

Great Lakes Panel on Aquatic Nuisance Species Member Updates - Spring 2010

Federal

U.S. Coast Guard

The Department of Homeland Security, through the U.S. Coast Guard, is authorized by Congress to develop a national regulatory program to prevent the introduction and spread of aquatic nonindigenous species (NIS) into U.S. waters via ballast water discharges from vessels. By direction of the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990 (NANPCA) and the National Invasive Species Act of 1996 (NISA), the Coast Guard has promulgated several regulations and continues to develop future regulations to address this issue.

The current ballast water management requirements in the Great Lakes and the St. Lawrence Seaway system are among the most stringent in the world. Mandatory ballast water regulations that include saltwater flushing, detailed documentation requirements, increased inspections, and civil penalties provide a comprehensive regulatory enforcement regime to protect the Great Lakes. U.S. and Canadian regulations now require all ships destined for Seaway and Great Lakes ports from beyond the exclusive economic zone to exchange all their ballast tanks at sea or flush their residuals. The [2009 Summary of Great Lakes Ballast Water Working Group|http://www.piersystem.com/posted/443/2009_Great_Lakes_Seaway_Ballast_Water_Working_Group_Report_Final.475699.pdf] documents the current state of ballast water enforcement on the Great Lakes. This is one of a very few instances where there is an enforcement protocol in place that can result in complete compliance with a stated set of objectives or regulations. As a result, the risk of a ballast water mediated introduction of aquatic invasive species into the Great Lakes has been mitigated to extremely low levels.

In addition to the current regulations and policies, the Coast Guard is engaged in a rulemaking that would set a performance standard for the quality of ballast water discharged in U.S. waters. This rulemaking is being carried out under NANPCA and NISA, which authorize the Coast Guard to approve alternative ballast water management systems (BWMS) that are found to be at least as effective as mid-ocean ballast water exchange (BWE) in preventing NIS introductions. The rulemaking is entitled "Standards for Living Organisms in Ships' Ballast Water Discharged in U.S. Waters," and documents and public comments relating to the rulemaking can be found at <http://dms.dot.gov> under docket number USCG-2001-10486.

Additional information on Coast Guard involvement with ballast water enforcement/regulation can be found at District Nine Public Affairs (<http://www.d9publicaffairs.com/go/doctype/443/31154/>) and the Coast Guard Headquarters Environmental Standards Division (<http://www.uscg.mil/hq/cg5/cg522/cg5224/>).

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National Oceanic and Atmospheric Administration

GLANSIS - funded at \$250k by GLRI for the following upgrades:

- Addition of 'range expansion' species - those native to one portion of the Great Lakes but which are considered invasive to other portions of the basin.
- Addition of high priority 'watchlist' species - those which have been identified in the literature as high risk for invading and becoming established in the Great Lakes.
- Updated and consistent 'impact' information, especially potential impacts, better able to risk assessment
- Addition of management information — regulations, best management practices and control methodologies - - for all the species in the database.
- Enhanced bibliographic information (Subcontract to SGNIS)
- Addition of non-technical fact sheets for priority species of public interest (Subcontract to IL-IN Sea Grant).

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State/Provincial

Illinois Department of Natural Resources / Illinois-Indiana Sea Grant

Illinois-Indiana Sea Grant (IISG) has been involved in several outreach initiatives on Asian carp including 1) participation in the production of a "how to clean" video featuring Duane Chapman, 2) working with presenters at the Chef's Collaborative to have Asian carp discussed as an "underutilized" food fish, and 3) working to include Asian carp on the banquet menu of the Governor's Conference on the Illinois River. We also are planning to host an Asian Carp Marketing Summit this summer in Grafton, IL. The summit will bring together the various stakeholders involved in the issue including managers, harvesters, and processors to identify the opportunities and impediments to creating a viable market for these fish. IISG is also working on finalizing a set of "recreational guidelines" for the water-gardeners portion of the water garden pathway. We hope to have these steps approved by the ANS Task Force. We also are seeking funding to produce an AIS-training CD for retail outlets selling aquatic plants.

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Indiana Department of Natural Resources

Although Asian carp have yet to be suspected as present in two small Indiana streams that connect to the Chicago Area Waterway System (each of which have outlets into Lake Michigan) we have become involved in Asian carp efforts in the area. In December 2009 the AIS Coordinator and three fisheries personnel participated in the fishery eradication project on the Chicago Sanitary and Ship Canal. The AIS Coordinator is on the "Asian Carp Monitoring and Rapid Response in the Upper Illinois River and Chicago Area Waterway System" planning team. Indiana is awaiting eDNA sampling on the Grand Calumet River and Little Calumet River. If positive results for either bighead or silver carp are found, Indiana will quickly respond with electrofishing or other sampling methods to determine the extent of the population. Fortunately on the Grand Calumet River there has been a barrier to fish movement in place since December 2009 (200 foot dewatered section to remove contaminated sediment). As a result fish cannot enter the lake through Indiana Harbor. There are no barriers to fish movement on the Little Calumet River which outlets to the lake at Burns Harbor although this would be about a 50 mile swim through a small and shallow waterway containing poor habitat and water quality.

The fourth year of whole-lake treatment to eradicate hydrilla from Lake Manitou will begin again in May 2010. Through 2009, we have achieved 95% reduction in hydrilla tuber abundance. Parrot feather eradication will continue through 2010 at Meserve Lake and we will hopefully eliminate the final few plants that remain. Starry stonewort is now found in two lakes in northern Indiana. In 2010 we will increase efforts to control this new species to the state. Starry stonewort has reportedly become a big problem in a number of lakes in Michigan. We hope our aggressive attack prevents its spread through our natural lakes region of Northern Indiana.

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Minnesota Department of Natural Resources

The Minnesota Department of Natural Resources (DNR) and Minnesota Waters (non-profit organization) partnered to hold a series of five focus group meetings and public open houses focused on aquatic invasive species prevention in January 2010. The purpose of the stakeholder meetings was to inform citizens of current DNR prevention efforts, to gain citizen input and share new ideas on improving prevention, and to develop new partnerships focused on local and state action. Over 200 citizen leaders, local government officials or staff, and community business representatives participated in the meetings and open houses.

It was clear the citizens of Minnesota take the threat of aquatic invasive species seriously and feel that not enough is being done to effectively prevent the spread of aquatic invasive species. In particular, those who attended the meetings are most concerned with the spread of zebra mussels, Eurasian watermilfoil, and Asian carp, among others. Stakeholders stated that State agencies need to take bold action or aquatic invasive species will continue to spread in the state. Many also stated that not enough resources are available to meet the invasive species prevention needs.

Stakeholders offered multiple ideas to consider including 1) regulatory actions such as stiffer penalties for violators, greater restrictions on movement of aquatic plants and water, restriction of access to lakes and rivers in various forms and requirement of inspections of boats leaving infested waters; 2) increased enforcement, through greater authority and increased time and effort enforcing invasive species laws; 3) increased watercraft inspections, especially at infested

waters; 4) more education especially to key audiences; and 5) more support and partnerships with for lake associations in local prevention efforts.

With VHS being confirmed in Lake Superior, Minnesota is taking action to regulate the use of ciscos and smelt as bait in the state to prevent the spread of VHS. MN waters of Lake Superior will be designated as infested with VHS, restricting the harvest and use of bait, and movement of water from those waters. Other bait regulations are also being considered. Awareness of VHS is being expanded through media, new VHS signs at accesses and increased enforcement by Minnesota Conservation Officers.

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New York State Department of Environmental Conservation

The New York State Invasive Species Council released a draft report, "A Regulatory System for Non-Native Species," that calls for a multi-pronged approach to tackling one of the state's fastest growing environmental threats. Among other recommendations, the Council proposed a new assessment system for invasive species that would allow the state to categorize them as "prohibited", "regulated", or "unregulated." Such a classification system would help restrict movement of potentially harmful plants and animals. The Council's draft report is available at:

<http://www.dec.ny.gov/animals/63402.html>. The public comment period runs through 14 May 2010. Comments can be sent via email to: invasivesreport@gw.dec.state.ny.us

The release of two GLRI RFPs provided opportunities for potential project implementation, with a focus on Ballast Water Technology and Invasive Species Prevention and Control, as well as the State's Aquatic Nuisance Species Management Plan. Office of Invasive Species Coordination staff coordinated the prioritization and development of a number of pertinent proposals with numerous stakeholders.

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Ohio Department of Natural Resources

Ohio's AIS Committee is working on an allocation template for the recently approved GLRI funds. Ohio will use the recently developed actions that cover four core areas (prevention, monitoring, control, and research/education) to distribute these funds. Many of these actions will be statewide activities and consequently benefit both the Mississippi River and Great Lakes Basins. The Ohio AIS Committee is also working on filling membership gaps to increase the group's diversity. The Division of Wildlife has updated the AIS web site with more comprehensive and current information which can be viewed at:

http://www.dnr.state.oh.us/Home/wild_resourcessubhomepage/dealing_with_wildlifeplaceholder/InvasiveSpecieslandingpage/aquaticinvasivewildlife/tabid/5827/Default.aspx.

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Pennsylvania Department of Natural Resources

On January 12, 2010, Pennsylvania's Attorney General filed a brief in support of Michigan's lawsuit against USACE and Illinois to reopen the original Supreme Court cases related to the diversions of water from Lake Michigan through the Chicago Sanitary and Ship Canal to the Mississippi basin. This action was prompted by the recent detection of Asian carp eDNA at or above the Canal dispersal barrier. Round gobies were documented for the first time in an inland Pennsylvania waterway in March 2010. A reproducing population was confirmed to be present in the Fairview Gravel Pits, small trout fishing ponds owned by the Pennsylvania Fish and Boat Commission (PFBC). These ponds are located in the Lake Erie watershed but are not hydrologically connected any other waterbodies. The feasibility of eradication is being studied by PFBC. AIS warning signs based on the Stop Aquatic Hitchhikers! "Clean Your Gear" message have been produced and are being placed at boat launches on major PA lakes. Pennsylvania Sea Grant plans to host a VHS workshop for the aquaculture industry at the USFWS Northeast Fisheries Center in Lamar on June 23rd, 2010.

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Quebec Ministry of Sustainable Development, Environment and Parks

Asian clam: The ministry of Natural Resources and Wildlife (MRNF) will start a monitoring project this summer to establish the distribution of Asian clam in the St. Lawrence River following its discovery in fall 2009.

Snakehead fish: A giant snakehead (*Chana micropeltes*) was found dead in April 2010 in the Saint-Charles River, in Québec City. It was likely an aquarium release. MRNF is promoting an educational message on how to dispose adequately of aquarium fish and plants.

Aquatic plant detection network: The ministry of Sustainable Development, Environment and Parks (MDDEP) will develop and test an aquatic plant monitoring protocol for the Lake Voluntary Monitoring Network during the summer of 2010.

Exotic invasive plants detection network: GLU/Union Saint-Laurent Grands Lacs with the collaboration of MDDEP and Environment Canada has launched the Réseau de détection des plantes exotiques envahissantes. The network is monitoring the distribution of 14 invasive plants (aquatic and terrestrial). The network Website will be translated in English during the spring of 2010. <http://www.rspee.glu.org/autres/index.php>.

Code of best practices: MDDEP has developed a Code of best practices to stop the spread of invasive species. The ministry's employees will be asked to implement the guidelines starting in summer 2010.

White-nose syndrome (WNS): On another note, the white-nose syndrome was found in certain bat populations in Québec. WNS has been formally identified in the Outaouais region, but reports of abnormal behaviour by suspect bats have also been made in the Abitibi-Témiscamingue region in recent weeks. The MRNF is monitoring the situation with assistance from the Centre québécois sur la santé des animaux sauvages and the USGS National Wildlife Health Center.

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Canadian Federal

Transport Canada / Fisheries and Oceans Canada

Ballast Water Activities: Transport Canada (TC) and Fisheries and Oceans Canada (DFO) continue to collaborate on a number of ongoing AIS projects in relation to Ballast Water:

Canada has ratified the Ballast Water Convention at the International Maritime Organization, and continues to develop methodology to evaluate compliance with the proposed international ballast water discharge standards. Canada intends to conduct research in 2010 to examine if the utilization of ballast water treatment technologies in combination with ballast water exchange will provide enhanced protection for Great Lakes' freshwater ports against AIS.

Canada continues to examine the activities of domestic vessels as a vector for the introduction and/or spread of AIS to the Great Lakes. In collaboration with the University of Windsor, an intensive survey of the planktonic and benthic taxa resident at major ports in the Saint Lawrence River is being undertaken in order to discern if there are any species present which pose a risk for invasion. We have also begun to sample the ballast water of inbound vessels from River ports to determine the density and diversity of entrained taxa.

Transport Canada, the USCG, and both Seaway Corporations continue to cooperate in the joint enforcement program in Montreal. In 2009, 100% of vessels bound for the Great Lakes Seaway received a ballast tank exam. A total of 5450 ballast tanks, onboard 295 vessels, were sampled and had a 97.9% compliance rate. Vessels that failed to properly manage their ballast tanks were required to either retain the ballast water and residuals on board, treat the ballast water in an environmentally sound and approved manner, or return to sea to conduct a ballast water exchange. In addition, 100% of ballast water reporting forms were screened to assess ballast water history, compliance, voyage information and proposed discharge location. Vessel compliance rates are expected to continue to be high for the 2010 navigation season.

Non-Ballast Water AIS Activities: DFO, in collaboration with the Ontario Ministry of Natural Resources and McGill University, is conducting research and monitoring activities in the nearshore of Lake Ontario and the St. Lawrence River to better understand the distribution, abundance, predators, and impacts of the bloody red shrimp (*Hemimysis anomala*) a recent invader of the Great Lakes. Additional studies are being carried out in collaboration with Michigan Department of Natural Resources in Grand Traverse Bay, to develop an effective sampling methodology for *Hemimysis* on cobble substrate and use this methodology to evaluate patterns of seasonal abundance and potential for competition with larval fish. *Hemimysis* has had significant impacts in invaded ecosystems in Europe, however, these are very different

ecosystems from the Great Lakes. Current research is aimed at determining if ecological processes in the Great Lakes will moderate previously observed impacts. A forthcoming publication in *Hydrobiologia* presents what is known about the current North American distribution along with preliminary research on the feeding ecology of *Hemimysis*. Further research is on-going.

Centre of Expertise for Aquatic Risk Assessment (CEARA): DFO's CEARA plans to continue with several pathway risk assessments: aquarium, water garden, baitfish, live food, ballast water and recreational boating, pending funding. We also plan to continue participating in a larger project (led by Oregon Sea Grant) to gather data on the biological supply house as a potential pathway for AIS; the Great Lakes is one of the focus areas of that project. A national level risk assessment for New Zealand Mud Snail has been completed, and documents are currently being finalized. Final decisions regarding the next five years worth of funding to CEARA has not been finalized; therefore, 2010-11 workplanning has not yet started.

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Tribal Authorities

Chippewa Ottawa Resource Authority

CORA represents five tribes in Michigan with regard to the tribes' commercial and subsistence fisheries in the 1836 treaty-ceded waters of Lakes Huron, Michigan and Superior. The tribes which are party to the 1836 Treaty are the Bay Mills Indian Community, Grand Traverse Band of Ottawa and Chippewa Indians, Little River Band of Ottawa Indians, Little Traverse Bay Bands of Odawa Indians and Sault Ste. Marie Tribe of Chippewa Indians.

CORA, through the Inter-Tribal Fisheries and Assessment Program, participates on the Council of Lake Committees under the Great Lakes Fishery Commission and is helping to establish sea lamprey control plans for Lakes Huron, Michigan and Superior. The CORA tribes are also directly involved with sea lamprey control by monitoring sea lamprey traps on various tributaries to Lake Michigan and Lake Huron and assisting with mark and recapture efforts and the sterile male program.

The ecological effects of zebra and quagga mussels have added to ANS hardships experienced by tribal commercial fishers in the Great Lakes including the fouling of nets by aquatic algae and other plants that flourish in mussel-infested waters. An experiment being conducted by fishers with the Bay Mills Indian Community in the past year has had the unexpected result of alleviating some of these adverse effects. In an effort to rehabilitate populations of lake trout in Lake Michigan and Lake Huron, small-boat commercial fishers have modified their nets with the intention of avoiding by-catch of lake trout. The experiment was not only successful at avoiding lake trout but also resulted in much cleaner nets because it lifted the nets above the area of vegetation and algae. Lake trout were effectively extirpated from Lakes Huron and Michigan in the twentieth century due in part to invasive sea lamprey and alewife.

CORA shares deep concerns with many others over the possible introduction of Asian carp into the Great Lakes. The CORA tribes have taken every opportunity to encourage all agencies and governments with jurisdiction to work swiftly to prevent migration from carp-infested waters in the Chicago area into Lake Michigan. A copy of a resolution by CORA urging action on this issue can be found at www.asiancarp.org.

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University/Research

Sea Grant Advisory Services / Extension

- Dan O'Keefe is replacing Carol Swinehart as the alternate to the Panel.
- Michigan's Clean Boats, Clean Waters program is transitioning from Michigan Sea Grant to the Michigan Inland Lakes Partnership.
- Michigan Sea Grant is very close to completing an Asian carps fact sheet - publication expected in early May. MI Sea Grant is working on an Asian carps poster adding to the Most Unwanted poster series.

Contact: Rochelle Sturtevant and Dan O'Keefe

At-Large

North Central Regional Aquaculture Center

The North Central Regional Aquaculture Center (NCRAC) continues to fund a number of activities, projects, or products pertaining to fish diseases, particularly viral hemorrhagic septicemia (VHS), and biosecurity. This includes a stand-alone VHS project that began September 1, 2008, information for which can be found on the Web at <http://www.ncrac.org/FundedProjects/vhs1.htm>; NCRAC released in February 2009 a fact sheet written by Glenda Dvorak entitled "Biosecurity for Aquaculture Facilities in the North Central Region" which is available at <http://www.ncrac.org/NR/rdonlyres/2C878A92-8D58-4DCB-AAE0-C88A2F3A1152/96237/FS115Biosecurity.pdf>. In January 2010, the U.S. Geological Service published the following fact sheet: Tuttle-Lau, M.T., Phillips, K.A., and Gaikowski, M.P., 2010, Evaluation of the efficacy of iodophor disinfection of walleye and northern pike eggs to eliminate viral hemorrhagic septicemia virus: U.S. Geological Survey Fact Sheet 2009-3107, 4p. That document is available on-line at <http://pubs.usgs.gov/fs/2009/3107/> and was based on the results of a project funded by NCRAC.

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National Wildlife Federation

Policy Research, Advocacy, and Comments

- NWF reviewed the draft Asian Carp Control Strategy Framework developed by the Asian Carp Regional Coordinating Committee, provided input at two February public meetings organized by the Committee on the Asian carp control efforts in the Chicago area, and also submitted written comments on the Strategy in March.
- Andy Buchsbaum, Regional Executive Director of NWF, provided testimony at the Feb. 25, 2010 hearing of the Subcommittee on Water and Power of the Senate Natural Resources Committee on Asian carp control.
- Through the Healing Our Waters (HOW) Great Lakes Coalition, we have identified a number of researchers in the region active on Asian carp ecology and control strategies.
- NWF worked with other organizations in developing comments in March 2010 to the US Army Corps of Engineers on the Environmental Assessment regarding the potential addition of in-stream structures in the Chicago Area Waterways to further reduce the risk of Asian carp dispersing into Lake Michigan.

Restoration and Protection Planning: The final report of the expert opinion process involving Great Lakes researchers to assess geographic area priorities for restoration and protection work (including addressing aquatic invasive species problems and threats broadly) by the HOW Coalition was presented to the HOW Steering Committee in March 2010.

Litigation: NWF also remains involved in litigation on several AIS issues, including (with other organizations) on the U.S. EPA Vessel General Permit (VGP), Michigan's 401 certification of the U.S. EPA VGP, and Wisconsin's ballast water discharge general permit.

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University of Minnesota Sea Grant Program

MNSGP promoted AIS public awareness at many events during the winter/spring. *Stop Aquatic Hitchhikers!*TM was a featured booth at the 44th Annual Duluth Boat, Sport, and Travel Show, Duluth (Feb. 2010). Nearly 2,000 people stopped by. Several new partners recently joined the *Stop Aquatic Hitchhikers!*TM campaign including the White Iron Chain of Lakes Association and the Cook County Lakes Association. Five new *Stop Aquatic Hitchhikers!* campaign community partners were brought in. During the summer, the campaign will be promoted at the Watershed Festival (June 5, Duluth), Mills Fleet Farm's Kid Fishing Appreciation Day (July 10, 11 locations in MN), Lake Superior Days (July 22-24, Duluth), Tall Ships Celebration (July 28-Aug 1, Duluth), and several county fairs. Tens of thousands of people will be reached by representatives staffing booths from Sea Grant, MnDNR, US Forest Service, Wildlife Forever, and a dozen other conservation and lake associations. MNSGP will host a *Habitattitude*TM learning station reaching over 1,100 6th graders from Duluth-Superior area schools during River Quest, a ship board education event (May 10-13, Duluth). MNSGP promoted the latest on VHS through the Web (see <http://www.seagrant.umn.edu/fisheries/parasites#vhs>) and presentations. They will host an International Symposium on Genetic Biocontrol of Invasive Fish (June 21-24, Mpls., <http://www.seagrant.umn.edu/ais/biocontrol.Proceedings>) of the 2008 Minnesota Invasive Species Conference are available at <http://www.seagrant.umn.edu/ais/mnisc/>. Interviews of resulted in news coverage (<http://www.seagrant.umn.edu/news/2010/04/02>).

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