

NISC

Updates, News & Notes¹

Date: July 6, 2016

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A. Update on the implementation of past recommendations/action items²:

No updates at this time.

¹ Limit each section to one type written page. Links (URLs) to additional information are welcomed.

² Restate recommendation/action item and provide date of ISAC meeting.

B. Departmental news of relevance to ISAC priorities³:

- **Item #1: Asian Carp Regional Coordinating Committee (ACRCC) releases 2016 Asian Carp Monitoring and Response Plan, including Contingency Plan**

The Asian Carp Regional Coordinating Committee with support from federal, state, and local agencies, and other private stakeholder entities, is responsible for creating a sustainable Asian carp control program to prevent introduction and implement actions to protect and maintain the integrity and safety of the Great Lakes ecosystem from an Asian carp invasion. The EPA provides leadership, coordination, and funding to the Committee.

The recently released Monitoring and Response plan updates previous Plans and details the scientific basis for control and management efforts to prevent the spread and establishment of Asian carp in the upper Illinois River and into the Great Lakes. The companion Contingency Plan goes further by outlining aggressive actions partners would take if significant changes are detected in the number or location of Asian carp in key places in the upper Illinois River.

For more information on the ACRCC and to read the 2016 Monitoring and Response Plan and Contingency Plan see: www.asiancarp.us. EPA contact: Bill Bolen (bolen.bill@epa.gov)

- **Item #2: Highlights of Great Lakes Restoration Initiative (GLRI) activities funded by EPA**

The Great Lakes Restoration Initiative was launched in 2010 to accelerate efforts to protect and restore the largest system of fresh surface water in the world — the Great Lakes. The EPA serves on the Initiative Task Force and provides funding to partners via grants. Work continues in priority areas outlined in the Action Plan II, including the following recently funded projects.

1. In 2016, EPA, through the GLRI, provided funding to the US Fish and Wildlife Service - Whitney Genetics Laboratory for further development of the Black Carp (*Mylopharyngodon piceus*) qPCR Marker. Black Carp are an emerging invasive species threat within the Mississippi River drainage. Specimens have been collected as far north as Pool 24 of the Mississippi River, have been collected in the Missouri and Illinois Rivers, and are annually taken further south in the lower Mississippi and associated drainages. As of 2013, the USFWS ascertains that the species is already established or on the verge of establishment in the United States. Currently, the only eDNA marker developed for Black Carp is a conventional PCR marker (primers BLC-COII-F and BLC-COII-R), and once sampling and potential false positive detection issues are resolved, the qPCR marker should represent an improvement in monitoring capabilities. EPA contact: Bill Bolen

³ Focus on technical issues of substantial merit – release of reports, policy actions, etc.

2. In 2016, EPA, through the GLRI, provided funding to the Ohio Department of Natural Resources (Ohio DNR) for development of Grass carp response capabilities. Grass Carp have been detected in low frequencies in Lake Erie proper for nearly three decades, with the first documented occurrence in 1984, but the source of individuals is unclear. Ohio DNR will be combining previous knowledge with additional information as part of this project, in an attempt to further refine when and where Grass Carp (or other Asian carp) response actions can be most effective for control/eradication. EPA contact: Bill Bolen
3. In 2016, EPA, through the GLRI, provided funding to the Michigan Department of Natural Resources (Michigan DNR) to develop an Adaptive Management Framework for Grass Carp Eradication in Lake Erie. EPA contact: Bill Bolen
4. In 2016, EPA, through GLRI, provided contractor funding to initiate a report on the current state of ballast water management procedures and technologies (e.g., best management practices, treatment technologies, on-shore treatment) for control of aquatic invasive species. EPA expects a final report in summer 2017. EPA Contact: Jack Faulk (faulk.jack@epa.gov)
5. In 2016, EPA, through GLRI, providing contractor funding to initiate a vector analysis of inter-lake transfers of aquatic invasive species in the Great Lakes. This effort will identify the types of environmental factors at major ports within the lakes, an organism survivability analysis, and a discussion of the high risk routes for vessels and other vectors on the spread of aquatic invasive species. EPA Contact: Jack Faulk
6. In 2016, EPA continued its funding through an interagency agreement with the Naval Research Laboratory (NRL) to evaluate the effectiveness of combining open ocean exchange with ballast water treatment to reduce the transport and delivery of potentially invasive species through shipboard trials. A secondary goal is to evaluate, within the confines of the study, the efficacy of ballast water management systems. EPA Contact: Robin Danesi (danesi.robin@epa.gov)
 In 2016, EPA initiated a study through the interagency agreement with NRL to review current and emerging biofouling technologies capable of quantifying biofouling (primarily macrofouling), discuss the challenges for deploying these technologies for subsurface inspection of ships' hulls, and determine potential "best" candidates for laboratory trials. EPA Contact: Robin Danesi

- **Item #3: EPA provides science support for Great Lakes early detection and monitoring network under Great Lakes Water Quality Agreement (GLWQA)**

Scientists in EPA's Office of Research and Development continue to work with DOI's US Fish and Wildlife Service to develop the technical support for the Great Lakes-wide early detection and monitoring network mandated by the Great Lakes Water Quality Agreement. The GLWQA is a commitment between the United States and Canada to restore and protect the waters of the Great Lakes. The Agreement provides a framework for identifying binational priorities and implementing actions that improve water quality. EPA coordinates U.S. activities under the Agreement. Two recent publications are relevant (listed below), and additional publications are forthcoming this year and next. EPA Contacts: Anett Trebitz (3trebitz.anett@epa.gov), Joel Hoffman (3hoffman.joel@epa.gov), Erik Pilgrim (pilgrim.erik@epa.gov).

Trebitz, A.S. et al. 2015. Potential for DNA-based identification of Great Lakes fauna: Match and mismatch between species inventories and DNA barcode libraries. *Scientific Reports* 5:12161.

Hoffman, J.J. et al. 2016. Adaptive monitoring for early detection of aquatic invasive species. *Fisheries* 41:26-37.

- **Item #4: EPA considers requirements for Vessel General Permit to be issued in 2018**

The EPA's Vessel General Permit (VGP) was reissued in December 2013, and it regulates discharges from commercial vessels, including ballast water, to protect the nation's waters from ship-borne pollutants and reduce invasive species in U.S. waters. The permit includes a more stringent numeric discharge standard than the previous permit, and is aimed at limiting the release of non-indigenous invasive species in ballast water. The permit also contains additional environmental protection for the Great Lakes, which have suffered disproportionate impacts from invasive species, aligning federal standards with many Great Lakes states by requiring certain vessels to take additional precautions to reduce the risk of introducing new invasive species to U.S. waters.

After the 2013 permit was issued, several environmental groups challenged EPA's issuance of the VGP to the 2nd Circuit Court of Appeals. In October 2015, the 2nd Circuit Court of Appeals remanded portions of the VGP to the Agency, requiring further consideration of the ballast water requirements for the next VGP, which will be reissued when the current permit expires in December 2018. EPA is currently working on these issues related to development of the next VGP while continuing its active implementation of the current permit. Several of the efforts currently underway with GLRI funding will support the VGP reissuance effort. EPA contact: Jack Faulk

- **Item #5: EPA registers biopesticide to combat invasive Sea Lamprey**

In December 2015, EPA registered two new biopesticide products designed to control Sea Lamprey, an invasive species with serious detrimental effects on native fisheries in the Great Lakes. For more information see: <https://www.epa.gov/pesticides/epa-registers-biochemical-pheromone-combat-invasive-sea-lamprey>. EPA contact: Russ Jones (jones.russell@epa.gov)

C. Departmental notes of relevance to ISAC⁴:

No updates at this time.

⁴ Focus on organizational/logistical information relevant to ISAC – staff changes, upcoming meetings, etc.