

## 2019 December Summary

**Bottom Line:** Multiple agencies participated in monitoring Asian Carp (Bighead Carp, Black Carp, Grass Carp, and Silver Carp) in the upper Illinois Waterway during December 2019. Due to unseasonably cold and dangerous conditions, some sampling effort was rescheduled or cancelled. **NO LIVE BIGHEAD CARP, BLACK CARP, GRASS CARP, or SILVER CARP were found in any new locations immediately downstream or upstream of the Electric Dispersal Barrier.**

### Fixed, Random, and Targeted Site Sampling Downstream of the Electric Dispersal Barrier

#### *Electrofishing:*

- No electrofishing effort was put forth in December.

#### *Hoop netting:*

- Due to changes in the monitoring response plan hoop netting effort was not put forth in December.

#### *Mini fyke netting:*

- Due to changes in the monitoring response plan hoop netting effort was not put forth in December.

#### *Commercial Netting:*

- Contracted commercial fishers with assisting Illinois Department of Natural Resources (IDNR) or Illinois Natural History Survey (INHS) biologists set 10.7 miles of gill/trammel net in Lockport, Brandon Road, and Dresden Island Pool (including Rock Run Rookery) during December 2019.
- 277 fish representing 10 species and 1 hybrid group were captured during contracted commercial netting effort in Lockport, Brandon Road, and Dresden Island Pools during December 2019.
- **No Bighead Carp, Grass Carp, or Silver Carp were captured above the I55 bridge in Dresden Island Pool during contracted commercial netting in December 2019.**
- **No Bighead Carp or Grass Carp, and 1 Silver Carp were captured below the I55 bridge in Dresden Island Pool bridge during contracted commercial netting in December 2019.**

**Sampling results below the electric dispersal barrier by pool through December 2019, along with the same time period in 2017 and 2018 for comparison** (Caution should be applied when comparing hoop net and mini fyke results among years due to sampling protocol changes. Additionally, all effort may not be reported due to data processing so actual effort amount and catch is likely higher. Check 2019 interim summary, published at the end of the year, for complete results.)

#### *Lockport Pool*

	2017	2018	2019
Yards of Net Fished	92,900	77,100	59,400
Miles of Net Fished	52.8	43.8	33.7
Hoop Net Nights	46.6	56.8	163.8
Mini Fyke Net Nights	25.2	28.9	22.2
Electrofishing Runs	130	169	69
Electrofishing Time (hrs)	32.5	42.3	17.3
Total Asian Carp (AC)	0	0	0
Tons of AC Harvested	0	0	0

*Brandon Road Pool*

	2017	2018	2019
<b>Yards of Net Fished</b>	104,875	77,500	54,000
<b>Miles of Net Fished</b>	59.6	44.0	30.7
<b>Hoop Net Nights</b>	50.3	55.0	158.9
<b>Mini Fyke Net Nights</b>	27.1	26.6	33.1
<b>Electrofishing Runs</b>	129	156	63
<b>Electrofishing Time (hrs)</b>	32.3	39.0	15.8
<b>Total Asian Carp (AC)</b>	1*	1*	0
<b>Tons of AC Harvested</b>	0	0	0

\* Indicates that AC captured were Grass Carp

*Dresden Island Pool (Including Rock Run Rookery)*

	2017	2018	2019
<b>Yards of Net Fished</b>	171,700	230,400	164,650
<b>Miles of Net Fished</b>	97.6	130.9	93.6
<b>Hoop Net Nights</b>	343.3	52.2	76.3
<b>Mini Fyke Net Nights</b>	30.9	27.6	66.2
<b>Pound net night</b>	4	8	2
<b>Electrofishing Runs</b>	194	210	76
<b>Electrofishing Time (hrs)</b>	48.5	52.5	19.0
<b>Bighead Carp</b>	307	398	45
<b>Grass Carp</b>	28	53	8
<b>Silver Carp</b>	539	1235	276
<b>Total AC</b>	874	1686	329
<b>Asian Carp (AC) from Rock Run Rookery Lake (RR)</b>	250	126	50
<b>AC upstream I-55 (not in RR)</b>	31*	9*	8*
<b>AC downstream I-55</b>	385	1141	216
<b>Tons of AC Harvested</b>	9.5	15.7	4.1
<b>AC/1000 yds of gill net</b>	4.8	7.2	2.0

\* Indicates that AC captured upstream of I-55 included includes Bighead Carp, Grass Carp and Silver Carp.

**Asian Carp Removal Project**

Removal took place in Marseilles Pool and Starved Rock Pool of the Illinois River. Below is a summary of all IDNR removal activities through December 2019, including 23 weeks of contracted fishing and two UFM's. For comparison purposes, data from the same time period in 2017 and 2018 are included.

*Overall*

	2017	2018	2019
<b>Number of Days Fished</b>	96	89	117
<b>Number of Net Crew Days</b>	337	423	601
<b>Yards of Net Fished</b>	448,060	399,000	608,025
<b>Miles of Nets Fished</b>	254.6	226.7	345.5
<b>Number of Pound Net Nights</b>	78	26	28
<b>Number of Hoop Net Nights</b>	987.3	1628.2	0.0
<b>Number of Bighead Carp</b>	2,652	3,045	3,758
<b>Number of Silver Carp</b>	163,786	149,452	207,769
<b>Number of Grass Carp</b>	1,169	1,441	2,999
<b>Number of Asian Carp (AC)</b>	167,607	153,938	214,526
<b>Tons of AC Harvested</b>	558.0	564.1	777.6
<b>AC/1000 yds of gill net</b>	338.4	373.3	345.4

Additional samples have been collected, but sample processing is not completed, and those data have not been entered into the database. Check the 2019 interim summary published at the end of the year for results.

*Marseilles Pool*

	<b>2017</b>	<b>2018</b>	<b>2019</b>
<b>Yards of Net Fished</b>	247,160	152,300	220,010
<b>Miles of Nets Fished</b>	140.4	86.5	125.0
<b>Pound Net nights</b>	74	22	26
<b>Hoop Net nights</b>	98.0	278.6	141.2
<b>Mini Fyke Net Nights</b>	28.0	27.6	68.9
<b>Electrofishing Runs</b>	133	156	94
<b>Electrofishing Time (hrs)</b>	33.3	39.0	23.5
<b>Bighead Carp</b>	1,534	1,399	1,586
<b>Grass Carp</b>	70	44	86
<b>Silver Carp</b>	42,410	32,569	44,060
<b>Total Asian Carp</b>	44,014	34,012	45,732
<b>Tons of AC Harvested</b>	192.8	162.3	257.3
<b>AC/1000 yds of gill net</b>	166.0	213.4	190.1

Additional samples have been collected, but sample processing is not completed, and those data have not been entered into the database. Check the 2019 interim summary published at the end of the year for results.

*Starved Rock Pool*

	<b>2017</b>	<b>2018</b>	<b>2019</b>
<b>Yards of Net Fished</b>	200,900	246,700	388,015
<b>Miles of Nets Fished</b>	114.1	140.2	220.5
<b>Pound Net nights</b>	0	0	1
<b>Hoop Net nights</b>	938.6	1403.7	162.1
<b>Mini Fyke Net Nights</b>	0.0	0.0	67.9
<b>Electrofishing Runs</b>	0	0	113
<b>Electrofishing Time (hrs)</b>	0.0	0.0	28.3
<b>Bighead Carp</b>	1,118	1,648	2,176
<b>Grass Carp</b>	1123	1406	2,882
<b>Silver Carp</b>	121,842	117,083	163,899
<b>Total Asian Carp</b>	124,083	120,137	168,957
<b>Tons of AC Harvested</b>	337.6	402.8	523.2
<b>AC/1000 yds of gill net</b>	550.5	469.1	431.5

Additional samples have been collected, but sample processing is not completed, and those data have not been entered into the database. Check the 2019 interim summary published at the end of the year for results.

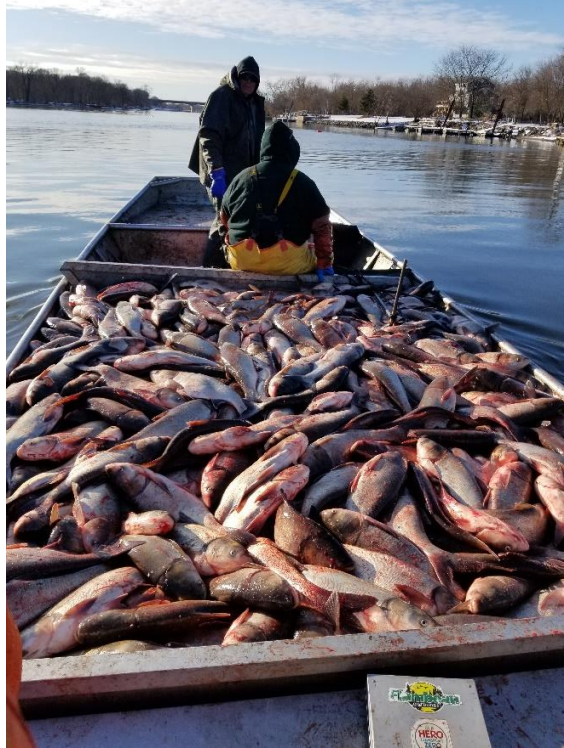


Figure 1. Silver carp catch from 200 yards of gill net at Bull's Island side channel in the Illinois River near Ottawa during December.

### **Monitoring Bigheaded Carp Movement and Density in the Illinois River**

Data analysis was ongoing for mobile hydroacoustic and acoustic telemetry sampling conducting in fall 2019. Hydroacoustic data were processed for estimating Fall pool-wide Asian carp densities from Alton – Dresden Island pools for comparisons to long-term trends (2012-Present). Telemetry data for the Illinois River have been compiled and dam passages for 2019 are being identified. Common Carp and Silver Carp telemetry data for the Surrogate Fish project are being used to evaluate similarities and differences in habitat residency, habitat use, home range, and dam passage.

### **Telemetry**

#### *United States Geological Services (USGS)*

No Bighead carp and 7 Silver carp were detected at the Hanson gravel east pit real-time receiver near Morris, IL during the month of December, 2019 (Figure 2). The maximum number of fish detected on one day was five and the minimum was zero.

Two Bighead carp and 3 Silver carp were detected at the real-time receiver above Dresden Island Lock and Dam near Minooka, IL during the month of December, 2019 (Figure 2). The maximum number of fish detected on one day was three and the minimum was two.

One Silver carp was detected moving from Dresden Island to Marseilles.

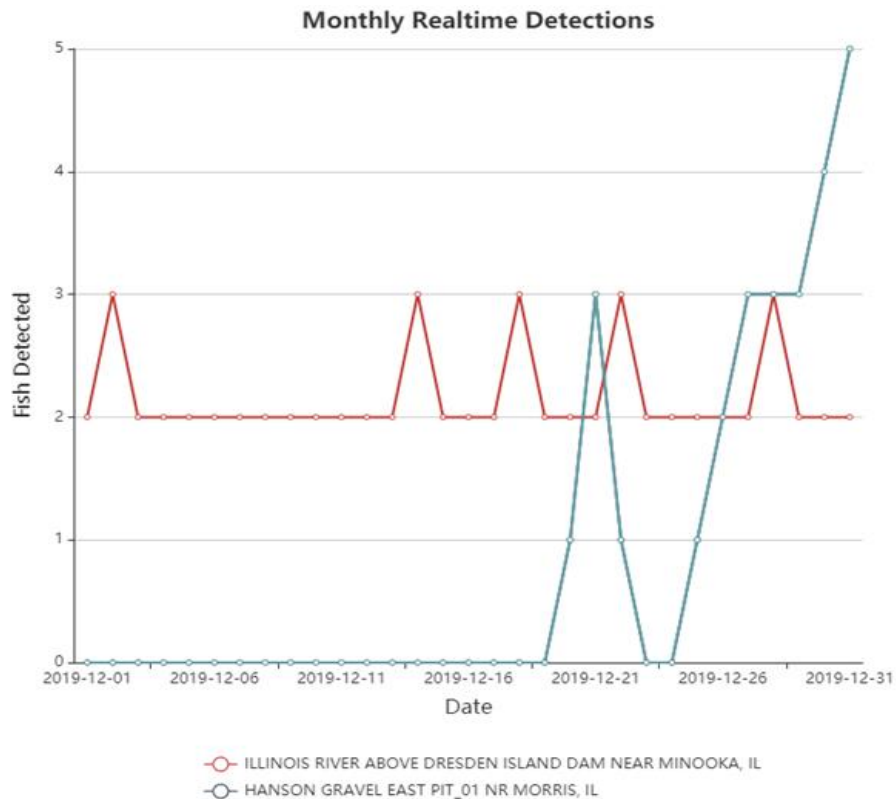


Figure 2. Fish detections for 1 December – 31 December 2019 from telemetry receivers in the Illinois River near Minooka, IL, Utica, IL, and in the Hanson Materials West Gravel Pit in Morris, IL.

**DISCLAIMER**

*These data are preliminary or provisional and are subject to revision. They are being provided to meet the need for timely best science. The data have not received final approval by the U.S. Geological Survey (USGS) and are provided on the condition that neither the USGS nor the U.S. Government shall be held liable for any damages resulting from the authorized or unauthorized use of the data.*

**Telemetry Support for the Spatially Explicit Asian Carp Population Model (SEACarP)**

During December 2019, Wilmington Fish and Wildlife Service crews conducted one week of effort for the SEACarP telemetry project. Efforts focused on capturing and tagging Silver carp and implanting with telemetry tags. Fishing was conducted using an electrified push trawl (dozer trawl) on a shallow drive equipped vessel. A total of 26, 5-minute runs were completed in marinas and backwaters between Henry, Illinois and Peoria, Illinois in the Peoria pool of the Illinois River. Captures included: 48 adult (>400mm) Silver Carp, one Grass Carp, five Common Carp, and 69 total fish representing seven native species.

Telemetry tags were successfully implanted in 42 of the 48 adult Silver Carp captured. The successfully tagged fish had total lengths ranging from 483mm to 716mm. Mortalities or poor condition prior to tagging accounted for the other 6 Silver carp. As weather permits, winter efforts in 2020 will focus on maintaining/repairing stationary telemetry equipment.

## **Hydroacoustic Fish Surveys at the Electric Fish Dispersal Barrier System, Romeoville, IL**

The U.S. Fish and Wildlife Service conducted one mobile hydroacoustic fish survey at the Electric Dispersal Barrier System (EDBS) during December 2019. The survey was completed on December 26, 2019. The objective of the survey was to monitor for the presence and distribution of large fishes greater than 12 inches (30.5 cm) total length in the vicinity of the EDBS. The purpose of these hydroacoustic surveys is to aide in assessing the risk of fish detected in the vicinity of the EDBS, potentially being either Bighead or Silver Carp, prior to or during barrier operational changes and/or maintenance. Hydroacoustic technology does not distinguish or identify fish species. Hydroacoustic surveys covered the area between Hanson Material Services Corporation (HMSC) docking slip, approximately 1.3 km below the Romeo Road Bridge, to the upstream side of the Demonstration Barrier (0.6 km above Romeo Road Bridge). For reporting purposes, Romeo Road Bridge is treated as the dividing line between the areas referred to as “within the EDBS” and “downstream of the EDBS.”

### *Preliminary Results:*

One fish  $\geq -28.7$  dB was detected upstream of the Romeo Road Bridge immediately below Barrier IIA on December 26, 2019. No fish  $\geq -28.7$  dB were detected downstream of the Romeo Road Bridge.

### **Barrier Operational and Maintenance Status**

Status as of 31 Dec 2019

- Demo – Offline
- IIA – Online; Narrow (34 Hz, 2.3 ms, 1700 V = 2.3 V/in) & wide (34 Hz, 2.3 ms, 800 V = ~1.0 V/in) arrays operational
- IIB –Online; Narrow (34 Hz, 2.3 ms, 1700 V = 2.3 V/in) & wide (34 Hz, 2.3 ms, 800 V = ~1.0 V/in) arrays operational
- Des Plaines By-Pass Fence - Fully Operational; Turtle Gates were closed on 15 November 2019

Barrier operating parameters at Barriers IIA and IIB were adjusted to a range of pulse widths (1.7 to 2.4) and frequencies (32-45 Hz) while maintaining voltage settings on 5 December 2019. The combination of pulse widths and frequencies tested have been shown to be effective in deterring bigheaded carps in laboratory trials. Testing occurred in coordination with the railroad and barrier operations to ensure the grounding grid has been operating as designed. This operational change was coordinated with the MRWG and did not result in a barrier clearing trigger.

Seasonal operation of the Barriers was triggered this season as the 7 day rolling average water temperatures at the EDBS dropped below 10 degrees Celsius in late November. Seasonal operation this year entailed powering down the Demonstration Barrier while Barrier IIA and Barrier IIB are operated at a reduced voltage setting to produce a maximum gradient at the narrow array of 1.7 V/in. Barrier IIA and IIB narrow arrays adjusted output power targeting 1.7 V/in at the surface on the afternoon of 9 December 2019. The Demonstration Barrier was placed into warm standby Wednesday morning, 18 December 2019, around 08:30am. These operational changes were coordinated with the Monitoring and Response Workgroup to ensure risk for Asian carp presence had been accounted for. These reduced operating parameters maintain an equivalent level of protection against upstream fish passage while reducing operating costs and prolonging equipment life.

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

Invasive Species Unit (ISU) assisted the WI DNR with an investigation into an ice fishing guide service for illegal commercialization of the resources by interviewing the Illinois residents who booked fishing trips with the company. ISU cited the H Mart Asian grocery store in Niles for the unlawful possession and sale of Red Swamp crayfish after a record search of an out-of-state wholesale aquatic life dealer revealed evidence that the store was still selling non-approved species after being previously warned of the offense. ISU conducted covert inspections of markets in the Chicagoland area finding Aquatic Life Dealer License, Aquaculture and Minnow dealer violations.