## October Summary

**Bottom Line:** Monitoring occurred in the CAWS and upper Illinois Waterway upstream and downstream of the Dispersal Barrier in September. **NO BIGHEAD OR SILVER CARP were reported captured or observed upstream of the Barrier, nor were any found in new locations downstream of the Barrier.**

## North Shore Channel and Chicago River – Planned Intensive Surveillance October 29- November 1, 2013

The 4-day Planned Intensive Surveillance North Shore Channel and Chicago River concluded November 1, 2013. This event was a planned intensive surveillance activity as outlined by the Monitoring Response Plan for Asian Carp in the Upper Illinois River and Chicago Area Waterway System (May 2013). The event sampling logistics varied slightly from original plan, unlike past rapid responses that lasted 2 days, this event occurred over a four day period. Also as a modification to the original plan to provide further vigilance, all boats participating in this event underwent a decontamination procedure prior to entering the waterway to prevent the exposure of any additional Asian carp eDNA into the waterway. To date, intensive sampling during response actions triggered by detection of Asian carp eDNA has resulted in no Asian carp being observed or captured. At present, the detection of eDNA evidence cannot discern the source of the eDNA or the characteristics of the fish, verify whether live Asian carp are present, the number of Asian carp in an area, or whether a viable population of Asian carp exists. As further calibration of the eDNA method is completed the MRWG has suspended the use of eDNA as a trigger for responses, instead using this information to establish planned intensive surveillance at key locations where Asian carp eDNA has been found to accumulate. This effort had the benefit of advanced planning, greater sampling intensity over a shorter time period than fixed site and random sampling, and will be in locations where the repeated detection of eDNA in previous years indicates the potential presence of Asian carp in the waterway. This planned surveillance activity followed a scheduled eDNA sampling event. This coordination of monitoring for Asian carp using eDNA and traditional fishery sampling techniques (electrofishing and netting) will enhance the eDNA Calibration Study (ECALS) which aims to reduce the uncertainty surrounding eDNA results. Information gained from such actions may also benefit monitoring protocols, research efforts, or Asian carp removal and control efforts. The goal of this operation was to fish the area extensively with electrofishing and commercial nettings to determine extent of possible Asian carps (bighead carp and silver carp) within this area.

Several agencies participated in this event utilizing man power and resources; IDNR, USACE, USFWS, USCG, I DFO Canada and contracted commercial fisherman.

Summary and Totals for the Planned Intensive Surveillance:

- **No bighead carp or silver carp were observed or captured during this Planned Intensive Surveillance**
- All boats utilized during the event went through an outlined decontamination procedure prior to entering waterway October 29, 2013 7:30 am
- Two net boats and four electrofishing boats, approximately 578 person-hours of effort
- Electrofishing: 130 runs, 32.5 hrs, 11,371 fish representing 37 species and 1 hybrid group; Gizzard shad *Dorosoma cepedianum* and Bluegill *Lepomis macrochirus* comprised 67% and 11% of the electrofishing catch, respectively; 19 species were unique to electrofishing.
- Gill Netting: 36 sets, 3600 yards (2.05 MILES), 68 fish representing 5 species and 1 hybrid; Common carp comprised 62% of the net catch; 1 Common carp *Cyprinus carpio* x Goldfish *Carassius auratus* hybrid cross was captured by gill netting, this hybrid represented the only species caught uniquely to this gear.
- Experimental Deep Gill Netting: 40 sets, 4000 yards (2.27 MILES), 198 fish representing 8 species; Common carp comprised 93% of the net catch. Three species, Brown trout *Salmo trutta,* Quillback *Carpiodes cyprinus,* and Smallmouth bass *Micropterus dolomieu,* were caught uniquely to this gear.

- Grand total for the week – a total of 11,637 fish representing 40 species and 2 hybrids were collected. Note: 4 banded killifish (state threatened species) were sampled and released; 8 non-native species and their hybrids were collected during the event: Common carp, Goldfish, Common carp x Goldfish, White perch *Morone americana*, Round goby *Neogobius melanostomus,* Oriental weatherfish *Misgurnus anguillicaudatus, Alewife Alosa pseudoharengus* and Tilapia.
- Planned Intensive Surveillance Event was concluded at 1:00 p.m., Friday, 1 November 2013. All boats utilized during the event were decontaminated before departure from O'Brien Lock and Dam.
- All operations were completed safely, without any reported injuries.

**Fixed and Random Site Sampling Upstream of the Dispersal Barrier**

**Site 1:** Lake Calumet
**Site 2:** Little Calumet River
**Site 3:** Chicago Sanitary and Ship Canal near Western Ave. and South Branch Chicago River
**Site 4:** North Branch Chicago River and North Shore Channel
**Site 5:** North Shore Channel

**Area 1:** Lake Calumet Connecting Channel and Calumet River above O'Brien Lock
**Area 2:** Calumet-Sag Channel
**Area 3:** Chicago Sanitary and Ship Canal, Western Ave. to Dispersal Barrier
**Area 4:** North Shore Channel, North Branch Chicago River and Chicago River

One crew from the USFWS completed 30 15-minute electrofishing runs at five fixed sites (7.5 hours total) and 16 15-minute runs at randomly selected locations within the four random areas upstream of the Dispersal Barrier (4 hours total) during the week of October 21.

Two contracted commercial fishing crews and assisting IDNR biologists set 3.1 miles of net (27 sets) at the five fixed sites and 2.2 miles of net (19 sets) at random sites upstream of the Barrier during the week October 1.

Two contracted commercial fishing crews and assisting IDNR biologists set 3.1 miles of net (27 sets) at the five fixed sites and 2.2 miles of net (19 sets) at random sites upstream of the Barrier during the week October 14.

No Bighead or Silver Carp were reported captured or seen upstream of the Dispersal Barrier.

**Fixed and Random Site Sampling Downstream of the Dispersal Barrier**

**Site A:** Lockport Pool – Lockport Lock and Dam to Electric Barrier
**Site B:** Brandon Road Pool – Brandon Road Lock and Dam to Lockport Lock and Dam
**Site C:** Dresden Island Pool – I-55 Bridge to Brandon Road Lock and Dam
**Site D:** Marseilles Pool – Rt. 47 Bridge (Morris) to Dresden Lock and Dam

- Crews from IDNR, and U.S. Army Corps of Engineers (USACE) completed 16 electrofishing runs at fixed locations (4 hours total) and 16 runs at randomly selected locations (4 hours total) in the Lockport, Brandon Road, Dresden Island, and Marseilles pools downstream of the Barrier during the week of October 14.

- No Bighead or Silver Carp were reported captured or seen during electrofishing in the Lockport, Brandon Road, or Dresden Island pools. One Silver Carp was captured during fixed site sampling in the Marseilles pool. No Bighead Carp were captured in the Marseilles pool while electrofishing.

- Fixed and random electrofishing downstream of the Barrier, scheduled for the week of October 1, was not completed due to the government shutdown

- Two contracted commercial fishing crews and assisting IDNR biologists set 3.64 miles of net (32 sets) at the four fixed sites and 3.64 miles of net (32 sets) at random sites within the four pools downstream of the Barrier during the weeks of October 1 and October 14.

- No Bighead or Silver Carp were reported captured or seen during commercial netting in the Lockport, or Brandon Road pools. Seventeen Silver Carp and 1 Bighead Carp were collected at fixed sites in the Marseilles pool near Morris. During fixed site netting in the Dresden Island pool, 1 Silver Carp (24 inches) was collected downstream of the Hollywood Casino (about 1 mile upstream of Rock Run Rookery).

- Crews from IDNR set and pulled hoop nets (6' diameter) in Lockport, Brandon Road, Dresden Island, and Marseilles pools downstream of the barrier during the week of September 23. No Bighead or Silver Carp were captured.

- IDNR crews set and pulled minnow fyke nets in Lockport, Brandon Road, Dresden Island, and Marseilles pools downstream of the barrier during the week of September 23. No Bighead or Silver Carp were captured in minnow fyke nets.

## Rock Run Rookery Preserve Lake

Contracted commercial fishing crews fished the Rock Run Rookery Preserve Lake in Will County by the Will County Forest Preserve. Below is a quick summary of activities in the Preserve Lake since sampling was initiated in the lake November 2, 2012.

| Rock Run Summary | |
|---|---|
| **Sets** | 97 |
| **Effort (yds)** | 62550 |
| **Miles of Net** | 35.5284 |
| **Person-Days** | 125 |
| **Bighead** | 1037 |
| **Silver** | 75 |
| **Grass carp** | 3 |
| **Total AC removed** | 1115 |
| **Total AC lbs removed** | 26259.6 |
| **Tons** | 13.1298 |
| | |

## Barrier Defense

Barrier defense was conducted the weeks of the October 7th and 21st .Below is a quick summary of the activities for 2013 with sampling weeks remaining.

| **QUICK SUMMARY:** | | |
|---|---|---|
| **Number of Days Fished** | 56 | days |
| **Number of Net Crews** | 280 | crew-days |
| **Miles of Nets Fished** | 292.5 | Miles |

| | | |
|---|---|---|
| **Number of Bighead Carp** | 10631 | Fish |
| **Number of Silver Carp** | 29802 | Fish |
| **Number of Grass Carp** | 180 | Fish |
| **Number of Asian Carp (AC)** | 40613 | Fish |
| **Tons of AC Harvested** | 229.7 | Tons |
| **CPUE: Number of Asian Carp/ 1,000 yards net** | 79 | Fish |

## Gear Comparison

The INHS evaluated relative efficiency of traditional (gill nets, electrofishing, mini-fyke nets, beach seines, trammel nets, small hoop nets) and new gears (surface-to-bottom gill nets and large hoop nets) at Peoria Lock and Dam (RM 155-157.5) and at Lily Lake (RM 83-84) during September 30 – October 3, 2013. This completes the fall sampling period for the gear comparison study. Hydroacoustic surveys were also conducted at both sites during this time period. At Peoria Lock and Dam, we captured 4 bighead carp and 119 silver carp. At Lily Lake, we captured 16 bighead carp and 52 silver carp. No age-0 Asian carp were captured or observed at either site. Data entry and analysis are ongoing.

## Larval fish and Productivity Sampling

INHS sampling for productivity and larval fish continued during October. Twenty-four zooplankton samples and forty-six larval fish samples were collected during September 30-October 9 throughout the Illinois Waterway. Forty-eight chlorophyll *a* and 48 phosphorus samples were also collected during this time. Very few larval fish of any species were observed in these samples due to many fish species having concluded spawning activities. No Asian carp larvae have been identified from October samples thus far. Sample processing, data entry, and data analysis are ongoing

## Telemetry Monitoring Project

USACE Demo Barrier Efficacy telemetry study was initiated. USACE were able to establish an 8 receiver VPS around the demonstration barrier which will provide fine scale 2D tracks of fish movement in the area. USACE were also able to tag a total of 24 Largemouth bass under 12 inches and 24 Common carp over 12 inches which were released in equal quantities above and below the demo barrier.

## Ontario Ministry of Natural Resources (MNR) – Asian Carp Surveillance

Great Lakes Surveillance

The Lake Erie Management Unit's regular sampling programs include

- Commercial fishery monitoring using full Port Officer presence and commercial catch sampling program

- Gill net programs in western and central basins of Lake Erie
- Trawl programs in the eastern basin of Lake Erie
- Trap net survey in Lake St. Clair

The Upper Great Lakes Management Unit's regular sampling programs include

- On-board commercial catch samplers in northern and southern Lake Huron and southern Georgian Bay.
- Gill net program inshore areas of northern Georgian Bay and offshore in southern Lake Huron.

No Asian carp have been detected through these activities to date.

**Evaluating Asian Carp Detection Techniques with Sonar**

From October 1-11, and October 14-23, SIUC researchers conducted hydroacoustic and side-scan sonar mobile surveys in main channel, side channel, and backwater habitats of the Alton, La Grange, Peoria, Marseilles, Starved Rock, and Dresden pools of the Illinois River, and portions of the Des Plaines and Kankakee Rivers. Total number of miles transected is estimated at around 800 miles.

**Alternate Pathway Surveillance in Illinois - Law Enforcement**

The Invasive Species Unit reviewed electronic equipment seized earlier this year from an out of State aquatic life dealer who was illegally selling an invasive species in Illinois. The information gathered identified additional people who violated Illinois law related to the Aquatic life code which will be investigated.

ISU investigated a complaint of an unreported fish kill and the illegal taking of State listed endangered fish on two lakes in Lake County. The Association in charge of the lakes holds an incidental take authorization issued by the IDNR. It allows them to use a mechanical harvester and herbicides to control invasive plants on the lakes, but requires strict adherence to guidelines set forth in the incidental take authorization in order to minimize the taking of endangered species present in the lakes. ISU interviewed harvest operators, association members, the herbicide applicator, and complainant. The complaints were unfounded. ISU compiled data to provide the IDNR Endangered Species Manager and Division of Ecosystems and Environment a detailed map of 2013 harvest statistic and locations of herbicide treatments.

ISU made a covert purchase of 10 Grass Carp from an Illinois Fish Farm. The company was believed to be transporting the fish without a restricted species permit and selling them with an expired aquatic life dealer's license. The fish were sent to the lab to test for triploidy and all came back ok. The investigation revealed the company had all the required permits.