



## Monitoring and Response Workgroup (MRWG) Monthly Activities 2020 July Summary

**Bottom Line:** The international COVID-19 pandemic created a unique set of challenges for members of the Monitoring and Response Workgroup during the 2020 field season. Guidance from the Centers for Disease Control and public health authorities resulted in much of the planned effort in March and April to be cancelled. Some sampling was able to occur prior to the stay at home order issued in March by the governor of Illinois. Additionally, the United States Army Corporation of Engineers (USACE) continued to operate the electric dispersal barrier in Romeoville, Illinois throughout that time. **NO LIVE BIGHEAD CARP, BLACK CARP, GRASS CARP, or SILVER CARP were found or observed in any new locations immediately downstream or upstream of the Electric Dispersal Barrier.**

### Overall Summary

**Pool specific results through July 2020 from all effort within the Upper Illinois Waterway. The same period in 2018 and 2019 has been included for comparison.** Additional effort may not be reported due to data processing and actual effort and catch could be higher. Check 2020 interim summary, published at the end of the year, for complete results

#### *Lockport Pool*

	<b>2018</b>	<b>2019</b>	<b>2020</b>
Yards of Net Fished	50,500	26,600	26,800
Miles of Net Fished	28.7	15.1	15.2
Hoop Net Nights	16.8	55.4	55.1
Mini Fyke Net Nights	13.0	7.0	7.1
Electrofishing Runs	115	15	7
Electrofishing Time (hrs)	28.8	3.8	1.8
Total Asian Carp (AC)	0	0	0
Tons of AC Harvested	0	0	0

#### *Brandon Road Pool*

	<b>2018</b>	<b>2019</b>	<b>2020</b>
Yards of Net Fished	50,600	15,400	27,800
Miles of Net Fished	28.7	8.7	15.8
Hoop Net Nights	15.6	51.2	56.3
Mini Fyke Net Nights	10.8	13.0	7.2
Electrofishing Runs	96	13	4
Electrofishing Time (hrs)	24.0	3.3	0.0
Total Asian Carp (AC)	1*	0	0
Tons of AC Harvested	0	0	0

**\*indicates Grass Carp**

*Dresden Island Pool (Including Rock Run Rookery)*

	<b>2018</b>	<b>2019</b>	<b>2020</b>
Yards of Net Fished	124,100	71,200	47,200
Miles of Net Fished	70.5	40.5	26.8
Hoop Net Nights	15.3	30.1	53.6
Mini Fyke Net Nights	11.7	21.0	17.9
Pound net night	4	0	0
Electrofishing Runs	124	21	20
Electrofishing Time (hrs)	31.0	5.3	5.0
Bighead Carp	285	19	5
Grass Carp	37	2	1
Silver Carp	665	117	112
Total AC	987	138	118
Asian Carp (AC) from Rock Run Rookery Lake (RR)	107	17	8
AC upstream I-55 (not in RR)	5	3	1
AC downstream I-55	875	118	109
Tons of AC Harvested	8.8	1.1	0.8
AC/1000 yds of gill net	7.9	1.9	2.5

*Marseilles Pool*

	<b>2018</b>	<b>2019</b>	<b>2020</b>
Yards of Net Fished	105,900	143,700	110,870
Miles of Nets Fished	60.2	81.6	63.0
Pound Net nights	22	26	0
Hoop Net nights	239.9	51.0	0.0
Mini Fyke Net Nights	11.7	21.6	22.9
Electrofishing Runs	96	31	14
Electrofishing Time (hrs)	24.0	7.8	3.5
Bighead Carp	1,115	799	951
Grass Carp	35	40	7
Silver Carp	25,940	29,570	24,660
Total Asian Carp	27,090	30,409	25,618
Tons of AC Harvested	130.0	169.5	135.8
AC/1000 yds of gill net	242.2	208.7	230.9

*Starved Rock Pool*

	<b>2018</b>	<b>2019</b>	<b>2020</b>
Yards of Net Fished	97,500	191,365	91,820
Miles of Nets Fished	55.4	108.7	52.2
Pound Net nights	0	0	0
Hoop Net nights	994.5	54.0	0.0
Mini Fyke Net Nights	0.0	18.9	0.0
Electrofishing Runs	0	36	0
Electrofishing Time (hrs)	0.0	9.0	0.0
Bighead Carp	1,204	1,550	1,680
Grass Carp	630	2224	232
Silver Carp	43,328	99,489	48,507
Total Asian Carp	45,162	103,263	50,419
Tons of AC Harvested	140.6	371.2	157.3
AC/1000 yds of gill net	424.5	539.0	549.1

## Contracted Fishing Below the Electric Dispersal Barrier

- Contract fishing took place in Lockport, Brandon Road, Dresden Island Pool, Marseilles Pool and Starved Rock Pool of the Illinois River Waterway
- Contracted fisher set and pulled 83,320 yards of gill/trammel net in July (Figure X)
- 601 Bighead Carp, 8 Grass Carp and 10,334 Silver Carp were removed in July
- 68,353 pounds of Asian Carp was removed in July
- 15,990 fish representing 17 species and 1 hybrid group were captured during contracted commercial netting effort in July

Below is a summary of all Illinois Department of Natural Resources (IDNR) contracted fishing activities through July 2020. For comparison purposes, data from the same period in 2018 and 2019 are included.

	2018	2019	2020
<b>Number of Days Fished</b>	76	79	44
<b>Number of Net Crew Days</b>	348	384	293
<b>Yards of Net Fished</b>	346,500	349,365	195,330
<b>Miles of Nets Fished</b>	196.9	198.5	111.0
<b>Number of Pound Net Nights</b>	22	26	0
<b>Number of Hoop Net Nights</b>	1218.9	0.0	0.0
<b>Number of Bighead Carp</b>	2,604	2,366	2,636
<b>Number of Silver Carp</b>	69,933	129,048	73,265
<b>Number of Grass Carp</b>	703	2,254	240
<b>Number of Asian Carp (AC)</b>	73,240	133,668	76,141
<b>Tons of AC Harvested</b>	279.7	541.8	294.0
<b>AC/1000 yds of gill net</b>	196.3	381.4	389.8



Figure 1. State agency biologist monitoring contracted fishing setting gill net while adhering to COVID safety protocols.

## Multiple Agency Monitoring of the Illinois River Waterway

- All assigned samples were collaboratively collected within each pool by every gear type during period one (Table 1; Figure 2).
- 14,447 individual fish representing 59 species and 5 hybrid groups have been identified and processed thus far with many samples to still being processed
- Marseilles pool was the furthest upstream Bighead Carp or Silver Carp were detected
- Small Silver Carp (<120 mm) were detected in Peoria Pool but not in any pool further upriver

Table 1. Number of samples collected by gear type and pool during the first monitoring period

Gear	Lockport	Brandon	Dresden	Marseilles	Starved Rock	Peoria
Electrofishing	15	12	24	31	35	45
Large Hoop	14	14	14	14	14	14
Small Hoop	14	14	14	14	14	14
Fyke Net	0	0	5	5	5	10
Minnow Fyke	8	8	24	24	24	24



Figure 2. Agency biologist collecting minnow fyke nets (A) and completing an electrofishing transect (B) while following Covid safety protocols. Photo credit: Allison Lenaerts and Claire Snyder

### **Contract Fishing Totals by Asian Carp Species<sup>1</sup>**

Year	Total Lbs.	Bighead Carp	Silver Carp	Grass Carp
2019 <sup>2</sup>	518,132	24,813	310,297	183,022
2020 (Jan thru July)	1,375,241	69,435	839,305	466,501
Grand Totals	1,893,373	94,248	1,149,602	649,523

Table 2. Table of Enhanced Contract Fishing – Peoria Pool from inception, September 2019, through July 2020

<sup>1</sup> No black carp reported.

<sup>2</sup> September 2019 program inception.

## **USACE Electrofishing**

During the month of July, the USACE completed 18 electrofishing runs in the Lockport, Brandon Road, Dresden Island pools. In the Lockport Pool 374 fish were captured across 8 runs and the top five fish encountered were Gizzard Shad under 6 inches (GZSu) (67%), Bluntnose Minnow (BNMW) (8%), Banded Killifish (BDKF) (6%), Emerald Shiner (ERSN) (5%), and Goldfish (GDFH) (4%). In the Brandon Road Pool 886 fish were captured across 7 runs and the top five fish encountered were Gizzard Shad under 6 inches (GZSu) (90%), Goldfish (GDFH) (2%), Largemouth Bass (LMBS) (1%), Common Carp (CARP) (1%), and Green Sunfish (GNSF) (1%). In the Dresden Island Pool 141 fish were captured across 3 runs and the top five fish encountered were Gizzard Shad over 6 inches (GZSD) (32%), Golden Redhorse (GDRH) (13%), Spottfin Shiner (SFSN) (13%), Gizzard Shad under 6 inches (GZSu) (9%), and Bluegill (BLGL) (6%). No Asian carp were observed or captured in Lockport or Brandon Road Pools. Asian carp were observed but not netted in Dresden Island.

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

Active tracking of Silver Carp and Common Carp previously implanted with acoustic telemetry transmitters was performed in the Starved Rock and Peoria pools as part of a collaborative project between SIU and USACE to evaluate the use of Common Carp as a surrogate species for Silver Carp in the CAWS. Data processing from this sampling was also initiated. Acoustic telemetry stationary receivers were previously downloaded and data are currently being checked for errors prior to uploading to FishTracks. Maintenance occurred on hydroacoustic equipment in preparation for August field sampling.

## **Monitoring of Asian Carp Reproductive Productivity**

INHS collected ichthyoplankton samples at 7 main channel sites located in the Brandon Road, Dresden Island, Marseilles, Starved Rock, Peoria, and LaGrange Pools during the weeks of July 13, July 20, and July 27. Four larval fish samples were collected at each site. Additional samples were collected in Illinois River tributaries (Kankakee, Fox, Mackinaw, Spoon, and Sangamon River) to evaluate the potential for Asian carp spawning in these rivers. The Illinois River was consistently above 24°C during the entire month of July. Water levels declined for the first two weeks of the month, but heavy rains across large parts of the Illinois River watershed during the middle of July caused a marked increase in river flow beginning on July 16. An additional, unscheduled ichthyoplankton sampling trip during the week of July 20 was conducted in response to this event, to ensure that any Asian carp spawning that may have occurred during this time would be documented. No large densities of Asian carp eggs or larvae were observed in any July samples upon initial inspection. However, assessing the actual presence or absence of Asian carp eggs or larvae in any sample has to await full sample processing and specimen identifications. Occurrence of any Asian carp eggs or larvae, particularly in upstream navigation pools, will be reported as soon as this information is available. Ichthyoplankton data is being analyzed to evaluate changes in the reproductive front of Asian carp populations in the Illinois Waterway, identify reproductive hotspots, and quantify the relationship between Asian carp stock abundance and reproductive output.

## **Zooplankton as Dynamic Assessment Targets for Asian Carp Removal**

INHS collected zooplankton and water chemistry samples at 11 main channel and backwater sites located in the Brandon Road, Dresden Island, Marseilles, Starved Rock, Peoria, and LaGrange Pools during the weeks of July 13 and July 27. Zooplankton and water chemistry sample processing is ongoing. Data are being analyzed to identify relationships between hydrology, water chemistry parameters, and zooplankton metrics, and how changes in Asian carp density affect these responses. The response of key zooplankton taxa in areas where intensive Asian carp removals have occurred will help to inform management agencies of the ecosystem responses to Asian carp removals and develop dynamic targets for diminishing the ecological impacts of Asian carp.

## **Telemetry – USACE**

USACE biologists downloaded 27 stationary VR2W receivers from the confluence of the Cal-Sag Channel and CSSC in the Lockport Pool to the Dresden Island Lock and Dam between July 3 and 7, 2020. A preliminary review of the data from the study period of May 16 to July 7, 2020 indicated no tagged fish crossing the EDBS upstream or downstream and no tagged Asian carp were detected upstream of the Brandon Road Lock and Dam. There was a total of 33 tagged fish detected in the Lower Lockport Pool, 7 tagged fish in the Brandon Road Pool, and 19 tagged fish in the Dresden Island Pool. Four Common Carp were detected moving downstream through the Lockport Lock and another five Common Carp detected moving upstream through the Lockport Lock within the period of analysis. No Common Carp were detected moving downstream through the Brandon Road Lock and Dam. There were 9 Asian carp tagged by USACE detected within the Dresden Island Pool with the remainder of tagged fish belonging to other agencies. Of the Asian carp tagged by USACE, two utilized both the upper and lower pool, none were only detected in the lower pool, and seven were only detected in the upper pool near Rock Run Rookery. A more detailed analysis of habitat use and movement will be provided in the annual interim summary report.

## **Barrier Operational and Maintenance Status**

Status as of August 1, 2020

- Demo – Full water (5 Hz, 4 ms, 400 V = 1.0 V/in) & benthic (5 Hz, 4 ms, 100V) operational
- IIA – Online; Narrow (34 Hz, 2.3 ms, 2000 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, 2000 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 Open throughout the month

All barriers were fully functional at the above settings for the month of July 2020.

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

- Invasive Species Unit (ISU) sent a violation notice to a fish supply company that was shipping and selling live fish in Illinois without a license or any fish importation permits.
- ISU assisted the Oregon State Police Fish & Wildlife Division with the investigation into an Illinois resident falsely claiming residence status in both states.
- ISU provided an Alaska fish dealer clarification of Illinois laws related to the selling of various species of fish in Illinois.
- ISU taught the current Conservation Police recruit class Invasive Species and Aquaculture enforcement techniques at the Illinois State Police academy.
- ISU conducted several surveillance operations to gather information related to recent complaints and tips.