



Monitoring and Response Workgroup (MRWG) Monthly Activities 2020 August Summary

Bottom Line: The international COVID-19 pandemic created a unique set of challenges for members of the Monitoring and Response Workgroup during the start of 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 Effort Summary

Pool specific results through Augusts 2020 from all effort within the Upper Illinois Waterway. The same time period in 2018 and 2019 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

Effort	2018	2019	2020
Yards of Net Fished	62,500	45,000	34,000
Miles of Net Fished	35.5	25.6	19.3
Hoop Net Nights	16.8	91.7	55.1
Mini Fyke Net Nights	16.9	13.3	7.1
Electrofishing Runs	139	25	24
Electrofishing Time (hrs)	34.8	6.3	1.8
Total Asian Carp (AC)	0	0	0
Tons of AC Harvested	0	0	0

Brandon Road Pool

Effort	2018	2019	2020
Yards of Net Fished	62,800	34,800	36,200
Miles of Net Fished	35.7	19.8	20.6
Hoop Net Nights	15.6	89.0	56.3
Mini Fyke Net Nights	14.7	26.0	7.2
Electrofishing Runs	120	19	20
Electrofishing Time (hrs)	30.0	4.8	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)

Effort	2018	2019	2020
Yards of Net Fished	162,700	96,600	57,600
Miles of Net Fished	92.4	54.9	32.7
Hoop Net Nights	15.3	46.1	53.6
Mini Fyke Net Nights	15.7	21.0	17.9
Pound net night	4	0	0
Electrofishing Runs	157	44	31
Electrofishing Time (hrs)	39.3	11.0	6.3
Bighead Carp	295	29	7
Grass Carp	42	2	1
Silver Carp	731	125	115
Total AC	1068	156	123
Asian Carp (AC) from Rock Run Rookery Lake (RR)	110	29	11
AC upstream I-55 (not in RR)	6	3	2
AC downstream I-55	952	124	109
Tons of AC Harvested	9.6	1.3	0.8
AC/1000 yds of gill net	6.5	1.6	2.1

Marseilles Pool

Effort	2018	2019	2020
Yards of Net Fished	113,500	153,000	143,270
Miles of Nets Fished	64.5	86.9	81.4
Pound Net nights	22	26	0
Hoop Net nights	239.9	80.6	28
Mini Fyke Net Nights	15.7	45.3	22.9
Electrofishing Runs	120	62	27
Electrofishing Time (hrs)	30.0	15.5	4.0
Bighead Carp	1,260	859	1,245
Grass Carp	35	40	19
Silver Carp	27,233	30,251	27,210
Total Asian Carp	28,528	31,150	28,484
Tons of AC Harvested	137.0	173.5	157.7
AC/1000 yds of gill net	238.2	200.7	198.4

Starved Rock Pool

Effort	2018	2019	2020
Yards of Net Fished	134,000	233,945	140,180
Miles of Nets Fished	76.1	132.9	79.6
Pound Net nights	0	0	0
Hoop Net nights	994.5	108.2	28
Mini Fyke Net Nights	0.0	45.4	24
Electrofishing Runs	0	71	32
Electrofishing Time (hrs)	0.0	17.8	8.0
Bighead Carp	1,282	1,885	2,065
Grass Carp	726	2,304	307
Silver Carp	54,409	112,282	58,462
Total Asian Carp	56,417	116,471	60,822
Tons of AC Harvested	181.0	411.7	175.2
AC/1000 yds of gill net	392.8	495.2	433.9

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 104,200 yards of gill/trammel net in August
- 418 Bighead Carp, 58 Grass Carp and 12,475 Silver Carp were removed in August
- 80,036 pounds of Asian Carp was removed in August
- 15,463 fish representing 13 species and 1 hybrid group were captured during contracted commercial netting effort in August.

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

Effort	2018	2019	2020
Number of Days Fished	106	103	71
Number of Net Crew Days	410	459	397
Yards of Net Fished	535,500	563,345	411,250
Miles of Nets Fished	304.3	320.1	233.7
Number of Pound Net Nights	22	26	0
Number of Hoop Net Nights	1218.9	0	0.0
Number of Bighead Carp	2,708	2,724	3,268
Number of Silver Carp	81,134	141,646	85,771
Number of Grass Carp	794	2,330	327
Number of Asian Carp (AC)	84,636	146,700	89,366
Tons of AC Harvested	279.7	541.8	294.0
AC/1000 yds of gill net	151.6	260.4	217.3

Enhanced Contract Fishing

In September 2019, the Enhanced Contract Fishing Program was initiated in the Peoria Pool. The program offers Illinois-licensed commercial fishermen \$.10 per pound for Asian carp caught in the Peoria Pool and sold to fish processors or other buyers for at least \$.07 per pound. To date, 26 fishermen have entered into contracts to catch Asian carp from this pool. From inception through the remainder of calendar year 2019, 518,132 pounds of Asian carp were caught in the Peoria Pool, and to date in 2020 an additional 1,591,852 pounds have been caught for a total of 2,109,984 pounds. Of these total catches, 7.12% are Bighead, 61.14% are Silver and 31.75% are Grass carp. No Black carp have been reported.

Figure 1. Table of Enhanced Contract Fishing – Peoria Pool from inception, September 2019 through August 2020. By receipt date, not catch date. No black carp reported

Year	Total lbs	Bighead carp	Silver carp	Grass carp
2019 *	518,132	24,813	310,297	183,022
2020 (Jan thru Aug)	1,591,852	113,281	973,218	505,353
Grand Totals	2,109,984	138,094	1,283,515	688,375

* September 2019 program inception.

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. Hydroacoustic sampling was also completed in Dresden Island and Marseilles pools. Heatmaps displaying spatial distributions of bigheaded carp were created from these data and shared with IDNR within three days of sampling to inform removal efforts.

Electrofishing - USACE

During the month of August, the USACE completed 37 electrofishing runs in the Lockport, Brandon Road, Dresden Island pools. In the Lockport Pool 299 fish were captured across 17 runs and the top five fish encountered were Gizzard Shad under 6 inches (63%), Gizzard Shad over 6 inches (18%), Common Carp (11%), Emerald Shiner (3%), and Bluntnose Minnow (2%). In the Brandon Road Pool 418 fish were captured across 14 runs and the top five fish encountered were Gizzard Shad under 6 inches (63%), Emerald Shiner (10%), Gizzard Shad over 6 inches (6%), Goldfish (5%), and Smallmouth Bass (3%). In the Dresden Island Pool 459 fish were captured across 6 runs and the top five fish encountered were Gizzard Shad under 6 inches (56%), Gizzard Shad over 6 inches (12%), Largemouth Bass (10%), Bluegill (9%), and Spottail Shiner (4%). No Asian carp were observed or captured in Lockport or Brandon Road Pools. One Asian carp was captured in Dresden Island.

Telemetry – USACE

USACE biologists downloaded 28 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 August 31 and Sept 1, 2020. A preliminary review of the data from the study period of July 7, to August 31, 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 35 tagged fish detected in the Lower Lockport Pool, 8 tagged fish in the Brandon Road Pool, and 23 tagged fish in the Dresden Island Pool. No fish were detected moving between the Lockport and Brandon Road Pools in either the up or downstream direction. A new station was implemented during this time on the Des Plaines River, immediately downstream of the Lockport Control Works. Four Common Carp were consistently detected there during the period of analysis. No Common Carp were detected moving downstream through the Brandon Road Lock and Dam. There were 19 Asian carp and three Grass Carp detected within the Dresden Island Pool. Of the Asian carp tagged, two utilized both the upper and lower pool, 16 were only detected in the lower pool, and one was 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.

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 August 10 and August 24. 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. Water levels in the Illinois Waterway were low and stable throughout the month of August. No Asian carp eggs or larvae were observed in any sample during this time. 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.

Distribution and Movement of Small Asian Carp in the Illinois Waterway

Crews from the Wilmington FWS office sampled the Starved Rock and Marseilles pool for Juvenile Silver carp and Bighead carp during the month of August. Electrified dozer trawl effort took place in Starved Rock pool from 8/4/20 to 8/6/20 for a total of 137 minutes of electrofishing effort over 28 samples. A total of 375 fish were captured representing 12 species. Adult Silver Carp (n = 167) and Gizzard shad (n = 176) represented the majority of fish captured. Additionally, one adult Bighead carp was captured. Boat electrofishing effort took place in Dresden Island pool on 8/10/20 for a total 45 minutes of fishing time over 3 samples. A total of 112 fish were captured representing 10 species. No Silver Carp or Bighead Carp were captured. Boat electrofishing effort took place in Marseilles pool from 8/11/20 to 8/13/20 for a total effort of 300 minutes over 20 samples. A sum of 1875 fish were captured representing 35 species. A large number of Gizzard Shad (n = 1626) represented the majority of fish captured. A total of 26 adult Silver Carp were captured as a result of electrofishing however no Bighead Carp were captured. No juvenile Silver Carp or Bighead Carp were captured as a result of any August sampling efforts.

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 August 10 and August 24. 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.

Barrier Operational and Maintenance Status

Status as of September 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 August 2020.

Des Plaines River and Overflow Monitoring

A crew from the Wilmington FWS office sampled the Des Plaines River upstream of the Illinois River confluence August 17-20, 2020. Sampling was conducted between East Romeo Road and

Willow Springs Road. Effort included a total of 21 electrofishing runs (315 minutes electrofishing time). A total of 680 fish were collected, representing 31 species and 4 hybrid groups. No Silver Carp or Bighead Carp were captured. Two additional weeks of effort will be attempted during October 2020.

Alternate Pathway Surveillance in Illinois - Law Enforcement

ISU charged a New Mexico tilapia dealer with two counts of shipping live tilapia into Illinois without the required Restricted Species Transportation permits. The dealer had previously been warned in 2017 for committing the same offenses. ISU discovered the dealer was still illegally shipping tilapia into Illinois after conducting an inspection of an aquaculture facility in Wauconda, IL.

ISU conducted two boat patrols on the Fox River / Chain O' Lakes to enforce VHS and bait regulations. ISU conducted 4 commercial inspections of bait dealers in Lake County, IL and issued 2 written warnings for selling minnows without a valid minnow dealer's license. No illegal bait or records violations were detected. ISU assisted a local bait shop owner with questions regarding selling Asian carp products as bait.