



Atlantic International Chapter

NEWSLETTER

Vol. XXXII No. 1

March 2005

PRESIDENT

GREG MACKEY

Maine Atlantic Salmon Commission
Downeast Field Office, Route 1A
Jonesboro, Maine 04648
Phone: (207) 434-5920
E-mail: Greg.Mackey@maine.gov

VICE-PRESIDENT

SHAWN GOOD

District Fisheries Biologist
Vermont Dept. of Fish & Wildlife
Rutland North District Office
271 North Main St., Suite 215
Rutland, Vermont 05701-2423
Phone: (802) 786-3863
E-mail: shawn.good@nr.state.vt.us

SECRETARY/TREASURER

STEVE SHEPHERD

Aquatic Science Associates, Inc.
86 Starlight Drive
Brewer, Maine 04412
Phone: (207) 989-5056
FAX: (207) 989-7558
E-mail: aquaticscience@adelphia.net

PAST-PRESIDENT

KATHRYN COLLET

DNRE Fish & Wildlife Branch
P.O. Box 6000
Fredericton, NB E3B 5H1
Phone: (506) 453-2440
Fax: (506) 453-6699
E-mail: kathryn.collet@gnb.ca

President's Message

First of all, I'd like to thank all of you for making my meteoric rise to the top of AIC possible! I'd like to particularly thank our new cast of officers for graciously agreeing to sever the Chapter: Shawn Good, Vice President; Steve Shepard, Secretary/Treasurer; and John Magee, Newsletter Editor. I'd also like to extend many thanks to Kathryn Collette for her services as President last year.

Our Annual Meeting held at the Lake Morey Resort was wonderful. The collection of presentations was of very high quality. We had a number of presentations by students, and we began a tradition of honoring the best student presentation with a yearlong AFS membership. The winner this year was Artie McCollum, from University of Maine, Orono, with his presentation titled: Temperature Effects on Growth in Developing Atlantic Cod: "Measuring SDA in Larval Atlantic Cod (*Gadus morhua*)."
Congratulations, Artie, and thanks to the other students who all did a fine job. I would also like to acknowledge the tremendous amount of work our then Local Arrangements Chair, and now Vice President, Shawn Good did in setting up all the logistics, raffle prizes, and web page work that made this meeting such a success.

This brings me to my major goal for our chapter: increasing student involvement. While recruiting papers for our 30th Annual Meeting, I attempted to get as many student presenters as possible from a wide range of schools. In addition to recruiting more student papers, we also agreed to increase the number of travel stipends for students, providing six students with \$100 travel stipends. We had students present from both University of New Brunswick and University of Maine, and in the future I would like to see students from other schools present. In addition, University of Maine now has a student chapter and University of New Brunswick is in the process of establishing a student chapter. I feel student involvement is important because today's students are tomorrow's professionals as well as tomorrow's AFS members, but also because of the mutual benefit we all gain from providing students an opportunity to present their work, which is often at the cutting edge of fisheries science, in a professional setting. Finally, I'd like to acknowledge and thank the major professors and advisors who support, cajole, and prod their students to come to our meetings and present. In further pursuit of this goal, Steve Shepard has introduced the idea of additional student awards sponsored by individuals, agencies, or companies. This would provide the opportunity to recognize student achievement in AIC at a modest cost (perhaps the price of a student annual AFS membership). I think it is an excellent idea that we will pursue this year.

Looking ahead, our 31st meeting will be held in Maine September 25-27th. We considered the potential conflict with the AFS meeting in Alaska, and considered shifting our meeting earlier or later in the year. In the end, we decided to maintain our traditional meeting time in September, and hope that this does not cause many to have to choose between Alaska and AIC. Adria Elskus and Joan Trial have volunteered to co-chair the local arrangements committee. They have chosen the Rangeley Inn, Rangeley, Maine as the venue for this meeting. We will again be seeking presenters for this meeting, so please begin thinking about presenting your work. A formal call for papers will go out once we have the meeting details worked out.

You chapter has also donated \$100 to the EOS Student Travel Fund for the 2005 AFS Annual Meeting. This fund "directly provides additional access for women and minorities in fisheries programs to the AFS annual conference. This contribution supports the goals of the AFS Strategic Plan to create a climate in which diversity is welcomed, acknowledged and appreciated." We are happy to support his fund.

Once again, thanks to all the chapter members. You have made my relatively brief membership in AIC a lot of fun and professionally invigorating. I look forward to the coming year and putting on a great meeting here in Maine. Keep in mind that it is your participation that makes our chapter successful. If you have not been formally involved in the chapter's activities, consider stepping up this year and getting involved. It is an excellent way to get to know people from other geographic and scientific areas, as well as enriching your professional career. Please feel free to contact me with ideas regarding our upcoming annual meeting.

with other ideas about the chapter.

Gregory Mackey, President

Maine Atlantic Salmon Commission
PO Box 178
Route 1A
Jonesboro, Maine USA 04648
Phone: 207-434-5920
Greg.Mackey@maine.gov

Update - Alewives Confirmed in Lake Champlain Shawn P. Good, VT Fish & Wildlife

In the July 2004 newsletter, I wrote a short article about the recent discovery by Vermont fisheries biologists of a single fish in Lake Champlain identified as an alewife. The identification of that fish was "confirmed" as an alewife based on morphological features. I also mentioned in the article that in August of 2003, Pierre Bilodeau, biologist with the Société de la faune et des parcs du Québec, had collected 6 fish in the Quebec portion of Lake Champlain also suspected of being alewives. The six fish were initially identified by Pierre in the field as alewives and were preserved. At the time however, Pierre was unaware of the recent establishment of blueback herring in southern Lake Champlain, and later some questions were raised about the possibility that his samples could actually be bluebacks, and not alewives. Unfortunately, the preservation of the samples made further morphologic identification impossible, and so Pierre shipped the samples to Irv Kornfield at the University of Maine in Orono. In February 2005, the results of Irv's genetic analysis were received. Irv confirmed that Pierre's initial field identification was correct – the samples were indeed alewives.

Up until these recent discoveries, the only known population of alewives in Vermont was Lake St. Catherine – a lake whose outflow travels approximately 30 miles before entering the Champlain Barge Canal and then southern Lake Champlain. Alewives were first discovered there in 1997 and are thought to have originated from a purposeful but illegal stocking event. Although the origins of these recent collections are still unknown it is not believed that they spread from Lake St. Catherine. Both collections occurred at the opposite end of Lake Champlain from where Lake St. Catherine drains, and no alewives have been collected in fish sampling activities on the 80+ miles of lake in between, so these fish in northern Lake Champlain may have originated from a separate introduction point.

Now the big question among Lake Champlain's fisheries managers is – what does the future hold for this outstanding fishery resource? Only time will tell.

Recent Retiree

Ken Beland retired on Feb 1, 2005 from the Maine Atlantic Salmon Commission, after a 25-year career working with Atlantic salmon. Ken's career with the ASC began in 1980, soon after completing a MS degree program at the University of Maine. He worked out of the Commission office in Machias through the end of 1985, when he moved to the Bangor office, where he spent the rest of his career. He has been involved in all aspects of the Atlantic Salmon program, beginning as a regional biologist at a time when salmon supported viable sport fisheries in Maine, and collaborating with Federal researchers on stock assessments during the decline in salmon abundance of the 1990's, which precipitated the listing of Atlantic salmon in Maine Rivers as Endangered. His past couple years were spent on modernizing data management and collaborating with NOAA and the USFWS on building an integrated and GIS compatible data management system for Maine Atlantic Salmon. Ken has shifted roles with his wife to become the

'adult in charge' for his two sons, work on some family business projects, and hopes to stay active in fisheries through part-time contract work. He can be reached at belandkf@adelphia.net.

CANADIAN RIVERS INSTITUTE (University of New Brunswick) APPOINTS NEW DIRECTOR AND FELLOWS

The Canadian Rivers Institute (CRI) management board has appointed a new director and seven new fellows and associate fellows, five of them from the UNB community.

Allen Curry (UNB Fredericton), faculty of science and forestry and environmental management, was appointed to a four-year term as director. He replaces Rick Cunjak, who stepped down from the director's position in 2004. Dr. Curry had been CRI's acting director for the past year. UNB (Saint John)'s Kelly Munkittrick will remain associate director of CRI.

Kerry MacQuarrie, Karen Kidd, Katy Haralampides and Donald Baird were appointed CRI fellows as principal researchers. Dr. MacQuarrie holds a Canada Research Chair in Groundwater Hydrology and is a member of UNB Fredericton's (UNBF) department of civil engineering. Dr. Kidd is the Canada Research Chair in Contaminants in Aquatic Ecosystems and a professor in UNB Saint John's department of biology. Dr. Haralampides is an assistant professor of hydrology and hydraulics at UNBF's department of civil engineering.

Dr. Baird is the second Environment Canada research scientist appointed to CRI as part of the National Water Research Institute located at UNBF.

Michelle Gray was appointed an associate fellow. Dr. Gray holds a Natural Sciences and Engineering Research Council of Canada post-doctoral fellowship in ecotoxicology at the University of Manitoba.

The CRI team consists of 11 fellows at UNBF and UNBSJ. There are 30 additional associate fellows at various research institutions and agencies worldwide.

In December 2000, UNB formally established the Canadian Rivers Institute (CRI). The mandate of the CRI is to carry out multi-disciplinary research focusing on river ecosystems for the purpose of conservation and habitat restoration.

For further information on CRI, view www.unb.ca/cri.

Summary of Inland Fisheries Field Projects, 2004

Tara Crandlemere, Nova Scotia Department of Agriculture and Fisheries, Inland Fisheries Division

Our Division accomplished another very successful array of research projects throughout Nova Scotia, some of which were continued from last season and others were new research initiatives.

At the beginning of the season our division examined the sea trout populations in River Denys, Middle River, and Lake O'Law Brook in Cape Breton. This project assessed sea run populations on these systems through a mark and recapture project. Fish were live trapped with fyke nets and data collected on age and length. This project methodology worked very well, and provided valuable information on sea run brook trout populations in these three systems. At total of 2,650 fish were marked (adipose fin clipped), 2,100 were captured and 77 were recaptured. On average 7% of the population was greater than 25 cm and 3% was greater than 30 cm. The information gained will also be applicable to mainland rivers.

We continued with our electrofishing project throughout the province. The purpose of the electrofishing project was to test the assumptions

made through the water temperature classification system (MacMillan et al. 2005, in press) that was developed by our division. The Nova Scotia Water Temperature Monitoring project involved the classification of 322 sites on 34 river systems throughout the province into cool, intermediate, and warm thermal categories based on mean summer temperature. There are 104 cool water sites (<16.5°C), 97 intermediate water sites (16.5-19°C) and 121 warm water sites (>19°C). The Nova Scotia stream classification system was based on the assumption that cool water sites are more important to Atlantic salmon and brook trout populations during warm low flow conditions in the summer. Our division electrofished 77 stream sites that were previously assessed through the temperature monitoring project and collected salmonid population and habitat data. Results of the project indicated that brook trout population density was strongly related to water temperature. Approximately, 48 times more trout found in the cool water sites compared to the warm water sites. The distribution of Atlantic salmon did not seem to be strongly related to the thermal nature of streams in our study. Salmon numbers may reflect absence or low numbers of adults returning to spawn rather than freshwater conditions.

The study also examines the impact a potential increase in water temperature could have on the number of cold water sites for trout in the province. Increased water temperature is a possibility in the future and an increase of 2°C in the average summer temperature could result in a 50% loss in trout habitat, which also reflects a 50% gain in the number of warm water sites. The study indicated that a higher percentage of competitor species (white and yellow perch, white sucker, brown bullhead) were found in the warm thermal category. If conditions continue to warm, competitors of trout will benefit.

Our division worked again this summer with Queen's University on the Nova Scotia Paleolimnology project. This project studies a lake's history using information archived in lake sediments. This research is designed to investigate water quality in Nova Scotia using paleoecological indicators. Such indicators of water quality are diatoms and chironomids. This research method allows us to see what long term (150 years) changes have occurred in trout habitat. A total of 35 lakes have been sampled from 2003-2004, and 14 more will be sampled in the 2005 field season.

We continued to work with the Mulgrave and Area Lakes Enhancement Association on the Bottom Draw Facility at Goose Harbour Lake in Guysborough County. The project involves using a siphon to create a bottom draw to release cool water to the St. Francis Harbour River. The bottom draw taps into the cool water in the hypolimnion (bottom layer) of the lake and carries it over the dam; feeding the original stream channel with a cool constant flow of water, approximately 3 million gals/day. This research project did have a positive impact on the water in St. Francis Harbour River with approximately 15 times more flow after bottom draw was operational. A project like this has begun to address a habitat need for brook trout and Atlantic salmon. This research initiative represents a new enhancement strategy and may have applications in other areas where impoundments are present.

A smallmouth bass project was conducted in Cape Breton that confirmed the presence of this non-indigenous species in low numbers in Lake Ainslie, Inverness County. Smallmouth bass were illegally introduced to Lake Ainslie in 2003 but have thus far have not established a spawning population. Habitat analysis has indicated that spawning structure and substrate constitutes less than 4% of available shoreline but may not be a limiting factor to successful colonization based on observations in established bass populations elsewhere. An important consideration to whether smallmouth bass become established in a particular water body may be this species' thermal requirements. If spawning occurs, young of the year smallmouth bass (0+ juveniles) need to accumulate enough fat reserves in their first growing season to survive the winter, or the starvation period. This "geo-thermal exclusion" of smallmouth bass from certain geographic areas of the province may explain the inability of some introductions to become established.

Other smallmouth bass projects in Nova Scotia include: (1) monitoring the distribution of this species provincially and within watersheds, (2) sportfishing tournament monitoring, (3) development of a juvenile density index as a predictive tool for assessing year class strength and recruitment to the fishery, (4) assessing the consequences of illegal introductions to native fauna, ex. speckled trout and the endangered Atlantic whitefish, and (5) regulatory assessment as it relates to "Trophy" and "High Harvest" smallmouth bass fisheries.

An acid rain mitigation committee was formed to look at recommendations put forth in the Hindar Report 2000. The committee contains members from Nova Scotia Salmon Association, Atlantic Salmon Federation, Nova Scotia Power, Nova Scotia Department of Agriculture and Fisheries, Trout Nova Scotia, Department of Fisheries Oceans, and Environment Canada. Inland Fisheries were invited to join the committee, as a technical member while the NSSA will be the lead organization. West River, Sheet Harbour was chosen as the pilot river and the method of mitigation will be lime dosing over a ten- year period. Biomonitoring of the system began in 2004, including water sampling, temperature profiles, and collection of baseline data on fish and invertebrates populations. Inland Fisheries took the lead role in temperature, fish and invertebrate sampling. Dr. Trefor Reynoldson from Acadia University will lead the data analysis of the invertebrate sampling and partner in funding with Atlantic Salmon Federation for potential graduate studies. We would like to thank all the volunteers who were involved in the research projects conducted by our staff and hope that their valuable support continues in the future. For further information on the research projects, please call our office in Pictou (902) 485-5056.

Humboldt Field Research Institute

Northeast Freshwater Fish Origins, Distribution, Status, and Taxonomy June 14 - 18, 2005 (optional field trip/collecting days June 12 - 13) This 3-day seminar will provide a comprehensive study of northeastern U.S. fish origins, distribution and conservation status of freshwater fishes, inclusive of diadromous species. Fish assemblage habitats in both lentic and lotic aquatic environments will be covered, and development of Indices of Biological Integrity (IBI) reviewed. Preserved specimens of 50+ representative fish species, with particular reference to non-game fishes, will be available for laboratory taxonomic learning. Field trips to local lakes, including both day- and night-time beach seining, will ensure hands-on experience in collecting and observing fresh specimens. An updated review of pertinent scientific literature will also be provided. Dr. David Halliwell (david.halliwell@maine.gov) (Ph.D. in Fishery Biology from University of Massachusetts, Amherst) is a certified AFS Fisheries Professional specializing in conservation, aquatic habitat classification, and taxonomy, and is now employed as an Aquatic Biologist with Maine DEP (Augusta). Dave has spent the past 25 years investigating the niches of freshwater fishes while working for and with many northeastern State and Federal fish and water quality agencies. Pertinent studies include researching fishery-related acid rain impacts, aquatic habitat restoration, hydropower-flow issues, forestry-use practices, and water quality concerns. Dr. Halliwell also has considerable past experience teaching University and field courses related to fish and wildlife in Rhode Island, Connecticut, Massachusetts, New York, and Maine, and is co-author of *The Inland Fishes of Massachusetts*. Richard Langdon (rich.langdon@anr.state.vt.us) (M.S. in Fisheries Science from Humboldt State University, CA) will co-instruct this seminar in 2004. Rich also provides over two decades of experience as an aquatic biologist with Vermont DEC (Waterbury), specializing in the study of fish assemblages in running waters. He has developed modifications for the Index of Biotic Integrity for Vermont streams and has adapted them to numeric biocriteria for use in Vermont Water Quality Standards. His research interests include the classification of running water fish assemblages, post glacial fish distribution patterns in western New England, and he is co-authoring the *Fishes of Vermont*, to be published in 2004.

For more information, please contact the Humboldt Institute, PO Box 9, Steuben, ME 04680-0009. 207-546-2821. Fax 207-546-3042. E-mail - office@eaglehill.us. Online registration and information - <http://www.eaglehill.us>

Rights group has a beef with state fish

March 7, 2005

LINCOLN, Neb. --An animal rights group has a beef with the state fish. People for the Ethical Treatment of Animals is asking Gov. Dave Heineman to declare the channel catfish, Nebraska's state fish, off limits to fishing. PETA launched a campaign last year to ban fishing, arguing that it is a cruel thing to do and that fish are intelligent, sensitive animals no more deserving of being eaten than a pet dog or cat. "We ought to protect channel catfish in a manner appropriate to a state symbol ensuring that they don't suffer needlessly at the hands of anglers," said the letter sent Friday and signed by Karin Robertson, who is identified as PETA's fish empathy project manager. Heineman rejected the request. "Fishing is a time honored tradition in Nebraska, and I have no intention of modifying Nebraska's fishing guidelines," he said. The channel catfish, a popular fish with distinctive barbels that look like whiskers, was named Nebraska's state fish in 1997 by then-Gov. Ben Nelson.

A Stewardship Strategy for Fish and Fish Habitat on Prince Edward Island

Rosanne MacFarlane
Freshwater Fisheries Biologist
PEI Department of Environment and Energy
Conservation & Management Division

A concern for the state of stream habitat and a perceived decline in the population of Prince Edward Island's primary sport fish, brook trout, has prompted many community groups to undertake stream enhancement projects. For over 30 years, the bulk of the fish habitat enhancement efforts on P.E.I. have been community driven. The public demand for funding in support of fish habitat enhancement projects is increasing, while the amount of money available is decreasing. There is a need to prioritize streams in order to direct resources at systems which will provide the most return for the investment. Some rivers will require a large input of labour and resources to reach their potential; other systems have received considerable work in the past and simply require ongoing maintenance. A provincial plan is needed which identifies management zones and outlines the stewardship needs of rivers in these zones throughout the province. Community groups have the enthusiasm and desire, but they need assistance in developing work plans that best meet the needs of streams in their areas.



The province of P.E.I., Department of Fisheries and Oceans, and the Souris Wildlife Federation are cooperating in a pilot plan to develop a fish habitat stewardship strategy. The eastern Kings region of P.E.I. has been chosen as a pilot for implementation of the provincial strategy. A coordinator has been hired for 11 weeks to pull together the strategy, with input from local residents and community groups. Although the plan will look at the overall Eastern Kings region, seven rivers will be highlighted: Cow Creek, Cross River, Fortune River, Naufrage River, North Lake Creek, Priest Pond Creek and Souris River.

The management plans will include detailed maps of salmonid spawning areas, critical habitat issues, angling sites, and activities required to protect and enhance fish and fish habitat. Monitoring will be built into each plan to enable an assessment of the effectiveness of enhancement techniques and to determine the success of the project in general. Plans will identify the labour required to carry out the projects.

Community groups have expressed frustration at the lack of long-term planning and inadequate funding with regards to river enhancement on P.E.I. We need to clearly define the problems, state the management goals, outline the steps needed to achieve objectives, find a way to direct resources where they are needed most, and support continued interest and involvement by the general public. Only then will we have measurable long-lasting benefits to the fish species, which dwell within our streams and to the people who derive enjoyment from their presence.

ATLANTIC INTERNATIONAL CHAPTER MEMBERSHIP COMMITTEE REPORT September 21, 2004

In September of 2003, the AIC had 265 paid-up members (141 USA, 122 Canadian, 2 United Kingdom). As of September 16, 2004 the AIC currently has 218 paid-up members (105 USA, 113 Canadian).

Since taking over the chair of this committee in 1997, this is the lowest number of members in the AIC (previous low was 223 in 1999). Also since 1997, this the first time Canadian members out-numbered USA members.

A major change in the last year was the decision to go with electronic distribution of the newsletter. This has simplified the duties of the committee, as no mailing labels are needed anymore.

Gabe Gries has volunteered to take over the duties of committee chair. I thank the chapter for the opportunity to serve as the Membership Committee chair for the past eight years.

Respectfully submitted,

Scott Decker
Membership Committee Chair

John Magee, Newsletter Editor AFS-AIC
Fish Habitat Biologist
New Hampshire Fish and Game Department
11 Hazen Drive
Concord, NH 03301
p (603) 271-2744
f (603) 271-1438
john.magee@wildlife.state.nh.us

