP to conduct intensive field surveys within focus areas. These inventories will represent the second iteration and should provide more detailed information on elements of biodiversity present within focus areas. This information will be key to developing site-specific management plans that address the unique differences among focus areas. Of primary importance will be to address current or potential threats to biodiversity in these areas and to prioritize conservation efforts.

Human Values and Motivations for Nature and Implications for Foresters and Wildlife Biologists

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This presentation suggests that humans have a biologically-based need to affiliate with natural process and diversity that has been and continues to be instrumental in human physical, emotional, intellectual, and moral evolution and development. Nine values of nature are described reflecting a range of basic meanings people attach and benefits they derive from their experience of the natural world. Although viewed as inherent tendencies to affiliate with nature, these values are regarded as “weak” biological inclinations, whose cultural expression and functional significance are highly dependent on experience, learning and social support.

A major deficiency of modern, especially urban, life is diminished and often compromised opportunities for direct and accessible contact with healthy natural process and diversity. The entomologist, Robert Pyle, referred to this contemporary phenomenon at the “extinction of experience.” From the perspective of human development and well being, this diminished and sometimes impoverished relationship to nature may be as critical as the more conventionally recognized conditions of biological, ecological, or commercial extinction.

Foresters and wildlife biologists are regarded as providing contemporary people with critical opportunities for contact and experience of the natural world. A relatively narrow interpretation of the role of foresters and biologists has sometimes resulted in emphasizing only a limited range of environmental values provided to people and society. A broader perspective of the contribution of foresters and biologists underscores the potentially important task these professions perform in an era greatly in need of more enriching relationship with natural process and diversity.

Designing and Implementing a Collaborative Approach to Suburban Deer Management: Some preliminary insights from the Islip deer initiative

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Wildlife professionals across the country are beginning to participate in a range of local and regional co-management experiments. Many of those professionals find themselves asking fundamental questions about these approaches, which involve some sharing of authority and responsibility with stakeholders. Professionals on the front lines of public involvement have many unresolved questions: When is co-management worth the effort? What roles should the wildlife manager play? How can authority and responsibility be shared effectively? How should stakeholder representatives be chosen? Our presentation will grapple with some of these basic, but important questions. We will focus on a local example of co-management -- the Islip Deer Initiative -- to facilitate discussion. We will use experiences and survey data from the initiative to exemplify common problems, and we will discuss how managers in New York have or plan to address those problems in this specific situation.

This particular co-management experiment began taking shape last February, when a state senator representing Islip Township called a meeting of NYSDEC staff, representatives of the Islip Town Supervisor's office, public land management agencies in the town, and Cornell University's Human Dimensions Research Unit (HDRU). The purpose of the meeting was to discuss resolution of the conflicts occurring between deer and people in Islip. During this meeting, NYSDEC staff outlined a proposal for interagency cooperation in deer management and proposed that any change in management be based on a public involvement process. What resulted from that meeting was an agreement among four parties (i.e., NYSDEC; NYS Office of Parks, Recreation, and Historic Preservation; the Town of Islip; and Scully Science Center [National Audubon Society]) to cooperate in comanaging the Islip deer herd. The Islip Deer Initiative (IDI) was created to address deer management in an area of the township that includes two state parks (Connetquot, Heckscher), a national wildlife refuge (Seatuck NWR), and a municipal golf course.

DEC contracted HDRU to provide assistance to the initiative. HDRU staff designed a mail questionnaire to ascertain residents' attitudes toward deer, deer management, and involvement in local deer management decisions. This instrument was used to survey random samples of town residents in the target area last fall. Results from the survey are being used to design the decision making process as well as public information and education efforts that will be associated with the Islip Deer Initiative.

Implications of Power Line Right-of-Way Vegetation Management for Avian Communities

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Managers of New York power line rights-of-way are increasingly moving to selective herbicide vegetation management. One goal of such management is to promote dense shrub growth to suppress invasion and growth of trees under the power lines. Researchers have long considered power line rights-of-way as potential habitat for birds of early successional habitats, including those dependent on shrubs for nesting. The question from a bird perspective is which treatment produces more attractive breeding habitat. We looked at a power line right-of-way north of Rome, New York that contains two different power lines of different ages – one managed with a historical mixture of mechanical and herbicide treatments, and the other managed exclusively with herbicides. We measured avian community composition, avian nesting success, and vegetation on nest and non-nest plots on each power line. Birds nested in higher densities on the mixed treatment power line. Birds tended to choose patches with greater amounts of shrub cover than were generally available in the corridor. The mixed treatment line had greater shrub cover than the strictly selective herbicide treatment line. Nesting success was not different between the two lines. Our research confirms the importance of shrub cover to birds in early successional habitats typical of rights-of-way. The research also suggests that rights-of-way with some mechanical treatments in their histories may have better shrub habitat than selective herbicide treatments. Further examination of right-of-way history and post-treatment effects may negate that conclusion. Over longer time periods, selective herbicide treatments which avoid drastic reductions in established cover may be more beneficial from an avian perspective.

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The Ecological Significance of Managing the Northern Hardwood Unit Pattern

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The "unit pattern" represents the unit area of a forest encompassing all phases of development. The unit pattern develops from the interaction of prevailing disturbance regimes (types, intensities, recurrence intervals) and the capacity of forest vegetation to recover following disturbance. While the growth and death of trees alters a forest's local character, the whole forest remains relatively constant over time. The ability of forest managers to maintain forest landscapes that reflect the unit pattern may have important consequences for local and regional biodiversity. A growing body of evidence suggests that structural heterogeneity is vital in maintaining diverse forest ecosystems, and therefore, descriptions of the unit pattern should include estimations of the abundance of forest structural features such as old/large trees and standing and downed coarse woody debris. The challenges presently before forest managers include the identification of unit patterns for respective forest types, a recognition of the ecological significance of that pattern, and the development of silvicultural treatments that maintain forests closely resembling the unit pattern. The objectives of this presentation will be to (1) describe the disturbance regimes that lead to the northern hardwood unit pattern; (2) present the expected structural characteristics of the northern hardwood unit pattern; (3) discuss the implications of forest structural heterogeneity on biodiversity in northern hardwoods; and (4) propose some silvicultural recommendations to produce desired levels of structural heterogeneity in managed northern hardwood forests.

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Discussion – Please use this page for notes.

Differences in Rheotactic Response Between Two Strains of Juvenile Atlantic Salmon, (*Salmo salar*)

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Juvenile salmonid migrations from natal streams to nursery lakes are often guided by an inherited rheotactic response, the directional response to water current. This response is known to differ between salmonids hatching in inlet and outlet tributaries of nursery lakes. Landlocked Atlantic salmon (*Salmo salar*) from West Grand Lake, Maine, spawn and hatch in outlet streams. Salmon from Sebago Lake, Maine, spawn and hatch in inlet streams. Rheotactic response of juvenile Atlantic salmon from West Grand Lake and Sebago Lake was studied to determine whether strain and environmental conditions influenced instream movement. Age-1 salmon movements were compared in a diverted natural stream in 1998 and 1999. Age-0 salmon movements were compared in artificial stream channels in 1999. The following movements were all significant ($\alpha = 0.05$): (1) Age-1 salmon from West Grand Lake were more likely to move upstream than were salmon from Sebago Lake; (2) Age-0 Sebago salmon were more likely to move upstream than were West Grand salmon; (3) Among age-0 salmon, the difference in upstream movement between strains was greatest in the first three weeks after swim-up; (4) Downstream movement of age-0 salmon increased with stocking density; and, (5) The percentage of age-0 salmon that did not move increased with water velocity. Based on these results, the two strains have different rheotactic responses at each of two different life stages (fry and smolt). Inherited movement patterns may affect the ability of the salmon to access resources for survival, underscoring the need to consider the effects of strain and environmental conditions when transplanting salmon into specific habitats.

Silviculture and timber harvesting in New York State: Can practice meet theory, or should theory meet practice?

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Silviculture is the art of regenerating and tending forests to sustainably produce values consistent with landowner objectives. Silviculture is built upon scientific knowledge through ecology and silvics and responds to social affairs and economic constraints. In silviculture, timber harvesting is the chief means to implement regeneration and tending practices. However, timber harvesting alone is not silviculture. While timber harvests are common in New York, silviculture is not. Diameter-limit and other selective cuts appear more commonly. Yet, even then efforts can be made to protect the site and residual trees from damage associated with felling and skidding. Do these efforts elevate diameter-limit and selective harvests to a status equivalent to silviculture?

Timber harvests can include a continuum of practice, from exploitation to silviculture. While elements of silviculture can be recognized at many levels of practice, we contend that silviculture occurs only at a later point along the continuum, when all of the practices come together in a system. Does this contention make silviculture a textbook construct unattainable by most practitioners and available only to academics and a few public servants? Or does it make silviculture a standard to strive for?

An estimated 13 million acres (85% of New York State timberlands) is owned by non-industrial private forest (NIPF) owners. Over 90% of the solid wood entering the state's primary wood processing facilities originates from NIPFs. Rarely do these lands stay in the same ownership over the complete rotation of a hardwood forest, seriously challenging the implementation of silviculture. More often, these lands pass through cycles of liquidation and remediation. And that challenges foresters to ask if the liquidate-remediate cycle be tempered by silvicultural practices.

These issues are explored in this paper to stimulate thought and discussion about silviculture and timber harvesting in New York State. A continuum of timber harvesting is presented with defining elements of silviculture. These elements will be presented as "rules of thumb" as to what constitutes silviculture in practice. We argue that practice can meet theory in timber harvesting and silviculture. Conversely, we reject the suggestion that theory should be reformed to meet current practice.

Maintaining Management Initiatives in the New Millennium

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Anyone wishing to maintain some management prerogatives in the new millennium would consider this conference a combination of good news and bad news. The good news is that a conference like this provides a good deal of information on the management of forests, waters, fish and wildlife. A significant change between this conference and one held as recently as 10 years ago is significant expansion/modification of the old truism that all fish and wildlife biologists learned: "It's the habitat, stupid." The traditional definition of habitat for fish and wildlife included of course air, soil, water, plants, climate and maybe an occasional reference to people who might be involved in habitat management. Most often that reference would be to the professionals in a particular field, be they foresters, fisheries biologists, wildlife biologists, pathologists, zoologists, etc. The damage that people could do to habitat has long been recognized.

Certainly this conference includes a lot of highly specialized papers on the details of fisheries habitat in lakes and streams, as well as terrestrial systems that directly and indirectly affect fish and wildlife. What is relatively new in the last several years is the increased emphasis on management of land and resources across land ownerships, across geographical and political boundaries, as well as management which relates to the interaction between fish, wildlife and people in both physical and biological functions. Social and economic factors that are influenced by management and in turn influence management are now recognized as an increasing source of both support and controversy for resource management.

The bad news from this conference is from the perspective of either a new or experienced manager is how complicated life has suddenly become. Not only are there a dizzying array of new scientific information about the biology of individual species of fish and wildlife or forests, but there is a whole emerging world of interaction between different species of plants and animals within a context we now call by such simple terms as "landscape level biodiversity within ecosystems". As if those biological systems were not complicated enough, we now introduce a whole array of social and economic considerations, as well as changing public attitudes which frequently are in sharp disagreement about either the objectives of management that are appropriate for private and public land or the ways that management can and should be applied on the ground.

At a time we have people developing more complex scientific information, we need some scientists in the mold of Albert Einstein who can simplify this information. His simple yet complex formula – $E=MC^2$ revolutionized the theory of physics and chemistry.

Thankfully this conference presents some approaches to managing what could be and sometimes is a very chaotic situation on both public and private land. I was impressed by the several examples of cooperation that is voluntary across ownerships and across political and geographic boundaries to try to figure out ways to manage land so it meets a wide variety of landowner as well as public objectives. Unfortunately, such arrangements sometimes do not work in practice particularly when, as one speaker indicated, there is a large "conflict industry"

Using Television to Communicate Stewardship/Recreational Uses of Natural Resources

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Government natural resource agencies have a tremendous responsibility to communicate with the public regarding their roles in managing, protecting, and encouraging wise use of the resources with which they are entrusted. In many cases, however, the communication is not effective because: a) there are limited number of issue-oriented audiences with whom they regularly communicate, resulting in the "preach to the choir" syndrome; b) communication to a broader audience is usually "filtered" by the media or issue oriented groups; and, c) the general public's lack of interest in highly detailed focused messages. We believe that use of the television could help fill that need.

DEC is exploring production of a weekly half-hour television program called *Empire State Outdoors* for broadcast television that is informative, thought-provoking, enlightening and entertaining. It will showcase New York State's natural resources and encourage views to engage in New York's recreational opportunities. The format will be a fast-paced magazine style originating from different locations throughout the state. Each program will include two to three feature stories and three or four regular segments.

The lead feature will be 6-8 minutes and will generally be focused on outdoor recreation and use of our natural resources such as fishing, hunting, wildlife observation, camping, hiking. The second and third features will be 3-5 minutes and will focus on a variety of natural resource management programs, special programs such as Becoming an Outdoorswoman, SAREP, Teacher Workshops, and Fish & Wildlife research.

Additionally, there will be three regular segments and one "rotating" segment each week such as: *Outdoor News* – two to three stories of statewide interest to outdoor enthusiasts; *Outdoor Classroom* – a weekly Q&A educational feature geared to youth; *Regional Reports* – a two minute slot designed to be "covered" by local stations with a locally originated segment of hunting, fishing, and other outdoor events; and, a *Rotating Segment* – One segment each week will have a rotating subject matter – mostly designed to be educational and informative such as *Outdoor Expert* – a "how-To" segment – fish & game cooking, flytying, camping tips, knots, gun cleaning, map & compass tips, etc. *Outdoor Safety* – tips for helping New Yorkers to safely enjoy hunting, fishing, boating, hiking; *Outdoor People* – profiles of interesting people doing interesting things in the outdoors. Segments could include "day-in-the-life" profiles of natural resource professionals and enforcement officers, fish & wildlife researchers from various NY institutions, professional guides, etc.

Each feature story and regular segment will have subtle, but clear conservation, natural resource management, and stewardship messages presented in an enjoyable format. We welcome conference participants comments and suggestions.

Concepts of Community-based Management

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Whether considering issues of wildlife scarcity or abundance, it often makes sense to focus management at the scale of local communities, where management may have greatest relevance to stakeholders. Wildlife-related opportunities and problems are often perceived at a local scale, and management actions can have observable impacts at this scale. In addition, the social capital of local communities may help facilitate the management process.

Indeed, community-based management is becoming increasingly prevalent in the management of forests, protected areas, water resources, rangelands, fisheries and wildlife resources. Proponents of community-based management describe numerous potential benefits. These include increased effectiveness of management, greater acceptability and legitimacy of management actions, enhanced knowledge and understanding of natural and human systems, increased trust between government agencies and stakeholders, reduced enforcement expenditures and lower transaction costs, and increased public awareness of conservation issues, among others.

The term "community-based management" has been used to describe a broad array of approaches from consultation with stakeholders to collaborative sharing of management responsibilities, or co-management. While community-based management holds substantial promise for wildlife conservation, it also poses challenges to agencies and local communities. A review of literature suggests some key elements that require consideration in community-based management. These include: (a) determining who participates and in what roles, (b) building the capacity of communities and agencies, (c) designing processes for communication, negotiation, and knowledge construction, and (d) developing supportive policies.

Where You Stand Depends on Where You Sit

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Clearly, the struggle over the appropriate management of natural resources is "heating up." That struggle is exacerbated by the rise of the "conflict industry." This industry employs chief executive officers, organizers, fund raisers, lawyers, technical experts, public relations specialists, writers, publishers, publicists, lobbyists, and other assorted specialists. They prosper only so long as the conflict lasts and intensifies. That requires identification of "bad guys" to be vilified and attacked. And, the bad guys must become ever more evil if the support dollars are to continue. These conflicts have resulted in varying natural resource professions being cast as "bad guys" by one side or the other and, not uncommonly, castigated by both sides. Certainly, government wildlife and land management agencies have become the "whipping boy" of choice as they must make controversial decisions that usually satisfy neither extreme and they can't or won't fight back.

Clearly, *Homo sapiens* must exploit the environment in order to survive and prosper. There is no question of that. The more pertinent questions involve how that exploitation can occur in a sustainable fashion. The critical role of the natural resources professions is to work together to synthesize and integrate pertinent information so that management decisions have the best technical foundation possible.

In a 43-year career, I have held a number of jobs from journeyman game manager in a state agency to the senior wildlife research biologist in the federal government to Chief of the U.S. Forest Service to Professor. I know that where one stands on an issue depends on where one sits – the position held, the level of knowledge and experience, and employer.

So, where do we stand today. The "myth of the omniscient forester," wherein it was assumed that foresters could do it all, is long dead. The heyday of the "combat biologist" wherein the biologist battled against other professions assure a future for wildlife is waning. Natural resource professionals should recognize that the time has come when the situation demands that we play nicely together to produce the goods and services that the public desires bounded by the requirements of the law, resources available, ecological capability, public acceptability, and an appropriate land ethic. Our professions are now mature and we all stand and sit in a new place. Our professional reactions should reflect that changed condition. The alternative is apt to be a well-deserved overall decline in public respect.

Developing Willow Biomass Crops as a Locally Produced Source of Renewable Energy and Cellulose Feedstock for the Northeastern and Midwestern United States

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Over two decades of research on woody crops, combined with growing concern about environmental issues, prompted the formation of the Salix Consortium in 1994. Over 20 organizations have pooled their resources and talents to facilitate the development of willow biomass crops as a locally grown source of renewable energy and cellulose feedstock that produces multiple benefits for the Northeastern and Midwest regions of the United States. Interest in this system continues to grow and willow biomass research and demonstration trials are now located in seven states and southern Quebec. Planting stock production has increased to almost 1.5 million cuttings per year. In 1998 and 1999 over 300 acres of willow biomass crops were established in western New York in close proximity to a 400MW coal-fired power plant. An additional 300 acres has been prepared for planting in the spring of 2000. The newly acquired Step planter has increased planting efficiency by over 300%. The power plant is being retrofit for co-firing wood biomass with coal, with initial tests scheduled for the spring of 2000. Continuing research gains in crop yields and cost reductions, and supportive state and national policies that value the environmental and rural development benefits, will be essential to making a commercial willow biomass enterprise successful.

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Compensatory Mechanisms: Implications for Sea Lamprey Control

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Sea lamprey (*Petromyzon marinus*) is an exotic species in Lake Champlain and the Great Lakes which severely reduces the number of salmonids in the fishery. In Lake Champlain, an eight year experimental sea lamprey control program was developed in order to reduce the population of sea lamprey. The program is primarily dependent upon pesticides that are applied to streams at four year intervals to kill sea lamprey larvae. In this study, the effects of sea lamprey control on larval lamprey life history characteristics were compared between a treated stream, Lewis Creek, four years after treatment and the untreated Pike River and Morpion Stream. In each stream adult sea lamprey spawning habitat and larval habitat were measured at 100 transects. Sea lamprey larval density was measured using an ABP-2 backpack electro-fisher at every other transect. Data from larval sampling were extrapolated to determine larval density and age and length at which larvae begin metamorphosis to the parasitic stage. Larval sea lamprey density was 4.9 larvae/m² in Lewis Creek, 1.27 larvae/m² in Morpion Stream and 0.8 larvae/m² in Pike River. Age and size distributions were skewed toward smaller larvae in Lewis Creek relative to the other two streams. Mean length at metamorphosis was larger in the Pike River/Morpion Stream (143 mm) than in Lewis Creek 130 mm ($p < 0.0001$). Length at metamorphosis in Lewis Creek decreased from the pretreatment mean of 168 mm ($p < 0.0001$). Age at metamorphosis in the Pike River/Morpion Stream was 5+ for all larvae and 4+ in Lewis Creek for 75% of the larvae and 5+ for 25%. The results of this study indicates that sea lamprey control may increase growth of larval sea lamprey after treatment which in turn decreases age at metamorphosis. Fishery managers should be aware that sea lamprey control may create conditions for earlier metamorphosis and that the control program may select for those life history characteristics in the long term.

Abstracts for Posters

Draft Purple Loosestrife Management Plan for the Lower Hudson River Valley

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After decades of unsuccessful attempts to control *Lythrum salicaria* (purple loosestrife) using mechanical, physical, and chemical means, the successful development of biological control offers a new opportunity to better manage this serious invasive species in the Lower Hudson River Valley. After approval by federal and state regulatory agencies, two leaf beetles, *Galerucella californiensis* and *G. pusilla*, a root feeding weevil *Hylobius transversovittatus*, and a flower feeding weevil, *Nanophyes marmoratus*, have been released in New York State. This plan outlines goals, objectives and actions considered most appropriate to achieve long-term population reductions of purple loosestrife using a regional, area-wide management approach. The implementation of a management plan for the Lower Hudson River Valley should occur in three distinct phases as follows.

Phase 1 (3-5 Year Duration)

- Establish the three main purple loosestrife biological control agents at one site within each Town in the Counties adjacent to the Hudson River throughout the Lower Hudson River Watershed. Utilize partnerships to accomplish this whenever feasible.
- Continue long term on site monitoring at 6-12 release sites to assess the efficiency of the bio-control agents in suppressing purple loosestrife.
- Assess the regional abundance and distribution of purple loosestrife within the Lower Hudson River Watershed utilizing the purple loosestrife spectral fingerprint and remote sensing techniques.
- Develop and distribute educational materials pertaining to the management of purple loosestrife targeting agencies, community organizations and private landowners. Partnerships should be utilized whenever feasible.
- Draft documentation required to initiate legislative action prohibiting the sale and growth of purple loosestrife in New York State.

Phase 2 (3-5 Year Duration)

- Utilize on site monitoring data to review the establishment, spread, and impact of single and multiple species (bio-control agents) in suppression of purple loosestrife within different habitat types.
- Develop an economical landscape model for purple loosestrife bio-control agent distribution and establishment.

Phase 3 (10-20 Year Duration)

- Based on research results, plant distribution, insect life histories, insect availability and model recommendations, begin additional regional distribution and establishment of purple loosestrife bio-control agents.
- Use a combination of monitoring techniques (on the ground, aerial photographs and remote sensing) to assess the success of the purple loosestrife biological control program at different scales.
- Refine release procedures if necessary and assess the ecological value of restored wetland plant communities.

Fertilization of Short-Rotation Woody Crop Plantation with Slow-release Nitrogen

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The use of wood for energy production has received increased attention in recent decades as alternative sources of clean, renewable energy are being explored. Short-rotation woody crop plantations of fast-growing trees such as willow and poplar have the potential to meet some of these fuel needs. Fertilization with nitrogen will improve yields in many plantations and will contribute to the sustainability of the system by replacing nitrogen removed from harvesting of the crop. In this study, three fertilization rates, 100, 200, and 300 kg N/ha, and a control were used to evaluate the impact of nitrogen fertilization on third-year yields of five willow clones and one poplar clone in three plantations across New York State. Response to fertilization differed by site, and tree biomass response was a function of survival, weed competition, site and microsite variation, and their interactions. Future work should focus on these interactions.

Freshwater Fishes of New York: How complete are our distributional maps?

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The distributional patterns of freshwater fishes of New York State have been studied in three eras, and we have by far the strongest tracking of analysis for the first period, 1926-39. There was a second period from 1954-57 when Conservation Department biologists sampled many additional streams and lakes, and these records are yet to be summarized. In the 1970s, a third effort was underway with stream reclassification surveys by the Environmental Conservation Department and by a fish distributional study by C.L. Smith of the American Museum Natural History. Museum collections accompanied only those studies of the first and third periods, and fish species which presented difficulties in identifications were double-checked. Maps, charts and descriptions of distributional patterns of these fishes are found in annual reports by the Biosurvey staff (1930s), in a map series by Raney (1930s), in the book by Smith (for the 1930s and 1970s) and in a book by Werner (from the 1930s). Unfortunately, there is yet to be completed a synthesis of about half of the available field studies. This poster reviews these available sources and makes a plea that there be a program to bring these fish records up-to-date and made more accessible. Someone needs to start planning for a survey into the period ahead, particularly for streams in New York. Who will be responsible for these resource needs?

Characterization of Lake Erie Inshore Fish Communities

JEFFREY A. DIERS¹, MICHAEL PUTNAM², DONALD EINHOUSE², AND DAVID R. ORVOS¹ - ¹Department of Biology and Environmental Sciences Program, State University of New York College at Fredonia, Fredonia, NY 14063. Phone: 716-673-3819. E-mail: weevilboy@hotmail.com. ²New York State Department of Environmental Conservation Lake Erie Fisheries Unit, Dunkirk, NY

Lake Erie is the shallowest of the Laurentian Great Lakes with a mean depth in the eastern basin of 24 meters and a hydraulic residence time of approximately 2.6 years. Lake Erie has been known to have an excellent fishery, but has demonstrated a recent decline in productivity due to changes in lower trophic level biota. Recent data indicate significant declines in populations of walleye (*Stizostedion vitreum*) and yellow perch (*Perca flavescens*). This decline has been attributed to decreased nutrients primarily due to water filtering by zebra and quagga mussels (*Dreissena spp.*). Characterization of inshore fish communities is important due to the lack of knowledge of juvenile fish species in those areas. The New York State Department of Environmental Conservation (NYSDEC) Lake Erie Unit performs thorough open water studies, but has been lacking inshore data particularly juvenile walleye (*S. vitreum*), smallmouth bass (*Micropterus dolomieu*), and yellow perch (*P. flavescens*). This information would allow for improved understanding of fish populations and fisheries management. Lake Erie was sampled approximately every two weeks from Barcelona Harbor to Sturgeon Point, New York, during May to October 1999. There were five sites sampled using a 150-ft. beach seine with three hauls at each site taken during both day and night. All fish collected were preserved for future identification. Fish species diversity and abundance were studied. Smallmouth bass (*M. dolomieu*), yellow perch (*P. flavescens*), walleye (*S. vitreum*), and rainbow trout (*Oncorhynchus mykiss*) were the predominant game species with significant quantities of forage fish, predominantly minnows (*Notropis spp.*). Other species collected included carp (*Cyprinus carpio*), quillback (*Carpiodes cyprinus*), and channel catfish (*Ictalurus punctatus*). Calculation of diversity indices as well as characterization of spatial and temporal distribution of species will be discussed.

**Feeding Atlantic Salmon a Commercially Manufactured
Ultra-low Phosphorus Diet Containing Phytase to Reduce Waste
Phosphorus in Hatchery Effluents**

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Two commercially manufactured diets were fed (for 9.1 weeks) to triplicate lots (24,000 fish/lot) of Atlantic salmon, *Salmo salar*, (initial mean weight, 13.7 g) to investigate the influence of diet on waste phosphorus (P) discharge. Each lot of salmon was reared in a cylindrical tank having a capacity of 10,000 gallons and was supplied with lake water (10.6-16.5 C) at a rate of 125 gallons per minute. The experimental diet (NYS#5) contained 0.61% total P, phytase (6,310 units of phytase activity/kg), and an estimated 0.15% phytin phosphorus. One unit of phytase activity is the amount of enzyme that liberates 1 μ mole of phytin P per minute. The control diet (NYS#2) was the standard New York State specification feed for trout that contained 0.80% total phosphorus. Experimental and control tanks received of a mean of 572 and 548 kg feed, overall.

Results showed that diet did not significantly influence weight gain (range 22.7 to 24.2 g/fish), feed conversion (range 0.95-1.06), vertebral ash content (41-43%), or mortality (157 -169 fish/tank). The experimental diet significantly increased retention of dietary phosphorus from 54 to 64%. Salmon fed the experimental diet discharged only 2.35 or 2.20 g phosphorus/kg of gain or feed fed, in contrast to 3.49 or 3.66 g phosphorus/kg for control salmon. This study showed that a diet containing only 0.61% P with supplemental phytase supported excellent growth and health of Atlantic salmon while significantly reducing (33 to 40%) discharges of phosphorus.

Porcine Zona Pellucida Vaccine (*ZonaCon*) as an Immunocontraceptive in Deer

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There is much interest in the application of immunocontraceptive vaccines as a potential wildlife management tool for managing suburban white-tailed deer populations. However, few studies have documented the effects of Porcine Zona Pellucida (PZP) vaccine on the behavior, physiology, and reproductive success of deer. During 1997 and 1998, we studied the behavior and reproductive success of 22 PZP-immunized, collared deer in a herd of approximately 100 animals within a 300-ha enclosure at Seneca Army Depot. In addition, blood antibody titers, hormone concentrations, and fawning were monitored for captive whitetails at Penn State. Laboratory analyses were completed at the USDA National Wildlife Research Center in Fort Collins, Colorado.

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Deer showed a variety of responses to PZP immunization, ranging from suppression of ovulation (during active immunization) to normal fawning (as antibody levels dropped over time). Most immunized deer exhibited a prolonged breeding season. Further research is being conducted on alternative target antigens and delivery methods.

The Effects of Angling Stress and Predation on Nesting Smallmouth Bass (*Micropterus dolomieu*) in Lake Erie

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Smallmouth bass are one of the most abundant and popular game fish of Lake Erie and, therefore, it is important that measures are taken to protect this resource. Lake Erie provides one of the largest smallmouth bass fisheries in the country, making the lake an excellent place to study the organism's habitat and behavior. Smallmouth bass fishing has increased dramatically in recent years which has focused more attention to potential recruitment problems that may arise from angling nesting bass.

Smallmouth males exhibit nest-guarding behavior and stay with the young until the young disperse. One problem bass face during their nesting period is angling stress. When a nesting male is removed from its nest, the young become highly susceptible to predation. This plays a major role in year-to-year recruitment and documentation of native and introduced nest predators would be extremely useful for fisheries management. Although there are many factors that affect natural populations, it is important that we try and understand as many as possible in an effort to maximize the production and quality of this sport fishery. In an effort to understand some of these factors, experimental manipulations as well as behavioral observations were used. The purpose of this study were to collect and analyze data demonstrating the effect of angling stress on local nesting smallmouth bass populations. The specific objectives of this study are to: (1) determine habitat preference of local nesting smallmouth bass populations, (2) determine time of spawning in Lake Erie, (3) assess the effect of angling stress on local populations, and (4) assess predation on bass young when guarding males are absent from the nests.

We have determined that increased hooking stress of nesting males increases return time to nests leaving the nests susceptible to prolonged predation. Bass played for 30 seconds had a mean return time of 141 seconds; bass played for 60 seconds had a mean return time of 248 seconds; and bass played for 120 seconds had a mean return time of 446 seconds. This information will aid state fisheries management decisions to protect the Lake Erie smallmouth population.

**Do New York's Water Quality Standards Protect Endangered Species?
An Assessment of the Risks from PCBs to Bog Turtles
(*Clemmys muhlenbergii*).**

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New York's ambient water quality standards are developed to protect the propagation and survival of aquatic life from exposure to toxic substances in the water. Wildlife water quality standards are developed to protect animals from being harmed by the bioaccumulation of toxic substances through aquatic food chains. In March 1998, New York State adopted a revised wildlife water quality standard of 0.00012 ug/l total PCBs. A risk assessment was recently conducted to determine if New York's revised wildlife water quality standard for PCBs would be protective of the bog turtle (*Clemmys muhlenbergii*), an endangered species. To complete the bog turtle risk assessment, data from a surrogate species had to be integrated along with reasonable assumptions into a risk assessment framework. Toxicity data for turtles in general are very sparse, and literally non-existent for endangered species like the bog turtle. However, one study was found that could be used as the basis for the risk assessment. That study examined the occurrence of female morphological characteristics in male snapping turtles taken from PCB-contaminated sites. PCBs are known to be an estrogen mimic and could be expected to cause such a toxic impact. The following risk assessment hypothesis was formulated. If the concentration of PCBs that bog turtles would bioaccumulate from water with a PCB concentration of 0.00012 ug/l was less than the concentration of PCBs related to a statistically significant increase in the occurrence of female traits in male snapping turtles, then the water quality standard would be protective. This hypothesis assumes that bog turtles are just as sensitive to PCBs as snapping turtles. From the data reported in the literature, a toxicity threshold of 66.7 mg PCBs / kg of snapping turtle lipids was derived. Above this threshold, the occurrence of female morphological characteristics in male snapping turtles would be expected to result. To estimate the concentration of PCBs that could bioaccumulate in a bog turtle, an aquatic food chain bioaccumulation model was used. It estimated the PCB concentrations in benthic invertebrates and insects and turtles from the PCBs in the sediment and water. Assuming that aquatic insects and invertebrates comprised about 40% of a bog turtle's diet, the assessment found that the concentration of PCBs in bog turtles resulting from exposure to a concentration of 0.00012 ug/l PCBs in the water column was about 1.6 mg/kg. This value was well below the threshold of toxic effects in turtles (specifically, feminization of male snapping turtles) that could be associated with PCBs. The risk assessment demonstrated that the revised New York State wildlife water quality standard for PCBs is protective of bog turtles. This risk assessment was submitted to the U.S. EPA to support Federal approval of revised New York State water quality standards. As of the date this abstract was written, 7 Dec 99, comments from the U.S. EPA Region II or the U.S. Fish and Wildlife Service had not been received.

Urban Habitat Use by Gray Fox in Syracuse, New York

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The occurrence of the gray fox (*Urocyon cinereoargenteus*) in urban areas has not been well documented. We surveyed the gray fox's use of urban habitat patches in Syracuse, New York using landscape-scale and community-scale habitat measures as predictors. All patches surveyed were bounded by residential or commercial development and consisted of woodlands, parks, and vacant lots of 5.3 - 50.0 ha. Thirty-six patches were surveyed for gray fox presence using 5 snow-track searches in the winters of 1996-97 and 1997-98. The search results were grouped into classes of low, medium, and high fox use. Gray fox were more prevalent than expected with 16 high-use, 13 medium-use, and 7 low-use patches across the urban area. Medium and high-use patches had more mammal burrows and a lower density of trees >10 cm dbh than low-use patches, consistent with a greater availability of den sites, prey, and early-successional habitat. Medium-use patches, which may represent foraging areas, were closer to the urban edge and had more rabbit (*Sylvilagus floridanus*) sign than high-use patches. These results show that gray foxes can be active throughout an urban area, a possibility that should be considered in rabies control efforts within developed landscapes.

Abstracts for Posters

Draft Purple Loosestrife Management Plan for the Lower Hudson River Valley

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After decades of unsuccessful attempts to control *Lythrum salicaria* (purple loosestrife) using mechanical, physical, and chemical means, the successful development of biological control offers a new opportunity to better manage this serious invasive species in the Lower Hudson River Valley. After approval by federal and state regulatory agencies, two leaf beetles, *Galerucella californiensis* and *G. pusilla*, a root feeding weevil *Hylobius transversovittatus*, and a flower feeding weevil, *Nanophyes marmoratus*, have been released in New York State. This plan outlines goals, objectives and actions considered most appropriate to achieve long-term population reductions of purple loosestrife using a regional, area-wide management approach. The implementation of a management plan for the Lower Hudson River Valley should occur in three distinct phases as follows.

Phase 1 (3-5 Year Duration)

- Establish the three main purple loosestrife biological control agents at one site within each Town in the Counties adjacent to the Hudson River throughout the Lower Hudson River Watershed. Utilize partnerships to accomplish this whenever feasible.
- Continue long term on site monitoring at 6-12 release sites to assess the efficiency of the bio-control agents in suppressing purple loosestrife.
- Assess the regional abundance and distribution of purple loosestrife within the Lower Hudson River Watershed utilizing the purple loosestrife spectral fingerprint and remote sensing techniques.
- Develop and distribute educational materials pertaining to the management of purple loosestrife targeting agencies, community organizations and private landowners. Partnerships should be utilized whenever feasible.
- Draft documentation required to initiate legislative action prohibiting the sale and growth of purple loosestrife in New York State.

Phase 2 (3-5 Year Duration)

- Utilize on site monitoring data to review the establishment, spread, and impact of single and multiple species (bio-control agents) in suppression of purple loosestrife within different habitat types.
- Develop an economical landscape model for purple loosestrife bio-control agent distribution and establishment.

Phase 3 (10-20 Year Duration)

- Based on research results, plant distribution, insect life histories, insect availability and model recommendations, begin additional regional distribution and establishment of purple loosestrife bio-control agents.
- Use a combination of monitoring techniques (on the ground, aerial photographs and remote sensing) to assess the success of the purple loosestrife biological control program at different scales.
- Refine release procedures if necessary and assess the ecological value of restored wetland plant communities.

Fertilization of Short-Rotation Woody Crop Plantation with Slow-release Nitrogen

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Freshwater Fishes of New York: How complete are our distributional maps?

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(*Clemmys muhlenbergii*).**

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New York's ambient water quality standards are developed to protect the propagation and survival of aquatic life from exposure to toxic substances in the water. Wildlife water quality standards are developed to protect animals from being harmed by the bioaccumulation of toxic substances through aquatic food chains. In March 1998, New York State adopted a revised wildlife water quality standard of 0.00012 ug/l total PCBs. A risk assessment was recently conducted to determine if New York's revised wildlife water quality standard for PCBs would be protective of the bog turtle (*Clemmys muhlenbergii*), an endangered species. To complete the bog turtle risk assessment, data from a surrogate species had to be integrated along with reasonable assumptions into a risk assessment framework. Toxicity data for turtles in general are very sparse, and literally non-existent for endangered species like the bog turtle. However, one study was found that could be used as the basis for the risk assessment. That study examined the occurrence of female morphological characteristics in male snapping turtles taken from PCB-contaminated sites. PCBs are known to be an estrogen mimic and could be expected to cause such a toxic impact. The following risk assessment hypothesis was formulated. If the concentration of PCBs that bog turtles would bioaccumulate from water with a PCB concentration of 0.00012 ug/l was less than the concentration of PCBs related to a statistically significant increase in the occurrence of female traits in male snapping turtles, then the water quality standard would be protective. This hypothesis assumes that bog turtles are just as sensitive to PCBs as snapping turtles. From the data reported in the literature, a toxicity threshold of 66.7 mg PCBs / kg of snapping turtle lipids was derived. Above this threshold, the occurrence of female morphological characteristics in male snapping turtles would be expected to result. To estimate the concentration of PCBs that could bioaccumulate in a bog turtle, an aquatic food chain bioaccumulation model was used. It estimated the PCB concentrations in benthic invertebrates and insects and turtles from the PCBs in the sediment and water. Assuming that aquatic insects and invertebrates comprised about 40% of a bog turtle's diet, the assessment found that the concentration of PCBs in bog turtles resulting from exposure to a concentration of 0.00012 ug/l PCBs in the water column was about 1.6 mg/kg. This value was well below the threshold of toxic effects in turtles (specifically, feminization of male snapping turtles) that could be associated with PCBs. The risk assessment demonstrated that the revised New York State wildlife water quality standard for PCBs is protective of bog turtles. This risk assessment was submitted to the U.S. EPA to support Federal approval of revised New York State water quality standards. As of the date this abstract was written, 7 Dec 99, comments from the U.S. EPA Region II or the U.S. Fish and Wildlife Service had not been received.

Urban Habitat Use by Gray Fox in Syracuse, New York

JEFFREY T. VILLEPIQUE and LARRY W. VANDRUFF, Faculty of Environmental and Forest Biology, SUNY College of Environmental Science and Forestry, Syracuse, NY 13210. Phone: 315-470-6803. E-mail: lwvandru@syr.edu

The occurrence of the gray fox (*Urocyon cinereoargenteus*) in urban areas has not been well documented. We surveyed the gray fox's use of urban habitat patches in Syracuse, New York using landscape-scale and community-scale habitat measures as predictors. All patches surveyed were bounded by residential or commercial development and consisted of woodlands, parks, and vacant lots of 5.3 - 50.0 ha. Thirty-six patches were surveyed for gray fox presence using 5 snow-track searches in the winters of 1996-97 and 1997-98. The search results were grouped into classes of low, medium, and high fox use. Gray fox were more prevalent than expected with 16 high-use, 13 medium-use, and 7 low-use patches across the urban area. Medium and high-use patches had more mammal burrows and a lower density of trees >10 cm dbh than low-use patches, consistent with a greater availability of den sites, prey, and early-successional habitat. Medium-use patches, which may represent foraging areas, were closer to the urban edge and had more rabbit (*Sylvilagus floridanus*) sign than high-use patches. These results show that gray foxes can be active throughout an urban area, a possibility that should be considered in rabies control efforts within developed landscapes.

HEAR YE! HEAR YE!

**Annual Meeting of the
New York Chapter of the American Fisheries Society
New York Chapter of the Society of American Foresters
New York Chapter of The Wildlife Society**

**Syracuse, New York
January 27-29, 2000**

**Initial Announcement
Preliminary Agenda
Registration Form
and
Call for Contributed Papers and Posters**

Sample

****ANNUAL PROGRAM ANNOUNCEMENT****

The annual AFS meeting and program is being held jointly with the Society of American Foresters and The Wildlife Society January 27-29, 2000, at the Syracuse Marriott in Syracuse, New York.

The meeting theme is: **STRATEGIES FOR STEWARDSHIP OF NEW YORK'S NATURAL RESOURCES**. Major focus areas in the plenary and invited paper sessions include *Sustaining Our Biotic Heritage, Community-based Management, Values and Motivations of Our Constituencies and Potentials for Distance Learning Techniques*. An outstanding array of guest speakers has been lined up for the Plenary Sessions on Thursday afternoon and Saturday morning, including *Jack Ward Thomas, Steven Kellert, Max Peterson, Robert Bendick, Liz Thorndike, Carol Conroy and Peter Duncan*.

Friday morning's program will consist of three concurrent sessions of invited papers; the afternoon program will include contributed papers and a special "student skills" session.

This promises to be a great program – **RESERVE THESE DATES NOW!** A preliminary agenda and registration form is attached. The final program and registration form will be sent to you in the December newsletter.

FIRST AND FINAL CALL FOR CONTRIBUTED PAPERS AND POSTERS

Papers and posters may address any fisheries, forestry or wildlife-related topic; they do **not** need to be theme-related.

Abstracts for papers or posters must be received by *Dan Josephson* by **December 10, 1999**, and should include: ***Title, Name, Position, Address, and Phone, FAX and E-mail Numbers***. Abstracts should be one (1) page long, single-spaced, in 12-point Times New Roman, mixed caps and bold title, with one-inch margins on all sides except for the left side which should have a 1 ½-inch margin. Abstracts will be bound and available at the meeting. **There will be no additional calls for papers issued.**

Dan Josephson may be reached at Little Moose Field Station, P. O. Box 1124, Old Forge, N. Y. 13420; Phone 315-369-6781; FAX 315-369-2143; E-mail dcj3@cornell.edu.

***PLAN NOW TO FIGHT THOSE MID-WINTER BLAHS!
JOIN YOUR COLLEAGUES IN SUNNY SYRACUSE!***



**Open Conference!
All Natural Resource
Managers welcomed!**

**Strategies for
Stewardship of
New York's
Natural Resources**

January 27 - 29, 2000

Wyndham Syracuse
6301 Route 298, Carrier Circle
East Syracuse

(open conference, please post and share)

Agenda Continued

- 10:00 **BREAK**
10:30 Sessions 1, 2, & 3 continue
12:00 **CATERED LUNCHEON** (tables set aside
for student : professional interactions)
1:30 **CONCURRENT SESSIONS**
Session 4: Contributed Papers
Session 5: Contributed Papers
Session 6: Employment skills for
natural resource students
Moderators: John Homa, Ichthyological
Assoc.; John Wagner & Larry
VanDruff, SUNY-ESF; & Margare
ret Murphy, O'Brien & Gere
Outcome: Students will learn a variety
of skills they can use to improve
their employment options.
- 2:30 **BREAK**
3:00 Sessions 4, 5, & 6 Continued
4:30 Society Business meetings
6:00 Posters, Raffle, and Happy Hour Social
7-9:30 **BANQUET**, Awards & Grand Prize Raffle

Saturday January 29, 2000

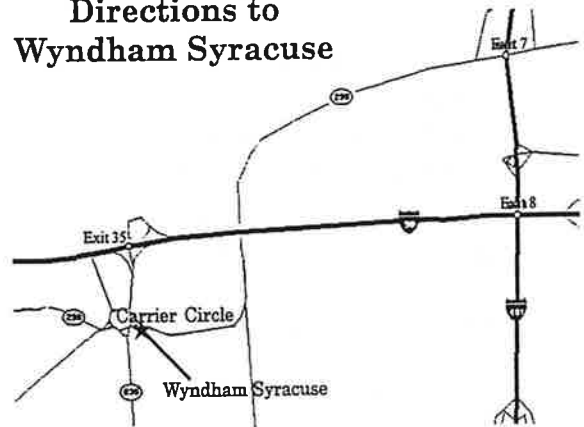
PLENARY - Prescription for Action

- 9:00 Maintaining the management initiative
- Max Peterson, Int'l. Assoc. of
Fish and Wildlife Associations
9:30 Global climate change - not just talking
about the weather - Liz Thorndike, Center
for Environmental Information
9:50 Suburban sprawl, habitat and parcel
fragmentation - Jon Haufler,
Boise Cascade
10:10 Changing demographics and the new
politics of natural resources
management - Speaker TBA
10:30 **BREAK**
11:00 Panel Discussion: Solutions For The Next
Ten Years
12:00 Best paper/poster awards, and closing
comments
12:30 Adjourn and depart

Objective: The purpose of this multi-disciplinary conference is to bring together the NY professional societies of fisheries, forestry, and wildlife to address strategies for challenges related to natural resource management and professional development.

Overnight accommodations should be made directly with Wyndham Syracuse, 6301 Route 298, East Syracuse, phone: 315-432-0200, fax: 315-433-1210. A block of rooms at \$70 per night per room are available through 1/6/00.

Directions to Wyndham Syracuse



Interstate 81 North to Wyndham Syracuse: Take I-81 North into Syracuse to I-481 North, take I-481 North to exit 7 Route 298 West, go down Route 298 West (about 3 miles) to Telergy Drive on right.

Interstate 81 South to Wyndham Syracuse: Take I-81 South to NYS Thruway (I-90), take NYS Thruway East to exit 35 (East Syracuse & Route 298), go around traffic circle to Route 298 East, take Route 298 East to first traffic light, hotel will be on your left.

CANDIDATES FOR PRESIDENT-ELECT
NEW YORK CHAPTER AMERICAN FISHERIES SOCIETY

Biography of John Farrell

John Farrell is currently employed by SUNY-ESF, and is a Research Associate in the Department of Environmental and Forest Biology. John directs the Thousand Island Biological Station located on Governor's Island in the St. Lawrence River, conducts research, teaches, and supports three graduate students. His research, a partnership between SUNY-ESF and NYSDEC, focuses on ecology of esocids in the Thousand Islands Region. John graduated from Cornell University in 1987 with a BS degree in Natural Resources, then completed a Master's in 1991 and a Ph.D. in 1998 in Fisheries at SUNY-ESF. He has also worked in the field of fisheries and aquatic ecology at Cornell Biological Field Station, Penn State Cooperative Fish and Wildlife Unit, and York University in Ontario. John has taught both Fisheries and Limnology to undergraduate and graduate students at SUNY-ESF, and has published in the *Transactions of the American Fisheries Society* and the *North American Journal of Fisheries Management*. He is currently President of Save The River Inc., an environmental organization of over 1,400 members dedicated to the conservation of the St. Lawrence River. For NY CHAPTER AFS, John has been a member for over 10 years and has contributed two talks at the Annual Meeting and sat in on a panel discussion last year. John has been the Chapter Newsletter Editor for three years, and recently was Program Chair and an instructor for the fall NY CHAPTER AFS Workshop on Aquatic Macrophyte Identification and Ecology. John is interested in building on NY CHAPTER AFS membership, student involvement, and high quality workshops to enhance professional training opportunities. His personal interests focus on the outdoors and all forms of fishing and hunting as well as skiing, hiking, wood boats, and whatever else his family and friends get him involved in!

Biography of Webster Pearsall

Webster Pearsall is a Senior Fisheries Biologist with NYSDEC Region 8 in Avon NY. Web is responsible for the management of the fishery resources in Canandaigua Lake, and Wayne, Monroe, and Orleans counties, including the near-shore waters of Lake Ontario and some of its largest bays. In addition, Web manages the Finger Lakes Zebra Mussel Monitoring Program and co-coordinates NYSDEC's Aquatic Nuisance Species Program. Web is a native of central New York, but spent the last 11+ years working for the State of Maine Department of Environmental Protection, over nine of those years as an Aquatic Biologist. While in Maine, Web became a member of the Atlantic International Chapter (AI), while retaining membership in the New York State Chapter. During his time in Maine, Web constantly returned to participate in New York Chapter meetings each winter. Web returned permanently to New York State in 1998 to begin his career as a NYSDEC Fisheries Biologist. Web earned a BS in Forest Biology (Fisheries emphasis) from the State University of New York College of Environmental Science and Forestry (SUNY ESF) in 1982. He received his MS from SUNY Fredonia in 1989 while studying age, growth and resource partitioning between black and white crappie in Chautauqua Lake. While at ESF, Web was instrumental in resurrecting the ESF Chapter of AFS, and served as President. Since that time, Web has been actively involved in the New York and AI Chapters of AFS in a variety of roles including judging presentations and moderating sessions. Web is currently the Chair for the New York Chapter's Professional Incentive Committee. As NY Chapter president, Web would be particularly interested in pursuing ideas for increasing the Chapter's membership, and broadening membership participation in Chapter activities. Web loves spending time outdoors regardless of the season, and working around the new home he and his wife Heidi recently purchased in Manchester.

HOMA
1-27-2000

Society of American Foresters



NJ State Tri-Society Meeting

Strategies for Stewardship of New York's Natural Resources

January 27 - 29, 2000

Wyndham Syracuse
6301 Route 298, Carrier Circle, East Syracuse

Student Poster: Melt McNeuk
H.C. Aman bed
Temp. Rocky Moun

Paper - Student
Heather Barker -

Paper - Prof.
Gary Goff -
Tim Wolf - ESR
William Bieman

Tie!
=

Prof. P. de
Gary Sumpstead
ESR
FO + Eyr
=

Meeting Objective:

The purpose of this multi-disciplinary conference is to provide a forum where members of the New York professional societies of fisheries, forestry, and wildlife can develop strategies and address challenges related to natural resource management and professional development.

Attendees will qualify for continuing education credits from their respective professional societies Contact current chairperson for details.

Sponsors:

New York State Department of Environmental Conservation

Department of Natural Resources, Cornell University

College of Environmental Science and Forestry, SUNY Syracuse

New York State Electric and Gas

Northeast Division of The American Fisheries Society

New York Chapter of:

The Wildlife Society

The American Fisheries Society

The Society of American Foresters

Proceedings:

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Cornell University

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Friday, January 28, 2000

CONCURRENT SESSIONS

Session 1: Sustaining Our Biotic Heritage

Moderators: *Chad Covey, NYS DEC and Sandy Bonano, TNC*

Outcome: Learn strategies and applications to maintain and enhance biological diversity

8:30 A historical perspective on the changing Lake Ontario ecosystem

David MacNeill, SUNY-Brockport

9:00 The ecological significance of managing the hardwood unit pattern

Gregory McGee, SUNY-ESF

9:30 Biological diversity in forested ecosystems: Why does it matter?

Shawn Carter, SUNY-ESF

Session 2: Distance Education: Options for Application

Moderators: Ross Jacobs and Chuck Spuches, SUNY-ESF

Outcome: Experience current technologies for distance education

8:30 Participants travel to SUNY-ESF Distance Learning Center
(limited seating, sign-up at registration)

Session 3: Community-based Management

Moderators: *Mark Lowery, NYS DEC*

Outcome: Understand how to work with local communities to manage natural resource issues

8:30 Concepts of community-based management.

Tania Schusler and Daniel Decker – Cornell University

9:00 Deer management in Cayuga Heights, NY

Paul Curtis and Sharon Anderson – Cornell University

9:30 Fish, cormorants and people: Eastern Lake Ontario

James Farquhar, NYS DEC and Albert Schiavone, NYS DEC

10:00 BREAK

Session 1: Sustaining Our Biotic Heritage, continued

10:30 Doing more with less on the eastern shore of Lake Ontario

David Forness, NYS DEC

11:00 The American Chestnut research and restoration project

Charles Maynard, SUNY-ESF

11:30 Community-based conservation in an agricultural watershed

Susan McAlpine, The Nature Conservancy

Session 2: Distance Education: Options for Application, continued

Taking place off site

Session 3: Community-based Management, continued

10:30 Community Involvement in Coastal Habitat Restoration: A flexible model from Long Island Sound

Lisa Holst, NYS DEC

11:00 Citizen participation and the USFWS Comprehensive Planning Program

Thomas Bonetti, U.S. Fish and Wildlife Service

11:30 Discussion with questions and answers

Session 7: Employment skills for natural resource students

Moderators: John Homa, Ichthyological Assoc.; John Wagner & Larry VanDruff, SUNY-ESF; & Margaret Murphy, Research Assistant, SUNY-ESF

Outcome: Students will learn a variety of skills they can use to improve their employment options.

1:30 Private fisheries consultant. How I have used my education in my job. Combining business skills with natural resource knowledge.

Margaret Murphy, SUNY-ESF

1:50 Education for foresters in the forest products industry

Hugh Canham, SUNY-ESF

2:10 Career and counseling services. Job searching tools and techniques.

Preparing a resume. Preparing for an interview.

Tom Slocum, SUNY-ESF

2:30 BREAK

Session 4: Contributed Papers (fisheries), continued

3:00 Biotic and abiotic influences on forage fish abundance in eight New York lakes

David M. Warner, Cornell University

3:20 Comparison of seasonal pelagic fish abundance in embayments and the nearshore of Lake Ontario using hydroacoustics, with particular emphasis on the alewife (*Alosa pseudoharengus*)

Robert A. Klumb, Cornell University

3:40 Alewife (*Alosa psuedoharengus*) spawning in Lake Ontario: Do adult spawning behaviors affect age-0 survivorship?

Darran L. Crabtree, SUNY-ESF

4:00 Exotic cuisine – the importance of *Bythotrephes cederstroemi* in the diet of rainbow smelt (*Osmerus mordax*) in eastern Lake Erie

Sandra L. Parker, Cornell University

Session 5: Contributed Papers (wildlife), continued

3:00 Using a habitat-suitability approach to evaluate landscape patterns for eastern wild turkey

Kathleen K. Fleming, SUNY-ESF

3:20 Alternative delivery methods in hunter education - a review with NYS implications

David J. Adams, NYSDEC

3:40 Wolves and coyotes in New York State: Then and now

Robert E. Chambers, SUNY-ESF

4:00 Lake Sturgeon (*Acipenser fulvescens*) ecology in the lower Niagara River

Thomas C. Hughes, SUNY-Brockport

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Sustaining Our Biotic Heritage:

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In New York State and elsewhere in this country we have been engaged in conservation of land and water for well over a hundred years, but we have still not protected a sufficient number and distribution of healthy natural systems to sustain all of our native species. Urban sprawl, recreational and second home development, alteration of hydrologic regimes, the filling of wetlands, invasion by non-native species, certain agricultural and forestry practices, a loss of natural processes like fire and flooding, overfishing of marine species, and damage to the coastal environment all pose significant threats to biological diversity.

State governments and the Federal government have addressed those threats through the Endangered Species Act, the Clean Water Act, and other regulatory, land acquisition, and technical and financial assistance programs, but many species and some whole natural communities remain in jeopardy. Over the last ten years, political factors have gotten in the way of a more systematic approach to conservation of plant and animal species.

The Nature Conservancy, an international non-profit conservation organization, working cooperatively with many partners, is trying new approaches to conserving biological diversity across the entire North American landscape. These include;

Preparing ecoregional plans for each of this country's 63 ecoregions. These plans identify the "portfolio of sites" which, if protected, would sustain the diversity of species within each ecoregion.

- Using a consistent method of assessing threats to biodiversity at the sites identified and creating strategies to reduce those threats.
- Placing more emphasis on "functional landscapes" including aquatic systems.
- Further decentralizing the Conservancy's operations to undertake many "community based, landscape scale projects."
- Finding innovative ways of cooperating with forestry and ranching interests to sustain the biological value of their lands.

While the success of these strategies is by no means certain, the Conservancy's work may be helpful in building upon and enhancing New York State's longstanding leadership in land and water conservation. In addition, there is, today, unprecedented public support for funding conservation initiatives. If in New York and elsewhere we can bring together innovation in conservation science with long term sources of funding, we can enter the 21st Century with a renewed sense of hope that we can save our country's exceptional biotic heritage for all the years to come.

Biological Diversity in Forested Systems: Why does it matter?

SHAWN L. CARTER - Ph.D. Candidate, SUNY College of Environmental Science and Forestry, Department of Environmental and Forest Biology, 350 Illick Hall, 1 Forestry Drive, Syracuse, NY 13210

Forest ecosystems arguably contain the most diverse biotic communities on earth, largely because of abundant, spatially-partitioned biomass that provides many niches. Recent studies underscore the importance of maintaining biodiversity when implementing conservation and management strategies. A small but growing body of research using relatively simple systems suggests that reduced biodiversity decreases ecosystem stability, resilience, and productivity. Whatever the criterion, ecosystem function may provide a tractable basis for examining the roles that functionally significant taxa play in forest ecosystems.

Functional taxa provide important ecosystem services to entire communities. For example, in forest ecosystems top-down predation by birds can structure invertebrate prey communities thereby changing rates of insect herbivory. Also, microinvertebrate predation by salamanders may provide a critical trophic link for biomass cycling, and decomposition facilitated by burying beetles can speed forest nutrient cycling and limit disease. These taxa have narrow habitat requirements that can be linked to woody structure. Forest gleaners forage on standing dead wood and spiders (significant insect predators) use small fallen branches for web-spinning and cover, while salamanders and burying beetles both require robust amounts of decayed wood and organic material for reproduction.

The degree to which forest management practices can alter niche habitat for these important species is unknown. Small-scale habitat alteration by substrate disturbance and shrub layer removal may disrupt local communities, yet landscape biodiversity may prove resilient to disturbance. Thus, forest management practices that maintain or promote structurally-complex woody microhabitats for functional taxa may directly influence ecosystem processes. Understanding relationships between forest management, important indicator taxa, and ecosystem processes can help guide conservation aimed at preserving biological diversity and ultimately, ecosystem sustainability.

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Real Men (and Women) CAN DO Distance Education!

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Technological advances can be confusing, even for persons who consider themselves to be somewhat technologically literate. Often, unless an individual must work with software packages and equipment on a somewhat regular basis, the advances lead to an inability to make use of the most modern technologies, whether the tasks involve simple information dissemination or more formal instructional activities. This presentation focuses on ways that the "average" professional can use modern, yet easily available and inexpensive ways to conduct distance education with the kinds of things most offices are equipped with in today's world.

In the 1993-94 academic year, Dr. Conroy conducted a research project and several pilot activities designed to improve communication between university faculty and staff responsible for inservice education for secondary agricultural teachers and others. Problems with inservice workshop attendance and other issues were resulting in miscommunication as well as low workshop attendance, in spite of the fact that workshops were free to participants. Ideas gleaned from those activities have evolved into several successful and cost-efficient ways to communicate that are in use at Cornell today. Based on personal and professional experiences, Dr. Conroy will share her "toolbox of ideas" for enhancing communication and information sharing with a clientele base.

The Interview Process and Help in Answering the “Tough Questions”

LELAND CRAWFORD – International Paper Manager of Operations

Discussion – Please use this page for notes.

Challenges and Strategies Before us in NY

PETER DUNCAN – NYS Department of Environmental Conservation, 50 Wolf Rd., Albany, NY 12233. Phone: 518-457-0975.

Peter Duncan's talk will focus on the challenges that both professional natural resource scientists and natural resource managers face in conserving the state's rich and diverse natural resource base. The talk will focus on the need to ensure that natural resource professionals in the 21st century better integrate science based research and management with changing public values. This will require managers and scientists to extend efforts to engage the public through a variety of outreach methods to understand better the values that the public expects natural resource professionals to promote in their management and research. While this is a tremendous challenge, it also provides an opportunity to better educate the public on the scientifically-based underpinnings of natural resource management.

Using a Habitat-suitability Approach to Evaluate Landscape Patterns for Eastern Wild Turkey

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Understanding how landscape patterns affect turkey distribution and growth is important for effective regional management of populations. Our objectives were to (1) develop a habitat suitability model compatible with satellite imagery to evaluate reproductive habitat for wild turkeys, and (2) apply this model for statewide evaluation of New York. Habitat patterns relating to landscape composition and configuration were measured from the EPA/Multi-Resolution Land Characteristics (MRLC) satellite image classification for New York State. Two separate habitat models were developed to represent habitat relationships associated with nesting and brood rearing. We used average prenesting and brood-rearing ranges for wild turkeys in New York to define spatial scales for model habitat measurements. We used an edge index (km edge/km²) within a hen prenesting range to quantify the suitability of nesting habitat. We derived a brood-rearing model from data on poult survival of radiotagged hens (n = 16) in New York. The resulting linear regression model used forest core area standard deviation to predict suitability of landscapes for brood rearing. Overall habitat suitability was defined for each pixel in the land-cover classification as the average of the 2 models. We incorporated spatial variation in rainfall departure and number of heating degree days in May and June into a separate weather model to identify the effects of spring weather on nest success and brood survival. We discuss the assumptions involved in this type of model and its value to wild turkey managers.

Earn-a-Buck at the Arnot Forest: Applying QDM in New York

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The "Earn-a-Buck" program (a version of Quality Deer Management) was initiated at Cornell University's 4,000-ac. Arnot Teaching and Research Forest during the 1999 deer hunting season. The goal is to reduce the deer population to allow successful regeneration of desirable tree species for sawtimber management. A policy was implemented whereby hunters are allowed to harvest a buck only after documenting the harvest of two antlerless deer at the forest. Objectives include reducing the reproductive potential of the herd, establishing a more balanced buck to doe ratio, and allowing more bucks to mature into the 2.5+-year age classes. We obtained 25 Deer Management Assistance Program (DMAP) permits under the new program administered by NYSDEC, Bur. of Wildlife. We staffed a deer check station at the forest during the '98 and '99 seasons. Hunter cooperation has been good, and we will reach our harvest goal of adult does this season. Ongoing research will focus on population and biology parameters of the deer herd, and human dimension characteristics of the hunters. Future efforts will include monitoring browse damage and tree regeneration success inside and outside fenced enclosures at the Arnot Forest in comparison to State Forest lands elsewhere in DMU 7R where traditional deer management is occurring.

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Natural Resource Management in Post Industrial Society

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Global trends are reshaping the contours of New York State's rural and urban communities. Technological innovation, restructuring of production, and globalization of exchange have greatly reduced the need for agricultural labor in the United States and have shifted the location of manufacturing as the demand for services has increased. Correspondingly, the demand for jobs has shifted and new skills are necessary to obtain high incomes. Declines in birth rates, combined with delayed marriage, greater marital instability and nonmarital childbearing have fundamentally changed the nature of family life. New patterns of immigration in conjunction with racial and ethnic differences in family size are altering the ethnic mix, especially at younger ages. Each of these trends has contributed to substantial economic inequality.

If natural resources managers are to successfully navigate this changing social environment, new approaches must be deployed. These approaches should avoid the submerged rocks of competing and often contradictory demands, while laying the ground for a sustainable future.

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Lake Sturgeon (*Acipenser fulvescens*) Ecology in the Lower Niagara River

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The lake sturgeon (*Acipenser fulvescens*) is the only sturgeon endemic to Lakes Erie and Ontario. Historically very abundant, the lake sturgeon initially was regarded as a “nuisance” in the Great Lakes because it damaged fishing gear and provided no commercial value. By the mid-1800s, the importance of lake sturgeon as a commercial species had been recognized. Overexploitation by the commercial fishery and several other factors, including destruction of spawning habitats, damming, pollution and reduced water quality led to a dramatic decline in lake sturgeon abundance. Today, the lake sturgeon is a protected species over much of its range and it is federally listed as a “species of concern.”

Since the summer of 1998, we have collected 33 lake sturgeon by SCUBA diving, gill nets and baited setlines, and 20 fish have been fitted with ultrasonic transmitters to monitor their long-term movements in the lower Niagara River and its confluence with Lake Ontario. The objectives of our study are to compare daily, seasonal and diel movement patterns and macro- (e.g., river, main lake) and micro- (e.g., high flow, back eddy) habitats between juvenile and adult lake sturgeon. Preliminary findings are: (1) juveniles (<1000 mm TL) seem to prefer nearshore, slow (mean bottom velocity 0.18 m/s) water currents while adults (>1200 mm TL) seem to prefer the faster currents (mean bottom velocity 0.37 m/s) of the river and its confluence with the lake, (2) juveniles (mean depth 9.5 m) and adults (mean depth 10.8 m) occupy similar depths, and (3) locations in the river have been identified that are occupied exclusively by adults (particularly during May and early June). Information about fish movements and habitat use will enable us to identify key spawning and feeding habitats in the river in order to better manage, protect and enhance the lake sturgeon population.

Identification of Biodiversity Focus Areas in the Hudson River Valley: Targets for conservation

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In 1987 New York State passed the Hudson River Estuary Management Act which directed the New York State Department of Environmental Conservation (NYSDEC) to develop a management program for the estuary and its associated shore-lands. From this program several commitments were made, including the conservation of terrestrial biodiversity in the Hudson River Valley (HRV). Adequate knowledge of the abundance and distribution of plants, animals, and ecological communities is essential to a successful conservation program. Through complimentary efforts involving the NYSDEC, New York Natural Heritage Program (NHP), The Nature Conservancy (TNC), National Audubon Society, and U.S. Fish and Wildlife Service (USFWS), focus areas representing important elements of biodiversity have been identified within the HRV. Focus areas were intended to promote and direct conservation action where it may have the greatest benefit to biodiversity across the HRV. The NHP approach has focused on identifying, documenting, and mapping the presence and distribution of rare and exemplary plant and animal species and ecological communities. The process included compiling existing information on these elements from secondary sources followed by detailed field surveys. Focus area boundaries were determined by identifying relatively large landscape units encompassing multiple occurrences of target plants, animals, and ecological communities. Subsequent to field surveys, expert-opinions obtained from the USFWS and the National Audubon Society (e.g., Important Bird Areas (IBA)) were utilized to refine and expand boundaries of focus areas. This approach identified 25 biodiversity focus areas in the HRV. Several of the focus areas were closely aligned with the Significant Habitat Complexes identified by the USFWS for the New York bight watershed. Identifying Biodiversity Focus Areas is an iterative process based on current information on dynamic, natural systems. Future work is being planned by NHP to conduct intensive field surveys within focus areas. These inventories will represent the second iteration and should provide more detailed information on elements of biodiversity present within focus areas. This information will be key to developing site-specific management plans that address the unique differences among focus areas. Of primary importance will be to address current or potential threats to biodiversity in these areas and to prioritize conservation efforts.

Human Values and Motivations for Nature and Implications for Foresters and Wildlife Biologists

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This presentation suggests that humans have a biologically-based need to affiliate with natural process and diversity that has been and continues to be instrumental in human physical, emotional, intellectual, and moral evolution and development. Nine values of nature are described reflecting a range of basic meanings people attach and benefits they derive from their experience of the natural world. Although viewed as inherent tendencies to affiliate with nature, these values are regarded as “weak” biological inclinations, whose cultural expression and functional significance are highly dependent on experience, learning and social support.

A major deficiency of modern, especially urban, life is diminished and often compromised opportunities for direct and accessible contact with healthy natural process and diversity. The entomologist, Robert Pyle, referred to this contemporary phenomenon at the “extinction of experience.” From the perspective of human development and well being, this diminished and sometimes impoverished relationship to nature may be as critical as the more conventionally recognized conditions of biological, ecological, or commercial extinction.

Foresters and wildlife biologists are regarded as providing contemporary people with critical opportunities for contact and experience of the natural world. A relatively narrow interpretation of the role of foresters and biologists has sometimes resulted in emphasizing only a limited range of environmental values provided to people and society. A broader perspective of the contribution of foresters and biologists underscores the potentially important task these professions perform in an era greatly in need of more enriching relationship with natural process and diversity.

Designing and Implementing a Collaborative Approach to Suburban Deer Management: Some preliminary insights from the Islip deer initiative

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Wildlife professionals across the country are beginning to participate in a range of local and regional co-management experiments. Many of those professionals find themselves asking fundamental questions about these approaches, which involve some sharing of authority and responsibility with stakeholders. Professionals on the front lines of public involvement have many unresolved questions: When is co-management worth the effort? What roles should the wildlife manager play? How can authority and responsibility be shared effectively? How should stakeholder representatives be chosen? Our presentation will grapple with some of these basic, but important questions. We will focus on a local example of co-management -- the Islip Deer Initiative -- to facilitate discussion. We will use experiences and survey data from the initiative to exemplify common problems, and we will discuss how managers in New York have or plan to address those problems in this specific situation.

This particular co-management experiment began taking shape last February, when a state senator representing Islip Township called a meeting of NYSDEC staff, representatives of the Islip Town Supervisor's office, public land management agencies in the town, and Cornell University's Human Dimensions Research Unit (HDRU). The purpose of the meeting was to discuss resolution of the conflicts occurring between deer and people in Islip. During this meeting, NYSDEC staff outlined a proposal for interagency cooperation in deer management and proposed that any change in management be based on a public involvement process. What resulted from that meeting was an agreement among four parties (i.e., NYSDEC; NYS Office of Parks, Recreation, and Historic Preservation; the Town of Islip; and Scully Science Center [National Audubon Society]) to cooperate in comanaging the Islip deer herd. The Islip Deer Initiative (IDI) was created to address deer management in an area of the township that includes two state parks (Connetquot, Heckscher), a national wildlife refuge (Seatuck NWR), and a municipal golf course.

DEC contracted HDRU to provide assistance to the initiative. HDRU staff designed a mail questionnaire to ascertain residents' attitudes toward deer, deer management, and involvement in local deer management decisions. This instrument was used to survey random samples of town residents in the target area last fall. Results from the survey are being used to design the decision making process as well as public information and education efforts that will be associated with the Islip Deer Initiative.

Implications of Power Line Right-of-Way Vegetation Management for Avian Communities

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Managers of New York power line rights-of-way are increasingly moving to selective herbicide vegetation management. One goal of such management is to promote dense shrub growth to suppress invasion and growth of trees under the power lines. Researchers have long considered power line rights-of-way as potential habitat for birds of early successional habitats, including those dependent on shrubs for nesting. The question from a bird perspective is which treatment produces more attractive breeding habitat. We looked at a power line right-of-way north of Rome, New York that contains two different power lines of different ages – one managed with a historical mixture of mechanical and herbicide treatments, and the other managed exclusively with herbicides. We measured avian community composition, avian nesting success, and vegetation on nest and non-nest plots on each power line. Birds nested in higher densities on the mixed treatment power line. Birds tended to choose patches with greater amounts of shrub cover than were generally available in the corridor. The mixed treatment line had greater shrub cover than the strictly selective herbicide treatment line. Nesting success was not different between the two lines. Our research confirms the importance of shrub cover to birds in early successional habitats typical of rights-of-way. The research also suggests that rights-of-way with some mechanical treatments in their histories may have better shrub habitat than selective herbicide treatments. Further examination of right-of-way history and post-treatment effects may negate that conclusion. Over longer time periods, selective herbicide treatments which avoid drastic reductions in established cover may be more beneficial from an avian perspective.

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The Ecological Significance of Managing the Northern Hardwood Unit Pattern

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The "unit pattern" represents the unit area of a forest encompassing all phases of development. The unit pattern develops from the interaction of prevailing disturbance regimes (types, intensities, recurrence intervals) and the capacity of forest vegetation to recover following disturbance. While the growth and death of trees alters a forest's local character, the whole forest remains relatively constant over time. The ability of forest managers to maintain forest landscapes that reflect the unit pattern may have important consequences for local and regional biodiversity. A growing body of evidence suggests that structural heterogeneity is vital in maintaining diverse forest ecosystems, and therefore, descriptions of the unit pattern should include estimations of the abundance of forest structural features such as old/large trees and standing and downed coarse woody debris. The challenges presently before forest managers include the identification of unit patterns for respective forest types, a recognition of the ecological significance of that pattern, and the development of silvicultural treatments that maintain forests closely resembling the unit pattern. The objectives of this presentation will be to (1) describe the disturbance regimes that lead to the northern hardwood unit pattern; (2) present the expected structural characteristics of the northern hardwood unit pattern; (3) discuss the implications of forest structural heterogeneity on biodiversity in northern hardwoods; and (4) propose some silvicultural recommendations to produce desired levels of structural heterogeneity in managed northern hardwood forests.

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Discussion – Please use this page for notes.

Differences in Rheotactic Response Between Two Strains of Juvenile Atlantic Salmon, (*Salmo salar*)

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Juvenile salmonid migrations from natal streams to nursery lakes are often guided by an inherited rheotactic response, the directional response to water current. This response is known to differ between salmonids hatching in inlet and outlet tributaries of nursery lakes. Landlocked Atlantic salmon (*Salmo salar*) from West Grand Lake, Maine, spawn and hatch in outlet streams. Salmon from Sebago Lake, Maine, spawn and hatch in inlet streams. Rheotactic response of juvenile Atlantic salmon from West Grand Lake and Sebago Lake was studied to determine whether strain and environmental conditions influenced instream movement. Age-1 salmon movements were compared in a diverted natural stream in 1998 and 1999. Age-0 salmon movements were compared in artificial stream channels in 1999. The following movements were all significant ($\alpha = 0.05$): (1) Age-1 salmon from West Grand Lake were more likely to move upstream than were salmon from Sebago Lake; (2) Age-0 Sebago salmon were more likely to move upstream than were West Grand salmon; (3) Among age-0 salmon, the difference in upstream movement between strains was greatest in the first three weeks after swim-up; (4) Downstream movement of age-0 salmon increased with stocking density; and, (5) The percentage of age-0 salmon that did not move increased with water velocity. Based on these results, the two strains have different rheotactic responses at each of two different life stages (fry and smolt). Inherited movement patterns may affect the ability of the salmon to access resources for survival, underscoring the need to consider the effects of strain and environmental conditions when transplanting salmon into specific habitats.

Silviculture and timber harvesting in New York State: Can practice meet theory, or should theory meet practice?

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Silviculture is the art of regenerating and tending forests to sustainably produce values consistent with landowner objectives. Silviculture is built upon scientific knowledge through ecology and silvics and responds to social affairs and economic constraints. In silviculture, timber harvesting is the chief means to implement regeneration and tending practices. However, timber harvesting alone is not silviculture. While timber harvests are common in New York, silviculture is not. Diameter-limit and other selective cuts appear more commonly. Yet, even then efforts can be made to protect the site and residual trees from damage associated with felling and skidding. Do these efforts elevate diameter-limit and selective harvests to a status equivalent to silviculture?

Timber harvests can include a continuum of practice, from exploitation to silviculture. While elements of silviculture can be recognized at many levels of practice, we contend that silviculture occurs only at a later point along the continuum, when all of the practices come together in a system. Does this contention make silviculture a textbook construct unattainable by most practitioners and available only to academics and a few public servants? Or does it make silviculture a standard to strive for?

An estimated 13 million acres (85% of New York State timberlands) is owned by non-industrial private forest (NIPF) owners. Over 90% of the solid wood entering the state's primary wood processing facilities originates from NIPFs. Rarely do these lands stay in the same ownership over the complete rotation of a hardwood forest, seriously challenging the implementation of silviculture. More often, these lands pass through cycles of liquidation and remediation. And that challenges foresters to ask if the liquidate-remediate cycle be tempered by silvicultural practices.

These issues are explored in this paper to stimulate thought and discussion about silviculture and timber harvesting in New York State. A continuum of timber harvesting is presented with defining elements of silviculture. These elements will be presented as "rules of thumb" as to what constitutes silviculture in practice. We argue that practice can meet theory in timber harvesting and silviculture. Conversely, we reject the suggestion that theory should be reformed to meet current practice.

Maintaining Management Initiatives in the New Millennium

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Anyone wishing to maintain some management prerogatives in the new millennium would consider this conference a combination of good news and bad news. The good news is that a conference like this provides a good deal of information on the management of forests, waters, fish and wildlife. A significant change between this conference and one held as recently as 10 years ago is significant expansion/modification of the old truism that all fish and wildlife biologists learned: "It's the habitat, stupid." The traditional definition of habitat for fish and wildlife included of course air, soil, water, plants, climate and maybe an occasional reference to people who might be involved in habitat management. Most often that reference would be to the professionals in a particular field, be they foresters, fisheries biologists, wildlife biologists, pathologists, zoologists, etc. The damage that people could do to habitat has long been recognized.

Certainly this conference includes a lot of highly specialized papers on the details of fisheries habitat in lakes and streams, as well as terrestrial systems that directly and indirectly affect fish and wildlife. What is relatively new in the last several years is the increased emphasis on management of land and resources across land ownerships, across geographical and political boundaries, as well as management which relates to the interaction between fish, wildlife and people in both physical and biological functions. Social and economic factors that are influenced by management and in turn influence management are now recognized as an increasing source of both support and controversy for resource management.

The bad news from this conference is from the perspective of either a new or experienced manager is how complicated life has suddenly become. Not only are there a dizzying array of new scientific information about the biology of individual species of fish and wildlife or forests, but there is a whole emerging world of interaction between different species of plants and animals within a context we now call by such simple terms as "landscape level biodiversity within ecosystems". As if those biological systems were not complicated enough, we now introduce a whole array of social and economic considerations, as well as changing public attitudes which frequently are in sharp disagreement about either the objectives of management that are appropriate for private and public land or the ways that management can and should be applied on the ground.

At a time we have people developing more complex scientific information, we need some scientists in the mold of Albert Einstein who can simplify this information. His simple yet complex formula – $E=MC^2$ revolutionized the theory of physics and chemistry.

Thankfully this conference presents some approaches to managing what could be and sometimes is a very chaotic situation on both public and private land. I was impressed by the several examples of cooperation that is voluntary across ownerships and across political and geographic boundaries to try to figure out ways to manage land so it meets a wide variety of landowner as well as public objectives. Unfortunately, such arrangements sometimes do not work in practice particularly when, as one speaker indicated, there is a large "conflict industry"

Using Television to Communicate Stewardship/Recreational Uses of Natural Resources

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Government natural resource agencies have a tremendous responsibility to communicate with the public regarding their roles in managing, protecting, and encouraging wise use of the resources with which they are entrusted. In many cases, however, the communication is not effective because: a) there are limited number of issue-oriented audiences with whom they regularly communicate, resulting in the "preach to the choir" syndrome; b) communication to a broader audience is usually "filtered" by the media or issue oriented groups; and, c) the general public's lack of interest in highly detailed focused messages. We believe that use of the television could help fill that need.

DEC is exploring production of a weekly half-hour television program called *Empire State Outdoors* for broadcast television that is informative, thought-provoking, enlightening and entertaining. It will showcase New York State's natural resources and encourage views to engage in New York's recreational opportunities. The format will be a fast-paced magazine style originating from different locations throughout the state. Each program will include two to three feature stories and three or four regular segments.

The lead feature will be 6-8 minutes and will generally be focused on outdoor recreation and use of our natural resources such as fishing, hunting, wildlife observation, camping, hiking. The second and third features will be 3-5 minutes and will focus on a variety of natural resource management programs, special programs such as Becoming an Outdoorswoman, SAREP, Teacher Workshops, and Fish & Wildlife research.

Additionally, there will be three regular segments and one "rotating" segment each week such as: *Outdoor News* – two to three stories of statewide interest to outdoor enthusiasts; *Outdoor Classroom* – a weekly Q&A educational feature geared to youth; *Regional Reports* – a two minute slot designed to be "covered" by local stations with a locally originated segment of hunting, fishing, and other outdoor events; and, a *Rotating Segment* – One segment each week will have a rotating subject matter – mostly designed to be educational and informative such as *Outdoor Expert* – a "how-To" segment – fish & game cooking, flytying, camping tips, knots, gun cleaning, map & compass tips, etc. *Outdoor Safety* – tips for helping New Yorkers to safely enjoy hunting, fishing, boating, hiking; *Outdoor People* – profiles of interesting people doing interesting things in the outdoors. Segments could include "day-in-the-life" profiles of natural resource professionals and enforcement officers, fish & wildlife researchers from various NY institutions, professional guides, etc.

Each feature story and regular segment will have subtle, but clear conservation, natural resource management, and stewardship messages presented in an enjoyable format. We welcome conference participants comments and suggestions.

Concepts of Community-based Management

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Whether considering issues of wildlife scarcity or abundance, it often makes sense to focus management at the scale of local communities, where management may have greatest relevance to stakeholders. Wildlife-related opportunities and problems are often perceived at a local scale, and management actions can have observable impacts at this scale. In addition, the social capital of local communities may help facilitate the management process.

Indeed, community-based management is becoming increasingly prevalent in the management of forests, protected areas, water resources, rangelands, fisheries and wildlife resources. Proponents of community-based management describe numerous potential benefits. These include increased effectiveness of management, greater acceptability and legitimacy of management actions, enhanced knowledge and understanding of natural and human systems, increased trust between government agencies and stakeholders, reduced enforcement expenditures and lower transaction costs, and increased public awareness of conservation issues, among others.

The term "community-based management" has been used to describe a broad array of approaches from consultation with stakeholders to collaborative sharing of management responsibilities, or co-management. While community-based management holds substantial promise for wildlife conservation, it also poses challenges to agencies and local communities. A review of literature suggests some key elements that require consideration in community-based management. These include: (a) determining who participates and in what roles, (b) building the capacity of communities and agencies, (c) designing processes for communication, negotiation, and knowledge construction, and (d) developing supportive policies.

Where You Stand Depends on Where You Sit

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Clearly, the struggle over the appropriate management of natural resources is “heating up.” That struggle is exacerbated by the rise of the “conflict industry.” This industry employs chief executive officers, organizers, fund raisers, lawyers, technical experts, public relations specialists, writers, publishers, publicists, lobbyists, and other assorted specialists. They prosper only so long as the conflict lasts and intensifies. That requires identification of “bad guys” to be vilified and attacked. And, the bad guys must become ever more evil if the support dollars are to continue. These conflicts have resulted in varying natural resource professions being cast as “bad guys” by one side or the other and, not uncommonly, castigated by both sides. Certainly, government wildlife and land management agencies have become the “whipping boy” of choice as they must make controversial decisions that usually satisfy neither extreme and they can’t or won’t fight back.

Clearly, *Homo sapiens* must exploit the environment in order to survive and prosper. There is no question of that. The more pertinent questions involve how that exploitation can occur in a sustainable fashion. The critical role of the natural resources professions is to work together to synthesize and integrate pertinent information so that management decisions have the best technical foundation possible.

In a 43-year career, I have held a number of jobs from journeyman game manager in a state agency to the senior wildlife research biologist in the federal government to Chief of the U.S. Forest Service to Professor. I know that where one stands on an issue depends on where one sits -- the position held, the level of knowledge and experience, and employer.

So, where do we stand today. The “myth of the omniscient forester,” wherein it was assumed that foresters could do it all, is long dead. The heyday of the “combat biologist” wherein the biologist battled against other professions assure a future for wildlife is waning. Natural resource professionals should recognize that the time has come when the situation demands that we play nicely together to produce the goods and services that the public desires bounded by the requirements of the law, resources available, ecological capability, public acceptability, and an appropriate land ethic. Our professions are now mature and we all stand and sit in a new place. Our professional reactions should reflect that changed condition. The alternative is apt to be a well-deserved overall decline in public respect.

Developing Willow Biomass Crops as a Locally Produced Source of Renewable Energy and Cellulose Feedstock for the Northeastern and Midwestern United States

T.A. VOLK¹, L.P. ABRAHAMSON, E.H. WHITE, R. FILLHART, and C.A. NOWAK - ¹133
Illick Hall, SUNY College of Environmental Science and Forestry, One Forestry
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Over two decades of research on woody crops, combined with growing concern about environmental issues, prompted the formation of the Salix Consortium in 1994. Over 20 organizations have pooled their resources and talents to facilitate the development of willow biomass crops as a locally grown source of renewable energy and cellulose feedstock that produces multiple benefits for the Northeastern and Midwest regions of the United States. Interest in this system continues to grow and willow biomass research and demonstration trials are now located in seven states and southern Quebec. Planting stock production has increased to almost 1.5 million cuttings per year. In 1998 and 1999 over 300 acres of willow biomass crops were established in western New York in close proximity to a 400MW coal-fired power plant. An additional 300 acres has been prepared for planting in the spring of 2000. The newly acquired Step planter has increased planting efficiency by over 300%. The power plant is being retrofit for co-firing wood biomass with coal, with initial tests scheduled for the spring of 2000. Continuing research gains in crop yields and cost reductions, and supportive state and national policies that value the environmental and rural development benefits, will be essential to making a commercial willow biomass enterprise successful.

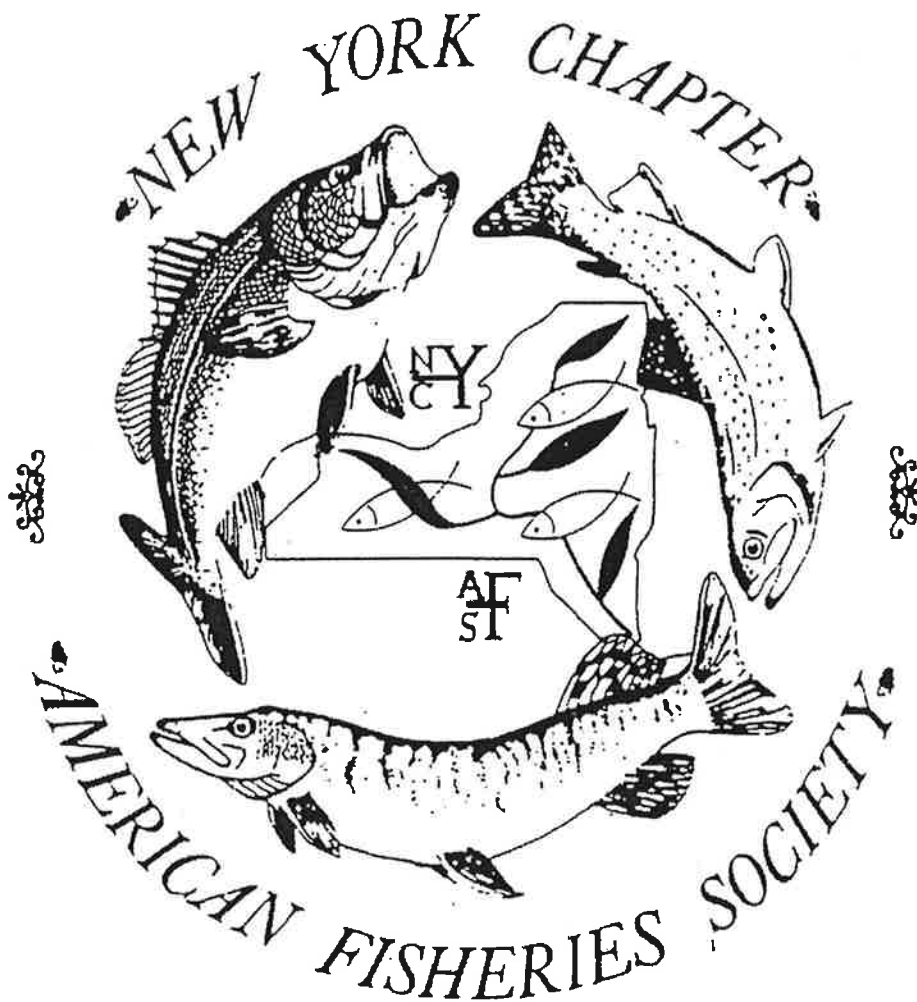
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Compensatory Mechanisms: Implications for Sea Lamprey Control

ADAM ZERRENNER¹ and J. ELLEN MARSDEN - ¹M.S. Candidate, School of Natural Resources, University of Vermont, Burlington, VT 05401. Phone: 802-951-6313, Fax: 802-951-6315. E-mail: adam.zerrenner@uvm.edu.

Sea lamprey (*Petromyzon marinus*) is an exotic species in Lake Champlain and the Great Lakes which severely reduces the number of salmonids in the fishery. In Lake Champlain, an eight year experimental sea lamprey control program was developed in order to reduce the population of sea lamprey. The program is primarily dependent upon pesticides that are applied to streams at four year intervals to kill sea lamprey larvae. In this study, the effects of sea lamprey control on larval lamprey life history characteristics were compared between a treated stream, Lewis Creek, four years after treatment and the untreated Pike River and Morpion Stream. In each stream adult sea lamprey spawning habitat and larval habitat were measured at 100 transects. Sea lamprey larval density was measured using an ABP-2 backpack electro-fisher at every other transect. Data from larval sampling were extrapolated to determine larval density and age and length at which larvae begin metamorphosis to the parasitic stage. Larval sea lamprey density was 4.9 larvae/m² in Lewis Creek, 1.27 larvae/m² in Morpion Stream and 0.8 larvae/m² in Pike River. Age and size distributions were skewed toward smaller larvae in Lewis Creek relative to the other two streams. Mean length at metamorphosis was larger in the Pike River/Morpion Stream (143 mm) than in Lewis Creek 130 mm (p<0.0001). Length at metamorphosis in Lewis Creek decreased from the pretreatment mean of 168 mm (p<0.0001). Age at metamorphosis in the Pike River/Morpion Stream was 5+ for all larvae and 4+ in Lewis Creek for 75% of the larvae and 5+ for 25%. The results of this study indicates that sea lamprey control may increase growth of larval sea lamprey after treatment which in turn decreases age at metamorphosis. Fishery managers should be aware that sea lamprey control may create conditions for earlier metamorphosis and that the control program may select for those life history characteristics in the long term.



**New York Chapter
American Fisheries
Society – Newsletter**

December 2000

New York Chapter Officers

2000-2001

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President-elect: John M. Farrell

Past President: Allen Peterson

Secretary-Treasurer: John Homa, Jr.

PUBLICATION STATEMENT

Title:	New York Chapter American Fisheries Society Newsletter
Issue Date:	December 1, 2000
Frequency:	The NYCAFS Newsletter is published three times annually: March-April (Spring Edition), July-August (Summer Edition), and November-December (Winter Edition)
Newsletter Editor:	Daniel Josephson Cornell University P.O. Box 1124 Old Forge, NY 13420 (315) 369-6781 dcj3@cornell.edu

flows, water level manipulations, water quality, and fish and wildlife habitats. Dave also served as a senior environmental specialist for the Virginia Department of Transportation where he evaluated the environmental impacts to streams caused by the construction of bridges and the impacts to wetlands caused by the placement of fill. Currently, Dave is employed as a fish and wildlife biologist for the U.S. Fish and Wildlife Service in Cortland, NY. Much of Dave's duties involve instream flow evaluation, wetland mitigation, water quality protection and maintenance, water level manipulations, fish passage and entrainment, and recreational use and access. Dave has been an active member of the New York Chapter since 1990 and has chaired the Resolution and Environmental Concerns Committees. He would appreciate the opportunity to serve the Chapter as its president.

Dr. Paul Bowser Elected as President of the AFS Fish Health Section

In the recent election of officers for the Fish Health Section of the American Fisheries Society, Paul Bowser was elected to the office of Vice President. He will assume that office at the Annual Meeting of the Fish Health Section in Pensacola, FL on 6-8 September 2000. In 2001 and 2002, he will assume the office of President-elect and President, respectively. Dr. Bowser is a Professor of Aquatic Animal Medicine at the College of Veterinary Medicine, Cornell University, where he is responsible for the activities of the Aquatic Animal Health Program. Dr. Bowser has been a member of the American Fisheries Society since 1970 and has been certified as a Fish Pathologist by the Fish Health Section/AFS since 1983.

Dr. Bowser can be contacted at:

Aquatic Animal Health Program
Department of Microbiology and Immunology
College of Veterinary Medicine
Cornell University
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TEL (607) 253-3365
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Aquatic Animal Health Program:
web.vet.cornell.edu/Public/FishDisease/AquaticProg/

AQUAVET Program:
web.vet.cornell.edu/public/aquavet/

Annual Summer Workshop Greeted a Packed House

By Tom Brooking, Cornell Biological Field Station

The NY Chapter of the American Fisheries Society hosted two Aquatic Plant Identification Workshops during August 2000 at the Cornell Biological Field Station on Oneida Lake, NY. The workshops focused on identification of the most common aquatic macrophytes found in lakes and ponds in New York State, with particular attention to those species of importance to fisheries biologists. Invasive species and native plants were covered, including submerged, emergent, and wetland species.

Workshop Overview

The workshop was taught by **Don Leopold**, Plant Ecologist at the College of Environmental Science and Forestry at Syracuse (SUNY-ESF), and **Bob Johnson** of the Cornell University Research Ponds, **John Farrell** of SUNY-ESF Thousand Islands Biological Station, and **Bruce Gillman** of Finger Lakes Community College, and **Kim Farrell** of the USDA NRCS. These individuals did an excellent job of providing background information on plant ecology, habitat preferences, and importance to fish species. The workshop began with a short underwater video to set the stage for the workshop, and give participants a true fish-eye view of the aquatic world. This was followed by several excellent slide presentations by Don Leopold and Bruce Gillman, covering identification of wetland plants, submerged plants, and emergent vegetation. Bob Johnson then provided some very valuable information on topics such as control of nuisance aquatic plants, invasive species, management methods, and biological controls. To wrap up the morning sessions, John Farrell and Kim Farrell gave presentations on the value of aquatic plants to fish species, including physical cover, nursery areas, sediment stabilization, and effects on water chemistry. These talks were followed by a hearty lunch (we all know fisheries people can eat!).

In the afternoon, people were divided into several groups. One group learned key identification features on labeled plant specimens in the lab. We were lucky enough to have an excellent collection of live specimens which were assembled by the instructors. People could then reinforce and nurture their identification skills in the second group, which was a guided field excursion through the Cornell Field Station property along a nature trail. This trail led through many habitats, including uplands, old field habitat, wetlands, swamps, lowland timber, and along the lakeshore. People were then put to the real field test, where they were given buckets of mixed vegetation collected

131st AFS Annual Meeting, August 19-23, 2001

Plaza Hotel and Convention Center, Pheonix, Arizona.

Contact: Betsy Fritz; 301/897-8616, ext. 212;
bfritz@fisheries.org

Wanted

Web Pearsall writes:

Nominations Sought:

Its not too late to nominate someone for a Chapter Award. The Professional Incentives Committee is soliciting nominations for the Chapter's "Professional Achievement" and "Honorary Member" awards. *The Professional Achievement Award* is presented to an individual who has provided exceptional value to the profession beyond Chapter duties. *Honorary Membership* is presented to long-standing Chapter members who have contributed significantly to the Chapter.

Please take a few minutes and nominate a deserving person. Send your nominations along with a short bio-sketch by December 31, 2000 to Web Pearsall at wepearsa@gw.dec.state.ny.us

or

NYSDEC Region 8 Fisheries
6274 East Avon-Lima Road
Avon, New York 14414
716-226-5339

Recent Theses

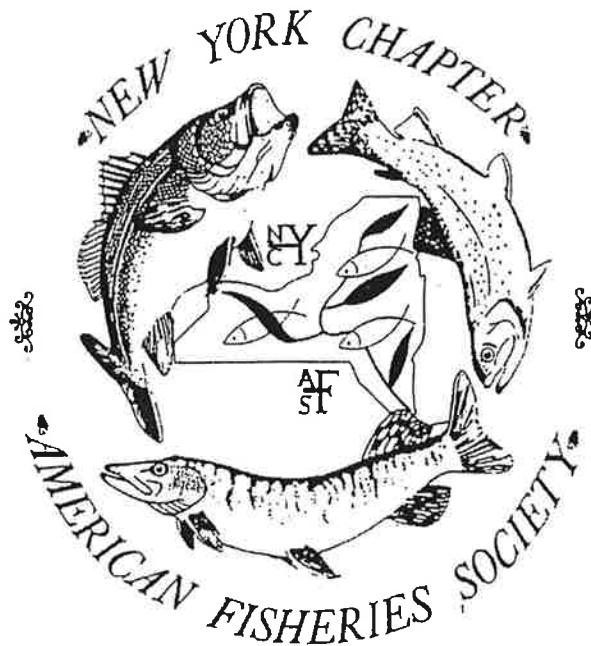
Cooper, John E. Comparative development and ecology of northern pike *Esox lucius* and muskellunge *E. masquinongy* eggs and larvae in the upper St. Lawrence River and implications of changes in historical spawning habitat.

Thesis Abstract

Habitat alterations and physical adaptations putatively advantageous to northern pike *Esox lucius* have been proposed as probable causes for the relative population size changes of northern pike and muskellunge *E.*

masquinongy. Area estimates were made of historical and recent spawning habitat to test the hypotheses that spawning habitat and location of spawning have changed over time. Development and growth of eggs and larvae under varying regimes of temperature and diet were examined to test the hypotheses that northern pike larvae grow faster than muskellunge larvae, that adhesive papillae are present only in northern pike larvae, and that northern pike eggs and larvae are more tolerant of colder water than are muskellunge eggs and larvae. The effect of changes in spawning habitat on relative time of occurrence of *Esox*, zooplankton, and forage fish was examined in three embayments of the upper St. Lawrence River. Estimated hectares of shallow emergent vegetation declined by an average of 84%, and hectares of *Typha* increased by an average of 46% from 1948 to 1995. Eggs of both species were adhesive until water hardening. Larvae of both species possessed adhesive papillae, but muskellunge used their papillae for less time than did northern pike. Northern pike larvae attained various developmental characters at an earlier age than did muskellunge in controlled and varying water temperatures. Growth of most body structures was similar but snout length was greater in muskellunge larvae. Northern pike larvae grew faster than muskellunge larvae in length and weight on diets of *Artemia* and fish larvae. Both species grew faster on fish larvae and could consume fish larvae as a first food. No transition from zooplankton was necessary. Cladocerans dominated the zooplankton with *Polyphemus* and *Diaphanasoma* being more abundant than other taxa. Yellow perch *Perca flavescens* dominated the fish larvae accounting for 93% of the total. Overall density of fish larvae was 10/m³. Copepods were the primary prey taxa of fish larvae. Northern pike and muskellunge larvae (collected as eggs) were estimated to be capable of feeding on fish larvae during or near to the end of the peak forage fish density in one bay while both species were at this condition one week prior to the peak forage fish density in another bay.

Author's Name in full:	John Edwin Cooper
Candidate for the degree of:	Doctor of Philosophy
Date:	June 2000
Major Professor:	Dr. Robert G. Werner SUNY-ESF



FINAL CALL FOR PAPERS

Theme : "Large Scale Weather Effects and Variability on NYS Fisheries"

Please submit abstracts (250 words or less) indicating author(s), title, student or professional status, paper or poster, as well as the presenting author's address, phone number, and email address. The abstracts should be one page long, single-spaced, and with one inch margins. Electronic submissions of abstracts are preferred; however, faxes or hard copies will also be accepted. Please submit abstracts to both of the persons listed below:

Dr. Don Stewart
1 Forestry Drive
SUNY-ESF
Syracuse, NY 13210

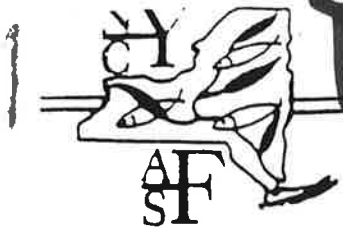
Email: djstewar@mailbox.syr.edu
Fax: 315-470-6934
Phone: 315-470-6924

Allen Peterson
130 Genesis Court
Owego, NY 13827

Email: ampeterson@nyseg.com
Fax: 607-762-7072
Phone: 607-762-8457

Papers and posters may address any fisheries related topic and they do not need to be theme related.

The Deadline for Abstract Submissions is December 29, 2000.



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NEW YORK CHAPTER - AMERICAN FISHERIES SOCIETY

NEW YORK CHAPTER



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AMERICAN FISHERIES SOCIETY

TO THIS COPY

**MEMBERSHIP
DIRECTORY**

1998-1999

You will notice that the directory provides a list of the current members of the New York Chapter, many of the member's telephone numbers are missing. This is because many members pay their Chapter dues to the Parent Society along with their Parent Society dues. When the Parent Society notifies the Chapter of who they have collected Chapter dues for, their list does not include telephone numbers. If your telephone number and E-mail address is not included in the directory, please call or write the Secretary/Treasurer and provide that information. In 1999 we have started to include E-mail addresses. Thanks.

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HAJE, ROY L. EN-Consultants	33 TULIP HILL LANE CENTEREACH, NY 11720	(H)(516) 732-6501 (W)(516) 283-6360 (E)	98	
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HURST, STEPHEN S. NYSDEC	2143 Berne Altamont Road Altamont, NY 12009	(H) (W) (E)	98
HURST, THOMAS P.	MAR SCI RES CTR SUNY AT STONY BROOK STONY BROOK, NY 11794	(H) (W) (E)	97S
HYATT, WILLIAM A	42 KENNETH DR GLASTONBURY, CT 06033	(H) (W) (E)	98
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JIRKA, KURT ICHTHYOLOGICAL	Ichthyological Associates, Inc. 50 LUDLOWVILLE RD. LANSING, NY 14882	(H)(607) 539-6635 (W)(607) 533-8801 (E)	98
JOHNSON, JAMES-EMILY	1781 RUSSELLS LANDING SKANEATELES, NY 1311152	(H) (W) (E)	98
JOLLIFF, THOMAS M	BEDFORD CORNERS RD CAPE VINCENT, NY 13618	(H) (W) (E)	98
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Application for Membership
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Name: Randy Vaas Regular (\$10.00) Student (\$5.00) _____
Address: 22806 Fralick Road Student applications must be endorsed by a
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City/State/Zip: Watertown, NY 13601
Employer/Affiliation/School _____
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KEY CONTACTS

Program Chairs:

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Phone: (518) 457-7928; e-mail: mswoytha@gw.dec.state.ny.us

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Conference Coordinator:

Art Newell
NY State Department of Environmental Conservation
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SESSION CONTACTS

WILDLIFE

Bob Inslemann
NYSDEC - Bureau of Wildlife
Route 86, P.O. Box 296
Ray Brook, NY 12977-0296
(518) 897-1289
rainsler@gw.dec.state.ny.us

Technical sessions address all wildlife conservation research and management applications.

MARINE FISHERIES

Byron Young
NYSDEC - Bureau of Marine Resources
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East Setauket, NY 11733
(631) 444-0430
bhyoung@gw.dec.state.ny.us

Technical sessions will address marine and anadromous fish research, stock assessment, habitat protection, management and culture.

CONSERVATION LAW ENFORCEMENT

Captain Carol L. Drury
NYSDEC - Division of Law Enforcement
Route 86, P.O. Box 296
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(518) 897-1324
cldrury@gw.dec.state.ny.us

The role, practice and implementation of law enforcement techniques and related matters in fish and wildlife conservation.

CONSERVATION ENGINEERING

Tom Miller
NYSDEC - Division of Operations
50 Wolf Road
Albany, NY 12233-5252
(518) 457-1216
tmmiller@gw.dec.state.ny.us

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Received: from Pcornell (ip-209-23-104-46.modem.logical.net [209.23.104.46] (may be forged)) by telnet.net (8.9.3/8.9.3) with SMTP id HAA32760;

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Received: from Pcornell (ip-209-23-104-46.modem.logical.net [209.23.104.46] (may be forged)) by telnet.net (8.9.3/8.9.3) with SMTP id HAA32760;

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Received: from Pcornell (ip-209-23-104-46.modem.logical.net [209.23.104.46] (may be forged)) by telnet.net (8.9.3/8.9.3) with SMTP id HAA32760;

Received: from Pcornell (ip-209-23-104-46.modem.logical.net [209.23.104.46] (may be forged)) by telnet.net (8.9.3/8.9.3) with SMTP id HAA32760;

Received: from Pcornell (ip-209-23-104-46.modem.logical.net [209.23.104.46] (may be forged)) by telnet.net (8.9.3/8.9.3) with SMTP id HAA32760;

Received: from Pcornell (ip-209-23-104-46.modem.logical.net [209.23.104.46] (may be forged)) by telnet.net (8.9.3/8.9.3) with SMTP id HAA32760;

John:
 I note that we pay for the air fare. At this point, we don't have many other options unless we want to loose these speakers for the meeting.
 Dan
 At 05:45 PM 1/11/01 EST, you wrote:
 > Don, Dan, John F.
 > I just talked to Allen about this, this is not an ideal situation, but
 > the Chapter should be able to cover these costs.
 > The workshop broke even this year, and Don has not taken travel dollars. We
 > did spend \$500 dollars (not in the 2000 budget) for Patty T. to finish the
 > walleye project, but that was previously allocated (1999).
 > We should be able to cover the costs of these two tickets in order to keep a
 > quality program.
 > I am looking for concurrence from each of you.

Subject: Re: Air fare NH
 Date: 1/12/2001 7:58:41 AM Eastern Standard Time
 From: dcj3@cornell.edu (Daniel Josephson)
 To: lalansing@aol.com (John Homa)
 Cc: ampeter@nyseg.com (Allen Peterson), djstewart@mailbox.syr.edu (Don Stewart), jmfarr@cornell.edu (John Farrell)

Subject: RE: Air fare NH

Date: 1/12/2001 4:06:27 PM Eastern Standard Time

From: djstewar@mailbox.syr.edu (Donald J. Stewart)

To: bary.rock@unh.edu (Bary Rock), lalansing@aol.com

CC: ampeterson@nyseg.com, dcj3@cornell.edu, jmfarrrel@mailbox.syr.edu

Hi Bary, We can cover at least one of the tickets with no difficulty so charge ahead on that basis. You need to buy the ticket and then get reimbursed from John Homa when you submit receipts. If the alternative possibility for covering the second ticket falls through, get back to us and we will see if that is also possible. Best wishes, Don Stewart, President NYCAFS.

-----Original Message-----

From: Bary Rock [mailto:bary.rock@unh.edu]

Sent: Friday, January 12, 2001 3:49 PM

To: lalansing@aol.com

CC: ampeterson@nyseg.com; djstewar@mailbox.syr.edu; dcj3@cornell.edu;

jmfarrrel@mailbox.syr.edu; bary.rock@unh.edu

Subject: Re: Air fare NH

Gentleman:

Since I am the cause of this unfortunate situation (had I been able to participate, I would have been willing to drive), I am willing to ask for airfare support for the two tickets from the National Assessment Coordinating Office (NACO) in DC. Shall I ask? Could the AFS cover one or two, if the NACO could cover the other one?

I am very sorry for the mix up. I thought sure that the meeting was Feb 18-20.

Bary Rock

Coordinator, New England Regional Assessment

>Don, Dan, John F.

> I just talked to Allen about this, this is not an ideal situation, but

>the Chapter should be able to cover these costs.

>The workshop broke even this year, and Don has not taken travel dollars.

We

>did spend \$500 dollars (not in the 2000 budget) for Patty T. to finish the

>walleys project, but that was previously allocated (1999).

>We should be able to cover the costs of these two tickets in order to keep

a

>quality program.

>I say yes but am looking for concurrence from each of you.

>Thanks

John H.

return-Path: <djstewart@mailbox.syr.edu>
Received: from rly-xa04.mx.aol.com [172.20.105.73] by air-xa02.mail.aol.com (V77.31) with ESMTP; Fri, 12 Jan 2001 16:06:27 -0500
Received: from syr.edu [128.230.1.49] by rly-xa04.mx.aol.com (V77.27) with ESMTP; Fri, 12 Jan 2001 16:06:15 -0500

Received: from fishco (fishco.est.edu [149.119.5.14])
by syr.edu (8.9.3/8.9.3) with SMTP id QAA10314;
Fri, 12 Jan 2001 16:05:52 -0500 (EST)
From: "Donald J. Stewart" <djstewart@mailbox.syr.edu>
To: "Barry Rock" <barry.rock@unh.edu>, <ALansing@aol.com>
Cc: <ampetererson@nyseg.com>, <dcj3@cornell.edu>, <jmfarrel@mailbox.syr.edu>
Subject: RE: Air fare NH
Date: Fri, 12 Jan 2001 16:04:53 -0500
Message-ID: <000601c07cddb\$44cdd23a0\$0e057795@est.edu>
MIME-Version: 1.0

Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: 7bit
X-Priority: 3 (Normal)
X-MSMail-Priority: Normal
X-Mailer: Microsoft Outlook 8.5, Build 4.71.2173.0
In-Reply-To: <10311070bb6851bdf057@[132.177.246.79]>
Importance: Normal
X-MimeOLE: Produced By Microsoft MimeOLE V5.50.4522.1200

Subject: RE: Air fare NH

Date: 1/12/2001 4:02:26 PM Eastern Standard Time

From: djstewart@mailbox.syr.edu (Donald J. Stewart)

To: lalansing@aol.com

Hi, I would vote for covering the costs -- if the speaker can come up with one of the tickets, then it should be reasonable for us to cover the other one. In the worst case, we could probably do both without breaking the budget. Cheers, Don

-----Original Message-----

From: lalansing@aol.com [mailto:lalansing@aol.com]

Sent: Thursday, January 11, 2001 5:45 PM

To: ampeterson@nyseg.com; djstewart@mailbox.syr.edu; dcj3@cornell.edu;

jmfarrrel@mailbox.syr.edu

Cc: barry.rock@unh.edu

Subject: Re: Air fare NH

Don, Dan, John F.

I just talked to Allen about this, this is not an ideal situation, but the Chapter should be able to cover these costs.

The workshop broke even this year, and Don has not taken travel dollars. We did spend \$500 dollars (not in the 2000 budget) for Patty T. to finish the walleye project, but that was previously allocated (1999).

, should be able to cover the costs of these two tickets in order to keep a quality program.

I say yes but am looking for concurrence from each of you.

Thanks
John H.

----- Headers -----

Return-Path: <djstewart@mailbox.syr.edu>

Received: from rly-ye02.mx.aol.com (rly-ye02.mail.aol.com [172.18.151.199]) by air-ye01.mail.aol.com (V77.14) with ESMTP;

Fri, 12 Jan 2001 16:02:26 -0500

Received: from syr.edu (syr.edu [128.230.1.49]) by rly-ye02.mx.aol.com (V77.27) with ESMTP; Fri, 12 Jan 2001 16:02:19 1900

Received: from fishco (fishco.est.edu [149.119.5.14])

by syr.edu (8.9.3/8.9.3) with SMTP id QAA09594

for <lalansing@aol.com>; Fri, 12 Jan 2001 16:02:17 -0500 (EST)

From: "Donald J. Stewart" <djstewart@mailbox.syr.edu>

To: <lalansing@aol.com>

Subject: RE: Air fare NH

Date: Fri, 12 Jan 2001 16:01:18 -0500

Message-ID: <000501c07cda\$cfa9cb60\$0e057795@est.edu>

MIME-Version: 1.0

Content-Type: text/plain;

charset="iso-8859-1"

Content-Transfer-Encoding: 7bit

X-Priority: 3 (Normal)

X-MSMail-Priority: Normal

X-Mailer: Microsoft Outlook 8.5, Build 4.71.2173.0

In-Reply-To: <4a.f81abb.278f916c@aol.com>

Importance: Normal

MimeOLE: Produced By Microsoft MimeOLE V5.50.4522.1200

"031251", "12/31/2001", "USREGULAR", "Curtis", "Orvis", "45 Chapel Rd", "Amherst",
 "MA", "01002", "Fallschcc", "1.us", "(413) 253-8288",
 "001111", "12/31/2001", "USLIFE", "Joseph", "Buttner", "Dept Bio 352 Lafayette",
 Salem State College, "Salem", "MA", "01970", "Joe.buttner@salem.mass.edu", "(978) 542-6703",
 "016614", "12/31/2001", "USREGULAR", "J. Ellen", "Marsden", "School of Natural Reso",
 urces", "George D Aiken Ctr Univ VT", "Burlington", "VT", "05405-0088", "emarsden@n",
 ature.snr.uvm.edu", "(802) 656-0684", "(802) 656-8386",
 "002187", "12/31/2001", "USREGULAR", "Phillip", "Downey", "Aquatic Biological Scienc",
 es", "273 Commerce St", "Williston", "VT", "05495", "(802) 860-1638", "(802) 658",
 -3189",
 "011596", "12/31/2001", "USREGULAR", "William", "Hyatt", "42 Kenneth Dr", "Glas",
 tonbury", "CT", "06033", "William.a.hyatt@net.net", "(860) 424-3487", "(860) 424-4",
 070",
 "0047161", "12/31/2001", "USREGULAR", "Ralph", "Huddleston", "Carpenter Environ Ass",
 oc Inc", "70 Hilltop Rd", "Ramsey", "NJ", "07446-1150", "r.huddleston@cea-inviro.co",
 m", "(201) 818-4844", "(201) 818-4853",
 "041238", "12/31/2001", "USREGULAR", "Cathy", "Drew", "The River Project", "Pier 26",
 North River", "New York", "NY", "10013", "(212) 431-5787",
 "013285", "12/31/2001", "USREGULAR", "Leonard", "Houston", "26 Federal Plaza", "US A",
 rmy Corps of Engineers", "NY", "10278", "Leonard.houston@usace.army.mil", "(21",
 2) 264-2122", "(212) 264-4060",
 "008826", "12/31/2001", "USREGULAR", "Joseph", "Pane", "2265 Westchester Ave", "B",
 ronx", "NY", "10462", "jpanegw.dec.state.ny.us",
 "010300", "12/31/2001", "USREGULAR", "Barbara", "Markentine", "SUNY Maritime Coll/S",
 ci Dept", "6 Pennyfield Ave Ft Schuyler", "Bronx", "NY", "10465", "synodus@aol.com",
 ("718) 409-7365",
 "002371", "12/31/2001", "USREGULAR", "Joseph", "Rachlin", "Dept Biol Sci Lehman Co",
 liege", "250 Bedford Park Blvd W", "Bronx", "NY", "10468-1589", "rachlin@lehman.cun",
 y.edu", "(718) 960-8764", "(718) 960-8929",
 "039802", "12/31/2001", "USREGULAR", "Susan", "Metzger", "Lawler Matusky & Skelly",
 "One Blue Hill Plaza", "Pearl River", "NY", "10965", "smetzger@lmseng.com", "(914)",
 735-8300", "(914) 735-7466",
 "001420", "12/31/2001", "USLIFE", "Alan", "Wells", "Lawler Matusky & Skelly", "One B",
 lue Hill Plaza", "Pearl River", "NY", "10965", "awells@lmseng.com", "(914) 735-8300",
 ("914) 735-7466",
 "002229", "12/31/2001", "USREGULAR", "James", "Atz", "106 Bayview Ave", "Port W",
 ashington", "NY", "11050", "(516) 944-6067",
 "031320", "12/31/2001", "USREGULAR", "Anthony", "Dilernia", "58-23 196 Pl", "Fr",
 esh Meadows", "NY", "11365", "(718) 368-4558", "(718) 368-5573",
 "002327", "12/31/2001", "USREGULAR", "Robert", "Kurtz", "27 Smith St", "Valley",
 Stream", "NY", "11580", "robert.j.kurtz@usace.army.mil", "(212) 264-2230", "(212) 2",
 64-6040",
 "004847", "12/31/2001", "USREGULAR", "Roy", "Haje", "33 Tulip Hill Ln", "Centerea",
 ch", "NY", "11720", "(516) 283-6360", "(516) 283-6136",
 "010488", "12/31/2001", "USREGULAR", "Norman", "Soule", "PO Box 535 Rt 25A", "C",
 old Spring Harbor", "NY", "11724", "nsoule_cshna@juno.com", "(516) 692-6768", "(51",
 6) 692-6769",
 "018286", "12/31/2001", "USREGULAR", "Kim", "McKown", "16 Birchwood Ave", "E Seta",
 uket", "NY", "11733", "kamckown@gw.dec.state.ny.us", "(516) 331-9580", "(516) 444-0",
 434",
 "0047308", "12/31/2001", "USREGULAR", "Robert", "Rosen", "33 S Service Rd", "Jeri",
 cho", "NY", "11753-7555", "acquire@rosenmngmt.com", "(516) 333-2000", "(516) 333-755",
 5",
 "024856", "12/31/2001", "USREGULAR", "Laurie", "Landeau", "367 Asharoken Ave", "N",
 Northport", "NY", "11768", "(212) 683-8660",
 "002241", "12/31/2001", "USRETIRED", "Phillip", "Briggs", "62 Johnson Ave", "Say",
 ville", "NY", "11782-1202",
 "032126", "12/31/2001", "USREGULAR", "Fred", "Henson", "NYSDEC Bureau of Fisheries"

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Susan	Allen-Gil	Biology Dept Ithaca College		Ithaca	NY	14850	
Robert	Angyal	852 Buck Rd		Stone Ridge	NY	12484	(845) 256-3000
Mark	Arrigo	500 W Genesee St Apt 148		Chittenango	NY	13037	(315) 687-9544
James	Atz	106 Bayview Ave		Port Washington	NY	11050	(516) 944-6067
Barry	Baldigo	425 Jordan Rd		Troy	NY	12180	(518) 285-5605
William	Banaszewski	Finger Lakes Comm College	4355 Lake Shore Dr	Canandaigua	NY	14424	(716) 394-3500
Phillip	Briggs	62 Johnson Ave		Sayville	NY	11782-1202	
Edward	Brothers	EFS Consultants	3 Sunset W	Ithaca	NY	14850	(607) 533-7000
Joseph	Buttner	Dept Bio 352 Lafayette	Salem State College	Salem	MA	1970	(978) 542-6703
John	Cooper	1444 Co Rt 23		Constantia	NY	13044	(315) 623-9694
Mark	Cornwell	PO Box 671	PO Box 249	Cobleskill	NY	12043	(518) 255-6025
Terry	Culp	TR Culp & Assoc		Stamford	NY	12167	(607) 652-3563
Scott	Davis	2155 Sawkill-Ruby Rd		Kingston	NY	12401	(845) 382-1718
Anthony	Diermia	58-23 196 Pl		Fresh Meadow	NY	11365	(718) 368-4558
Cathy	Drew	The River Project	Pier 26 North River	New York	NY	10013	(212) 431-5787
Thomas	Field	77 Saratoga Rd		Gansevoort	NY	12831-1034	(518) 793-1282
John	Grim	1 Kerr Rd		Rhinebeck	NY	12572	(845) 876-4786
Roy	Haje	33 Tulip Hill Ln		So Setauket	NY	11720	(516) 283-6360
Kathryn	Hattala	112 Philies Bridge Rd		New Paltz	NY	12561	(914) 845-3071
James	Haynes	Dept Aquatic Ecol Biol Sci	SUNY College	Brockport	NY	14420-2973	(716) 395-5783
John	Horna	Icthyological Assoc Inc	50 Ludlowville Rd	Lansing	NY	14882	(607) 533-8801
Thomas	Hughes	28 Grove Rd		Rocky Point	NY	11778	(716) 691-5456
Thomas	Hurst	Mar Sci Res Ctr	SUNY Stony Brook	Stony Brook	NY	11794-5000	(516) 632-8659
William	Hyatt	42 Kenneth Dr		Glastonbury	CT	6033	(860) 424-3487
Brooke	Jordan	Cuba Rushford Ctr School	5476 Rte 305	Cuba	NY	14727	(716) 968-2650
Daniel	Josephson	Cornell Univ	Crosby Blvd Box 745	Old Forge	NY	13420	(315) 369-6781
Andrew	Kahnle	8 Phillips St		Nassau	NY	12123	(914) 256-3072
Walter	Keller	6 Lake St		Stamford	NY	12167	(607) 652-3143
Laurence	King	18 Sharon St		Sidney	NY	13838	(607) 563-3725
Robert	Klumb	Cornell Biol Fish Sta	900 Shackelton Point F Bridgeport	Ithaca	NY	13030	(315) 633-9243
Barbara	Knuth	DNR 122A Fernow Hall	Cornell Univ	Ithaca	NY	14853	(607) 255-2822
Clifford	Kraft	DNR Fernow Hall	Cornell Univ	Ithaca	NY	14853-3001	
Robert	Kurtz	27 Smith St		Valley Stream	NY	11580	(212) 264-2230
Tom	Lake	7 Steinhaus Ln		Wappingers Fa	NY	12590-3927	(914) 297-8935
Laurie	Landeau	367 Asharoken Ave		Northport	NY	11768	(212) 683-8660

Robert	Lange	50 Wolf Rd		Albany	NY	12233-4753	(518) 457-0581	(518) 485-5827
Brian	Lantry	PO Box 814		Cape Vincent	NY	13618 (315)	654-2147	
Karin	Limburg	Dept of Envir & Forest Biol	SUNY - CESF	Syracuse	NY	13210 (315)	470-6741	(315) 470-6934
J. Ellen	Marsden	School of Natural Resources	George D Aiken Ctr Ur-Burlington	Burlington	VT	05405-0088 (802)	656-0684	(802) 656-8386
Norman	McBride	HC 1 Rte Box 16		Stamford	NY	12167 (607)	652-7364	(607) 652-2342
Kim	McKown	16 Birchwood AVE		E Setauket	NY	11733 (516)	331-9580	(516) 444-0434
Gerald	Mikol	NY Dept Environ Conserv	270 Michigan AVE	Buffalo	NY	14203 (518)	457-6610	
Paul	Muessig	20 Campfire RD		Wallkill	NY	12589 (845)	565-8100	(845) 565-8203
Margaret	Murphy	SUNY Coll Env Sci & For	Illick Hall I Forestry DR	Syracuse	NY	13210 (315)	470-6768	(315) 463-7554
Paul	Neth	160 Juniper Dr		Ballston Spa	NY	12020 (518)	885-7792	
David	Nettles	PO Box 61		Ray Brook	NY	12977 (518)	891-4241	
Robert	O'Gorman	USGS 17 Lake St		Oswego	NY	13126 (315)	343-3951	(315) 342-8065
Joseph	Pane	2265 Westchester Ave		Bronx	NY	10462		
Bernard	Pientka	Ill Nat Hist Survey	400 17th St	Zion	IL	60099 (847)	872-8677	
Joseph	Rachlin	Dept Biol Sci Lehman College	250 Bedford Park Blvd	Bronx	NY	10468-1589 (718)	960-8764	(718) 960-8929
Robert	Rosen	33 S Service Rd		Jericho	NY	11753-7555 (516)	333-2000	(516) 333-7555
Lars	Rudstam	Cornell Bio Field Sta	900 Shackelton Point F	Bridgeport	NY	13030-9750 (315)	633-9243	(315) 633-2358
William	Schoch	PO Box 248		Ray Brook	NY	12977 (518)	897-1333	(518) 897-1370
Lawrence	Skinner	40 Edwards Rd		Wynantskill	NY	12198 (518)	457-1769	(518) 485-8424
C.	Smith	6827 Rosewood Dr		Colorado Spring, CO	CO	80918 (719)	266-4895	
Douglas	Stang	1156 Meadowdale Rd		Altamont	NY	12009-9534 (518)	457-5420	(518) 485-5827
Shannon	Stimpson	529 Wading River Rd		Manorville	NY	11959 (613)	878-9234	
Michael	Stoll	7 Greenbush St	PO Box 401	Cortland	NY	13045-0401 (607)	753-9334	(607) 753-9699
Timothy	Strakosh	2 Howard Ave		Bloomfield	NY	14469 (716)	657-5403	
Patricia	Thompson	1 Forestry Dr	243 Illick Hall	Syracuse	NY	13210 (315)	470-6949	
Anthony	VanDeValk	900 Shackelton Point Rd		Bridgeport	NY	13030 (315)	633-9243	(315) 633-2358
Barbara	Warkentine	SUNY Maritime Coll/Sci Dept	6 Pennyfield Ave Ft Sci	Bronx	NY	10465 (718)	409-7365	
Alan	Wells	Lawler Matusky & Skelly	One Blue Hill Plaza	Pearl River	NY	10965 (914)	735-8300	(914) 735-7466
Robert	Werner	2130 Lakeview Ln		Skaneateles	NY	13152 (315)	685-4750	
Carl	Widmer	6772 Italy Valley Rd		Naples	NY	14512 (716)	374-5048	
Bruce	Wilkins	DNR Fernow Hall	Cornell Univ	Ithaca	NY	14853 (607)	255-2162	(607) 255-2518
Michael	Wilkinson	44 Paul Dr		Amherst	NY	14228 (716)	851-7010	
Byron	Young	53 Highview Ln		Ridge	NY	11961 (631)	444-0436	(631) 444-0449

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acquire@rosenmgmt.com
rudstam@cornell.edu
bxschoch@gw.dec.state.ny.us
lxskinne@gw.dec.state.ny.us
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dxstang@gw.dec.state.ny.us
spsaudio@aol.com
michael-stoll@fws.gov
strakosh@excite.com
pftom01@syr.edu
ajv6@cornell.edu
synodus@aol.com
awells@lmseng.com
rgwerner@mailbox.syr.edu

btw1@cornell.edu

bhyoung@gw.dec.state.ny.us

Subject: Re: NYCASF-Membership 2000 -- Help No. 2
Date: 1/15/2001 10:28:59 AM Eastern Standard Time
From: DJB@BBL-INC.COM (DAVID BUYS)
To: lalansing@aol.com

Same way, but with no results (I never contacted anybody, and thus, was never acknowledged as a Chapter member).

<<<< lalansing@aol.com > 01/15/01 09:54AM >>>>

AFS parent has recently changed how they forward Chapter Membership information.

As per your email, I take it that you paid for your 2001 memberships at the beginning of January 2001!

Do you recall how year 2000 has handled?

Thanks again.

John H.

Please clarify

----- Headers -----
Return-Path: <DJB@BBL-INC.COM>
Received: from rly-zc03.mx.aol.com (rly-zc03.mail.aol.com [172.31.33.3]) by air-zc03.mail.aol.com (V77.31) with ESMTP; Mon, 15 Jan 2001 10:28:59 -0500
Received: from bbl-inc.com (mail.bbl-inc.com [209.177.59.177]) by rly-zc03.mx.aol.com (V77.27) with ESMTP; Mon, 15 Jan 2001 10:28:47 -0500
Received: from BBL-Message_Server by bbl-inc.com
with Novell_GroupWise; Mon, 15 Jan 2001 10:28:21 -0500
Message-Id: <sa62d0c5.054@bbl-inc.com>
X-Mailer: Novell GroupWise 5.5.4
Date: Mon, 15 Jan 2001 10:27:35 -0500
From: "DAVID BUYS" <DJB@BBL-INC.COM>
To: <lalansing@aol.com>
Subject: Re: NYCASF-Membership 2000 -- Help No. 2
Mime-Version: 1.0
Content-Type: text/plain; charset=US-ASCII
Content-Transfer-Encoding: quoted-printable
Content-Disposition: inline

Subject: RE: Recent NYCASF memberships
Date: 1/15/2001 10:58:06 AM Eastern Standard Time
Reply-to: lhutchcroft@fisheries.org
To: lalansing@aol.com

The report is not working properly. I am forwarding your request to the database manager, Jenelle Dava (dava@fisheries.org).

-----Original Message-----

From: lalansing@aol.com [mailto:lalansing@aol.com]
Sent: Monday, January 15, 2001 10:14 AM
To: lhutchcroft@fisheries.org
Subject: Re: Recent NYCASF memberships

Laura:

I looked at the file you provided, it looks like a list of NYC members who have paid for 2001. Is this correct?

My requests were specific to memberships for the year 2000. Can this information be provided?

Thanks
John H.

New York Chapter, American Fisheries Society
John Homa, Jr., Sec/Treas
c/o Ichthyological Associates, Inc.
50 Ludlowville Rd, Lansing, NY 14882
voice 607.533.8801 fax 607.533.8804

Return-Path: <lhutchcroft@fisheries.org>
Received: from rly-xa02.mail.aol.com (rly-xa02.mail.aol.com [172.20.105.71]) by air-xa02.mail.aol.com (V77.31) with ESMTP;
Mon, 15 Jan 2001 10:58:06 -0500
Received: from fisheries.org (host.fisheries.org [207.233.213.195]) by rly-xa02.mx.aol.com (V77.27) with ESMTP; Mon, 15 Jan 2001 10:57:58 -0500
Received: from Laura [192.168.0.50] by fisheries.org [207.233.213.195]
with SMTP (MDaemon.v3.1.2.R)
for <lalansing@aol.com>; Mon, 15 Jan 2001 10:51:26 -0500
Reply-To: <lhutchcroft@fisheries.org>
From: "Laura Hutchcroft" <lhutchcroft@fisheries.org>
To: <lalansing@aol.com>
Subject: RE: Recent NYCASF memberships
Date: Mon, 15 Jan 2001 10:58:01 -0500
Message-ID: <007901c07f0b\$10eb63a0\$3200a8c0@Wingate>
MIME-Version: 1.0
Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

ORIGINAL

ubj: RE: NY fisheries - scheduling of future meetings

date: 1/18/2001 8:26:35 AM Eastern Standard Time

to: ampeter@nysseg.com

o: fishcher@localnet.com, ialansing@aol.com, lgrl@cornell.edu, hasimont@gw.dec.state.ny.us, dave_bryson@fws.gov, jstewart@mailbox.syr.edu, pthom01@mailbox.syr.edu, jmfarel@mailbox.syr.edu, dklemont@gw.dec.state.ny.us, dcj3@cornell.edu, jnettie@gw.dec.state.ny.us, dmcariso@gw.dec.state.ny.us, weparsa@gw.dec.state.ny.us, dcj3@cornell.edu

Everybody take note of comment below regarding field trips for college students. We may want to keep that in mind when scheduling future meetings.

Allen Peterson

ampeter@nysseg.com

607-762-7072 phone

607-762-8457 fax

----- Forwarded by Allen Peterson on 01/18/01 08:24 AM -----

"Foster, John

R"

To: Allen Peterson@NYSEG
cc: <fosterj@coble
skill.edu>
Subject: RE: NY fisheries

01/17/01 04:58

PM

Yes, we can swing \$20. The students and I greatly appreciate your help.

This year the meeting is during our first week of classes. Since we aren't supposed to take trips during the first and last weeks of class, this group of students will be smaller than usual.

Thanks again for your assistance.

John

-----Original Message-----

From: ampeter@nysseg.com [mailto:ampeter@nysseg.com]
Sent: Wednesday, January 17, 2001 3:32 PM
To: Foster, John R
Subject: NY fisheries

Hi! Dr. Foster:

We will lose money at \$10 a student. Could they swing \$20? Please let me

I, Thanks.

Allen Peterson

NYSEG

ampeter@nysseg.com

-----Headers-----
 Return-Path: <ampeter@nyseg.com>
 Received: from rly-zd05.mx.aol.com (rly-zd05.mail.aol.com [172.31.33.229]) by air-zd03.mail.aol.com (v77.31) with ESMTP; Thu, 18 Jan 2001 08:26:35 -0500
 Received: from lgoSMTP1.nyseg.com (mta.nyseg.com [199.98.200.7]) by rly-zd05.mx.aol.com (v77.27) with ESMTP; Thu, 18 Jan 2001 08:26:20 -0500
 Subject: RE: NY fisheries - scheduling of future meetings
 To: fishchet@localnet.com, lalansing@aol.com, lgr1@cornell.edu, hasimoni@gw.dec.state.ny.us, dave_bryson@fws.gov, djstewart@mailbox.syr.edu, pthom01@mailbox.syr.edu, jmfarrrel@mailbox.syr.edu, dklemmon@gw.dec.state.ny.us, dcnettle@gw.dec.state.ny.us, dmcarlso@gw.dec.state.ny.us, wepearsa@gw.dec.state.ny.us, dcj3@cornell.eduX-Mailer: Lotus Notes Release 5.0.2c February 2, 2000
 Message-ID: <OF17C375D0.D6AB1B99-ON852569D8.0049AFC9@nyseg.com>
 From: ampeter@nyseg.com
 Date: Thu, 18 Jan 2001 08:26:09 -0500
 X-MIMETrack: Serialize by Router on lgoSMTP1/INTERNET(Release 5.0.2c February 2, 2000) at 01/18/2001 08:30:11 AM
 MIME-Version: 1.0
 Content-type: text/plain; charset=us-ascii

F A X

FACULTY OF ENVIRONMENTAL AND FOREST BIOLOGY
SUNY COLLEGE OF ENVIRONMENTAL SCIENCE AND FORESTRY
SYRACUSE, NEW YORK, USA 13210

FAX RETURN: (315) 470-6934

TO: John Huma

FROM: Margaret Murphy

DATE: 9/19/00

MESSAGE:

John -

Can you send the information to Cabela's as
requested in attached letter?

Thanks,

Margaret



WORLD'S FOREMOST OUTFITTER®
HUNTING, FISHING AND OUTDOOR GEAR

Friday, September 15, 2000

Dear Sir or Madam:

Thank you for your interest in Cabela's and Cabela's products. We have received your request and would be happy to support your organization with a product donation. We have changed our policy so please read this carefully.

In exchange for the donation, Cabela's requests a list of your organization's NEW MEMBERS. THAT IS, THE MEMBERS WHO HAVE SIGNED ON IN THE PAST YEAR OR SINCE OUR LAST CORRESPONDENCE. This list should include names and complete addresses of new members with the chapter name and total number of members listed at the top. By not including the names and addresses of former members * names you have previously provided * you will help us prevent duplication.

Also, for your donation to be processed in a prompt manner, Cabela's requires A COPY OF YOUR LETTER FROM THE INTERNAL REVENUE SERVICE STATING YOUR ORGANIZATION'S IRS 501 (c) (3) TAX-EXEMPT STATUS. Note: This is not your Employer Identification Number or tax-exemption certificate, but the letter from the IRS notifying you of your tax-exempt status.

Once these items are received by Cabela's, your donation request will be processed and sent via express UPS. (For prompt delivery, ensure that the address provided is serviced by UPS). Also, please note that the product to be donated will be selected by Cabela's and is based upon the overall size of your membership, not the number of new members. Please understand that Cabela's supports thousands of organizations and cannot consider requests for specific items.

Please send all correspondence to my attention at the address listed below or via e mail at lnestor@cabelas.com. Again, thank you for thinking Cabela's and our products. We are proud to support organizations such as yours and wish continued success to you and your organization.

m

Sincerely,

LaNette Nestor
Donations Coordinator

MEMORANDUM

Date: October 9, 2000

From: John Homa, Jr., Secretary/Treasurer
New York Chapter American Fisheries Society
c/o Ichthyological Associates, Inc.
50 Ludlowville Road, Lansing, NY 14882
Phone: (607) 533-8801/Fax: (607) 533-8804

To: LaNette Nestor
Donations Coordinator
Cabela's
One Cabela Drive
Sidney, Nebraska 69160

Re: Membership List (New Members 2000)
IRS Letter

As per your request of September 15, 2000 find enclosed:
List of new members from 1 January to 1 October 2000.
IRS Group Ruling letter, November 28, 1972

This is in support of Margaret Murphy's request for your organization's support of the New York Chapter American Fisheries Society.

I wish to thank you in advance for your consideration. If you have any questions please do not hesitate to call

Sincerely,



John Homa, Jr. NYCAFS, Sec./Treas.

cc: M. Murphy

nycafs2000a/M-ln100a.doc

&A

NEW YORK CHAPTER AMERICAN FISHERIES SOCIETY
 TOTAL MEMBERSHIP YEAR END 1999 WAS 235
 NEW MEMBERS IN YEAR 2000 FOLLOWS

PARENT MEMBER NO.	NAME	AFFILIATION	ZIP	ADDRESS 1	ADDRESS ADD 2	CITY	NEW YEAR 2000
	GULLIGAN, WILLIAM	NYSDEC	14787		344 E. MAIN ST.	WESTFIELD, NY 14787	2000
	GIBBONS, NICK	NYSDEC	11746		5 PEBBLE LANE	HUNTINGTON STA., NY 11746	2000
	KING, LARRY A.	NYSDEC	14757		5820 PRENDERGAST BLVD.	MAYVILLE, NY 14757	2000
	MANN-KLAGER, DIANE	USF&WS	13045		3817 Luker Rd.	Cortland, NY 13045	2000
	McKenra, Jr., James E.	USGS	13045	USFWS	3075 Gracie Road	Cortland, NY 13045	2000
	WIDMER, CARL C	NYS DEC (RET)	14512	USGS - Tunison Laboratory of Aquatic Science	6772 ITALY VALLEY ROAD	NAPLES, NY 14512	2000
	ATKINSON, BILL	SUNY-ESF	13210		1204 Lancaster Ave.	Syracuse, NY 13210	2000
	SANDERSON, MATT	NYSDEC-REG 8	14414		6274 East Avon Road	Avon, NY 14414	2000
	SCHIAYONE, ALBERT	NYSDEC	13601		317 WASHINGTON, ST	WATERTOWN, NY 13601	2000
	HAMMERS, BRAD	NYSDEC	14414-9519		6274 East Avon Road	Avon, NY 14414	2000
	KEELER, SHAUN	NYSDEC	12233		50 Wolf Road	Albany, NY 12233	2000
	FLACK, FRANK M.	NYS DEC	13601		122 MICHIGAN AVE	WATERTOWN, NY 13601	2000

Content-Transfer-Encoding: 7bit
X-Mailer: AOL 5.0 for Windows sub 120

Margaret:

I'll send the materials to Cabela's.

Sorry to be such a stick in the mud about this, but I know the attitude of some of our existing (older) members (Although, interesting enough the request from Cabela's doesn't request information on those)!

Thank you very much for your help on this.

John H.

----- Headers -----

Return-Path: <>

Received: from rly-ye05.mx.aol.com (rly-ye05.mail.aol.com [172.18.151.202]) by air-ye03.mail.aol.com (v76_r1.3) with ESMTP; Fri, 22 Sep 2000 08:46:27 -0400

Received: from imo-d03.mx.aol.com (imo-d03.mx.aol.com [205.188.157.35]) by rly-ye05.mx.aol.com (v75_b3.9) with ESMTP; Fri, 22 Sep 2000 08:33:07 -0400

Received: from localhost (localhost)
by imo-d03.mx.aol.com (8.8.8/8.8.8/AOL-5.0.0)
with internal id IAA10659;
Fri, 22 Sep 2000 08:33:07 -0400 (EDT)

Date: Fri, 22 Sep 2000 08:33:07 -0400 (EDT)

From: Mail Delivery Subsystem <MAILER-DAEMON@aol.com>

Subject: Returned mail: User unknown

Message-Id: <200009221233.IAA10659@imo-d03.mx.aol.com>

To: IALansing@aol.com

MIME-Version: 1.0

Content-Type: multipart/report; report-type=delivery-status;
boundary="IAA10659.969625987/imo-d03.mx.aol.com"

Auto-Submitted: auto-generated (failure)

Subj: **Cabela's -- Memership list/IRS letter**
Date: 9/20/2000 1:36:25 PM Eastern Daylight Time
n: IALansing
To: fishchef@localnet.com
BCC: IALansing

Margaret:

I have a personal problem providing anyone's name for a mailing list. Should we circulate this through EXCOM?
Is the request for the NYC or student subunit? Our IRS letter is for the NYC, I'm not sure if this makes any difference other than for a cover letter to Cabela's.

I also appreciate your effort to get Cabela's to support the Chapter.

Thanks
John H.

To: ialansing@aol.com
From: "harriette@awra.org" <R-6-63497-101729-2-823-US2-5E1F17D9@xmr3.com>
Subject: AWRA SURVEY
Mime-Version: 1.0
Message-Id: <I-9-63497-101729-2-823-US2-B0B3AE51@xmr3.com>
Content-Type: text/plain; charset=ISO-8859-1
Content-Transfer-Encoding: 7bit
Date: Thu, 21 Sep 2000 12:08:41 -0400

ORIGINAL

Subj: **Tri-society final finance statement**
Date: 8/17/2000 3:25:19 PM Eastern Daylight Time
From: ampeterson@nyseg.com
To: ialansing@aol.com, djstewar@mailbox.syr.edu

File: Trisocie.zip (4453 bytes)
DL Time (45333 bps): < 1 minute

Please see attachments. They tell you how to get our annual meeting profits from Cornell. Allen

----- Forwarded by Allen Peterson on 08/17/2000 03:10 PM

"Peter J. Smallidge" <pjs23@cornell.edu> on 08/17/2000 02:50:50 PM

To: Gary Robert Goff <grg3@cornell.edu>, dinnie@aol.com (D. Sloman), dcj3@cornell.edu (Dan Josephson), gfmattfe@gw.dec.state.ny.us (G. Mattfeld), mjmatthe@gw.dec.state.ny.us (M. Mathews), Allen Peterson@NYSEG, mdlowery@gw.dec.state.ny.us (Mark Lowery), lgr1@cornell.edu (Lars Rudstam), Margaret Murphy <fishchef@localnet.com>, dmsincla@gw.dec.state.ny.us (Dave Sinclair), djstewar@mailbox.syr.edu, "Jim Daley" <jgdaley@gw.dec.state.ny.us>, Fred Munk <fxmunk@gw.dec.state.ny.us>

Subject: Tri-society final finance statement

----- Headers -----

Return-Path: <ampeterson@nyseg.com>
Received: from rly-zd01.mx.aol.com (rly-zd01.mail.aol.com [172.31.33.225]) by air-zd04.mail.aol.com (v75_b3.11) with ESMTP; Thu, 17 Aug 2000 15:25:19 -0400
Received: from mailbox1.appliedtheory.com (mailbox1.appliedtheory.com [204.168.16.14]) by rly-zd01.mx.aol.com (v75_b3.9) with ESMTP; Thu, 17 Aug 2000 15:24:46 -0400
Received: from mta.nyseg.com (mta.nyseg.com [199.98.200.7]) by mailbox1.appliedtheory.com (8.8.8/8.8.8) with SMTP id PAA01448; Thu, 17 Aug 2000 15:24:33 -0400 (EDT)
From: ampeterson@nyseg.com
Received: by mta.nyseg.com (Lotus SMTP MTA v4.6.3 (733.2 10-16-1998)) id 8525693E.006B329A ; Thu, 17 Aug 2000 15:30:53 -0400
X-Lotus-FromDomain: NYSEG@INTERNET
To: ialansing@aol.com, djstewar@mailbox.syr.edu
Message-ID: <8525693E.006B314B.00@mta.nyseg.com>
Date: Thu, 17 Aug 2000 15:22:28 -0400
Subject: Tri-society final finance statement
Mime-Version: 1.0
Content-type: multipart/mixed;
Boundary="0__=QzzT9CdINIFLCmSN8TUvwjEx1aotHx7JiPptASEUc8krU73CsgsDTZ0"
Content-Disposition: inline

Hi All:

It's been slow to re-float to the surface, but at long last I've pulled the accounting statements and recalculated the profits from the tri-society meeting in January 2000. You'll perhaps recall an email from several months back with the projected profit of \$4456 plus \$500 from Niagara Mohawk (via AFS), and the actual profits are higher than expected. No one provided any feedback from the prior email, so I trust all are comfortable with this process.

The actual profit is \$5419 plus \$500, with the later received by AFS from Niagara Mohawk, for a total conference profit of \$5919. The percent attendance by society, which we agreed to use to disperse any profits, was SAF =45.7%; TWS = 27.4%, and AFS = 26.9%. As noted in the table below, the profit is calculated as the product of the percent and total profit. The amount each society should invoice is the same except that AFS deducts the \$500 they have from NIMO.

SAF	TWS	AFS	
0.457	0.274	0.269	%
2704.98	1621.81	1592.21	profit
2704.98	1621.81	1092.21	invoiced = 5419 plus 500

So, each society (likely the treasurer) needs to send me an invoice on their society letterhead (example below and attached) requesting the dollar amount as follows:

- SAF = \$2704.98
- TWS = \$1621.81
- AFS = \$1092.21

Use the example invoice with your appropriate information. Note the absence of details in the invoice...this is helpful to smooth the process. Mail the invoice to Peter Smallidge, 116 Fernow Hall, Cornell University, Ithaca, NY 14853. Email me a note when the invoice is sent so I can look for it.

Please don't hesitate to call or email with any questions or concerns.

Regards,
Pete

SAMPLE INVOICE

Invoice
October 8, 1999

From: New York Society of American Foresters
c/o Martha Twarkins, Treasurer
Finger Lakes National Forest
5218 State Highway 414
Hector, NY 14841

To: Peter Smallidge
116 Fernow Hall
Cornell University
Ithaca, NY 14853

Dear Peter:

For services associated with the New York Society of American Forester Summer meeting in Lake Placid, NY, please remit a check to us in the amount of \$1,071.00 payable to "New York Society of American Foresters".

Sincerely,

Martha Twarkins, Treasurer
New York Society of American Foresters

Invoice
October 8, 1999

From: New York Society of American Foresters
c/o Martha Twarkins, Treasurer
Finger Lakes National Forest
5218 State Highway 414
Hector, NY 14841

To: Peter Smallidge
116 Fernow Hall
Cornell University
Ithaca, NY 14853

Dear Peter:

For services associated with the New York Society of American Forester Summer meeting in Lake Placid, NY, please remit a check to us in the amount of \$1,071.00 payable to "New York Society of American Foresters".

Sincerely,

Martha Twarkins, Treasurer
New York Society of American Foresters

United States Postal Service
Postage Statement — Nonprofit Standard Mail
Permit Imprint

Mailer Information Permit Holder's Name and Address New York Chapter American Fishermen Soc. John Hama, Jr, Sec/Treas. c/o IA Inc. 50 Ludlowville Rd Lansing, NY 14862 CAPS Customer Ref. ID	Telephone 533-8801	Name and Address of Mailing Agent (If other than permit holder)	Telephone	Name and Address of Organization for Which Mailing is Prepared (If other than permit holder)	
	Dun & Bradstreet No.	Mailing Date 8-14-99	Federal Agency Cost Code	Statement Sequence No.	Receipt No.
Post Office of Mailing ITHACA, NY	Weight of a Single Piece 0 pounds	Total Pieces		Total Weight	
Permit No. 252	Processing Category (DMM C050) <input type="checkbox"/> Letters <input type="checkbox"/> Flats <input type="checkbox"/> Automation Flats (DMM C820) <input type="checkbox"/> Machinable Parcels <input type="checkbox"/> Irregular Parcels	Number of Containers (Fill in all that apply) 1' MM Trays _____ 2' MM Trays _____ 2' EMM Trays _____ Total Ltr. Trays _____ Flat Trays N/A Number of Sacks _____ Number of Pallets _____ Number of Other _____			
If Sacking, Based on <input type="checkbox"/> 125 Pcs. <input type="checkbox"/> 15 Lbs. <input type="checkbox"/> Both					

Postage Computation (DMM P013)	For Automation Letters and Flats	Total From Part A (On reverse)
	For Presorted Letters and Nonletters	Total From Part B (On reverse)
	For Enhanced Carrier Route (ECR) Pieces	Sequencing Date
	For All Other Pieces	Total From Part C (On reverse)
	For Residual Shape Surcharge	Number of Pieces _____ Fee per Piece X \$.10
	Postmaster: Report total postage in AIC 125.	
USPS: Additional Postage Payment (State reason: Add amount to line above)		\$ _____

The signature of a mailer certifies that: (1) the mailing does not violate DMM E670; (2) only the mailer's matter is being mailed; (3) this is not a cooperative mailing with other persons or organizations that are not authorized to mail at Nonprofit Standard Mail rates at this office; (4) this mailing has not been undertaken by the mailer on behalf of or produced for another person or organization not authorized to mail at Nonprofit Standard Mail rates at this office; (5) the mailing, if made by a voting registration official, is required or authorized by the National Voter Registration Act of 1993; and (6) it will be liable for and agrees to pay, subject to appeals prescribed by postal laws and regulations, any revenue deficiencies assessed on this mailing, whether due to a finding that the mailing is cooperative or for other reasons. (If this form is signed by an agent, the agent certifies that it is authorized to sign this statement, that the certification binds the agent and the nonprofit mailer, and that both the nonprofit mailer and the agent will be liable for and agree to pay any deficiencies.)

The submission of a false, fictitious, or fraudulent statement may result in imprisonment of up to 5 years and a fine of up to \$10,000 (18 USC 1001). In addition, a civil penalty of up to \$5,000 and an additional assessment of twice the amount falsely claimed may be imposed (31 USC 3802).

Certification

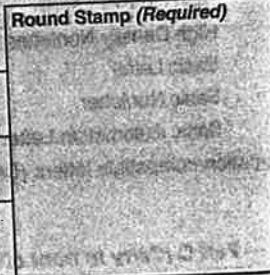
For Enclosed Reply Pieces (Automation rates only): I certify that any letter-size cards or envelopes enclosed in the pieces described above bear the correct facing identification mark (FIM) and barcode and meet automation compatibility standards in DMM C810.

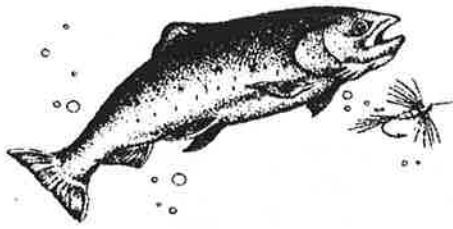
For ZIP Codes (Presorted rates only): I certify that the ZIP Codes appearing on the pieces described above have been verified and corrected where necessary within 12 months of the date of this mailing using a USPS-approved method.

I hereby certify that all information furnished on this form is accurate and truthful, that this mailing meets all applicable CASS/MASS standards for address and barcode accuracy, that the material presented qualifies for the rates of postage claimed, and that this mailing does not contain any hazardous materials prohibited by postal regulations.

Signature of Permit Holder or Agent (Both principal and agent are liable for any postage deficiency incurred.)
 SIDATIS _____ Telephone _____

USPS Use Only	Weight of a Single Piece 0 pounds	Are figures at left adjusted from mailer's entries? <input type="checkbox"/> Yes <input type="checkbox"/> No
	Total Pieces _____ Total Weight _____	If "Yes," Reason _____
	Total Postage _____	Date Mailed Notified _____ Contact _____ By (Initials) _____
	Check One (If applicable) <input type="checkbox"/> Presort Verification Not Scheduled <input type="checkbox"/> Presort Verification Performed as Scheduled	I CERTIFY that this mailing has been inspected concerning: (1) eligibility for postage rate claimed; (2) proper preparation (and presort where required); (3) proper completion of postage statement; and (4) payment of required annual fee.
	Verifying Employee's Signature _____	Verifying Employee's Name _____ Time _____ AM _____ PM





PA State Chapter **A S F** Newsletter

August 23, 2000

Pennsylvania State Chapter Officers

President

Andy Shiels
814-359-5113

ashiels@fish.state.pa.us

President-elect

Douglas A. Nieman
610-948-4712

dnieman@normandean.com

Secretary-Treasurer

Michael L. Hendricks
814-353-2226

mhendric@lazerlink.com

Student-Representative

Renea Ruffing
814-865-1132

rar155@psu.edu

Past President

R. Scott Carney
814-335-4837

scarney@lazerlink.com

Excomm

Robert Weber
814-359-5164

rweber@fish.state.pa.us

Excomm

Leroy Young
814-359-5133

lyoung@fish.state.pa.us

PRESIDENT'S MESSAGE

My term as president is coming to an end and it is time to transfer the gavel to incoming president, Doug Nieman. It is also time to reflect a little bit on the last year. One of my goals was to improve the chapter's ability to provide training and professional development to its members. As we all know, there are many demands for our time in today's society. Still, we need to find some time to become involved in personal and professional development opportunities. I ask all of you to consider devoting a little time to serve your chapter. Service can be in the form of running for chapter positions, volunteering for committees, assisting with special events, or merely returning your elections ballot to show that you are interested in participating in the process of selecting leaders. As with most organizations, a few persons keep the ship afloat, but it doesn't need to be that way. We all have something to gain from a strong society and state chapter.

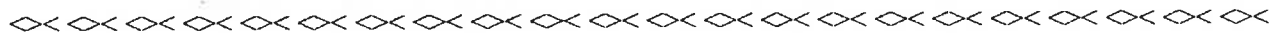
We are moving toward implementing a series of professional training programs with the first one being offered on September 15, 2000. Training survey responses indicated that the chapter membership desires a number of these sessions on a variety of topics. We intend to develop a framework and operating procedures for these courses so that while the content may change the format will be similar. Your support and participation in this first endeavor will be important in demonstrating to the executive committee that we are on the right track with this and that additional courses will be worth the effort. Besides the obvious personal knowledge and skills growth these courses represent, we are discussing with the parent society the requirements needed to ensure that these courses are accredited by AFS for professional certification. As you may be aware, the criteria needed to obtain and retain Fisheries Professional certification by AFS are becoming more rigid and require greater documentation. We are attempting to address these needs with our training courses. By the way, speaking of fisheries

INCOMING PRESIDENT'S MESSAGE

By Doug Nieman, CFP

Hi, everyone, I take the opportunity provided by this newsletter to "keep the ball rolling" with respect to PA-AFS Chapter activities. At the September social, tradition has it that I will "take over the gavel" from outgoing President Andy Shiels. I want to thank Andy for all the encouragement he gave me this past year as I worked to put together the past two technical programs. I hope those of you who attended the meeting last fall gained at least some appreciation of "life in the world of consulting"; thanks to Don Knorr of Exponent for helping out! I hope you shared my appreciation of the fine job that Jim Gracie of Brightwater and Ben Hayes of Susquehanna University did in their presentations on stream restoration and fluvial geomorphology this past spring. Our by-laws say that putting together the technical programs falls on the shoulders of the as-yet-to-be-elected President-elect. I trust you will find a list of nominees elsewhere in the newsletter and will respond with your vote. To the lucky candidate, I'll extend my offer now to help her or him any way I can to bring timely, thought-provoking presentations to the Chapter. Recently, the Executive Committee has decided to explore the possibility of a joint meeting with the PA Wildlife Society, perhaps as early as next spring. If that pans out, our President-elect's job will at least have some initial direction to it. Bob Weber and I are in the process of following up on some initial contacts made under Andy's term. I think such a meeting could be used as a vehicle to foster an interdisciplinary exchange of ideas on topics of relevance to both fisheries and wildlife professionals. There is considerable ongoing research on linkages between aquatic and terrestrial ecosystems whereby we should be able to identify some common ground that would be both interesting and useful to both groups. Does anyone have any ideas? One I have is the subject of habitat fragmentation--certainly an area of concern to both terrestrial and aquatic scientists and resource managers. Any others? Just send an e-mail to dnieman@normandeau.com.

As for other activities, note that just prior to the annual social, the Chapter will host a fish-ID training session, and I suspect more will follow in the future. Remember your PDQP's! I'd like to encourage the membership to get involved and stay involved in Chapter activities and to discuss your ideas with me during my upcoming term of office. For example, I've heard some members express an interest in having the technical meetings move around the State. Would that help or hurt attendance? Anyone willing to offer a facility? How about arranging a quick social for members attending the Northeast Meeting next spring? See you in September!



AFS Web resources

AFS Online Bookstore:

<http://www.fisheries.org/cgi-local/shop.pl/page=afsbook.html>

Employment resources:

http://www.fisheries.org/index_employment_resources.html

Public affairs: http://www.fisheries.org/index_public_affairs.htm

Professional, societal, educational and governmental links at:

http://www.fisheries.org/index_links.html

Meetings and events: http://www.fisheries.org/index_meetings.html





ANNUAL FALL SOCIAL

The annual fall social will be held this year on Friday, Sept. 15, 2000, 4PM to ?? at the H. R. Stackhouse School of Conservation. The menu will be grilled chicken, burgers and dogs, assorted side dishes and soft drinks, served around 6PM.

Cost is \$8 per person, \$5 for students. Alcoholic beverages are permitted for those over 21 but the Chapter will not be supplying them for liability reasons, so BYOB. No alcohol will be allowed outside the building.

RSVP please to Mike Hendricks mhendric@lazerlink.com or 814-353-2226.

As you know, the Stackhouse is located at Fisherman's Paradise, along beautiful Spring Creek, so bring your fly rod and spend a few leisurely hours. There is also a nice hiking/bike trail along Spring Creek. The Bellefonte Hatchery is adjacent to the site, but closes at 4:00PM. Anyone wanting to take a self-guided hatchery tour should arrive at 3:00PM. If anyone wants to stay overnight at the Stackhouse, contact Mike Hendricks.

Reminder

**Don't forget to send in you ballot for officer elections.
Ballots must be received by Sept. 15, 2000**

TIM COPELAND FUND

We were recently saddened to hear that Tim Copeland was diagnosed with leukemia. Tim received his bachelors and masters degrees at Penn State. He was a seasonal, then permanent employee with the PA Fish and Boat Commission, and an active member of the Pennsylvania Chapter. He left permanent employment with the PFBC to pursue graduate work at VA Tech. I understand his cancer was detected early and his chances for a cure are good, but there are considerable medical expenses associated with the chemotherapy and the bone marrow transplant that he will require. Tim was uninsured at the time he was diagnosed and needs all of the financial support that we can give him. Please consider helping one of our own, in time of need.

Anyone wishing to contribute to Tim's medical fund directly should send a check made out to "National Foundation for Transplants" with "Tim Copeland" on the memo line. That will make sure that the money goes directly to Tim's account. Checks should be mailed to:

National Foundation for
Transplants
c/o Tim Copeland
PO Box 10594
Blacksburg, VA 24062-0594

Student Representative

Renea Ruffing

I have been the student representative for the state chapter of AFS since 1997 and have served as chairperson of the newsletter committee for the past 3 years. I founded the student sub-chapter of AFS at PSU and served as its president for its first year. I received my Master's degree in Wildlife and Fisheries Science from Penn State and am currently working on my Ph.D. in Ecology at PSU.

Patrick D. Shirey

I am a senior in Wildlife and Fisheries Science, and the President of the Penn State student chapter of The Wildlife Society. In the past I have volunteered my time to organizations such as the Carnegie Museum of Natural History, the Pennsylvania Junior Academy of Science, the YMCA, and the Boy Scouts of America. This summer I worked as nature director of a summer camp. During that time I improved my knowledge of identification while instructing both youth and adults in the subjects of forestry, ecology, and fish and wildlife management. I hope to benefit the Pennsylvania Chapter of the American Fisheries Society as student representative.

Secretary/Treasurer

Michael L. Hendricks

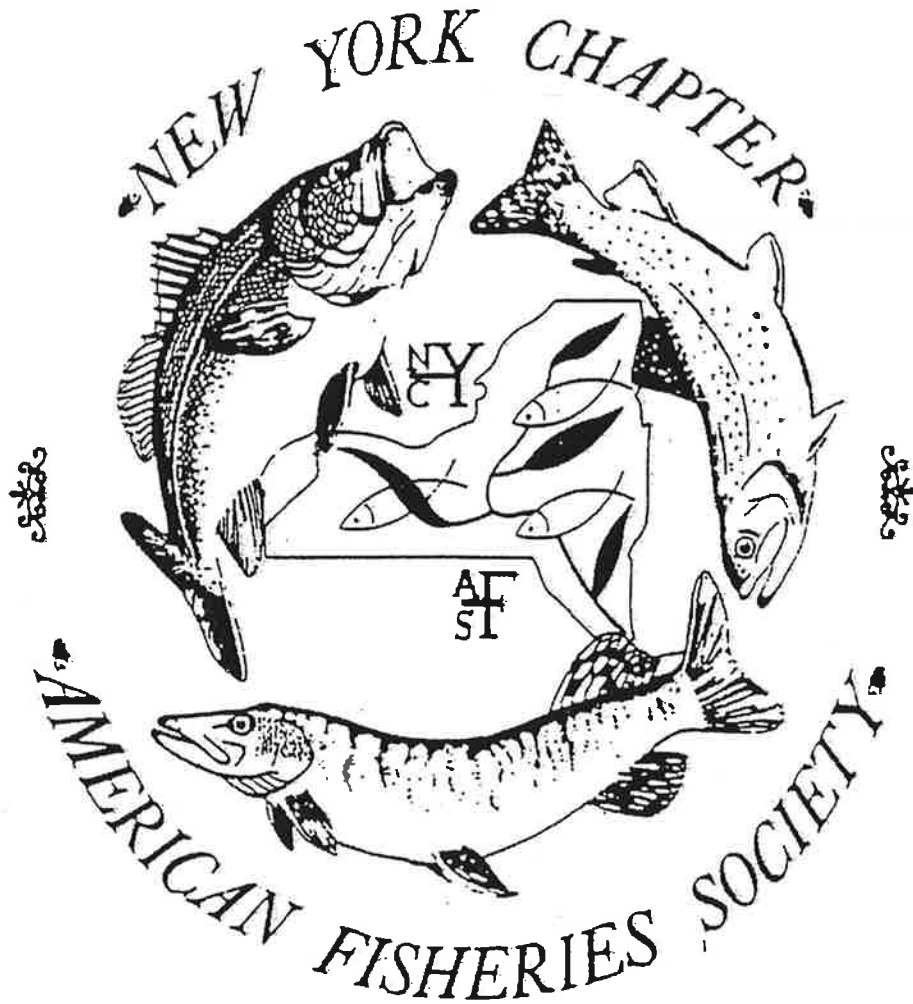
Mike is employed by the PA Fish and Boat Commission as a fisheries biologist and is the unit leader of the Anadromous Fish Research Unit. He graduated from Frostburg University with a Master's degree in fisheries management. He has been a member of AFS since 1976 and a member of the state chapter since 1983. He has served the Pennsylvania Chapter as excomm member, president, and secretary/treasurer.



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**New York Chapter
American Fisheries
Society – Newsletter**

Summer 2000

New York Chapter Officers

2000-2001

President: Donald J. Stewart
 President-elect: John M. Farrell
 Past President: Allen Peterson
 Secretary-Treasurer: John Homa, Jr.

PUBLICATION STATEMENT

Title:	New York Chapter American Fisheries Society Newsletter
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Newsletter Editor:	Daniel Josephson Cornell University P.O. Box 1124 Old Forge, NY 13420 (315) 369-6781 dcj3@cornell.edu

Editor's Note

The NY AFS Chapter is once again offering an Aquatic Plant Workshop at the Cornell Biological Field Station on Oneida Lake in August. Members are strongly encouraged to participate in this excellent workshop.

The First Call for Papers for the 2001 Chapter Meeting is announced in this newsletter. The theme for the 2001 meeting will be "Large Scale Weather Effects and Variability on NYS Fisheries".

I am always looking for contributions to the newsletter. Please continue to send me information of interest to the Chapter membership. I especially encourage graduate students and their faculty advisors to submit abstracts of completed theses and dissertations.

Thank you.

Dan Josephson
Cornell University
P.O. Box 1124
Old Forge, New York 13420

Email: dcj3@cornell.edu
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Chapter News

2000 Annual Meeting of NY Chapter AFS : Wrap-Up

NY State Tri-Society Meeting Evaluation

Submitted by:

Gary Goff (Member of conference planning committee and SAF/TWS) and Peter Smallidge (Member of conference planning committee and NY SAF President)

"Excellent speakers", "Excellent papers", "Good, relevant subject matter", "Great mix of professionals", and "Well organized" -- so stated a total of 51 of the 97 attendees who completed the evaluation forms for the 2000 joint-society conference held in Syracuse this past January. The conference was entitled "Strategies for Stewardship of NY's Natural Resources" and was attended by 367 members (mostly) of NY's Chapters of the Society of American Foresters, The Wildlife Society, and the American Fisheries Society. The purpose of the

multidisciplinary conference was to bring together professionals to address strategies for challenges related to natural resource management and professional development.

Other frequently stated, positive attributes of the conference included: good location, good facility, good learning atmosphere, student attendance, and good planning. Some of the most common "dislikes" included: disappointing student attendance at employment skills session, inadequate seating for some of the popular sessions, inadequate time for discussions, overpriced banquet, difficult to commit to any Saturday morning session, registration was too expensive, and not all plenary speakers met expectations.

When asked "how will you use the information gained at the conference?", some of the most common replies were: able to make contacts with other professionals, practical information and information, pass along to other co-workers, and useful for planning. Each of the specific sessions received favorable "quality and usefulness" ratings with all rated above 3.3 on a 5-point scale. The three most highly rated sessions were (in order); Thurs. evening SAF centennial celebration, wildlife contributed papers, and forestry contributed papers.

A limited number of the proceedings (abstracts of papers and posters only) are available from the secretaries of the respective societies: TWS, Kristi Sullivan (607/255-5508), AFS, John Homa (607/533-8801), SAF, Fred Munk (315/376-3521).

The finances worked out well also, with a modest "profit" returned to each of the societies. So... when it's all said and done the conference was very successful! Look for your opportunity to contribute to another such joint meeting via participation on the planning committee, presentation of papers, or attendance in perhaps three years (as suggested by 55% of respondents)!

2001 Annual Meeting of NY Chapter AFS-- First Call for Papers

2001 Annual Meeting of NY Chapter of AFS

Location: Owego Treadway Inn, Owego, NY

Date: January 18-20, 2001 (Thursday evening through Saturday noon)

Topic: Large Scale Weather Effects and Variability on NYS Fisheries

First Call for Contributed Papers and Posters

There will be contributed paper and poster sessions on Friday and Saturday morning. Awards will be presented for Best Professional and Student Papers [and Posters].

Please consider submitting a one-page abstract describing your recent work. Further details and instructions will be provided in the Fall Chapter newsletter.

Upcoming events

NY Chapter American Fisheries Society - Aquatic Plant Identification Workshop

The NY Chapter of the American Fisheries Society is hosting a one day Aquatic Plant Identification Workshop at the Cornell Biological Field Station on Oneida Lake, NY on Wed., August 16, 2000. The workshop will focus on identification of the most common aquatic macrophytes found in lakes and ponds in New York State, with particular attention to those species of importance to fisheries biologists. Invasive species and native plants will be covered, including submerged, emergent, and wetland species. Background information on plant ecology, habitat preferences, and importance to fish species will provide additional knowledge for fisheries professionals. The classroom textbook, "Through the Looking Glass... A Field Guide to Aquatic Plants", 248 pages, will be provided to attendees as part of the registration fee.

The workshop will be taught by Dr. Don Leopold, Plant Ecologist at the College of Environmental Science and Forestry at Syracuse (SUNY-ESF), and Bob Johnson of the Cornell University Research Ponds, and Dr. John Farrell of SUNY-ESF Thousand Islands Biological Station. The workshop will include hands-on laboratory training, a multi-media presentation, and a tour of lake, pond, and wetland plant communities on-site at the Cornell Biological Field Station. The workshop will begin promptly at 9 am and conclude in mid-afternoon. Lunch will be provided as part of the registration fee.

Registration: Pre-register by August 9, 2000 by printing the form below. PLEASE DO NOT RESPOND BY EMAIL as you must include the registration fee. Fee is \$30 which includes lunch and classroom textbook, payable by check. Attendance is on a first-come, first-serve basis. If interest warrants, a repeat session will be held on an adjacent day.

A map to the Cornell Field Station is available on our website:

<http://www.dnr.cornell.edu/fieldst/cbfs.htm>

To register contact:

Tom Brooking, Cornell Field Station, 900 Shackelton Pt. Rd., Bridgeport, NY 13030
Info: (315) 633-9243 Fax: (315) 633-2358 Email: teb1@cornell.edu

130th AFS Annual Meeting, August 20-24, 2000

Adam's Mark Hotel, St. Louis, Missouri.

Contact: Besty Fritz, (301) 987-8616, ext. 212;
bfritz@fisheries.org

130th AFS Annual Meeting Promises to be a Good One!

Black Bass 2000 Symposium, August 21-24, 2000

Held during the AFS Annual Meeting in St. Louis, Missouri.

Contact: David Philipp (philipp@uiuc.edu) or Mark Ridgeway (ridgwama@epogov.on.ca)

4th International Symposium on Sturgeon, 8-13 July 2001

Park Plaza International Hotel and Convention Center
P.O. Box 109, Oshkosh, WI 54903-0109 USA

www.sturgeonsymposium.org
bruchr@dnr.state.wi.us

Announcement and 1st Call for Papers

Sturgeon scientists, biologists, enforcement specialists and commercial interests are invited to attend the 4th International Symposium on Sturgeon to be held July 8-13, 2001 in Oshkosh, Wisconsin, USA at the Park Plaza International Hotel and Convention Center. The 4th ISS is being planned to ensure the tradition of excellence exemplified at prior International Symposia on sturgeon, held at Bordeaux, France (1989), Moscow, Russia (1993), and Piacenza, Italy (1997). The 4th ISS will be the first to have sturgeon enforcement and regulation as a recognized part of its program.

Call for Papers

Sturgeon specialists are invited to submit abstracts for oral or poster presentations. Scientists and specialists at all

levels and backgrounds are encouraged to submit papers in any area relevant to Acipenseriformes. Information on required format for abstracts is posted on the 4th ISS web site, www.sturgeonsymposium.org

Symposium Objectives

To provide a forum for exchange of information and knowledge on the biology, culture and management of Acipenseriformes of the world, and

To provide an opportunity for scientists, biologists, enforcement specialists and commercial interests working with Acipenseriformes around the world to communicate, share experiences and develop new research and management initiatives for the benefit of sturgeon populations and their users.

Suggested Program Topics

General Biology: phylogeny and taxonomy, genetics, ecology, life history, behavior, developmental and reproductive biology, physiology, toxicology, parasitology

Aquaculture: culture techniques, broodstock and hatchery management, breeding programs, fish health, nutrition, product quality, production system analysis

Management and Regulation: population biology and management, management history and policies, management and economics, public involvement, enforcement issues and techniques, regulation history and policies

Special Workshops

Special workshops and demonstrations will be held prior to the start of the symposium on sturgeon sexing and staging, pathology and sturgeon age interpretation. In addition, a special workshop on the long-term recovery and management of lake sturgeon in Lake Michigan will also be conducted.

Technical Visits and Excursions

Technical visits and excursions are planned to the Wolf River lake sturgeon spawning and nursery grounds, and to the University of Wisconsin-Milwaukee Great Lakes WATER Institute.

Guided fishing excursions for walleye and other species on the Lake Winnebago System will also be available at no charge to symposium participants.

Steering Committee

Ronald M. Bruch, Wisconsin Department of Natural Resources, Oshkosh, WI
Frederick P. Binkowski, Univ. of Wisconsin-Milwaukee Great Lakes WATER Institute, Milwaukee, WI
Serge I. Doroshov, Dept. of Animal Science, University of California, Davis, CA

Sponsors

Sturgeon for Tomorrow
Great Lakes Fishery Trust
Wisconsin Department of Natural Resources
Univ. of Wis.-Milwaukee Great Lakes WATER Institute
University of California-Davis
Wisconsin Sea Grant

Registration

Registration materials will be available beginning in July 2000 at www.sturgeonsymposium.org or by writing to 4th ISS, P.O. Box 109, Oshkosh, WI 54903-0109.

The symposium registration fee will be approximately \$400 (USD) and will include a booklet of extended abstracts and other conference documents, opening mixer, participation in oral and poster paper sessions, coffee breaks and luncheons for the entire symposium, field trips and excursions, banquet, and a free copy of the proceedings.

The special workshops on Sturgeon Sexing and Staging, and Sturgeon Pathology, will be held prior to the start of the symposium and will require an additional fee. These workshops will have a limited enrollment capacity that will be met on a first come first serve basis after registration materials are distributed in July 2000.

For Further Information

Contact Ron Bruch at bruchr@dnr.state.wi.us or visit the symposium web site at www.sturgeonsymposium.org.

Wanted

Chapter Website Information Requested

John Farrell writes:

Wanted - Information and photographs members may have regarding past activities of the NY Chapter AFS. The information may be used in the generation of a new chapter web site. I would like to highlight what we do as an organization and would appreciate any info and photos from recent events, meetings, workshops, gatherings as well as announcements for up and coming events. Other information of member interest will involve our history, mission, bylaws, meeting minutes, treasury/budget reports etc. Let me know what you would like to see in our web page as well.

Send items of interest to:

John Farrell,
SUNY-ESF 253 Illick Hall Syracuse, NY 13210;
jmfarrel@mailbox.syr.edu; (315) 470-6990

Native Peoples Fisheries Issues in New York State

Dick McDonald writes:

At the last annual meeting in Syracuse the Excom decided to form an ad hoc committee to look into Native Peoples Fisheries issues in New York State. Since I have had contact with several Nations since I was in graduate school, the Excom gave me the lead in finding information and establishing the ad hoc committee for the NY Chapter.

After making contact with Laura Hutchcroft at the parent society level and finding out that there is no official policy statement regarding Native Peoples Fisheries, I was given the following list of contacts for the Native Peoples Fisheries Section at the Parent Society level. I have been in contact with Hannibal Bolton (USFWS; Arlington, VA) and I am waiting for him to contact me again at his earliest convenience. Mr. Bolton (current president Native Peoples Fisheries Section) sounds excited at the prospect of establishing a Native Peoples Fisheries Section in the New York Chapter.

If anyone wants to contact me with ideas or issues regarding Native Peoples Fisheries in New York State, my address is as follows:

Dick McDonald
Tunison Laboratory of Aquatic Science
3075 Gracie Road
Cortland, NY 13045
(607) 753-9391 ext. 40
dick_mcdonald@usgs.gov

Native Peoples Fisheries Section (AFS National):

Mr. Hannibal Bolton, President
4401 Fairfax Dr
MS 810
Arlington, VA 22203
phone: 703-358-1718
fax: 703-358-2044
hannibal_bolton@fws.gov

Mel Moon, President-elect
Quileute Indian Tribe
234 Front St
La Push, WA 98350
phone: 360-374-5695
fax: 360-374-9250
melmoon@olympen.com

Recent Theses

Baird, Owen E. Distribution and abundance of fish in relation to pH and temperature in an Adirondack river system: potential for fish community restoration.

Thesis Abstract

Within the hierarchical spatial structure of stream systems, thermal and chemical heterogeneity may provide refuges for stream biota to survive natural or human-induced disturbances. The South Branch of the Moose River in the Adirondack Mountains of northern New York State experiences episodic acidification and summer water temperatures lethal to salmonids, and was used to investigate the effects of a heterogeneous environment on the fish community and trout fishery. Understanding the relationships between fish species and environmental heterogeneity could be helpful in the development of strategies for system rehabilitation or fishery management of rivers subject to episodic pH depressions and high summer water temperatures.

Post stocking growth, movement, and catch were compared among hatchery brook (*Salvelinus fontinalis*), rainbow (*Oncorhynchus mykiss*), and brown trout (*Salmo trutta*). Effect of species, size, and stocking date on angler

catch was also determined. Catchable-size brook and rainbow trout were stocked in late May and early June of 1996 and 1997. Brown trout were stocked only in 1997. Fish marked with visible implant tags were recovered over the summer (May - October) after stocking. Both years, brook and rainbow lost weight, while the growth rate for brown trout was not different from zero. Most fish were caught within 1 km of their release point, although trout moved up to 18 km downstream. Brook and brown trout stocked in early June were caught more than fish stocked in late May, probably because of greater movement by fish stocked in May. Large (> 300 mm) rainbow trout were caught more than small (< 260 mm) rainbow trout. Anglers reported a catch of 72% of the brook trout stocked, 51% of the rainbow trout, and 18% of the brown trout. Summer water temperature did not affect angler catch rates because of the abundance of cool thermal refuges within the river. By stocking brook, rainbow, and brown trout a diversity of angling opportunities occurred throughout the river over the entire season.

Body temperature and movement of fifteen hatchery-origin and two wild brook trout, and eleven hatchery-origin rainbow trout were monitored with temperature sensitive radio transmitters from June through September 1997. Brook trout were often cooler than the main river flow by using tributary or groundwater discharge. The mean brook trout temperature was 2.4oC cooler and the mean rainbow trout temperature was less at 1.7oC cooler than the main river flow temperature (P = 0.004). When the river temperature was > 20oC the mean brook trout temperature was 4.1oC colder than the river temperature and different from rainbow trout which were 2.2oC colder than the river (P < 0.001).

Water chemistry and temperature, and fish communities were surveyed from 1996 through 1998 in six tributaries and the main-stem South Branch Moose River. All waters in the study area experienced episodic pH and acid neutralizing capacity (ANC) depressions during high discharge events, but only the South Branch of the Moose River and one tributary had episodes where the ANC became < 0 (acidic episodes). Acidic episodes in the Moose River resulted in up to 100% mortality of bioassay brook trout. Summer water temperature in the Moose River also exceeded the upper lethal limit for trout. Species richness was positively associated with stream order and width. Fish abundance per area in the tributaries increased as pH and ANC increased. Although the main-stem river experienced severe acidification and warm summer water temperatures, a diverse fish community existed that included acid- and temperature-sensitive species. The presence of species in waters that periodically exceeded their environmental requirements was the result of refuges created by tributaries with higher

ANC and cooler summer temperatures than the main-stem river.

These results suggest that a put-and-take fishery can be sustained in the summer months in episodically acidified thermally marginal rivers by stocking brook, rainbow, and brown trout. However, annual stocking is required because few fish survive the winter. Tributary confluences and groundwater discharge areas were critical habitats important for the survival of both wild and stocked brook trout in this Adirondack river and provided refuge from warm water during the summer. The importance of thermal refuge areas for the survival of brook trout will increase with potentially increasing global temperatures. Refuges created by circumneutral tributaries in episodically acidified river systems could provide a natural source of native fish species for rehabilitation of lotic fish communities if main-stem rivers return to more circumneutral conditions.

Author's Name in full:	Owen E. Baird
Candidate for the degree of:	Master of Science
Date:	May 2000
Major Professor:	Dr. Charles C. Krueger Cornell University

Barker Baird, Heather. Early life history of four wild brook trout strains: embryonic developmental rates and rheotactic response.

Thesis Abstract

Brook trout (*Salvelinus fontinalis*) populations have been lost from many lakes and ponds in the Northeast. Loss of habitat and non-native species introductions have caused these losses and domestic brook trout have been used to manage many of these waters. Use of native wild brook trout strains in stocking programs may be essential for restoring brook trout fisheries across North America and preserving the remaining natural genetic diversity of brook trout strains. Re-introducing native strains adapted to life in the wild as opposed to domestic strains adapted to hatchery environments could improve their probability for survival and reproduction in resotred habitats. Native, Adirondack brook trout from New York may contain special genetic adaptations for Adirondack waters. These adaptations could include use of different areas for spawning or feeding. Behavior and physiology of four strains of brook trout were investigated to determine if differences existed among strains of different origins. Temiscamie and Assinica brook trout spawn in inlets and outlets respectively, while two Adirondack strains, Horn Lake and Little Tupper Lake strains spawn on shoals within lakes. Knowledge of behavioral and physiological

characteristics such as movement and embryological developmental rates is essential to understanding the differences in survival, growth, reproduction, and harvest of these strains after stocking. Information about wild strains will help managers to match the best-suited strain to individual waters to restore native reproducing populations of wild Adirondack brook trout.

Developmental rates of brook trout embryos of four strains that use different habitats for spawning were compared at different temperatures. Gametes from the Temiscamie and Assinica, strains from Quebec, and Horn Lake and Little Tupper Lake strains, from the Adirondack region of New York, were collected in the fall of 1998. Eggs were fertilized, placed in plexiglass incubators, and incubated at two mean temperatures (5.1°C and 9.4°C). Incubators were checked daily for hatching and the number of days and degree-days to hatching were recorded. Developmental rates measured in degree-days (dd) for each strain at each of the two temperatures differed and ranged from 457 to 672 dd. At 5.1°C, Assinica strain embryos developed the fastest (457 dd) while Temiscamie strain embryos developed the slowest (549 dd). At 9.4°C, Assinica and Temiscamie strains developed the slowest (672 and 654 dd respectively) while Little Tupper strain developed the fastest (588 dd). Survival among the four strains was significantly less at 9.4°C (40-57%) than survival at 5.1°C (60-73%). Differences in embryonic developmental rates among the four strains incubated in identical environments indicated that genetic differences among strains affected developmental rates of brook trout embryos.

The direction juvenile fish choose to move in streams from egg incubation locations to rearing habitats is often triggered by water current (a rheotactic response) and influenced by a suite of genetic and environmental variables. Rheotactic response was compared among four strains of brook trout. Assinica strain fish were expected to move upstream and Temiscamie fish downstream because these directions would be those required for young hatched in the spawning streams to find their resident lake. Shoal spawning strains from the Adirondacks were expected to show either little directional response to current or possibly to move upstream. In 1998, age-0 fingerlings were stocked in separate trials into a 35-m section of stream with traps at each end. Traps were checked daily at dawn and dusk for five days. As expected, more Assinica strain fish moved upstream (94.4% of the fish that moved, $P < 0.001$) than downstream while more Temiscamie trout moved downstream (66.5% of the fish that moved, $P < 0.001$) than upstream. More Little Tupper Lake and Horn Lake strain brook trout moved upstream than downstream (65.7%, $P = 0.008$) and (61.4%, $P = 0.07$) respectively. Shoal spawners may move upstream into inlet habitats to avoid predation and to

access food resources. In 1999, all of the strains were stocked in the stream together in one trial. More than 85% of each strain were caught in the upstream trap and all strains exhibited a positive rheotactic response. Antagonistic interactions among the four strains or some unknown environmental variable in 1999 may have caused the differences in fish movement between the two years. The differences among the strains in rheotactic response observed in 1998 are believed to best represent strain responses based on observations in past studies and the lack of the confounding influence of the strain interactions.

These results suggest that embryos from each of these different brook trout strains are adapted to develop at unique rates in the inlets, outlets, or within lakes possibly to time emergence when the streams are conducive to movement. If managers could match the embryonic developmental rates with the temperature of the spawning location, successful natural recruitment could be enhanced. The rheotactic response exhibited by each of the strains also suggests that juveniles of these strains are differently adapted possibly to improve access to feeding habitats. Matching physiological and behavioral characteristics of brook trout strains to the habitats in which an introduction may occur may aid in the successful reintroduction of brook trout to many areas of the Northeastern United States.

Author's Name in full:	Heather Barker Baird
Candidate for the degree of:	Master of Science
Date:	August 2000
Major Professor:	Dr. Charles C. Krueger Cornell University

Nemeth, Matthew J. Innate migratory behavior and spawning habitat use by landlocked Atlantic salmon: implications for population restoration in New York.

Thesis Abstract

Salmonid fishes frequently express local adaptations - inherited traits arising from localized selective pressures - when transplanted into new environments. Despite increasing agreement that population restoration can be more effective when innate characteristics of the transplanted organisms are matched with the characteristics of their intended environment, the role of local adaptations as predictors of salmonid population success has rarely been studied. Migratory behavior is one type of local adaptation, and may be important for the restoration of landlocked Atlantic salmon (*Salmo salar*) to New York State. Native New York populations of landlocked Atlantic salmon evolved to migrate upstream

from lakes Ontario and Champlain to reproduce in tributary streams. These native populations were extinct by the mid-1800s, and subsequent efforts to establish naturally-reproducing and recreational sportfisheries have had limited success. In particular, stocked salmon rarely spawn in watersheds that appear to have suitable spawning habitat, and many populations have relatively few older adult salmon. Salmon stocked in New York originate from West Grand Lake, Maine, where they swim downstream to spawn in the easily-accessible spawning grounds of the outlet stream. If these salmon retain an innate tendency to migrate downstream, they may fail to locate upstream spawning habitat or become stranded downstream if they drop over dams or other one-way obstacles. One solution may be to identify and stock salmon that have evolved to migrate upstream to locate spawning habitat, such as the strain native to Sebago Lake, Maine. This thesis describes migratory behavior of salmon transplanted to New York, compares behaviors of the West Grand Lake and Sebago Lake strains, and evaluates spawning habitat use by salmon stocked in New York. This information should assist salmon restoration to New York State by identifying the influence of local adaptations on migratory behavior and spawning habitat use by salmon transplanted to New York.

Traps were placed in the outlet streams of two small (< 300 ha) New York lakes to ascertain the extent of stocked salmon emigration from lakes. The lakes were trapnetted each fall in 1997, 1998, and 1999, before the onset of the spawning season, and the proportion of adult salmon that emigrated was calculated from the number of marked adults released from the trapnets that were later recaptured in the stream traps. Emigration proportion averaged 40% per year, ranging from 25% in Little Moose Lake (1997 and 1999) to 56% in Bay Pond (1999). Mature salmon were more likely to migrate than immature salmon on Bay Pond ($P < 0.001$), and there were no significant differences in emigration between sexes. Emigrant salmon survival was only 31% in the 400-meter stream reach on Little Moose Outlet, and emigrating salmon did not spawn. Managers wishing to minimize population losses from emigrating salmon may wish to seasonally block the outlets of lakes, identify and stock strains that will either mature at older ages or investigate upstream spawning habitat, or identify lakes with enough spawning habitat to deter emigration.

Laboratory experiments were conducted to ascertain whether the West Grand Lake and Sebago Lake strains of salmon had different rheotactic responses, the directional response to water current that often guides juvenile salmonid migrations from natal streams to nursery lakes. Fry movements were compared in artificial stream channels in 1999 at two levels of velocity and density. Smolt movements were compared in artificial stream

channels in 1998 and 1999. Inlet deme fry (Sebago Lake strain) had a stronger positive rheotactic response (moving upstream) than outlet deme fry (West Grand Lake strain). Outlet deme smolts had a stronger positive rheotactic response than inlet deme smolts, consistent with expectations. The fry and smolt experiments indicated that inlet and outlet demes have genetically-based differences in rheotactic responses that are influenced by age. These differences may affect survival of juvenile salmon used for restoration and recreational fishery development, and underscore the need to consider the effects of strain and environmental conditions when transplanting salmon into new habitat.

Salmon spawning grounds were surveyed in the fall of 1999 to determine habitat use by spawning salmon, differences between native and transplanted populations, and to generate a predictive model for identifying future spawning sites. The study sites were on three New York streams (Little Moose Outlet, Fifth Fulton Outlet, and the Saranac River) in which transplanted salmon spawn, and one Maine stream (Grand Lake Stream) in which native salmon spawn. Water velocity, water depth, groundwater upwelling or downwelling, mean substrate size, substrate embeddedness, streambed shape, and substrate particle heterogeneity were measured at redd sites and randomly chosen non-redd sites. The native population of salmon used conditions that were intermediate to conditions used by transplanted populations. Spawning salmon showed the greatest selectivity for substrate embeddedness, mean substrate embeddedness, and water current velocity, and the least selectivity for groundwater upwelling. The multivariate discriminant function generated from the variables correctly classified 85% of a new sample of redd sites and 40% of a new sample of non-redd sites. A reduced, three-variable model of water current velocity, embeddedness, and mean substrate size was as accurate as the full seven-variable model, and was easier to apply in field studies. Overall, the study indicates that salmon in New York are able to use conditions that differ moderately from those used in native Maine habitat, and indicates that useable spawning habitat may be effectively predicted by a multivariate model that considers water current velocity, substrate size, and embeddedness.

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Donald J. Stewart

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Sent: Friday, June 02, 2000 2:57 PM
To: djstewar@mailbox.syr.edu
Cc: John Hudson/PNW/USDAFS
Subject: AFS Raffle

Hi Don,

Thanks for discussing a donation to the AFS Annual Meeting Raffle with your chapter excom. All proceeds this year will go to the Skinner Memorial Fund which helps students attend our annual meetings. Cash donations may be sent to:

Betsy Fritz
American Fisheries Society
5410 Grosvenor Lane
Suite 110
Bethesda, MD 20814-2199

Please give me a call or send an email if the chapter will be able to contribute.

John

John Hudson
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ORIGINAL

Subj: 2001 meeting location
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Web Pearsall and I compared The Inn on the Lake in Canandaigua and the Treadway for our 2001 meeting.

The two sites rated virtually the same on price, availability, functionality, amenities and ease of access.

The Inn is a few bucks cheaper but not quite as Interstate-accessible. It is also too close to Avon for Region 8 people to use a per diem.

We decided to go with the Treadway, but to suggest the Inn as a prime spot for next year. Web and I will handle all Treadway arrangements. Call me if you have any questions.

Allen

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**NEW YORK CHAPTER AMERICAN FISHERIES SOCIETY
EXCOM MEETING, ESF, SYRACUSE, NY
JUNE 12, 2000**

Attendees. Don Stewart, Dick McDonald, John Farrell, Allen Peterson, Web Pearsall, Tom Brooking, John Homa.

Minutes. John Homa. Minutes from the last EXCOM Meeting held at Syracuse on January 27, 2000 were reviewed and revised. A motion was made, and seconded, and approved to accept the minutes as revised. Minutes from the NYCAFS Annual Meeting held at Syracuse on January 28, 2000 were reviewed and revised. A motion was made, and seconded, and approved to accept the minutes as revised.

Treasurer's Report. John Homa. The treasurer's report for the first quarter of 2000 was not available. Tri-Society Meeting initial accounting indicates a successful meeting. The NYCAFS will receive payment based on the prorated profit determined by the on number of Chapter attendees. (This is anticipated to be about \$1050 -- \$1550 minus \$500 that was received by the Chapter from NMPC to be used for the Tri-Society Meeting). The Chapter also returned \$1000 to the NED; the NED made this money available as a contingency if the Chapter lost money at the Tri-Society Meeting.

COMMITTEE REPORTS:

Old Business. None.

Workshop, 2000. Tom Brooking. Good progress is being made for the *Aquatic Macrophyte Identification and Ecology Workshop* scheduled for August 16 and 24, 2000 at Shackelton Point. Instructors are lined up; cost will be \$30/person to attend (including book and lunch).

Workshop, 2001. Dave Lemon indicated that the PA Fish and Boat Commission has agreed to train two NYSDEC employees (likely Leslie Supranault (sp?) and Jack Hasse). This is normally a three-day course and costs about \$150 (including video and book). It appears likely the Chapter and Department may cooperate in an Aquatic Safety Workshop in the year 2001.

Annual Meeting, 2001. Allen Peterson. Committee is still reviewing potential meeting locations, but Treadway, Owego appears to be good choice. Topic will likely be Climate Change and Potential Effect on NY Fisheries

Raffle, Don Stewart. Additional income from the 2000 annual meeting includes a profit of about \$440 due to raffle ticket sales. Don Stewart will provide final accounting of the split between Wildlife and NYCAFS on the joint raffle. M. Murphy has begun work on the 2001 raffle.

Youth Education. Don Stewart indicated that, Dr. Keith Koupal, the recently appointed Director of the Sportfishing and Aquatic Resources Education Program (SAREP), will chair the committee. SAREP, NYSDEC, OPRHP, and others conducted a very successful event (some 700 attendees) at Letchworth Park on Memorial Day Weekend. Keith is looking for additional instructors for the SAREP program. Forward names for potential instructors to Keith

Student Sub-Unit. D. Stewart reported that Margaret Murphy continues to work with colleges and universities in the state to coordinate student activities. There has been some discussion with Bill Snyder at Morrisville.

Professional Diversity. D. Stewart indicated that Karin Limberg is presently in California. She has made contacts with the Diversity Office at ESF. Don Stewart indicated he would pass on Lynn Glase's name as a potential committee member.

Newsletter. Dan Josephson. D. Stewart report Dan's doing a good job as chapter newsletter editor. He is looking for materials for the Summer Newsletter with a deadline of July 31.

Native American Affairs. Dick McDonald has made some contacts with the St. Regis Mohawk Tribe. They have shown an interest in fisheries issues. He has also contacted the Parent Society for their input on Native American fisheries issues.

Professional Incentives. D. Stewart reported for Web Pearsall. Apparently no one approached Web concerning continuing education credits for the Tri-Society Meeting. It was noted about 10% of Parent Society members are "certified." Web will continue to work with Doug Stang and Paul McKeown. Web asked that any nominees for special awards be provided directly to him and that he would also make a request via the Summer Newsletter. The Chapter will obtain a "blank" plaque to have on hand for presentation purposes. As per recent discussions, it may be more appropriate for recipients of awards to be acknowledged in a more timely fashion. A final award plaque can then be obtained from the Parent Society and be forwarded to the recipient.

Resolutions Committee and Environmental Concerns Committee. D. Stewart reported for D. Bryson who presently chairs both committees. The Parent Society has a list server that may be useful for environmental issues.

Nominations. Allen Peterson asked for names of potential candidates to contact for president-elect. It was confirmed that Sec/Treas was a two-year appointment and that no candidate was needed for 2001.

Membership. Don Stewart. Nothing to report at this time.

Audit/finance. Lars Rudstam. J. Homa indicated there was nothing appropriate to report at this time.

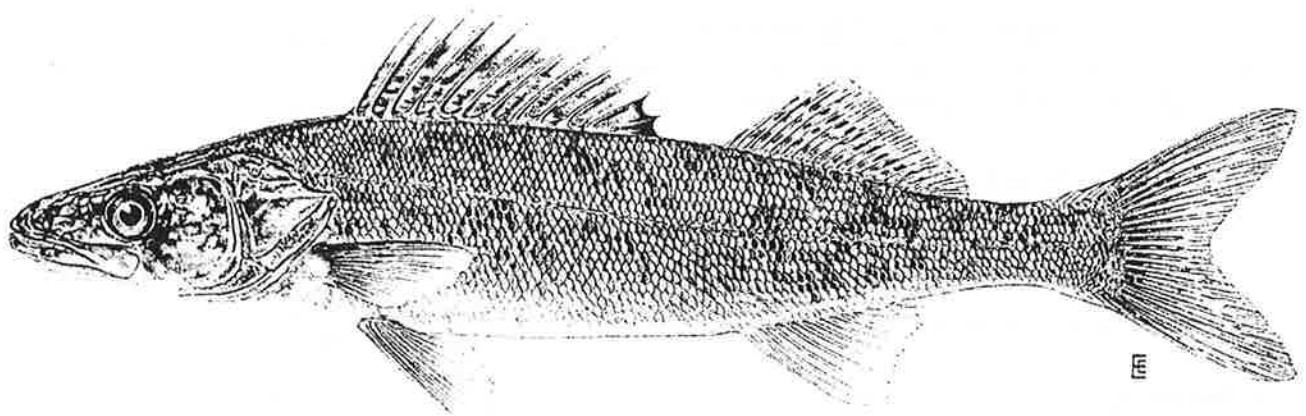
NEW BUSINESS:

New York Fishes CD and Book. Occasional requests are received for the CD of the NY Freshwater Fish Distribution Maps worked on by D. Carlson et al. In a related matter Bob Werner is investigating updating his NY Fish Book. Syracuse University Press has shown some interest in providing it in their guide series format and perhaps expanding the range to include the New England States.

Otolith Workhop. D. Stewart indicated that Karin Limberg has been working on a mini-symposium. Conceptually this would provide continuing education credits. Funding sources are being investigated including the Great Lakes Research Consortium. The NYCAFS may be approached for co-funding.

No additional business a motion was made and seconded, and the meeting was adjourned.

*Management of Otisco Lake and Jamesville
Reservoir Walleye Fisheries through Stocking.*



A final report submitted by Patricia F. Thompson
SUNY ESF Faculty of Environmental and Forest Biology
Syracuse, NY 13210

For the New York Chapter of the American Fisheries Society and the Onondaga County
Sportsmen's Federation.

January 4, 2001

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1. Acknowledgements

This project was conducted in cooperation with Mr. Leslie Monostory representing the Onondaga Sportsmen's Federation and Dr. Donald J. Stewart, Dr. John Farrell, and Mrs. Margaret H. Murphy from the New York Chapter of the American Fisheries Society (NYC AFS) and SUNY ESF. I thank them both for their patience and help. I also thank the NYC AFS for funding this project. Thanks to Mr. Tom Chiotti and Mr. Les Wedge with the New York State Department of Environmental Conservation Region 7 (NYSDEC). You were very helpful and cooperative in providing data and information. Thanks to Dr. Lars Rudstam for contributing the hydroacoustic data and to Mr. Tom Brooking for electrofishing data. Thanks to Mr. Chet Crosby and Dr. John Forney for their advice. I would also like to thank those who provided editorial comments on the plan; Dr. John Farrell, Dr. Mark Olsen, Dr. Don Stewart, Ms. Margaret Murphy and Mr. Darran Crabtree.

3. Introduction

The walleye is a very popular game fish in New York State and in other states as well, especially since they can be caught in all seasons. They are sought after for their challenge of capture and consumptive value. According to the national Survey of Fishing, Hunting, and Wildlife Associated Recreation, 5,337,000 U.S. anglers age 16 and older fished for walleye during 1985 on waters that included the Great Lakes (Quinn 1992). Ranking third in angler preference, walleye is one of the most important sport fish in Iowa (Paragamian and Kingery 1992). This strong angler interest in walleye has increased the demand for stocking programs and related management plans. At the same time, there has been a general decline in natural recruitment in some waters and stocking success is somewhat limited. In 1992, 32% of fry stockings, 32% of small-fingerling stockings, and 50% of advanced-fingerlings stockings were considered successful. On another note, anglers reported on surveys that the fishing experience was more important than the catch rate. This attitude will help managers shift the public's attention from stocking to maintenance of habitat and water quality (Ellison and Franzin 1992).

This paper focuses on walleye management in Otisco Lake and Jamesville Reservoir and ultimately suggests a walleye stocking management plan for each. First I look at past and present walleye populations of Otisco Lake and Jamesville Reservoir. Next I will examine walleye management in and around New York State. Then I use general stocking success and survival estimates from scientific literature and an evaluation of hatchery capacities to make recommendations for walleye management objectives in both Otisco Lake and Jamesville Reservoir.

4. Walleye Biology and Habitat Requirements

Walleye are a large perch-like fish with canine teeth in the lower jaw. Those enlarged teeth differentiate this fish from the yellow perch. Walleye are opportunistic predators who consume large quantities of fish such as minnows, yellow perch, suckers, and bluegills. They will also feed on insects. Walleye feed almost continuously but they have periods of greater activity and they change the location of their feeding grounds frequently. Yellow perch can make up a substantial part of the fish diet of walleye (Harlan and Speaker 1969). In Oneida Lake, walleye depend on young perch for food.

The scientific name for walleye is *Stizostedion vitreum vitreum*. Vitreum is the Latin word for glass, which refers to the glassy appearance of walleye's eyes. The inside of their eye is lined with a reflective surface called the tapetum lucidum, which allows them to see well in the dark. These well developed eyes are characteristic for crepuscular predators (ones who feed at dusk and dawn) (Moyle and Cech 1996). Typically, they hover near the bottom in loose aggregations during the day and move into shallows to feed at night. Lake turbidity influences feeding regimes, clear lakes with good light penetration are generally poor habitat for walleyes. Walleye do well in lakes that are a bit turbid because their eyes are overly sensitive to high light conditions. Thus, walleye tend to feed more frequently during the day in turbid lakes.

per year until 1969. Fry stocking stopped in 1969 after a two-year study showed that the stocked fry disappeared within a week of stocking (Chiotti 1980).

Chiotti reported in Schaffner and Oglesby (1978), "Otisco Lake was in the last ten years a very excellent producer of brown trout. However, the unknown source of introduction of the white perch has caused poor returns of stocked brown trout. This has resulted in the cessation of brown trout stockings by the State and also consideration of stocking salmonids in the future. Onondaga County continues to stock the lake with trout annually, however. The return is insignificant...long range future plans are indefinite, with the only consideration at present being that if culture techniques of walleye rearing allow the reproduction of large numbers of fingerling walleyes, they may be recommended for stocking. There are presently no fish species stocked by the NYSDEC in Otisco Lake. The sportfishery is declining and supported only by occasional large walleyes, smallmouth bass and largemouth bass."

Past and current fish populations of the lake are characterized by instability and dramatic fluctuations in abundance of individual species at all trophic levels (Figure 2). Introduction of non-native species has been characterized by a pattern of explosive increase, declines and/or fluctuations in their abundance (Chiotti 1980). Bluegill, black crappie, alewife, gizzard shad and white perch populations have all behaved that way. Otisco Lake is the shallowest Finger Lake which results in the lake having colder winter temperatures. That could cause fluctuations in the alewife population because very cold winters cause die-offs. There were three massive winter alewife die-offs under the ice during the period from 1968 to 1980.

Otisco Lake has supported walleye, brown trout, smallmouth bass and largemouth bass at various times but the lake's species composition is very dynamic. Reasons for these changes in fish populations are attributed to introductions of new species, marginal deep-water habitat, decreasing abundance of rooted aquatic plants, and intensive selective harvest by fishermen. Gizzard shad are gone but alewives and white perch remain. According to angler diary data there are a significant number of fishing trips on the lake. While the number of fishing trips appears to be highest in the early 1990's (Figure 3) the number of walleyes harvested appears to have been increasing only in the later 1990's. The walleye fishery and the tiger muskie fishery are very important to the lake currently. The fishing was apparently very good in 1999. In fact the first time I fished Otisco Lake and the first time I fished for walleye in the fall of 1999, a member of my group caught a 10-pound walleye. I also noticed that the fish had walleye dermal sarcoma. This disease could be a potential source of mortality in walleye in Otisco Lake. However, little is known at the present time.

5.2 Habitat

Otisco Lake is considered a mesotrophic lake. The southern end of the lake is very shallow and is separated from the lake by a concrete causeway with a 4m wide opening (Figure 1). This end of the lake was originally a wetland but was flooded in 1869 for the Erie Canal and in 1909 for drinking water purposes. Currently that end is flooded and is eutrophic. The major inlet, Spafford Creek, empties into the southern end, where the load of silt and clay settles into the causeway enclosed section of the lake.

Figure 2. Fish Population Dynamics in Otisco Lake, NY 1900 to 2000

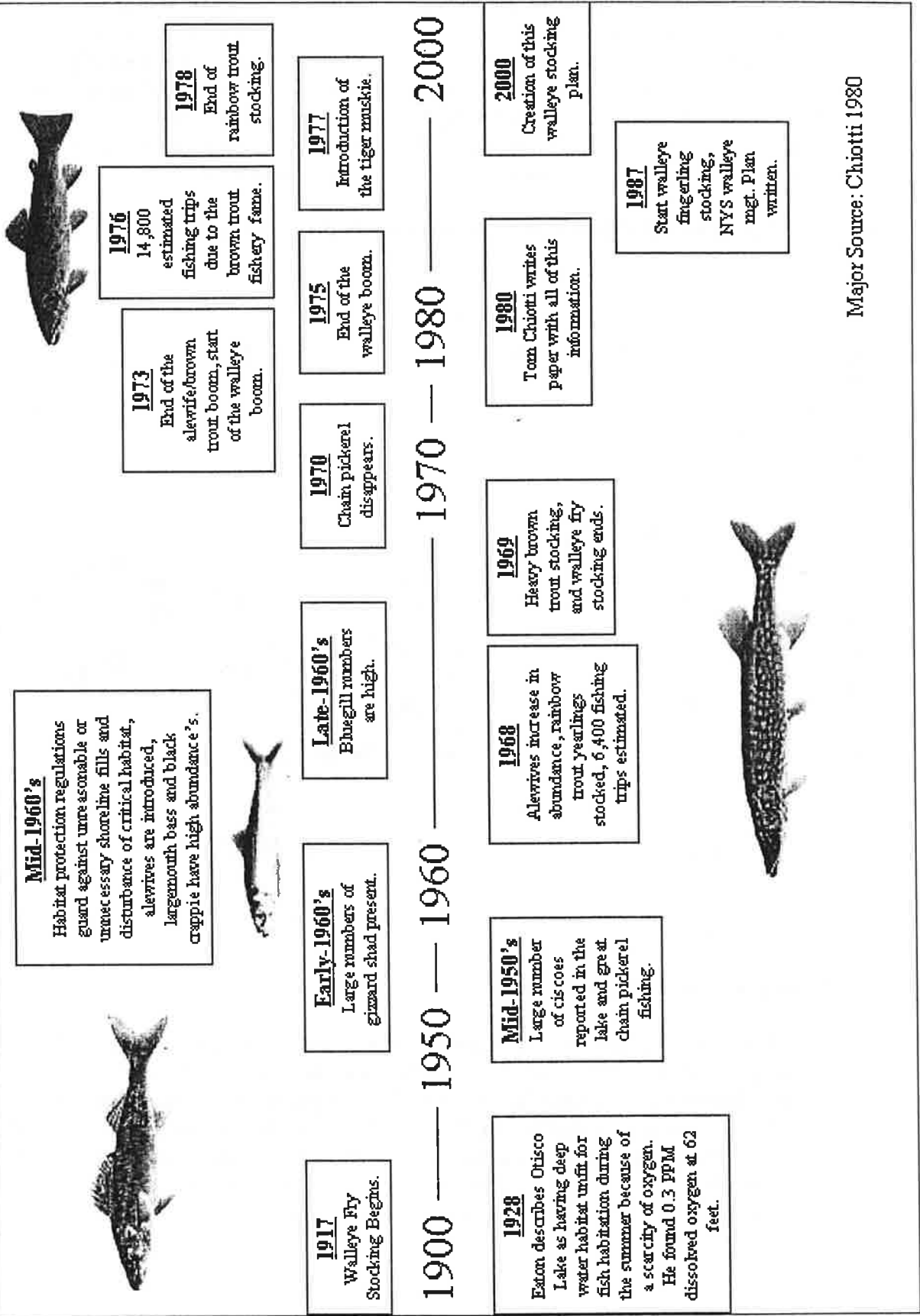


Table 1. Stocking Summary of Walleye in Otisco Lake.

<u>YEAR</u> <u>CLASS</u>	<u>STOCKING</u> <u>DATE</u>	<u>NUM.</u> <u>STOCK</u>	<u>MARK</u>	<u>AVE.</u> <u>LENGTH (in)</u>	<u>LIFE</u> <u>STAGE</u>	<u>HATCHERY</u>
1988	24-Jun-88	20,000	none	1.8	F	
Mixed	3-Apr-90	1,000	LV	17	adult	
1990	26-Jul-90	6,950	none	1.8	F	
1990	20-Sep-90	22,000	none	3.4	FF	
1991	7-Jun-91	3,000	none	2	F	#s from Onondaga Hatchery
1991	10-Jun-91	5,000	none	2.5	F	#s from Onondaga Hatchery
1992	22-Jun-92	22,000	none	2.5	F	
1993	25-Jun-93	15,000	none	1.5	PF	From S. Otselic
1993	21-Sep-93	22,500	LV	5.2	AF	Oneida Hatchery
1994	1-Jun-94	16,000	OTC	1.6	PF	From S. Otselic
1994	12-Jul-94	6,447	OTC	2	PF	From S. Otselic
1994	20-Sep-94	22,500	RV	5	AF	
1995	30-Jun-95	22,500	OTC	2	PF	
1995	12-Sep-96	22,500	LV	5.4	AF	
1996	9-Jul-96	22,500	OTC	2	F	
1996	11-Sep-96	13,650	RV	4.5	AF	
1997	9-Jul-97	45,000	none	2	PF	From S. Otselic
1998	9-Jun-98	45,000	none	1	PF	From Chautauqua

LV = left ventral fin clip, RV = right ventral fin clip, OTC = oxytetracycline otolith mark.
Source = Tom Chiotti, NYSDEC

5.4 Otisco Lake Population Assessment

It is not possible to estimate the total number of walleye in Otisco Lake at this time. I know the number of fish stocked for each year. However, not all of the fish were marked. When the lake was sampled for walleye using electroshocking, there was no way to determine whether or not the fish caught were spawned naturally, stocked in the spring or stocked in the fall. Also, no work has been done to look at oxytetracycline (OTC) marks. Walleye fry can be introduced into a bath of water containing OTC for a certain length of time and the chemical will leave a mark on the otolith (inner ear bone) on the fish. Later, the otolith can be removed from the fish and analyzed for the presence of OTC. This method is expensive and causes fish mortality. Also, it is very difficult to check for this mark in adult walleye without using expensive chemical assay techniques. The technology and skills are also not yet widely available for analysis yet. These data are not available due to money, time and personnel constraints placed on the NYSDEC. They are responsible for many lakes and rivers and cannot possibly do such detailed work for each body of water.

The only calculation I could make was to estimate the density of young of the year (YOY) walleye using the Sern's method (Sern 1982). It is based on a linear relationship found between catch per unit effort (CPUE) of YOY fish and YOY densities represented by the equation:

$$\text{Number walleye YOY per acre} = 0.234 * \text{catch per mile}$$

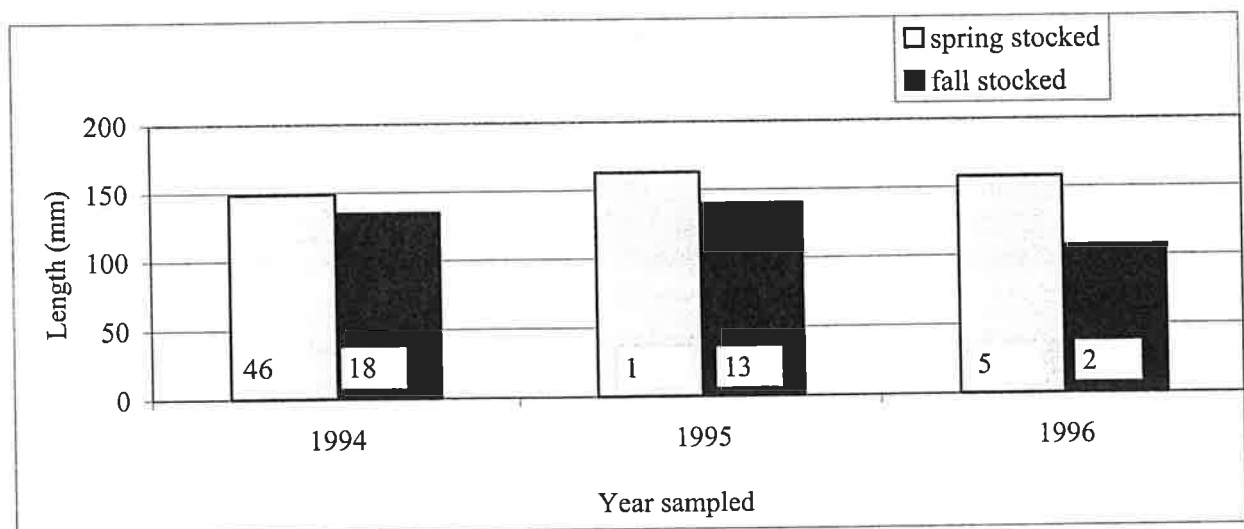
lake and they could potentially impact the potential for natural recruitment in Otisco Lake.

Is alewife abundance significant enough to suppress walleye recruitment in Otisco Lake? There has been some work done in Little Sandy Pond, Lake Ontario with respect to alewife consumption of yellow perch larvae (Brandt et al. 1987). Researchers observed alewives eating larval yellow perch at night in the littoral areas rather than the limnetic areas (Kohler and Ney 1980, Brandt et al. 1987). Larval fish were a frequent dietary component of alewife from Claytor Lake, Virginia (Kohler and Ney 1980). Brooking et al. (1998) found that adult alewives (in the laboratory) preyed intensively on larval walleyes from the time larvae hatched until they reached about 16 mm, total length (TL), but the walleye larvae avoided most such predation by the time they reached 25-30 mm TL. Mason and Brandt (1996) estimated that predation by alewife could be a significant source of larval yellow perch mortality which could, in turn, affect the recruitment of yellow perch in Lake Ontario. In essence, due to the sparse spawning habitat and the potential for alewife predation it is not likely that there is a lot of successful natural reproduction for walleye in Otisco Lake.

5.6 Young Walleye Growth

One important result shown by the NYSDEC data is the slight but consistent differences in the average lengths of walleye stocked at different times of the year (Figures 5 and 6). It is important to note that I made an assumption about the catch. I know that all the fish stocked in the fall were marked. Fish stocked in the spring were not marked. Any fish that resulted from natural reproduction also would have been "stocked in the spring" because they would not be marked. Based on these data there seems to be a growth advantage for fish stocked in the spring as spring stocked fingerlings seem to be consistently larger.

Figure 5. Average lengths of age 0 walleye sampled by the NYSDEC in the fall using electrofishing boats. Numbers shown on figure represent sample size.



Surveys were conducted by the NYSDEC in 1990 and 1995 and by Cornell University biologists in 1997 and 1998 (Table 3). In 1990 two electrofishing surveys were conducted, one at night and one during the day. The survey conducted during midday (for one hour) yielded six walleyes. Electrofishing is typically done at night to yield higher results. A yield of six walleyes during midday would be considered a good catch rate. According to Tom Chiotti and biologists at Shackelton Point, the 1995-catch rate was good to excellent. Tom Brooking (Cornell University) indicated that his spring 1998 yearling CPUE indicates moderate survival and the Fall 1998 yearling CPUE is still not too bad since they often see catch rates of less than 1 walleye per hour. Overall there appears somewhat of a declining trend in walleye CPUE but biologists believe that there is still a good walleye fishery.

There is some evidence of natural reproduction (Figure 7). Some of the fish captured in 1995 were ages three, four, six and seven. All of those age classes came from years when there was no stocking. There also appears to be quite a few larger younger age classes in 1990.

Table 3. Summary of Surveys in Jamesville Reservoir (all are from electrofishing boats except for 1990 (night) includes gillnetting)

Year	Season/Date	Adult CPUE (# per hr)	Yearling CPUE (# per hr)	Total CPUE (# per hr)	Source
1987	9-16-87			0	Chiotti, NYSDEC
1990	7-23-90 night			22*	Chiotti, NYSDEC
1990	July day			6	Chiotti, NYSDEC
1995	night			50.5	Chiotti, NYSDEC
1997	6-3-97 night	14.2	8.7	22.9	Brooking, Cornell
1998	5-26-98 night	9.1	2.3	11.4	Brooking, Cornell
1998	9-21-98 night	7.1	2.2	9.3	Brooking, Cornell

Table 4. Stocking Summary of Walleye in Jamesville Reservoir.

<u>YEAR</u> <u>CLASS</u>	<u>STOCKING</u> <u>DATE</u>	<u>NUMBER</u> <u>STOCKED</u>	<u>MARK</u>	<u>AVERAGE</u> <u>LENGTH</u>	<u>LIFE</u> <u>STAGE</u>	<u>SOURCE</u>
1980	7-May	700,000	NONE	Fry	F	
1983		9676	NONE	2.5"	F	
1983		1856	NONE	1.5"	F	
1985	28-Jun	13356	NONE	1.5"	F	
1985	1-Jul	4716	NONE	2.0"	F	
1986	27-Jun	5500	NONE	2.5"	F	
1987	29-Jun	5960	NONE	1.5"	F	
1993	27-Jun	6600	NONE	1.5"	PF	S. Otselic Hat.
1993	12-Oct	3000	NONE	5.0"	AF	Oneida Hat.
1994	30-Jun	6600	OTC	1.6"	F	S. Otselic Hat.
1995		8000	NONE		F	Carpenter's Brook Hat.
1996	2-Jul	6600	NONE	2.0"	F	S. Otselic Hat.
1997		6400	NONE	2.0"	F	Carpenter's Brook Hat.
1998	30-Jun	6600	NONE	2.0"	F	State Fish
1998		5555	NONE	2.0"	F	Carpenter's Brook Hat.
1999		6600		2.0"	F	Carpenter's Brook Hat.

Source: Tom Chiotti, NYSDEC

7.1.1 Regulations

The NYSDEC limits the harvest of walleye with daily creel limits, closure of the fishery during spring spawning season, and minimum length limits. Open fishing season runs from the first Saturday in May to March 15. Currently the statewide walleye regulation consists of a 15-inch minimum and a five fish per day bag limit. The Finger Lakes region (including Otisco Lake) and Jamesville Reservoir have an 18-inch minimum length limit and a three fish per day bag limit. Festa et al. (1987) note that minimum length regulations are set based on angler pressure, growth rates, mortality rates, and prey abundance. The NYSDEC management strategy is to maintain population numbers and size structure with continued intensive monitoring using nets and electrofishing boats. Festa et al. (1987) state that populations size, recruitment, survival rates, distribution, and predator-prey interactions are assessed to evaluate stocking success and that habitat management focuses on water quality, wetlands, stream disturbance, dredging and filling.

7.1.2 Stocking

Oneida Lake, Lake Erie, and Lake Champlain are historically recognized as New York's premier walleye resources. Adults from Oneida Lake in 1895 enabled the Oneida Lake Fish Hatchery to produce the first stocked walleye fry (fish less than 0.5"). From 1895 to 1910, 107 lakes were stocked with walleye fry. In 1987, NYS walleye hatchery production was 170 million fry, in 26 waters totaling 74,000 acres. In 1998 the NYSDEC produced 200,537,000 fry, 564,120 small fingerlings (<5 inches or 12.7cm) and 218,950 large fingerlings (>5 inches or 12.7cm). Predation on fry is intense in lakes where there are a lot of planktivorous fish, such as white or yellow perch, black crappie, and alewife. In these lakes, fingerling stocking may be more successful and reduce losses to predation. Most of the fingerlings are currently raised in earthen ponds. Walleye range from 1.5 inches to 3 inches (3.8cm to 7.6 cm) at stocking. The NYSDEC recommended rate of stocking is 20 fingerlings/acre. From 1981 to 1985, an average of 75,000 fingerlings were produced from the South Otselic Hatchery (Festa et al. 1987). Production there is limited to about 88,000 pond fingerlings. It would take 600,000 fingerlings to meet the 1980 initial stocking requirements.

Stocking is the most used management tool for many game fish in New York State. The demand for stocking is very high in New York State with most lakes being stocked at some level. Currently, the NYSDEC cannot meet the demand of the state and therefore they cannot stock all of the bodies of water all of the time. In effect, they have adopted a five-year stocking rotation. Many bodies of water are stocked for five consecutive years and then not stocked at all for five years (including Otisco Lake). This occurs in Otisco Lake despite the fact that it is listed in the top priority category for restoration of walleye, among 17 bodies of water and is described as a lake in which walleye are taken only occasionally or incidentally (Festa et al. 1987).

these objectives are common to many DNRs and DEC's and perhaps many could benefit from updating their own objectives as Wisconsin has recently done.

Walleye is a difficult species to manage because recruitment is so variable. All of the DNRs responding to the survey named weather as the biggest complication to successful walleye recruitment by influences the number of eggs that will survive. Cloudy wet growing seasons can translate to poor pond production of fingerlings. Walleye adult populations can fluctuate up to 70% from one year to the next due to natural variations. Factors include climate and weather, water levels, angler exploitation, lack of spawning habitat, lack of other habitat needs, lack of adequate prey for young or adults, negative interactions with other species, and a variety of abiotic factors (Hewett and Simonson 1998).

Many of the DNRs also noted that they could not meet stocking demands. Other management problems noted by the Indiana DNR include genetic contamination of sauger populations by hybrid walleye, limited angling opportunities due to low natural reproduction, limited hatchery production, harvest of small walleye impacting angler satisfaction, and limited angler opportunities due to variable stocking success

7.3 Walleye Management in Summary

Stocking walleye fry and fingerlings is the primary management tool used by the states mentioned in this paper. Weather seems to be an important factor in the success of walleye fingerling production. Most states perform five or ten year follow-ups on stocking programs using gillnetting and electrofishing. Some of the states use oxytetracycline otolith marking to determine the origins of sampled fish; others combine the technique with fin clipping. Many are faced with challenges to increase production of walleye. However, this can be difficult due to a lack of funds or conditions in the bodies of water which limit recruitment. Some states, mostly those with sauger and walleye populations, are concerned with genetic contamination of native stocks through hybrid stockings. All of the states studied were concerned with habitat management, and some more than other were concerned with angler satisfaction and input. However, most money was spent on stocking. In essence, walleye stocking can be used in a number of ways. While it is used to enhance fisheries it is also used to elicit top-down effects. In other words, walleye are the top predator and their introduction can influence abundance of species lower in the food web (Mills et al 1987).

8. Stocking Walleye

8.1 What Controls Recruitment

There are many abiotic and biotic factors that determine the size of an age class. There also are many factors that influence stocking success. It is important to understand what drives recruitment because annual densities of fall fingerlings appear to be the most important correlate of size of adult populations (Kempinger and Carline 1977). Biotic factors include which influence recruitment include, yellow perch predation on young walleye, low zooplankton abundance at time of stocking, and intra/inter-specific competition. Scientists studying Oneida Lake (especially Dr. John Forney) have found

no angling allowed until the final summer of the study. Fingerlings were stocked for three years. During the fall of the third year, the lake was treated again with rotenone and the fish were collected. Then they calculated the survival rate of walleye stocked as fingerlings. Of the fish stocked during the first year of the experiment (cohort I) 17.6% survived, 29.3% of cohort II (fish stocked the second year) survived and 42.1% cohort III (fish stocked the third year) survived (Beyerle 1978).

Kempinger and Carline (1977) found for fall fingerlings that annual densities appear to be the most important factor influencing size of adult populations. Overwinter survival rates of fall fingerlings from their 1958 and 1959 year-classes were 42% and 49%. Survival of these fish to age 3 averaged 12% annually. They also found that survival was not influenced by size of fingerlings or by density of potential predators (Kempinger and Carline 1977).

In summary, stocking mortality is about 22% for small fingerlings, and 1% for larger fingerlings. Spring stocked fish without predators have a survival rate from 42.1% to 44.83% annually. Spring stocked fish with predation have a survival rate of 5% through the first winter. Spring stocked fish survival rates to age three without predation range from 12% and 17.6% annually. Fall stocked fish survive between 42% and 49% through the first winter. There is difficulty in applying these rates to Otisco Lake and Jamesville Reservoir because the study lake's conditions could be very different.

Table 7. Literature review of Walleye Fingerling Survival Rates

<u>Season Stocked</u>	<u>Surviv. W/ Predation</u>	<u>Surviv. W/out Predation</u>	<u>Stocking Mort.</u>	<u>Source</u>
Spring	5%			Ohio DNR
Spring		42.10%		Beyerle 1978
Spring		44.83%		Wrenn and Forsythe 1978
Spring			22%	Santucci and Wahl 1993
Fall			1%	Santucci and Wahl 1993
Fall	42%			Kempinger and Carline 1977
Fall	49%			Kempinger and Carline 1977

8.2.2 Adult Survival and Harvest Mortality

Estimates of adult walleye survival and harvest mortality rates tend to be more consistent than estimates for first year walleye (Tables 8 and 9). This is because the population size is set, for the most part, in the first year of life. (Forney, Cornell University). After Kempinger and Carline (1977) looked at the survival rates (Table 7), they concluded that a size limit would lead to an increase in population biomass, a decrease in growth, and that yields would not change greatly.

8.3 General Success of Stocking

Stocking is an important management tool used by many states today. However, how successful is walleye stocking? Laarman (1978) reported that roughly one-third (32%) of maintenance stockings met with success. He also concluded that introductory

stockings were the most successful (48%) and supplemental stockings least successful (5%). The success rate of stocking walleyes of all sizes has improved only marginally since the review by Laarman (1978) (Ellison and Franzin 1992). Other researchers have found that stocking in lakes without natural walleye reproduction increased walleye population abundance, but stocking in lakes where reproduction occurred had no effect on population abundance (Li et al. 1996). However, with the increase in total population abundance comes a decrease in walleye mean weight (Li et al. 1996). They also found that in situations where stocking was successful, an increase in stocking frequency had diminishing effects.

8.4 What Size should Managers Stock

Generally, managers stock fry, small fingerlings and/or large fingerlings. In a lake with no natural reproduction, fingerling stocking was more successful than fry stocking (Fielder 1992). This could be because there was a high number of piscivorous fish in the lake that would eat the fry. Oneida Lake is a fry stocked lake. It appears to work for that lake. However, it would not be a good option for Otisco Lake or Jamesville Reservoir. Otisco Lake has a lot of alewives that would prevent the fry stocking from being successful. While Jamesville Reservoir does not have alewives, the flow rate in and out of the reservoir could influence the success of fry stocking there. In contrast, large walleye fingerlings raised to 40mm TL in ponds often survive well when stocked in alewife-dominated communities (Olson et al. 2000).

Studies have shown that bigger fingerlings are not necessarily better for every system. Olson et al. (2000) found that fall-stocked fingerlings did not have a consistent survival advantage over spring stocked fingerlings. Fall fingerlings also averaged 19.3% smaller than pond raised fingerlings at the end of their first growing season. They concluded that the abiotic and or biotic factor that determines survival of fall fingerlings began operating very soon after stocking. Other studies have found smaller stocked fingerlings to have a better survival rate than larger stocked fingerlings (e.g. Koppelman et al. 1992).

8.6 A Note on the Owasco Lake Angler's Association

I met briefly with Chet Crosby to discuss the program this organization has been pursuing for the last few years. This group has also tried to raise walleye fingerlings in earthen ponds for Owasco Lake. They have done it for about three years and have had some very successful years and some not so successful years. Crosby stressed the importance of using public land for the ponds. They invested money in a privately owned pond and the owner decided that he or she did not want to drain the pond at the end of the season, thus they lost their investment. Crosby also stated that the only way the Sportsmen's Club will be able to raise the fingerlings is with ABSOLUTE commitment from volunteers. Walt Zeely at Carpenter's Brook Fish Hatchery also stressed the same point.

Otisco Lake. These improvements are necessary, in 1999 it was not possible to fill the ponds and production is declining.

Table 4. Carpenter's Brook Walleye Fingerling Production 1985 to 1998

Year	Acres Used	# Fry Stocked	Fingerlings Produced	Stocking Site	Problems	% Success	Total Cost	Cost per Fish
1985	0.5	15,000	503		water loss, cattails, too much fertilizer, cold water	3.4%		
1991			8,000 (2")	Otisco Lake				
1992	0.5	25,000	22,000 (2.5")	Otisco Lake		88.0%	\$2,997.54	\$0.14
1993	0.75	65,000	12,000 (1.5")	Otisco Lake	harvest help, hot weather, algae in nets			
1995	0.25	65,000	8,000 (1.75-2")	Jamesville Reservoir	low D.O. at harvest, lack of experience, lack of good records,	11.4%	\$2,144.00	\$0.27
1997	0.5	65,000	9,200 (1.75-2")	Jamesville Reservoir = 6400 Tully = 2,400	unexplained water quality problem	14.2%	\$329.52 used residual supplies from previous year	\$0.04
1	0.5	65,000	5,555	Jamesville Reservoir	too much flow, leakage, fry stocking rate too high	8.5%	\$1,124.75	\$0.20
1999					Water too low to fill ponds			
Mean	0.5	50,000	9,323			25%	\$1,648.95	\$0.16

* Years project not implemented: 1986 - 1990, 1994, and 1996.

*approved by Walt Zealy

10. Potential Stocking Management Strategies

Stocking is the most widely used management tool in many states. It can be used to manipulate community structures. In this case we would use stocking to enhance the top predator community in the lake. This will have community level impacts, such as constraining pan-fish populations (bluegills etc.). It could also provide social changes, such as increased fishing (and thus mortality). Some criticize stocking as being a short term answer to a long term problem. While stocking does add fish to a fishery, it may not encourage enhancement of conditions for natural reproduction. So we need to consider long term objectives and strategies to meet our management goals.

First we need to fully understand our objectives for managing the walleye fishery in Otisco Lake and Jamesville Reservoir. I think there are two potential objectives. First, we want to ensure and potentially enhance walleye fishing in Otisco Lake and Jamesville Reservoir. The second objective is to create conditions which would decrease the costs

10.2 Jamesville Reservoir

According to the 1990, 1995, 1997, and 1998 surveys, biologists believe Jamesville Reservoir had a "pretty good" walleye population. However, I do not know definitively the condition of the community structure. The reservoir has been stocked with fingerlings in the 1980's and 1990's, and there is evidence of natural reproduction for four different age classes. There are no alewives in the reservoir, and the abundance of other planktivorous fish may be a low enough to support natural reproduction.

The reservoir needs to be sampled before any action is taken. First we need to know how many adults there are and how much natural reproduction is occurring. I would recommend sampling in the spring (just after ice-out) with trapnets in locations where adults are spawning. Then, sample for fry with the high-speed miller sampler once fry would be present. In the summer the reservoir should be sampled with hydroacoustics. If there is evidence for natural recruitment, I would recommend ceasing stocking and observing the walleye population for trends.

No matter what strategy managers decide on for Otisco Lake, Carpenter's Brook Fish Hatchery's ponds will be available for five years to potentially raise fingerlings. However there is a danger to stock Jamesville Reservoir just because resources are available. Stocking has been shown to be least successful when supplementing naturally reproducing populations and it could potentially stunt the population.

10.3 Other Considerations

Studies have shown that stocking bigger walleye fingerlings does not always generate more of a return (Olson et al. 2000). Survival rates of spring and fall stocked fingerlings may not differ but often the growth rates do. In fact, Otisco Lake spring stocked walleye appear to have a better growth rate than fall stocked walleye. I suggest, spring stocked fingerlings are the best option for Otisco Lake for two reasons. First, there is little evidence to support raising fish that cost much more but yield little additional returns. Secondly, if the fingerlings are to be raised at Carpenter's Brook Hatchery, only spring fingerlings will be available since the ponds are slated for other activities mid-summer.

Ironically, one of the biggest problems Carpenter's Brook notes is a lack of help on the day of fingerling harvesting. Currently Carpenter's Brook is creating a half-acre lined pond to raise fingerlings. There is the potential to plastic-line three more ponds equaling 1.25 acres. The total area of lined ponds could be 1.75 acres. Walt Zealy from the hatchery suggests that the renovation of these ponds could enable them to produce 30,000 to 40,000 fingerlings with the support from volunteers.

New York State recommends stocking earthen ponds with 30,000 fry per acre. A reasonable success rate for raising pond fingerlings from fry in a well-maintained pond could be 50% to 60%. This would mean raising 12,000 fingerlings per acre. For Otisco Lake, that would require 3.75 acres worth of ponds. Quarter to half-acre ponds are most accessible for removing fingerlings. The ponds must be able to hold water and be drained every year to discourage insect, amphibian and plant infestation. Other problems that must be overcome include groundwater seepage, water availability, excessive plant growth and volunteer commitment.

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NEW YORK CHAPTER—AMERICAN FISHERIES SOCIETY

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May 27, 1999

To: Patty Thompson
SS# 132 72 9262
213 Greenwood Place
Syracuse, NY 13210

Re: NYCAFS Funding Walleye Management Plan

Dear Patty:

Please find enclosed check number 1028 for five hundred dollars (\$500.00) to cover the initiation of the walleye management plan as per letter dated 2 March 1999 to you and John Burnett from Margaret Murphy.

The New York Chapter American Fisheries Society has agreed to provide grant funding for the walleye management plan project.

By endorsement of this check you agree that you are an independent contractor (student) and agree that your conduct will be consistent with such status, that you will neither hold yourself out as nor claim to be an officer or employee of the NYCAFS and that you will not make any claim, demand and/or application for any right or privilege applicable to an officer or employee of the NYCAFS, including but not limited to, worker's compensation coverage, unemployment insurance benefits, social security cover or retirement benefits. As such, you are personally responsible for all federal, state, and local income taxes, if any, that may be associated with this funding. In addition, you agree to comply with all applicable laws in the jurisdiction in which this project is performed.

We wish you the best of luck with this project. If you have any questions or need help please feel free to call at the above number.

Sincerely yours,
NYCAFS


John Homa, Jr., Sec/Tres.

cc: A. Peterson, NYCAFS President

JH99-01/afsny 1-pt059a

Northeastern Division of the American Fisheries Society

Annual Meeting Update

Patricia F. Thompson, Editor

April, 1998

Our Purpose

The Newsletter committee is charged with the duty of ensuring relevant and timely communication of professional and Society activities and functions to Division members through establishment and monitoring of a news acquisition system, and dissemination of this information in the Division Newsletter. In essence, we print all the news that's fit to read.

Accomplishments

The SUNY ESF Chapter published our first edition back in December. Updates from Linda Bireley, the Atlantic International Chapter, Southern New England Chapter and the SUNY ESF Chapter were included.

The next issue's deadline is **MAY 4, 1999 (Tuesday)!!!!**

We need

- New York Chapter Update
- Pennsylvania Chapter Update
- Mid Atlantic Chapter Update
- Graduate Student research abstracts
- News items of interest to the Northeast
- Editorials and announcements
- Any and all submissions are welcome

To Contact the Editor

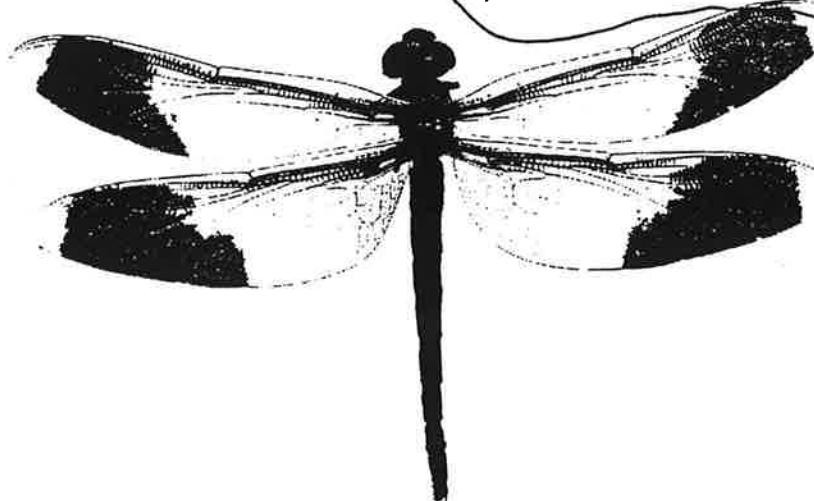
Please email Patty Thompson (pftthom01@syr.edu) or send submissions to:

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Subj: **Re: walleye project**
Date: 4/15/2000 12:14:43 PM Eastern Daylight Time
From: pftom01@mailbox.syr.edu (Larval Phish)
To: IALansing@aol.com

ORIGINAL

Hi John,

Well, the remainder is \$500. So the check should be for \$250.

When the final report is submitted then you can send me another check for \$250. Thanks so much.

Peace,
Patty

On Fri, 14 Apr 2000 IALansing@aol.com wrote:

> Patty:
>
> Thats fine.
>
> But, can you help me?
>
> Just tell me how much, I'll try to mail it Monday as our meeting seems to be
> up in the air.
>
> John H.
>

----- Headers -----

Return-Path: <pftom01@mailbox.syr.edu>
Received: from rly-yb05.mx.aol.com (rly-yb05.mail.aol.com [172.18.146.5]) by air-yb02.mail.aol.com (v70.20) with ESMTP; Sat, 15 Apr 2000 12:14:43 -0400
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Received: from gamera.syr.edu by mailer.syr.edu (LSMTP for Windows NT v1.1b) with SMTP id <0.0028863F@mail.syr.edu>; Sat, 15 Apr 2000 12:14:29 -0400
Received: from localhost (pftom01@localhost) by gamera.syr.edu (8.8.7/8.8.7) with ESMTP id MAA06644 for <IALansing@aol.com>; Sat, 15 Apr 2000 12:14:28 -0400 (EDT)
X-Authentication-Warning: gamera.syr.edu: pftom01 owned process doing -bs
Date: Sat, 15 Apr 2000 12:14:28 -0400 (EDT)
From: Larval Phish <pftom01@mailbox.syr.edu>
X-Sender: pftom01@gamera.syr.edu
To: IALansing@aol.com
Subject: Re: walleye project
In-Reply-To: <28.447f02c.2628f6fe@aol.com>
Message-ID: <Pine.SOL.4.10.10004151213370.6365-100000@gamera.syr.edu>
MIME-Version: 1.0
Content-Type: TEXT/PLAIN; charset=US-ASCII

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Subj: Request
Date: 99-01-07 09:59:34 EST
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I received a request from Les Monostory of the Onondaga County Federation of Sportsmens Clubs for help in developing a long range plan for the rearing, stocking, and management of walleye in Onondaga County with the primary goal of maintaining a healthy population of walleyes in Otisco Lake and Jamesville Reservoir. I have talked to Patty Thompson, President of SUNY-ESF Chapter to find out if any students would be interested in designing the plan, with oversight from me (or any other NYC member - I'm on campus 1-2 times per week so I thought it would make it easier). She said there are students that would be willing to pursue this.

My question to the excomm is: can we allocate some funds (\$1,000?) to support a student and to give a little more incentive to do a good job. The NY Chapter will get credit for the report as well as the involved student(s). I know we've discussed at previous business meetings that research is a goal of the chapter and I thought this might be a good time to act on it. It is a great opportunity for the NYC to take action at the sportsmen level directly. I'd like to be able to vote on allocating some amount of money to this at the excomm at the end of the month.

Please send me any comments before then. Thanks.

Margaret

----- Headers -----

Return-Path: <MurphyMH@obg.com>
Received: from rly-yd04.mx.aol.com (rly-yd04.mail.aol.com [172.18.150.4]) by air-yd02.mx.aol.com (v56.14) with SMTP; Thu, 07 Jan 1999 09:59:34 -0500
Received: from obg.com ([207.10.65.2])
by rly-yd04.mx.aol.com (8.8.8/8.8.5/AOL-4.0.0)
with SMTP id JAA01950 for <ialansing@aol.com>;
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New York Chapter
American Fisheries Society Newsletter
Winter Edition 2000



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Past President: Margaret Murphy
President-Elect: Don Stewart
Secretary-Treasurer: John Homa

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Audit/Finance: Lars Rudstam
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Resolutions: Dave Bryson
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Newsletter: John Farrell
Professional Incentives: Web Pearsall
Workshop: Dave Lemon
Professional Diversity: Mark Olsen
Student Affairs: Margaret Murphy, Dave Nettles
Youth Education: Doug Carlson, Chris Lowie

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Newsletter: John M. Farrell
Address: SUNY-ESF, Department of Environmental and Forest Biology, 253 Illick Hall, Syracuse, NY 13210
Issue Number: Winter, 2000

AFS - New York Chapter Newsletter -- January, 2000

Editor's Note

Welcome to the new millennium! Does it feel any different? I hope everyone had an enjoyable holiday. Thanks for your contributions over the last year. Please send me any information you have for the next issue!

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President's Corner

Well people, there's not a great diversity of news to report upon this winter. That is because virtually all of the Chapter's efforts have been going into one really huge project - the annual meeting. The amount of work that our members have been putting in has been pretty impressive. By now you have seen the registration and preliminary agenda. I encourage you all to attend this meeting - it promises to be a good one. It has evolved beyond a simple joint meeting to a regional conference which will include displays by commercial vendors. We also expect significant attendance from outside New York. Rumor has it that the foresters may drag the entire Ranger school out of the woods to attend. The Northeast Division of AFS has promised financial support if needed.

Of course it will be even better if you remember to submit abstracts for papers and posters. **Dan Josephson** promises to dance on a table in a skirt if we turn in more abstracts to him than the Foresters and Wildlifers (Dan - I'll bring the skirt!).

I extend my sincerest thanks to all the volunteers who have been working so hard on this meeting. I'd list you all but then this letter would be far too long!

Have a safe and Happy Christmas and New Year's and I'll see you all in Syracuse in January.

Allen Peterson
President

Chapter News

NY CHAPTER AFS Elections

At the upcoming NY CHAPTER AFS Annual Meeting in Syracuse new Executive Committee officers will be elected during the business meeting. **John Homa** has been nominated for Secretary-Treasurer; **Web Pearsall** and **John Farrell** have been nominated for President-Elect. Candidate biographies for President-Elect are printed below to help you to get to know them.

Biography of Webster Pearsall

Webster Pearsall is a Senior Fisheries Biologist with NYSDEC Region 8 in Avon NY. Web is responsible for the management of the fishery resources in Canandaigua Lake, and Wayne, Monroe, and Orleans counties, including the near-shore waters of Lake Ontario and some of its largest bays. In addition, Web manages the Finger Lakes Zebra Mussel Monitoring Program and co-coordinates NYSDEC's Aquatic Nuisance Species Program. Web is a native of central New York, but spent the last 11+ years working for the State of Maine Department of Environmental Protection, over nine of those years as an Aquatic Biologist. While in Maine, Web became a member of the Atlantic International Chapter (AI), while retaining membership in the New York State Chapter. During his time in Maine, Web constantly returned to participate in New York Chapter meetings each winter. Web returned permanently to New York State in 1998 to begin his career as a NYSDEC Fisheries Biologist. Web earned a BS in Forest Biology (Fisheries emphasis) from the State University of New York College of Environmental Science and Forestry (SUNY ESF) in 1982. He received his MS from SUNY Fredonia in 1989 while studying age, growth and resource partitioning between black and white crappie in Chautauqua Lake. While at ESF, Web was instrumental in resurrecting the ESF Chapter of AFS, and served as President. Since that time, Web has been actively involved in the New York and AI Chapters of AFS in a variety of roles including judging presentations and moderating sessions. Web is currently the Chair for the New York Chapter's Professional Incentive Committee. As NY Chapter president, Web would be particularly interested in pursuing ideas for increasing the Chapter's membership, and broadening membership participation in Chapter activities. Web loves spending time outdoors regardless of the season, and working around the new home he and his wife Heidi recently purchased in Manchester.

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Upcoming events

NY State Tri-Society Meeting, January 27-29, 2000

"Strategies for Stewardship of New York's Natural Resources"

Wyndham Syracuse
6301 Route 298, Carrier Circle
East Syracuse

Program Chair for NY Chapter AFS Dan Josephson (315)
369-6781; dcj3@cornell.edu

Registration Information call Diana Bryant (607) 255-2155

AIBS Annual Meeting, March 22-24, 2000

From 22 to 24 March next year, some of the country's most preeminent scientists will gather in Washington to review the major advances in organismal and integrative biology made during the last century and look ahead to future goals and challenges. The meeting is being cosponsored by the American Institute of Biological Sciences and the Smithsonian Institution. "Biology: Challenges for the New Millennium," which is also the 51st annual meeting of AIBS, will be held at the Smithsonian in Washington, DC. REGISTER EARLY-- this extraordinary meeting is limited to 500 attendees!

Speakers at this unique millennial event include such notable scientists as:

Stephen J. Gould
Daniel H. Janzen
Gene E. Likens
Lynn Margulis
Gordon Orians
Ghillean Prance
Marvalee Wake
Edward O. Wilson

Topics include Behavior, Biodiversity & Conservation, Development & Morphology, Ecosystems, Energetics, Environment, Evolution, Integration, Regulation, and Science & Society. Attendees and speakers will convene in breakout synthesis sessions following plenaries to discuss the presentation topics and prepare for the meeting's concluding roundtable event on Friday afternoon.

Other meeting features include a lecture by special guest Ernst Mayr, a workshop on the teaching of evolution (co-

sponsored with the National Association of Biology Teachers), and a showing of the Smithsonian's new 3-D IMAX film on the Galapagos Islands. A limited number of poster submissions is also being accepted. Register online now and/or submit a poster abstract at <http://www.aibs.org/meeting2000/index.html>, where you may also obtain a detailed agenda for the meeting. For more information, contact AIBS Meetings Manager Marilyn Maury at 703/834-0812, ext. 203, or <mailto:mmaury@aibs.org>.

IAGLR 2000 43rd Annual International Conference, May 21- 26, 2000

**Great Lakes, Great Rivers 2000
"A Vision For Tomorrow"**

Cornwall, Ontario Canada

We are pleased to invite you to participate in the 43rd Annual Conference of the International Association of Great Lakes Research (IAGLR). The conference, hosted by the St. Lawrence River Institute of Environmental Sciences (SLRIES) in partnership with the University of Ottawa and the Mohawk Council of Akwesasne, will be held at the NavCanada Conference Center, Cornwall, Ontario, Canada from May 21 to 26th, 2000.

<http://www.NAVCANADA.CA/ncti/english/eindex.htm>
Dr. David Lean, Department of Biology, University of Ottawa is pleased to be the Conference Site Chair of IAGLR 2000 conference Great Lakes; Great Rivers 2000 - A vision for tomorrow. The conference is designed to integrate disciplines and to focus on the future health of Great Lakes and the St. Lawrence River Ecosystems for the next century.

ABSTRACTS ARE NOW BEING ACCEPTED!!!
ALL INFORMATION IS POSTED ON THE *NEW*****
IAGLR WEBSITE:
<http://www.iaglr.org>

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relation between body growth and age/size at first reproduction, 3) the relation between growth and natural mortality, and 4) fecundity as a nonlinear function of body size. Life-history dynamics can explain a mechanism that the balance between fishery yield and biomass growth is stable on the right side of a surplus production curve but not stable on the left side. Consequently, many incorrect implications of commonly used age-structured fish population models have been clarified. In the third chapter, I focus on processes of energy partitioning between growth and reproduction. Traditionally, growth patterns have been explained as: 1) consumption minus energy waste and cost, 2) assimilation minus respiration, 3) tissue synthesis minus tissue decomposition, and 4) tissue growth minus reproduction. All of those four interpretations have used the same Pütter-Bertalanffy model. While those modeling interpretations each appear to be biologically reasonable, ambiguity remains when we try to understand the complete bioenergetic system of an organism. I developed a model that resolves that ambiguity by synthesizing in a new way the above relationships. My model emphasizes a control mechanism that endogenous energy flow plays a regulatory role. As a result, my model allows for simulating the process, rather than just the final result, of energy partitioning between body growth and reproduction. In the final chapter, I discuss the linkage between ontogeny of individual energy balance and trophic interchanges. I point out a forgotten control mechanism that, in the classic models for predator-prey interaction, consumption or assimilation rate equals its maximum value multiplied by the use efficiency of the key limiting factor of a given system. My model developed in the previous chapter is conceptually and mathematically consistent with those classic models. Particularly, my model is consistent with Henri's complete form of the Michaelis-Menten model for an open dynamic process. Energy budget regulation is more general than time budget regulation in an ecosystem context. I suggest that a better way to model food-web dynamics may be to start from ontogeny of energetic process and, then, evaluate second order impacts from environmental factors such as resource abundance.

Key words: age-structured fish population, food web, growth compensation, life-history dynamics, maturity densation, open dynamic system, population dynamics, sustainable fishery, tissue turnover, Von Bertalanffy growth function.

Feature Article

Rainbow smelt in the Great Lakes; a successful invader

Susan L. Hardin

SUNY ESF, 106 Illick Hall, Syracuse, New York, 13210

Sue Hardin is a graduate of The Pennsylvania State University, and is currently a Graduate Student at the SUNY College of Environmental Science and Forestry. Her research focus is on northern pike in the St. Lawrence River. She completed the following paper as part of a course assignment.

Abstract: Rainbow smelt have successfully invaded the Laurentian Great Lakes region and are continuing to rapidly increase their range in coldwater environments. They have a eurythermal life history, allowing them to occupy a variety niches, and have an omnivorous diet. Rainbow smelt have established themselves as an important predator, competitor, and prey species. As a result of their versatility, introduction of rainbow smelt has led to changes in the native fish community structure in many aquatic ecosystems.

General Physical and Taxonomic Description

The scientific name of the rainbow smelt, or American smelt, is *Osmerus mordax* within the family Osmeridae, which also includes eulochon of the west coast, pond smelt of the western Arctic and capelin which inhabits the east coast waters. The rainbow smelt is a slender silver fish with an olive to bottle green back, a long pointed head, a large mouth, a small adipose fin, and a deeply forked tail (Bigelow and Schroeder, 1953). Fresh from the water, its sides take on a purple, blue, or pink iridescent hue; characteristics that likely inspired the name, rainbow smelt. It is well documented that they also take on a peculiar 'cucumber' odor. The lower mandible of the fish extends slightly beyond the upper, and on the tip of the tongue are fang-like teeth. Rainbow smelt grow to a maximum length of 35 cm; however, few are more than 20 cm long. They weigh from 28 to 170 grams, with an average of 85 grams.

Distribution

Rainbow smelt is an indigenous species of glaciomarine origin in many freshwater lakes of Eastern North America (Evans and Loftus 1987). Originally an anadromous fish, they have been able to adapt to a strictly freshwater

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vans, D. O. and Loftus, D. H. 1987. Colonization of Inland Lakes in the Great Lakes Region by Rainbow Smelt, Osmerus mordax: Their Freshwater Niche and Effects on Indigenous Fishes. Can. J. Fish. Aquat. Sci. 44: 249-266.

Hoff, M. H., Link J., and Haskell, C. 1997. Piscivory by Lake Superior lake herring (Coregonus artedii) on rainbow smelt (Osmerus mordax) in winter, 1993-1995. J. Great Lakes Res. 23: 210-212.

Hrabik, T. R., Magnuson, J. J., and McLain, A. S. 1998. Predicting the effects of rainbow smelt on native fishes in small lakes: evidence from long-term research on two lakes. Can. J. Fish. Aquat. Sci. 55: 1364-1371.

NCR website:

www.ncr.dfo.ca/communic/ss-marin/smelt/smelt.html

USGS website:

nas.er.usgs.gov/fishes/accounts/osmerida/os_morda.html

Wisconsin Sea Grant website:

www.seagrant.wisc.edu/Communications/Publications/Fish/rainbowsmelt.html

Agenda

Pre-Conference

Wednesday, January 26, 2000

9 - 5:00* NY SAF Leadership Academy

Conference

Thursday, January 27

9:00** Society Executive Committees and other meetings

9:00 Computer-based Stewardship Workshop (NED)

10:30 Conference registration opens

Lunch on Your Own

PLENARY SESSION

1:00 Welcome, Introductions - *Allen Peterson, NY Chap. Am. Fisheries Soc., moderator*

1:20 Keynote Address: Where you stand depends on where you sit - *Jack Ward Thomas, University of Montana*

2:00 Sustaining our biotic heritage - *Robert Bendick, The Nature Conservancy*

2:30 Community-based management - *Larry Nielsen, Penn State University*

3:00 **BREAK**

3:30 Human values and motivations and their implications to foresters and biologists - *Steven Kellert, Yale University*

4:00 Assessing the potential of distance learning techniques - *Carol Conroy, Cornell University*

4:30 Challenges and strategies before us in NY - *Peter Duncan, NYS Dept. of Env. Conservation*

5:00 Dinner on Your Own

6:30 Evening Social (all invited)

• NY SAF Centennial Celebration

• Followed by an open bar and poster session

9:30 Adjourn

Friday, January 28

8:30 CONCURRENT SESSIONS

Session 1: Sustaining Our Biotic Heritage
Moderators: *Chad Covey, DEC and Sandy Bonano, TNC*
Outcome: Learn strategies and applications to maintain and enhance biological diversity

Session 2: Distance Education
Moderators: *Ross Jacobs and Chuck Spuches, SUNY-ESF*
Outcome: Experience current technologies for distance education

Session 3: Community-based Management
Moderators: *Dan Decker, Cornell University and Mark Lowery, NYS DEC*
Outcome: Understand how to work with local communities to manage natural resource issues

* Call Mike Virga at 315-348-2208 for information.

** To reserve a room for a committee meeting call Margaret Murphy at 315-437-6100.

**PROPOSED -- 2000 BUDGET
NEW YORK CHAPTER AMERICAN FISHERIES SOCIETY**

Projected Revenues

2001 Annual Meeting	
2000 Membership Dues	\$ 5,000.00
Interest	\$ 2,500.00
Raffle	\$ 800.00
2000 Workshop	\$ 350.00
	<u>\$ 3,000.00</u>
	\$ 11,650.00

Projected Expenses

2001 Annual Meeting	
Office Supplies	\$ 5,500.00
Postage	\$ 100.00
Newsletter/membership list	\$ 450.00
2000 Workshop	\$ 700.00
Donations	\$ 2,400.00
Awards for Best Papers	\$ 300.00
Student Travel Award for NEDor Nat. Meeting	\$ 300.00
Raffle	\$ 250.00
NED AFS Meeting - Travel/Expenses	\$ 200.00
AFS Nat. Meeting - Travel/Expenses	\$ 450.00
	<u>\$ 1,000.00</u>
	\$ 11,650.00