

## **KEEPING TRACK OF AQUATIC INVASIVE SPECIES IN THE GREAT LAKES**

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The Great Lakes basin has been invaded by more than 165 nonindigenous aquatic plants and animals, posing a high level of risk to the ecological and economic health of the region. Of particular concern are impacts imposed by invasive fish such as the Asian carp, ruffe (*Gymnocephalus cernuus*) and round goby (*Neogobius melanostomus*), among others.

Monitoring programs to track the introduction and spread of aquatic invasive species (AIS) are critical to control and extermination efforts. Certainly a silver carp (*Hypophthalmichthys molitrix*) jumping out of the water is tangible, conclusive evidence of their presence. This may not be the case, however, with other species that are more difficult to detect, such as round goby, fishhook waterflea (*Cercopagis pengoi*), or ruffe. To effectively manage the wide range of AIS invasions plaguing the Great Lakes, there is a need for multi-agency monitoring programs that are implemented on a consistent, coordinated, long-term basis and equipped with a diverse set of sampling techniques.

For more than a decade, dedicated AIS monitoring projects have been established in the Great Lakes to track specific species. The ruffe monitoring program is an example of a long-term investigation of general species distribution and population expansion. Instituted in 1992, this surveillance effort covers all five of the Great Lakes and is conducted jointly between the U.S. Fish and Wildlife Service (USFWS) and the Ontario Ministry of Natural Resources (OMNR). These monitoring efforts have paved the way for control measures such as the 2001 effort in Lake Huron to remove adult ruffe using gill nets prior to spawning. Data from 2003 surveys indicate a reduced catch of ruffe, suggesting the success of monitoring efforts and subsequent control measures.

The "Goby Round-Up" (GRU) has also served as a species-specific monitoring effort for population expansion. In 2003, a

multi-disciplinary group of federal, state and private GRU participants worked together to monitor round goby populations in a 100-mile stretch of the Illinois Waterway. In New York, the GRU has been used by USFWS to determine the inland spread of round gobies into the New York State Canal System from the Great Lakes. In 2001, staff from the USFWS Lower Great Lakes Fishery Resources Office, along with volunteers and interns, searched for round gobies using seine and dip nets. In 2003, volunteer anglers fished for round gobies along a 22-mile stretch of the Canal, while USFWS staff trawled in select areas. Monitoring programs that enlist volunteers not only enhance effectiveness of these efforts by increasing the amount of water covered in a given time period, but also provide a prime opportunity for active public involvement.

Monitoring programs also are being conducted to address the potential migration of Asian carp into the Great Lakes basin. In 2003, the movement of bighead (*H. nobilis*) and silver carp was documented in the Cal-Sag Channel of the Illinois Waterway using mini-fyke and trammel nets. Such intensive, dedicated monitoring efforts have provided distribution data, allowing researchers to keep track of the proximity of the carp to the recently installed electric AIS barrier. Monitoring efforts also are underway in waters where species have yet to be established. In the case of bighead carp in Lake Erie, there have been a few isolated catches with other possible incidental sightings reported by boaters and divers. Although these large fish were likely introduced as adults, the possibility of natural establishment through reproduction still exists. Also of concern are those species important in the live food-fish industry and/or pet industry, such as the Asian carp and snakehead (*Channa spp.*). Because these species can be introduced at any point along their known "economic range" on land, there is support for monitoring waters where AIS establishment has yet to be confirmed.

In addition to field research, AIS monitoring benefits from outreach efforts such as the distribution of AIS watch cards to anglers and sportsmen. The species-specific information provided on these ID cards enables a large number of resource users to contribute to monitoring efforts through incidental sightings. Observations by commercial fishers in their daily deployment of gear can also provide a valuable source of incidental monitoring data. Another indirect approach is the assessment of sea lamprey (*Petromyzon marinus*) scars on lake trout (*Salvelinus namaycush*). The rate of scarring observed on the fish is an indication of sea lamprey abundance and is used to determine the effort needed for sea lamprey control in each of the Great Lakes. Such indirect incidental data collection often represents the first evidence of a new AIS invasion. Fundamental to effective monitoring programs are robust, ongoing outreach and education efforts aimed at stakeholders who may incidentally discover AIS through their varied individual activities.

The Great Lakes Commission, in collaboration with the Great Lakes Panel on Aquatic Nuisance Species, is currently working on a pilot project for the Lake Michigan basin to provide guidance on establishing a coordinated, regional early detection and monitoring network. Components under consideration for this network include a centralized reporting system and associated protocols, a needs assessment, and integration of data from dedicated surveillance programs along with cases of incidental sightings.

Long-term AIS monitoring programs in the Great Lakes basin are critical for effective management involving eradication and control. To support these efforts, confirmed AIS sightings should be reported to the U.S. Geological Survey Non-indigenous Aquatic Species Program website at: <http://cars.er.usgs.gov/> or call 1-877-STOP-ANS. **Contact:** Michael Goehle, USFWS, 716-691-5456 ext.32, [Michael.Goehle@fws.gov](mailto:Michael.Goehle@fws.gov).

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## Great Lakes Panel Update

The next meeting of the Great Lakes Panel, will take place April 26-27, 2004, in Ann Arbor, Mich. The Panel meeting will be followed by *Aquatic Invasive Species Workshop: Baltic Sea-Great Lakes Partnerships*. This April 27-29 workshop will convene representatives from the Baltic and Great Lakes regions in efforts to advance international collaboration among research scientists and policymakers.

Work continues on the ANS early detection and monitoring pilot project for the Lake Michigan basin. As part of the project, results from a survey of Lake Michigan monitoring entities are being compiled and will be available online soon. A project workshop will be held in spring or early summer to develop guidelines and recommendations for a coordinated early detection and monitoring network. **Contact:** Kathe Glassner-Shwayder, Great Lakes Commission, 734-971-9135 ext. 108, [shwayder@glc.org](mailto:shwayder@glc.org).

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## Washington Watch

The Diplomatic Conference for the Ballast Water Management for Ships was convened in London, England, Feb. 9-13, 2004, under the auspices of the International Maritime Agency (IMO). As an agency of the United Nations, the IMO is responsible for the safety and security of shipping and the prevention of marine pollution from ships. Sens. Levin (MI) and Collins (ME) and Reps. Gilchrest (MD) and Ehlers (MI), sponsors of the National Aquatic Invasive Species Act (NAISA), wrote to the U.S. Coast Guard urging that the convention on ballast water management explicitly reflect that it is a minimum standard for domestic action and contain tighter deadlines with less opportunity for indefinite delay. Information on funding levels for select invasive species initiatives may be found at [www.nemw.org/biopollute.htm#approps](http://www.nemw.org/biopollute.htm#approps). **Contact:** Joy Mulinex, Senate Great Lakes Task Force, Northeast-Midwest Institute, 202-224-1211, [joymulinex@levin.senate.gov](mailto:joymulinex@levin.senate.gov).

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## Around the Basin

**ILLINOIS:** A communications component of the Asian carp rapid response plan for the Chicago Waterways has been developed and implementation is underway. The 2004 fishing information booklet of the DNR will feature an invasive species message. The state ANS program website has been redesigned and is accessible at [www.iisgcp.org/il-ans](http://www.iisgcp.org/il-ans). **Contact:** Pat Charlebois, IL-IN Sea Grant, 847-872-0140, [charlebo@uiuc.edu](mailto:charlebo@uiuc.edu).

**INDIANA:** The state continues to develop its ANS program through pursuit of funding opportunities and the conduct of a search for an ANS coordinator. **Contact:** Tom Flatt, IDNR, Division of Fish and Wildlife, 317-232-4093, [tflatt@dnr.state.in.us](mailto:tflatt@dnr.state.in.us).

**MICHIGAN:** Gov. Jennifer Granholm joined the Council of Great Lakes Governors in a letter to Congress supporting NAISA. The letter is available on the Council's web site at: [www.cglg.org](http://www.cglg.org). The DEQ submitted written comments and testimony urging expedited development of ballast water standards to the U.S. Coast Guard at a public meeting (Oct. 31, 2003, Cleveland) on the creation of a Programmatic Environmental Impact Statement to develop ballast water treatment standards for ANS. **Contact:** Emily Finnell, MI DEQ, 517-241-7927, [finnelle@michigan.gov](mailto:finnelle@michigan.gov).

**MINNESOTA:** The DNR is leading an effort to determine potential options to limit the spread of Asian carp via the Mississippi River. MDNR, USFWS and Wisconsin DNR are funding a study to determine the likely impacts of the carp to fish, wildlife and recreation; and identify and rank potential methods to limit their movement in the Mississippi and tributaries. The next steps to limit the Asian carp spread will be determined following the completion of the study in March. **Contact:** Jay Rendall, MDNR, 651-297-1464, [jay.rendall@dnr.state.mn.us](mailto:jay.rendall@dnr.state.mn.us).

**NEW YORK:** State emergency legislation has recently been passed banning possession of live Asian carp and snakeheads throughout the state. The regulation is in effect for 90 days while the DEC receives comments, after which the commissioner will decide whether to make the rule permanent, modify or retract it. Possession of live bighead carp remains legal in New York City. **Contact:** William Culligan, NYSDEC, 716-366-0228, [wjullig@gw.dec.state.ny.us](mailto:wjullig@gw.dec.state.ny.us).

**OHIO:** The remnants of Ohio's canal systems are being assessed to determine their vulnerability to ANS movement and spread. The state is beginning an effort to evaluate the efficacy of sea lamprey control alternatives to TFM for Lake Erie tributaries. The DNR has updated an agreement with other state agencies for which the Division of Wildlife provides funding for control of invasive plants on state-owned lands. **Contact:** Joseph B. Mion, OH DNR, 614-265-6346, [Joe.Mion@dnr.state.oh.us](mailto:Joe.Mion@dnr.state.oh.us).

**ONTARIO:** In late October 2003, the discovery of a single grass carp in the Don River in Toronto resulted in a number of agencies and partners working together to develop and implement additional surveillance. Monitoring of the live food fish markets in the Greater Toronto Area is underway to assess current availability of species of concern. The Ontario Federation of Anglers and Hunters is working with OMNR to raise awareness of concerns and laws associated with releasing fish. **Contact:** Beth MacKay, OMNR, 705-755-1950, [beth.mackay@mnr.gov.on.ca](mailto:beth.mackay@mnr.gov.on.ca).

**PENNSYLVANIA:** The Pennsylvania Fish and Boat Commission promulgated regulations on Sept. 26, 2003 to reduce the risk of ANS introduction and

spread throughout the commonwealth. In addition to the previously listed snakehead, these regulatory amendments prohibit the sale, transport and possession of live black carp, bighead carp, silver carp, zebra mussel, quagga mussel, round goby, tubenose goby and European rudd. **Contact:** Jim Grazio, PA DEP, 814-332-6677, [jagrazio@state.pa.us](mailto:jagrazio@state.pa.us).

**WISCONSIN:** The DNR and UW-Extension will be sponsoring workshops this year to train volunteers regarding the conduct of watercraft inspections at boat landings and AIS monitoring. The DNR also will be conducting demonstrations for boaters and anglers on proper cleaning of boats, trailers and equipment at major boat and fishing expos held around the state this winter. **Contact:** Ron Martin, WI DNR, 608-266-9270, [martir@dnr.state.wi.us](mailto:martir@dnr.state.wi.us).

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## National ANS Task Force

The spring meeting of the Task Force is being planned for May. Staffing is currently in transition with openings for the following two leadership positions: the USFWS Branch Chief of Invasive Species and the ANS Task Force Executive Secretary. **Contact:** Everett Wilson, Acting ANSTF Executive Secretary and USFWS Division Chief, Environmental Quality, 703-358-2148, [Everett\\_Wilson@fws.gov](mailto:Everett_Wilson@fws.gov).

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## Upcoming Events

- ♦ *Meeting of the Great Lakes Panel on Aquatic Nuisance Species*. April 26-27, 2004. Ann Arbor, Mich. **Contact:** Kathe Glassner-Shwayder, Great Lakes Commission, 734-971-9135 ext. 108, [shwayder@glc.org](mailto:shwayder@glc.org).
- ♦ *Aquatic Invasive Species Workshop: Baltic Sea-Great Lakes Partnerships*. April 27-29, 2004. Ann Arbor, Mich. **Contact:** Jon MacDonagh-Dumler, Great Lakes Commission, 734-971-9135 ext. 103, [jonmacd@glc.org](mailto:jonmacd@glc.org)
- ♦ *55<sup>th</sup> Annual Meeting of the American Institute of Biological Sciences* featuring: *Invasive Species: The Search for Solutions*. For more information, see [www.aibs.org/annual-meeting-2004/](http://www.aibs.org/annual-meeting-2004/)
- ♦ *Experts Meeting on the Implementation of a Global Invasive Species Information Network*. For more information, see: <http://gisin.infointl.com>

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## On The Bookshelf

- ♦ *Review of Non-native Species Policy*, available online at [www.defra.gov.uk/wildlife-countryside/resprog/findings/non-native/report.pdf](http://www.defra.gov.uk/wildlife-countryside/resprog/findings/non-native/report.pdf) and *Review of Non-native Species Policy: Report of the Working Group*, available online at [www.defra.gov.uk/wildlife-countryside/resprog/findings/non-native/](http://www.defra.gov.uk/wildlife-countryside/resprog/findings/non-native/) **Contact:** The UK Department of Environment, Food and Rural Affairs (DEFRA).