

## June Summary

**Bottom Line:** Monitoring occurred in the CAWS and upper Illinois Waterway downstream of the Electric Dispersal Barrier in May. **NO BIGHEAD CARP OR SILVER CARP were any found in new locations upstream or downstream of the Electric Dispersal Barrier.**

### Seasonal Intensive Monitoring

#### *Electrofishing:*

- Crews from IDNR, USFWS, and U.S. Army Corps of Engineers (USACE) completed 162 electrofishing runs at both fixed locations and randomly selected locations (40.5 hrs total) in the North Shore Channel, North Branch Chicago River, Chicago Sanitary and Ship Canal, Cal Sag Channel, Calumet River, Little Calumet River, and Lake Calumet upstream of the electric dispersal barrier during the weeks of June 9<sup>th</sup> and June 16<sup>th</sup>.
- Crews collected 5,874 fish of 49 species and 1 hybrid group, which included 120 Banded Killifish (state threatened species).
- A 1255 mm (49.4 in) 31.4 kg (69.2 lb) Grass Carp was collected during a random electrofishing run, this fish was processed and sent to USFWS-Columbia for microchemistry verification. This female Grass Carp was confirmed diploid by Whitney Genetics Lab.
- No Bighead or Silver Carp were reported captured or observed.



#### *Netting:*

- Five contracted commercial fishing crews and assisting IDNR biologists set 21.6 miles of trammel/gill net (190 sets) at fixed sites and random sites above the electric dispersal barrier in the CAWS during the weeks of June 9<sup>th</sup> and June 16<sup>th</sup>.
- One commercial fishing crew and assisting IDNR biologists set two 800 yard commercial seine hauls in Lake Calumet.

- Trammel/gill netting yielded 737 fish representing 14 species and 1 hybrid group and commercial seine hauls resulted in 1,725 fish from 11 species.
- No Bighead or Silver Carp were reported captured or observed.

### **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

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

#### *Electrofishing:*

- Crews from IDNR, USFWS, and U.S. Army Corps of Engineers (USACE) completed 32 electrofishing runs at fixed locations (8 hours total) and 64 runs at randomly selected locations (16 hours total) in the Lockport, Brandon Road, Dresden Island, and Marseilles Pools downstream of the electric dispersal barrier during the weeks of May 27 and June 9.
- Crews collected 2,641 fish of 49 species and 2 hybrid groups during electrofishing.
- No Bighead or Silver Carp were reported captured or observed during electrofishing in the Lockport, Brandon Road, Dresden Island Pools.
- Seventeen Silver Carp were collected during sampling at fixed and random sites in the Marseilles Pool on 6/2/14.

#### *Netting:*

- Two contracted commercial fishing crews and assisting IDNR biologists set 1.82 miles of net (16 sets) at the four fixed sites and 6.14 miles of net (54 sets) at fixed and random sites within the four pools downstream of the electric dispersal barrier during the week of May 27.
- Crews collected 157 fish of 8 species and 1 hybrid group during commercial netting.
- No Bighead or Silver Carp were reported captured or observed during commercial netting in the Lockport and Brandon Road Pools.

- Two Bighead Carp were collected at Rock Run Rookery in Dresden Island Pool on 5/30/2014.
- Eleven Silver Carp and 8 Bighead Carp were collected at fixed and random sites in the Marseilles Pool near Morris on 5/30/2014.

*Hoop and Mini Fyke Netting:*

- Crews from IDNR set and pulled 12 hoop nets (6' diameter) downstream of the electric dispersal barrier in Lockport, Brandon Road, and Dresden Island Pools during the week of June 23<sup>rd</sup>. Hoop nets were not set in Marseilles Pool due to the high river stage and flow from extensive rain events throughout the week.
- Crews collected 64 fish of 6 species during hoop net sampling.
- IDNR crews set and pulled 16 mini fyke nets downstream of the electric dispersal barrier in Lockport, Brandon Road, Dresden Island, and Marseilles Pools during the week of June 23<sup>rd</sup>.
- Crews collected 1,176 fish of 27 species and 1 hybrid group species during mini fyke sampling.
- Ninety Round Goby were collected in Lockport (52) and Brandon Road (38) Pools, and 169 Banded Killifish (state threatened species) were collected in Lockport Pool.
- No Bighead or Silver Carp were reported captured or observed during hoop net and mini fyke sampling in Lockport, Brandon, Dresden Island, and Marseilles Pools.

## **Barrier Defense Asian Carp Removal Project**

In June, barrier defense occurred the weeks of the 2nd and 23rd. Modified from previous years, barrier defense specifically takes place in the Marseilles and Starved Rock Pools. Also in 2014, contracted commercial fisherman are deploying and fishing modified 6 foot diameter hoop nets in the main channel border and side channel habitats. These habitats have been difficult to fish with gill and trammel nets. Below is a summary of the barrier defense activities including hoop netting totals for 2014.

<b>QUICK SUMMARY:</b>		
<b>Number of Days Fished</b>	28	days
<b>Number of Net Crews</b>	152	crew-days
<b>Yards of Net Fished</b>	253550	Yards
<b>Miles of Nets Fished</b>	144.1	Miles
<b>Number of Hoop Net Sets</b>	103.0	Sets
<b>Number of Bighead Carp</b>	5739	Fish
<b>Number of Silver Carp</b>	27557	Fish
<b>Number of Grass Carp</b>	373	Fish
<b>Number of Asian Carp (AC)</b>	33669	Fish
<b>Tons of AC Harvested</b>	169.5	Tons

## **Understanding Surrogate Fish Movement with Barriers**

Currently a total of 948 surrogate fish have been captured and floy tagged while monitoring in the Lockport, Brandon Road and Dresden Pools downstream of the Electric Dispersal Barrier. A species list of floy tagged fish; 542 Common Carp, 368 Smallmouth Buffalo, 21 Bigmouth Buffalo, 11 Black Buffalo, 2 Goldfish and 4 Common carp X Goldfish. To date, seven recaptures have occurred. Two fish were recaptured in Dresden Pool one of those being in Rock Run Rookery Lake. Two recaptures occurred in Brandon Road pool, two recaptures in Lockport pool 1 recapture in Rock Run Rookery. With these recaptures no movement has occurred between barriers. Also 1 Common carp was captured that was tagged by USFWS in 2013.

## **Telemetry Monitoring Project**

VR4 receivers were downloaded at the barriers. Three of eight receivers were downloaded and work continues this month to finish the remaining receivers. Data collected thus far suggests tagged fish have been approaching the barriers with increasing intensity as compared to early spring.

## **Barrier Maintenance Fish Suppression**

USACE completed two 15 min electrofishing surveys between the barriers on 9 June. Operational changes at the barriers in the previous weeks triggered the need to assess potential fish targets between the barriers for potential Asian carp. Twenty four fishes were captured from 5 species including Green Sunfish, Bluntnose Minnow, Fathead Minnow, Spottfin Shiner and Banded Killifish. No Asian carp were captured.

## **Larval Fish and Productivity Monitoring**

INHS sampling for larval fish occurred during the weeks of April 28 – May 2, May 12 - 16, and May 26 – 30. Sampling was conducted at 14 sites located throughout the Illinois Waterway, with 4 samples taken at each site. Samples from the weeks of April 28 and May 12 have been processed. Approximately 840 larval fish were collected during these two weeks. Sample processing from the week of May 26 is ongoing and results will be reported once available.

## **Optimal Harvest Strategies to Minimize Asian Carp Propagule Pressure on the Electric Dispersal Barrier**

### *Hydroacoustics and Side-Scan Sonar Surveys*

Further analysis of hydroacoustic data was completed by SIU.

### *Acoustic Receivers, Transmitters, and Active Tracking*

SIU developed a new Asian carp telemetry database in conjunction with the USGS.

## **Strategy for eDNA Monitoring in the CAWS**

USFWS collected 240 Edna samples total from North Shore(60),Chicago River(60), Little Calumet (60), and Lake Calumet(60). Each sample was divided into three centrifuge samples and 3 filtration samples. Analysis will be completed by three independent labs as part of a filtration vs. centrifugation study from low, medium, and high density Asian carp populations.

## **Monitoring Fish Abundance and Spatial Distribution in Lockport, Brandon Road, and Dresden Island Pools and the Associated Lock and Dam Structures**

During June, Carterville FWCO worked to finish processing and analyzing split beam hydroacoustic and side scan sonar data that was collected in the Lockport, Brandon Rd., and Dresden Island pools this spring. We also undertook preparations for another round of this sampling that will occur in July.

## **Monitoring Fish Abundance, Behavior, Identification, and Fish-Barge Interactions at the Electric Dispersal Barrier, Chicago Sanitary and Ship Canal, Illinois**

Carterville FWCO is also making preparations for four weeks of DIDSON data collection at the barrier that will occur in August and September. These efforts will also be supplemented with fish sampling to be conducted by Columbia FWCO.

## **Asian Carp Gear Development and Evaluation**

New Paupier skimmer boat was received and several modifications had to be made including purchase and installation of high speed winches, rigging of net frames and other unforeseen updates. The original Paupier Boat was retrofitted with new electrode arms and heavier structural framing. The electrified push trawl prototype was completed and is ready to be tested. An additional electrified push trawl was requested and funding received to start building that boat.

## **Larval Fish and Productivity Monitoring in the Illinois Waterway**

INHS sampling for larval fish occurred every week during the month of June. Sampling was conducted at 14 sites located throughout the Illinois Waterway, with 4 samples taken at each site on each sampling occasion. Processing of June larval fish samples is ongoing and results will be reported once available. Preliminary assessments indicate the presence of Asian carp eggs from multiple sites in the Illinois Waterway on several sampling dates in June. Field personnel also reported observing extremely high numbers of large-diameter fish eggs, likely Asian carp eggs, in samples from the Peoria Pool during the week of June 23.

## **Unconventional Gear Development**

INHS deployed Great Lakes trap nets (pound nets) at Lake Calumet on June 16<sup>th</sup>. Heavy currents within Lake Calumet during this time resulted in the pound nets being dragged from their anchors and damaged, reducing capture efficiency. Pound nets were pulled on June 17<sup>th</sup>, with small numbers of gizzard shad and freshwater drum captured during this effort. No Asian carp were captured or observed.

## **Distribution and Movement of Small Asian Carp**

### *Electrofishing*

- A crew from Carterville FWCO performed 30 (10 in each pool) 15-minute pulsed DC electro-fishing runs in Dresden Island, Marseilles, and Starved Rock pools during the week of June 9<sup>th</sup>.
  - Our crew collected 1,300 fish of 34 species during electrofishing sampling.
  - Several fish that were unidentifiable in the field were preserved for laboratory ID.
  - 14 Banded Killifish (state threatened species) were caught; 13 in Marseilles pool and 1 in Starved Rock pool.
  - 6 Silver Carp were caught in Marseilles pool. 237 Silver Carp were observed in Starved Rock pool; of these, 22 were caught, and 215 were visually observed.
  - No Bighead Carp or Round Goby were collected or observed during electrofishing in Dresden Island, Marseilles, or Starved Rock pools.

### *Mini-fyke netting*

- A crew from Carterville FWCO set and pulled 30 minifyke nets (10 per pool) in Dresden Island, Marseilles, and Starved Rock pools during the week of June 23<sup>rd</sup>.
  - Our crew collected 1,218 fish of 28 species during minifyke sampling; the actual count will be far higher once all laboratory samples are processed.
  - Fish that were unidentifiable in the field were preserved for laboratory ID.
  - 1 Banded Killifish (state threatened species) was caught in the Starved Rock pool; there are very likely others but it will be unclear until samples are processed.
  - Approximately 50 Silver Carp were observed jumping in Starved Rock pool; 1 that jumped, but no others were captured.
  - No Bighead Carp or Round Goby were collected or observed during mini fyke netting in Dresden Island, Marseilles, or Starved Rock pools.

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

- Invasive Species Unit (ISU) provided surveillance of nets in Lake Calumet while they were set to prevent vandalism.
- The fish truck inspection form created by the ISU was added to the law enforcement Sharepoint website; so that all law enforcement may download it and use it to gather information on aquatic life dealers and transporters.
- ISU was conducting a retail fish market inspection in Palatine, IL when a fish truck making a delivery arrived. The market was one of six locations owned by a corporation and none of the locations had obtained the required aquatic life dealer's license. The fish truck was inspected and it was discovered the wholesale dealer did not have a wholesale aquatic life dealer's license. The wholesale aquatic life dealer purchased the license and is now in compliance and the six retail markets are in the process of obtaining the licenses.
- ISU attended the Association of Midwest Fish and Game Law Enforcement Officers Association in Cable Wisconsin and participated in discussions on law enforcement efforts to prevent the spread of Asian Carp.
- Five retail fish markets owned by a corporation which were recently inspected by ISU obtained the required licenses and the wholesale records provided during the investigation have opened many additional leads into aquatic life dealer violations.
- ISU received information from a CPO who encountered two fishermen in the Illinois river fishing with live red swamp crayfish about the fish market in Chicago that was selling them. Investigation has been initiated into the market selling aquatic life without the required license.
- ISU conducted an inspection on a retail fish market in Mundelein, IL. The inspection revealed the owner did not possess a valid retail aquatic life dealer's license even though he had been given a written warning the previous year. The owner was also selling largemouth bass and bluegill from a local lake.
- ISU issued 8 citations to two businesses and their owners in Chicago's Chinatown neighborhood for selling shark fin products. The citations were issued on June 6, 2014 as part of an on-going investigation to enforce state law banning the possession, sale or distribution of shark fins in Illinois.



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

The Upper Great Lakes Management Unit's May sampling programs in Lake Huron include

- On-board commercial catch sampling in the southern basin, north channel, and Georgian Bay.
- Fyke and small-mesh gillnetting program in the nearshore in Owen Sound and Midland Bay.
- Index netting in the main basin, North Channel, and Georgian Bay.
- Creel survey in Parry Sound.

The Upper Great Lakes Management Unit's May sampling programs in Lake Superior include

- Thunder Bay and Nipigon Bay boat electrofishing surveys
- Fish Community Index Netting (gillnetting; starting on the west side of the lake and moving east)
- Commercial fish sampling around Sault Ste. Marie and Thunder Bay

The Lake Erie Management Unit's June sampling programs include

- Commercial fishery monitoring using full Port Observer presence and commercial catch sampling program
- Gillnetting in the western basin of Lake Erie
- Nearshore seining in Lake St. Clair
- Gillnetting in Long Point Bay, Lake Erie
- Water collection for eDNA analysis in the Thames River, Sydenham River, Grand River and additional tributaries of Lake Erie and Lake St. Clair.

The Aquatic Research and Monitoring Section June programs include

- 198 eDNA samples from the Thames River, Sydenham River, and additional tributaries of Lake Erie and Lake St. Clair were received from the Lake Erie Management Unit in June.
  - DNA was extracted from the water samples, with no positive detections for any of the four Asian carp species being tested for.
- An additional 123 water samples from the Grand River have been received by the lab and are being prepped for eDNA analysis.

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