

ASIAN CARP POISED TO INVADE THE GREAT LAKES

Mike Conlin, Illinois Department of Natural Resources

Several species of Asian carp are under surveillance for potentially devastating effects upon the Great Lakes-St. Lawrence ecosystem. Species of concern include the bighead carp (*Hypophthalmichthys nobilis*), silver carp (*Hypophthalmichthys molitrix*) and black carp (*Mylopharyngodon piceus*). These species fit the profile of successful Great Lakes invaders because of their vast mobility, high reproductive capacity and voracious consumption habits.

Bighead and silver carp, native to China, were introduced in the southern Mississippi River basin to support aquaculture operations by controlling plant and algae in fish ponds. These invasive fish escaped from the ponds during the floods of 1994 and migrated through the Upper Mississippi and Illinois River systems expanding to high population levels in all major tributaries. As phytoplankton and zooplankton feeders, bighead and silver carp have the potential to significantly disrupt the food web of the Great Lakes ecosystem. Also threatened is the commercial fishing industry, as invading Asian carp clog fishing nets and scare away commercial catch. An infamous trait of the silver carp is their ability to "leap" from the water into recreational and commercial boats, at times physically harming passengers.

The black carp, also from China, was imported by aquaculture farmers in Arkansas to control snails and has not yet escaped into the wild. If, however, this invasive fish did become established in the Mississippi River and Great Lakes, it would pose a significant risk to commercial shellfish stocks and endangered mollusks. The U.S. Fish and Wildlife Service (USFWS) has assessed the black carp as an injurious species under the Lacey Act and proposed a ban of their import and interstate transport, currently pending.

While aquaculture imports are considered the main pathway of introduction of Asian carp, there also is concern about the potential introduction to the Great Lakes through the live food fish industry. In Ontario, a risk assessment

completed in 1999 indicated the overall pathway risk is high.

This past summer, bighead and silver carp were spotted 60 miles from the Great Lakes in the upper Illinois River, connected to Lake Michigan by the human-built Chicago Sanitary and Ship Canal. An electrified dispersal barrier near Romeoville, Ill., built by the U.S. Army Corps of Engineers, is the only impediment that keeps the carp from advancing into the Great Lakes. This barrier, activated in the spring of 2002, generates an electric field to prevent fish migration between the Mississippi River system and the Great Lakes.

The dispersal barrier, as it currently stands, can only stall the invasion of Asian carp into the Great Lakes. There is an urgent need for a back-up power supply to be added, so that power outages will not leave the gate open to invasions. Also, given the relatively short life span of barrier building materials (only 2 ½ years), a second barrier which has a longer service life must be built.

Given the location of the dispersal barrier, the state of Illinois holds heightened concern over the transfer of invasive species between the Mississippi River basin and Great Lakes basin; and sees the barrier as crucial to limiting the range of the carp and other invasive fish. The Illinois DNR is researching the efficacy of multiple barrier technologies and the response of bighead carp to an electric field in hatchery raceways. The state also is participating in monitoring efforts at the barrier and strongly supports congressional appropriations for development of an expanded, long-term barrier system.

The Great Lakes Commission has recently advised members of Congress, through the Subcommittee on Energy and Water, to appropriate \$500,000 in FY 2003 to ensure the full and continued operation of the electric dispersal barrier to impede the passage of invasive fish between the Mississippi River basin and the Great Lakes basin. The Commission's position complements those of the Great Lakes

Fishery Commission and the International Joint Commission in efforts to secure financial support from Congress for long-term, fail-safe operation of an ANS barrier system. The Commission and Panel members are working together for passage of the National Aquatic Invasive Species Act of 2002 as a potential funding source to upgrade the dispersal barrier system.

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Great Lakes Panel Update

Considerable staff effort has been focused on the National Aquatic Invasive Species Act (NAISA) of 2002. This legislation, introduced in Congress in September, will reauthorize the National Invasive Species Act (NISA) of 1996. Panel-approved recommendations on NISA reauthorization, an outcome of a Great Lakes Panel symposium held in May 2001, are well represented in the introduced bill. Panel staff and Panel Chair, Ron Martin, participated with other regional panel representatives in a series of conference calls this summer, coordinated by the Northeast-Midwest Institute, providing guidance as NAISA language evolved. The Commission is now focused on rallying support for NAISA in Congress. **Contact:** Kathe Glassner-Shwayder, Great Lakes Commission, 734-971-9135, shwayder@glc.org.

Washington Watch

Sens. Carl Levin (MI) and Susan Collins (ME) along with Congressmen Wayne Gilchrest (MD), Vernon Ehlers (MI), Brian Baird (WA), and Peter Hoekstra (MI) introduced the *National Aquatic Invasive Species Act of 2002*, federal legislation to slow the onslaught of aquatic organisms invading U.S. waterways. Also introduced in the House is the *National Aquatic Invasive Species Research Act of 2002*. The

bills will reauthorize the National Invasive Species Act of 1996, and represent a coordinated bipartisan, bicameral effort among the lawmakers to address the threat of aquatic invasive species. This comprehensive legislation contains provisions for regulation of ballast discharge from commercial vessels and planned importations of live organisms; a national monitoring network; rapid response funds; state/regional grants; and authorization of research to ensure that proper methods are used for prevention, control and eradication. **Contact:** Joy Mulinex, Senate Great Lakes Task Force, Northeast-Midwest Institute, 202-224-1211, joy_mulinex@levin.senate.gov, website: www.nemw.org/biopollute.htm#laws.

Around the Basin:

ILLINOIS: A new website highlighting Illinois' ANS activities and resources is now online (www.iisgcp.org/il-ans/) and includes a place to report new ANS sightings. A multilingual (English, Korean, Polish and Spanish) brochure on the basic facts of PCBs and occurrence in Great Lakes fishes has been produced (*The ABCs of PCBs: Know Your Catch*). An Asian carp watch card is in development, and will contain information on both the silver and bighead carp. **Contact:** Pat Charlebois, IL-IN Sea Grant, 847-872-0140, charlebo@uiuc.edu.

MICHIGAN: In September, Michigan's ANS State Management Plan Update was formally approved by the directors of the departments of Environmental Quality, Natural Resources and Agriculture. The Michigan legislature passed resolutions in support of the plan and ANS Prevention Day, held Oct. 2, 2002. The Michigan Great Lakes Protection Fund solicited projects for ballast water treatment research in July, awarding Fleet Technology a grant to continue studying the corrosivity of hypochlorite on ballast tanks. Eurasian ruffe was found by the USFWS field staff during a routine survey of Lake Michigan in Escanaba, Mich. **Contact:** Emily Finnell, MI DEQ, 517-241-7927, finnelle@michigan.gov.

MINNESOTA: Sea Grant and the DNR mailed a packet of resource materials, including the videotape *From Net to Sale: Controlling ANS with the HACCP Approach for Baitfish and Aquaculture Industries* to 1,233 licensed minnow dealers/hatchery operators and retail live bait shops across the state. Minnesota and Michigan Sea Grant programs recently completed *ANS-Hazard Analysis and Critical Control Point* workshops in Oregon, Montana and Utah. The USFWS and several natural resources management agencies are planning to implement ANS-HACCP plans to help ensure that their fish stocking operations are ANS free. **Con-**

tact: Doug Jensen, MN Sea Grant, 218-726-8712, djensen1@d.umn.edu.

NEW YORK: The state recently proposed regulations banning the possession, importation, sale and introduction of the Chinese mitten crab. The regulation, out for public review and comment, should be implemented shortly. It is the first state regulation addressing a marine invasive species, and the second state regulation dealing with ANS in general since zebra mussel regulations were promulgated in 1991. Last year, the state implemented a regulation prohibiting the use of round goby as bait. The first draft of the revised state ANS management plan has been completed. **Contact:** Timothy Sinnott, NY DEC, 518-402-8970, txsinnot@gw.dec.state.ny.us.

OHIO: The DNR's new color poster, *Aliens Among Us*, presents ANS graphics (fish, mollusks, and plants) and ways to prevent their spread. Other outreach efforts include development of an ANS prevention sign to post at boat ramps, collaboration with the Center of Science and Industry (COSI) to incorporate ANS education into middle school programs, and the distribution of goby and ruffe "watch" cards. A number of wetland areas were chemically treated to manage populations of purple loosestrife. Stream and lake surveys are being conducted to monitor the distribution and spread of nonnative fish and mollusks in Ohio. Letters of support were sent to the USFWS to add snakeheads and black carp to the list of injurious wildlife. Legislative support also is being garnered for NISA reauthorization.

Contact: Randy Sanders, OH DNR, 614-265-6344, randy.sanders@dnr.state.oh.us.

ONTARIO: Work with the federal government continues in developing a national strategy on alien invasive species, including a joint meeting of the Council of Canadian Resource Ministers. A separate initiative, the 18-month review of the implementation of the *National Code on Introductions and Transfers of Aquatic Organisms*, continues into next year.

Contact: Beth MacKay, OMNR, 705-755-1950, beth.mackay@mnr.gov.on.ca.

PENNSYLVANIA: The fish hook water flea (*Cercopagis pengoi*) is appearing in large numbers off shore of Erie, Pa. Several complaints have been received from anglers down-rigging for walleye and steelhead because water fleas are tangling around their lines, making reeling difficult. *Bythotrephes cederstroemi* has infested these waters for years, not affecting the angling public to this degree. Apparently the fish hook's longer tail may be more efficient at wrapping around angler fishing lines. **Contact:** Eric Obert, Pennsylvania Sea Grant, 814-898-6420, eco1@psu.edu.

WISCONSIN: The DNR has developed a series of Wild Cards for a variety of plants and animals found in Wisconsin, including nine aquatic invaders. The cards, especially designed for children,

include photos of the species, a description of identifying characteristics, and why it is a problem. An exotic fish virus is suspected of killing more than 10 tons of carp in Cedar Lake in northwestern Wisconsin. If confirmed, the virus will be the first documented case in the wild in North America. Managers are concerned that the virus could be a problem for northern pike and some important forage fish. **Contact:** Ron Martin, WI DNR, 608-266-9270, martir@dnr.state.wi.us.

National ANS Task Force

The Aquatic Nuisance Species Task Force will meet Nov. 13-15, 2002 at the Radisson Waikiki Prince Kuhio, 2500 Kuhio Avenue, Honolulu, Hawaii; phone: 808-922-0811. The agenda will include a field trip to view local invasive species problems; an update from Task Force regional panels; and submission of a rapid response plan by the Western Regional Panel. Also to be covered will be Task Force committee updates; approval of the draft Green Crab Control Plan; status of state and interstate ANS management plans and approval of the Massachusetts State Plan; an update on ballast water management activities; and a panel on the status of brown tree snake activities. **Contact:** Sharon Gross, ANS Task Force, 703-358-2308, sharon_gross@fws.gov.

Upcoming Events:

- *Meeting of the National ANS Task Force*, Honolulu, Hawaii. Nov. 13-15, 2002. **Contact:** Sharon Gross, ANS Task Force, 703-358-2308, sharon_gross@fws.gov.
- *Meeting of the Great Lakes Panel on Aquatic Nuisance Species*, Ann Arbor, Mich. Dec. 10-11, 2002. **Contact:** Kathe Glassner-Shwayder, Great Lakes Commission, 734-971-9135, shwayder@glc.org.

On The Bookshelf:

- *The ABCs of PCBs: Know Your Catch* brochure. **Contact:** Pat Charlebois, IL-IN Sea Grant, 847-872-8677, charlebo@uiuc.edu.
- *Invasive Aquatic and Wetland Plants Field Guide*, an identification guide for the top 21 invasive species in North America. **Contact:** Pat Charlebois, IL-IN Sea Grant, 847-872-8677, charlebo@uiuc.edu; or Doug Jensen, MN Sea Grant, 218-726-8712; djensen1@u.umn.edu.
- *Annual Report for 2001: Harmful Exotic Species of Aquatic Plants and Wild Animals in Minnesota*. **Contact:** Jay Rendall, MN DNR, 651-297-1464, jay.rendall@dnr.state.mn.us.