

Great Lakes Panel on Aquatic Nuisance Species

Panel Member Updates

June 2008

Federal

U.S. Coast Guard: The Coast Guard continues to actively enforce current ballast water regulations through the Joint Ballast Water Management Exam Program. Along with our partners: Transport Canada, the St. Lawrence Seaway Management Corporation, and the St. Lawrence Seaway Development Corporation, we work to harmonize our efforts to eliminate AIS introduction through ballast water into the Great Lakes system. Our 2007 Summary of Great Lakes Ballast Water Management Exams was released in May 2008 and can be viewed at

http://piersystem.com/posted/443/Final_2007GL_Ballast_Water_Management_Report.204139.pdf.

The Ninth Coast Guard District hosted a Ballast Water Management Plans and Aquatic Invasive Species Workshop in January 2008 to review current intra-lake vessel ballast water management practices and investigate improvement opportunities with respect to preventing the spread of Aquatic Invasive Species and pathogens, particularly Viral Hemorrhagic Septicemia (VHS), within the Great Lakes once a new species or outbreak has been identified. Since the completion of the workshop, the Ninth Coast Guard District has engaged in discussions with the Great Lakes Fishery Commission and expressed a desire to receive and communicate reports of large scale fish kills on the Great Lakes. Additionally, the Ninth Coast Guard District will notify the Council of the Lake Committees of any fish kills reported to the U.S. Coast Guard or detected by the U.S. Coast Guard. The U.S. Coast, due to its lake-wide presence and communication capabilities, will lead the notification process through its contacts within the maritime industry, the Local and Broadcast Notice to Mariners system.

Additionally, the Lake Carriers' Association, in coordination with the Shipping Federation of Canada and United States Great Lakes Shipping Association, developed and released on April 7, 2008 the Supplemental Voluntary Ballast Water Management Plan (BMP) for the Control of VHS, 2008 Edition. The press release, LCA's 2007 BMP for VHS, and LCA's 2008 supplemental BMP for VHS, can be found at: <http://www.lcaships.com>. **Contact:** CDR Timothy Cummins, 216-902-6049, Timothy.M.Cummins@uscg.mil.

National Oceanic and Atmospheric Administration: The Great Lakes Aquatic Nonindigenous Species Information System (GLANSIS) was activated on the NOAA-GLERL website in January 2008. A poster (~36 x 48 inches) exhibiting pictures of approximately 140 of the 185 species presently listed in GLANSIS was prepared in collaboration with the U.S. Fish and Wildlife Service and is available on-line via the GLANSIS home page: <http://www.glerl.noaa.gov/res/Programs/ncrais/glansis.html>.

NOAA organized a session titled "Dreissenids in North America: Twenty Years of Consequences." at the IAGLR (International Association for Great Lakes Research) 51st Conference on Great Lakes Research held in May at Trent University in Peterborough, Ontario. The session provided several overviews of the significant changes in U.S. national policy, invasion biology/ecology, and outreach, education, and community involvement that followed the invasion.

As part of a program studying harmful algal bloom occurrences in the Great Lakes, NOAA is conducting an assessment of the distribution of *Cylindrospermopsis raciborskii*, a potentially toxic nonindigenous blue-green alga. In recent years it has been found in western Lake Erie and some additional inland Michigan lakes. Some strains of this species are capable of producing several toxins that are a threat to human and animal health. Benthic populations were or are being assessed in Lake Huron (2007), southern

Lake Michigan (fall 2008), Saginaw Bay (spring, summer, and fall, 2008) and Lake Ontario to assess the depth distribution and coverage of dreissenids and their benthic community impacts.

NOAA sponsored a workshop "Predicting Impacts of Invasive Species on Lake Michigan Food Webs" June 3-4 in Chicago Illinois. Scientists and funding agencies identified specific research questions, data gaps, and time and space considerations for research to begin in 2010 on invasive species impacts on food webs in Lake Michigan. The workshop was an activity associated with the Great Lakes Regional Research Information Network (GLRRIN). NOAA will be co-sponsor of the 16th International Conference on Aquatic Invasive Species (ICAIS), to be held in Montreal, Canada, April 19-23, 2009. Abstracts are due by August 1, 2008. More information can be found at <http://www.icaais.org/>. **Contact:** David Reid, 734-741-2019, david.reid@noaa.gov.

U.S. Army Corps of Engineers: The U.S. Army Corps of Engineers (Corps) continues to be engaged in two aquatic nuisance species control programs in the Great Lakes Basin. The Sea Lamprey Barrier Program is authorized by Section 1135 of the Water Resources Development Act and carried out in partnership with the Great Lakes Fishery Commission. The lamprey barrier planned for the Galien River in Michigan has been terminated due to real estate issues. The Corps anticipates beginning construction of a barrier on Trail Creek in Michigan City, Indiana within the next 18 months. Work has begun on a feasibility phase study for a barrier on the Manistique River in Michigan.

The second major activity is the continuing effort to provide an effective barrier on the Chicago Sanitary and Ship Canal (CSSC) to prevent the movement of invasive species between the Mississippi River and Great Lakes basins. The demonstration barrier (Barrier I) remains in continuous operation. Recent evaluations indicate no decline in performance. However, due to its age the Corps is planning a maintenance shutdown in Summer 2008 to replace some barrier components. During this shutdown, the first half of the second barrier (Barrier IIA) will be operated continuously. Barrier IIA will be turned off again after Barrier I is back on line, as IIA is still undergoing safety evaluations. Additional field safety tests at IIA were completed in partnership with the U.S. Coast Guard in April 2008 and test results are under review. The second half of Barrier II (Barrier IIB) is under design. Some aspects of the originally planned Barrier IIB design are being revised based on lessons learned from Barrier IIA. The intent is to operate the demonstration barrier until all of Barrier II is operational, and then upgrade the demonstration barrier to permanent status as funding allows. A recent study indicates the effect of the barrier electric fields on a person immersed in the electrified water could result in serious injury or death. The Corps and Coast Guard have initiated a public education campaign to inform boaters how to safely transit the barriers. **Contact:** Jim Galloway, 313-226-6760, jim.e.galloway@usace.army.mil.

State/Provincial

Illinois: The Illinois DNR recently conducted an herbicide treatment of Mermet Lake (Massac County) intended to control curlyleaf pondweed in the lake. Mermet Lake attracts thousands of waterfowl annually and has been one of the best fishing destinations in southern Illinois; controlling curlyleaf pondweed is of utmost importance at this site to prevent its spread into other lakes and wetlands in southern Illinois, including the Cache River and Cache River Wetlands. **Contact:** Pat Charlebois, 847-872-0140, charlebo@uiuc.edu.

Indiana: The Lake Manitou hydrilla Sonar treatment began in the middle of May. Due to the cool spring, hydrilla tubers just began sprouting at the time of the initial treatment. Spring tuber sampling proved difficult to find hydrilla tubers. This is further reinforcement that the 2007 treatment reduced the tuber bank by approximately 86%. Sonar will be maintained at between 3-6 ppb through the middle of October. Aquatic plants known to occur in trade are being evaluated to determine their risk should they be released into Indiana waters. A slightly modified version of the New Zealand Aquatic Weed Risk Assessment is being used. A survey is being conducted to determine the level of awareness of AIS and

steps boaters and anglers take to prevent the spread. The electronic survey should go out by the middle of June. A report of the findings is expected in August. **Contact:** Doug Keller, 317-234-3883, dkeller@dnr.in.gov.

Minnesota: In fall 2007, zebra mussels were found in a chain of four lakes in the Twin Cities metro area, likely spread due to water pumped from the Mississippi River. Brazilian elodea was found in a Minneapolis lake, likely the result of an aquarium dumping. In response, the infestation was treated with an herbicide. New populations of spiny waterfleas were discovered in waters along the Minnesota-Canadian border. DNR enforcement responded to the discovery of truck, carrying pumping equipment with 5-10,000 zebra mussels attached, in transit from a reservoir in Vermont to North Dakota.

In April, the DNR hired 9 new conservation officers who will spend half their time enforcing Minnesota's invasive species laws. DNR hired three new aquatic invasive species specialists (six total statewide) to implement prevention and management strategies. The Watercraft Inspection Program hired 75 inspectors for the 2008 field season, compared to the 50 inspectors in 2007. Total inspection hours are expected to be ~36,000 in 2008, a 50% increase from 2007.

By September 30th, the Minnesota Pollution Control Agency (MPCA) plans to issue a permit for oceangoing and Great Lakes-only ships discharging ballast water into Lake Superior that includes ballast water treatment and management practices necessary to protect Minnesota's water resources. Stakeholder meetings were held in March and April. Meeting presentations, draft permit language, and other information related to permit development are available at: <http://www.pca.state.mn.us/programs/ballastwater.html>.

The state legislature passed legislation consistent with the MPCA's plans for the ballast water permit. A bill providing DNR with more authority to deal with VHS is being considered by the state legislature. The DNR produced a new VHS brochure. The DNR's annual report on invasive species for calendar year 2007 is available at: <http://files.dnr.state.mn.us/eco/invasives/annualreport.pdf>. **Contact:** Luke Skinner, MN DNR, 651-259-5140, luke.skinner@dnr.state.mn.us; or Mary Jean Fenske, MPCA, 651-297-5472, maryjean.fenske@state.mn.us.

Pennsylvania: The AIS Workgroup of the Pennsylvania Invasive Species Council (PISC) has been working actively in the areas of developing an AIS Rapid Response Plan, developing a list of priority AIS in the Commonwealth, conducting outreach, and working to secure funding for Council operations. The Council is currently interviewing candidates for the newly created position of PISC Coordinator. Pennsylvania Sea Grant hosted a Lower Great Lakes Ballast Water Management Workshop in March 2008, published a training video and manual for volunteers participating in the state zebra and quagga mussel monitoring network and produced four new AIS fact sheets. Additional training for volunteer monitors was conducted in May 2008. Presque Isle Bay, PA, will be again be a node in the Great Lakes *Hemimysis* Monitoring Network this summer. In partnership with USEPA, PADEP is planning a mock AIS Rapid Response exercise to be conducted this summer. **Contact:** Jim Grazio, PADEP, 814-217-9636, jagrazio@state.pa.us.

Regional/Binational

Council of Great Lakes Governors: On November 8, 2007, Chair Governor Jim Doyle sent letters on behalf of the Council to each Presidential candidate. Governor Doyle asked the candidates to outline their vision for the Great Lakes; specifically, whether they endorse the Great Lakes Regional Collaboration's Restoration and Protection Strategy; and, if so, to articulate their implementation plan. On November 21, Governor Doyle wrote on behalf of the Council to the U.S. Fish and Wildlife Service to commend the listing of black carp as an injurious species under the Lacey Act and to request that all forms of Asian carp be listed.

On February 25, 2008, Governor Doyle communicated through a letter to Congress the Council's near-term priorities for FFY09 including the passage of comprehensive invasive species legislation and completion of the carp barrier in the Chicago Sanitary and Ship Canal. Governor Doyle applauded the Congressional authorization and appropriation of barrier funds in FFY08.

On April 18, Secretary Matt Frank of the Wisconsin Department of Natural Resources testified on behalf of the Council before the U.S. House Transportation and Infrastructure Subcommittee on Water Resources and Environment regarding Great Lakes water levels and the Governors' invasive species recommendations. **Contact:** Lisa Wojnarowski, 312/407-0177, lwojnarowski@cglg.org.

Canadian Federal

Transport Canada, Department of Fisheries and Oceans: DFO Science, in partnership with SERC (NBIC), is conducting a study to examine the risk of AIS introduction and/or spread by ballast water of domestic commercial vessels ('Lakers'). An analysis of vessel transits over a three year period, including volumes of ballast water discharged, is expected to be completed by fall 2008. A complementary study on the biological communities transported in domestic vessels will follow in 2009. DFO Science is conducting further evaluation of the 4-agency ballast water inspection program. A formal report is expected in late 2008, but results to date indicate that the intensive inspection efforts since 2005 have resulted in excellent rates of compliance and a corresponding reduction in the risk of AIS introductions by foreign ballast water.

DFO and Ontario Ministry of Natural Resources (OMNR) have continued their beneficial collaboration in terms of aquatic invasive species risk assessment, research, monitoring and education:

DFO's Centre of Expertise for Aquatic Risk Assessment (CEARA) completed three risk assessment projects of interest to the Great Lakes; Chinese mitten crab, spiny-rayed fishes (west of the Rockies, but a problem in Ontario), and *Hemimysis anomala* (bloody-red shrimp) in Canadian freshwaters (focus on Great Lakes). CEARA and OMNR are continuing their collaboration on data collection for the risk assessment of freshwater fish pathways (bait, aquarium, water garden and live food). The DFO-CEARA and Canada Border Services Agency (CBSA) project aimed at inputting one year's worth of live fish import invoices (currently available in hard copy only) into an electronic database for the aquarium, water garden and live food risk assessments has been completed, and the data analyses have begun. In June 2008, an international workshop to complete the national standard for conducting biological risk assessments for aquatic invasive species will be held.

Other projects: Develop a population ecology-based model to predict the probability of establishment of AIS as well as development of ecological invader guides to predict impacts of potential invaders and to identify areas vulnerable to invasion in the Great Lakes. To that end, OMNR, with input from DFO finalized a field guide for Ontario's current and potential AIS.

Monitoring the current distribution of *Hemimysis anomala* in the Great Lakes by various Canadian (federal/provincial) and American agencies is ongoing and collaborative in nature. DFO's sampling in lakes Ontario, Erie, Huron and Michigan, as well as in the Detroit and St. Clair rivers, in summer 2007 added another 4 locations to the previously known locations invaded by *Hemimysis*.

The focus for DFO's 2008 lower trophic level AIS monitoring (including *Hemimysis anomala*) is to detect presence/absence in Lake Huron. Sampling will also be undertaken in locations where *Hemimysis* is known to occur such as Lake Erie & Hamilton Harbour to obtain abundance estimates. Higher trophic level monitoring will focus on Hamilton Harbour, Great lakes tributaries to detect upstream spread of round gobies and locks on the Trent Severn system as a pathway for AIS spread. A small project will be

conducted to investigate whether an established population of the invasive snail *Corbicula* has spread to similar habitats in the vicinity.

A monitoring and outreach project for AIS with respect to recreational boating was conducted all summer in north western Ontario. This project aimed to increase awareness of recreational boat users and anglers on AIS, and direct them to the live bait end user survey.

The end user surveys for people using live bait, aquarium and water garden species has been strongly supported and promoted by OMNR and Ontario Federation of Anglers and Hunters (OFAH) through consumer trade shows and a direct mailing to licensed anglers. Completed surveys are continuing to arrive, increasing the availability of data that will be used by DFO-CEARA to conduct a relative risk analysis of these trades. **Contact:** Chris Wiley, 519-383-1525, Chris.Wiley@dfo-mpo.gc.ca.

Environmental/User Groups

Tribal Authorities

Commercial

University/Research

Illinois-Indiana Sea Grant (IISG): IISG hosted an Asian carp "Clean and Cook" demonstration at the Bass Pro in Bolingbrook, IL. At this event, Duane Chapman (USGS) demonstrated filleting techniques and Bass Pro fried samples of bighead and silver carp; reaction of those tasting the Asian carp were very positive, however many declined tasting the samples because they were "carp." There were also booths staffed by US Coast Guard/US Army Corps of Engineers and the Illinois Natural History Survey. As a result of the event, IISG will produce fact sheets with information on 1) protection oneself when plying Asian carp-infested waters, 2) how to harvest and clean Asian carp, and 3) how to cook Asian carp.

IISG conducted a survey of water gardeners at the Indianapolis Flower and Patio Show, which will be used to inform future outreach efforts for this audience in both states. IISG also hosted the Great Lakes Regional Research Information Network - Lake Michigan team's "Predicting Impacts of Invasive Species on Lake Michigan Food Webs" workshop, June 3-4, 2008 in Chicago, IL. At this workshop scientists and funding agencies will engage in a facilitated dialog that is designed to identify specific research questions, data gaps, and time and space considerations needed to conduct research investigating the invasive species impacts on food webs in Lake Michigan beginning in the 2010 field season.

Finally, IISG arranged for an "Outreach" section on Asiancarp.org. We encourage all who have done or are doing outreach on Asian carp to submit their outreach tools for inclusion on the website (David.Britton@fws.gov) to increase the efficacy and efficiency of our collective outreach. **Contact:** Pat Charlebois, 847-872-0140, charlebo@uiuc.edu.

Minnesota Sea Grant: Sea Grant released a new pocket guide, *A Field Guide to Fish Invaders of the Great Lakes Region*, which compares invasive fish to native look-a-likes to accompany AIS-HACCP training workshops and materials. Sea Grant co-sponsored 16th Annual River Quest, a ship-board educational experience for Duluth area youth in May. A booth featuring "Get Habitattude!" reached over 830 6th graders from eight schools.

Lake Superior Days, an annual celebration promoted by the Lake Superior Binational Program, will feature events in the Duluth-Superior and North Shore communities. Local conservation and environmental groups, Sea Grant, Minnesota DNR, U.S. Coast Guard Auxiliary are planning events. Stop Aquatic Hitchhikers! campaign efforts will link with the "Clean Boats Everyday" initiative promoted by the Council of Great Lakes Governor to extend prevention messages to boaters and anglers and information about ballast water and other water quality issues. In March, a symposium, "Predicting Invasive Potential of Exotic Species," was hosted by the University of Minnesota.

The Minnesota Invasive Species Conference 2008 will be hosted by the Minnesota Invasive Species Advisory Council, October 26-29, Duluth Entertainment Convention Center, Duluth, MN. Co-chaired by the University of Minnesota Sea Grant Program and the Minnesota Chapter of the Soil and Water Conservation Society, this first annual statewide conference will bring together experts to improve management of terrestrial and aquatic invasive species. Presentations by experts will cover new and innovative research, management, outreach and technological developments related to ecology and impacts, prevention and containment, early detection and rapid response, control and management, and eradication and restoration. A special ballast water symposium is planned. Several preconference non-technical and technical workshops and training sessions will be offered. Plenary and technical sessions will be held October 27-28. A trade show of business products and services, educational exhibits, and posters will be held throughout the conference. Pre- and post-conference tours and attractions will also be offered. Visit www.minnesotaswcs.org. **Contact:** Doug Jensen, MN Sea Grant, 218-726-8712, djensen1@umn.edu.

Cooperative Institute for Limnology and Ecosystems Research (CILER): CILER will be receiving an award through the Department of Fisheries and Oceans, Canada to extend its current research efforts on the use of brine as an alternative treatment for NOBOB vessels that have not performed adequate mid-ocean exchange. The work is an extension of an ongoing collaboration between DFO, Transport Canada and NOAA-GLERL. Our main activities for this project will be to develop in-tank instrumentation to help evaluate the application of ship-based, brine treatment experiments. Specifically our goal is to help understand the timing, spatial distributions, and effective concentrations of the added brine throughout the treated ballast tanks. We hope to conduct experiments on 5-7 ships during the next year. **Contact:** Tom Johengen, 734-741-2203, johengen@umich.edu.

At-Large

Maritime Administration: The Maritime Administration continues to work with the Northeast-Midwest Institute with the Great Ships Initiative (GSI). We are trying to determine the most expedient and contractually allowable method of providing funds to augment the shoreside test facility, which is located in Superior, WI. We have a five-year Cooperative Agreement and hope to continue our collaboration. Ms. Cangelosi of GSI met with the Chief Scientist (Dr. Tamburri) involved with our Baltimore AIS research effort, and we are determining a way forward for sharing resources and talent. The goal is to use the same methodologies so that the facilities provide consistent data.

The Maritime Administration also strives to work together rather than in competition with other organizations. The Baltimore effort is sponsored by the Maryland DOT via the Port of Baltimore. We would like to marry up all ports involved with ballast water research and have a constructive dialog on the direction certain projects should proceed.

Challenges the Maritime Administration are related to funding and information. The Maritime Administration is in the process of attempting to obtain NOAA funds to modify a barge to become a mobile test platform in the Chesapeake Bay. The Maritime Administration is also working on ISO standards for ballast water sampling ports/apparatus as well as standards for handling samples once they are obtained. **Contact:** Doris Bautch, 847-995-0122, doris.bautch@dot.gov.