

Monitoring and Response Workgroup (MRWG)
Monthly Activities
2022 April Summary

Bottom Line

A set of safety protocols developed during the COVID pandemic to ensure safe operations were carried over into 2022 field sampling. **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 April 2022 from all effort within the Upper Illinois Waterway. The same time period in 2020 and 2022 for comparison. Additional effort may not be reported due to data processing and true effort and catch could be higher. Check 2021 interim summary, published at the end of the year, for complete results

Lockport	2020	2021	2022
Yards of net	0	19400	7400
Miles of net	0.0	11.0	4.2
Hoopnet Nights	0	0	0
MiniFyke Nights	0	0	0
Electrofishing Runs	0	9	13
Electrofishing Hours	0	2.25	3.25
Dozer Trawl Runs	0	9	9
Dozer Trawl Hours	0	0.75	0.75
Pound Net Night	0 days	0 days	0 days
Bighead Carp	0	0	0
Grass Carp	0	0	0
Silver Carp	0	0	0
Invasive Carp Caught	0	0	0
IC/1000 yards	0	0	0
Invasive Carp Tons	0	0	0

Brandon	2020	2021	2022
Yards of net	0	24200	8400
Miles of net	0.0	13.8	4.8
Hoopnet Nights	0	0	0
MiniFyke Nights	0	0	0
Electrofishing Runs	0	19	13
Electrofishing Hours	0	4.75	3.25
Dozer Trawl Runs	0	15	12
Dozer Trawl Hours	0	1.18	1.0
Pound Net Night	0 days	0 days	0 days
Bighead Carp	0	0	0
Grass Carp	0	0	0
Silver Carp	0	0	0
Invasive Carp Caught	0	0	0
IC/1000 yards	0	0	0
Invasive Carp Tons	0	0	0

Dresden	2020	2021	2022
Yards of net	0	59500	36640
Miles of net	0.0	33.8	20.8
Hoopnet Nights	0	0	0
MiniFyke Nights	0	0	0
Electrofishing Runs	0	74	12
Electrofishing Hours	0.0	2.8	3.0
Dozer Trawl Runs	0	0	10
Dozer Trawl Hours	0	0	0.83
Pound Net Night	0 days	3 days	0 days
Bighead Carp	0	17	3
Grass Carp	0	3	0
Silver Carp	0	66	44
Invasive Carp Caught	0	86	47
Invasive Carp Dresden Above I55	0	4	
Invasive Carp Dresden Below I55	0	66	47
Invasive Carp Rock Run	0	16	
IC/1000 yards	0	1.4	1.3

Dresden	2020	2021	2022
Invasive Carp Tons	0	0.6	0.3

Marseilles	2020	2021	2022
Yards of net	37750	11650	80300
Miles of net	21.4	6.6	45.6
Hoopnet Nights	0	0	0
MiniFyke Nights	0	0	0
Electrofishing Runs	0	0	0
Electrofishing Hours	0	0	0
Pound Net Night	0 days	0 days	0 days
Bighead Carp	301	28	161
Grass Carp	0	0	14
Silver Carp	15265	879	10672
Invasive Carp Caught	15566	907	10847
IC/1000 yards	412.3	77.9	135.1
Invasive Carp Tons	75.0	4.9	54.3

Starved Rock	2020	2021	2022
Yards of net	11400	128650	53255
Miles of net	6.5	73.1	30.3
Hoopnet Nights	0	0	0
MiniFyke Nights	0	0	0
Electrofishing Runs	0	1	0
Electrofishing Hours	0.0	0.1	0.0
Pound Net Night	0 days	0 days	0 days
Bighead Carp	3	353	77
Grass Carp	94	447	87
Silver Carp	8882	71414	14088
Invasive Carp Caught	8979	72214	14252
IC/1000 yards	787.6	414.3	267.6
Invasive Carp Tons	27.6	194.5	42.8

Contracted Fishing Below the Electric Dispersal Barrier

- Contracted fishing took place in Lockport, Brandon Road, Dresden Island, Marseilles, and Starved Rock Pools of the Illinois River Waterway
- Contracted fishers set and pulled 74,340 yards of gill/trammel net during 15 days of effort
- 92 Bighead Carp, 2 Grass Carp, and 6,592 Silver Carp were removed
- 124,511 pounds of Bighead, Grass and Silver Carp were removed

Overall summary of all Illinois Department of Natural Resources (IDNR) contracted fishing activities through April 2022. The same time period of 2020 and 2022 are included for comparison.

Contract Fishing	2020	2021	2022
Day Fish	8	35	22
Crew Days	48	214	180
Yards of net	49150	243400	185995
Miles of net	27.9	138.3	105.7
Hoop net Nights	0	0	0
Pound Net Night	0 days	3 days	0 days
Bighead Carp	304	398	241
Grass Carp	94	450	101
Silver Carp	24147	72351	24804
Invasive Carp Caught	24545	73199	25146
IC/1000 yards	499.4	223.1	135.2

USACE traditional monitoring

During the month of April, USACE biologists conducted eight 15-minute electrofishing runs downstream of the barrier. Four sites were in Lockport Pool and four sites were in Brandon Road Pool. In Lockport Pool, a total of 390 individuals across 16 species were captured with the top 5 most abundant fish being emerald shiner (57.7%), bluntnose minnow (19.5%), common carp (4.62%), gizzard shad <6 inches (3.59%), and brook silverside (3.59%). In Brandon Road Pool, a total of 257 individuals across 12 species were captured with the five most abundant fish being emerald shiner (70.0%), common carp (11.3%), channel catfish (5.45%), smallmouth bass (4.67%), and gizzard shad (4.67%). No invasive carp were captured or observed in these pools in the month of April.

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 invasive carp caught in the Peoria Pool and sold to fish processors or other buyers for at least \$.07 per pound. To date, 31 fishermen have entered into contracts to catch invasive carp from this pool. From inception through April 2022, 7,996,027 pounds of invasive carp have been caught in the Peoria Pool. Of these total catches, 5.44% are Bighead, 73.20% are Silver and 21.36% are Grass carp. **No Black carp have been reported.**

Table 1. Table of Enhanced Contract Fishing – Peoria Pool from inception, September 2019, through April 2022. **By receipt date, not catch date**

YEAR	Total Lbs.**	Bighead	Silver	Grass
2019 *	518,132	24,813	310,297	183,022
2020	2,882,725	176,195	1,978,501	728,029
2021	3,324,938	209,526	2,496,381	619,031
2022 (Jan thru April)	1,249,199	24,272	1,045,054	179,873
GRAND TOTALS	7,996,027	434,805	5,852,941	1,708,281

* September 2019 program inception.

** No Black carp reported.

Invasive Carp Early Detection Monitoring in the Upper Illinois Waterway: Lockport, Brandon Road, Dresden Island, and Marseilles Pools, and the Lower Kankakee River

U.S. Fish and Wildlife Service (USFWS) Early Detection Monitoring (EDM) aims to find invasive carp (Bighead Carp, *Hypophthalmichthys nobilis*; Silver Carp, *H. molitrix*; Black Carp, *Mylopharyngodon piceus*; Grass Carp, *Ctenopharyngodon idella*) in novel areas of the upper Illinois Waterway (IWW) below the Romeoville, IL Electric Dispersal Barrier System (EDBS). Lockport Pool sampling was completed on 05 April 2022 between the EDBS and Lockport Lock and Dam; ~ 5 river miles. Brandon Road Pool sampling was completed on 19 April 2022 between Lockport Lock and Dam and Brandon Road Lock and Dam; ~ 4.25 river miles. Dresden Island Pool sampling was completed on 21 April 2022 and covered the area between Brandon Road Lock and Dam and Dresden Island Lock and Dam; ~ 13.5 river miles. Lower Kankakee River sampling was completed on 13 April 2022 between the first railway bridge above Kankakee Conservation Area Boat Launch and the Kankakee’s confluence with the Des Plaines River; ~ 4.25 river miles. No EDM sampling occurred in Marseilles Pool in April 2022.

Where possible, EDM surveys consisted of traditional boat electrofishing, electrified dozer trawling, and mini-fyke net sets in a combination of main-channel border, side-channel, and backwater habitats. Electrofishing was performed in 15-minute sampling periods consisting of repeated passes perpendicular to and toward shore, with two crewmates collecting fishes with a handheld dip net. Dozer trawling was conducted in 5-minute sampling periods consisting of s-shaped passes parallel to shore, and with fishes collected by a net supported by a rigid frame at the boat’s bow. Wisconsin-type mini-fyke nets with 24’ leads and 1/8” mesh were staked against the shoreline, stretched perpendicular to shore, and fished overnight.

Highlighted Results:

- No small-bodied (< 153 mm total length; TL) invasive carp were captured by EDM in April 2022.
- No large-bodied (≥ 153 mm TL) invasive carp were captured outside their known range by EDM in April 2022.

Table 2. Summary of USFWS invasive carp early detection monitoring preliminary results from April 2022.

“Location” is the section of IWW sampled. “Electrofishing effort” reports completed hours of two-person traditional boat electrofishing and n_e is the number of surveys completed. “Dozer effort” reports completed hours of electrified dozer trawling and n_d is the number of surveys completed. “Mini-fyke effort” reports

the number of overnight net sets completed and n_n is net nights. “Small carp captured” is the number of invasive carp with total length (TL) < 153 mm captured. “Large carp captured” reports the number of invasive carp with total length \geq 153 mm captured. “Total Catch (N)” reports the total number (N) of individual fishes (all species) captured. “Species richness” reports the count of species captured. “Most abundant species” reports the common name of the fish species that was the largest proportion of total fish captured (N) and n_i is the number of individuals of that species captured.

Location	Electrofishing Effort (h; ne)	Dozer Effort (h; nd)	Minifyke Effort (nn)	Small carp captured	Large carp captured	Species Richness	Total Catch (N)	Most abundant species
Lockport	2.25h; $n_e=9$	0.75h; $n_d=9$	$nn=0$	0	0	11	210	Emerald shiner, $n_i=128$
Brandon Road	2.25h; $n_e=9$	1h; $n_d=12$	$nn=0$	0	0	13	29	Gizzard shad < 6", $n_i=7$
Dresden Island	3h; $n_e=12$	0.83h; $n_d=10$	$nn=0$	0	0	27	420	Emerald shiner, $n_i=96$
Kankakee	3.75h; $n_e=15$	1.23h; $n_d=15$	$nn=0$	0	2 Silver Carp., 821, 881 mm; boat electrofishing	32	336	Emerald shiner, $n_i=61$

Hydroacoustic Fish Surveys of the Upper Illinois Waterway: Dresden Island, Brandon Road, and Lockport Pools

The U.S. Fish and Wildlife Service conducted a mobile hydroacoustic fish survey in Lockport Pool on April 19, 2022. This pool survey was designed to monitor for the abundance of large fishes—potentially Bighead or Silver Carp—with target strength (TS) greater than -28.7 dB (theoretical side-aspect TS of a 12” (30.5 cm) total length fish) within the upper Illinois Waterway. The hydroacoustic survey in Lockport Pool covered the area between the Hanson Material Services Corporation docking slip and Lockport Lock & Dam (6.5 km). Neither Brandon Road nor Dresden Island pools were sampled in April 2022 due to vessel trailer maintenance issues requiring repair after completion of the survey in Lockport Pool. The survey in Lockport Pool was conducted with paired 200-kHz, side-facing transducers and consisted of one continuous transect along each shoreline with the boat following the contour of the main channel edge and the transducers pointed outwards towards the navigation channel. Surveys in May 2022 are planned to resume as scheduled.

Results:

Lockport Pool:

Zero fish tracks corresponding to fish > 12” were detected in Lockport Pool in 1,543,716 m³ of water on April 19, 2022.

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

The U.S. Fish and Wildlife Service conducted two mobile hydroacoustic fish surveys in April 2022 at the Electric Dispersal Barrier System (EDBS) on April 4 and April 18. The surveys were conducted to monitor for the presence and distribution of fishes greater than 12” (30.5 cm) total length in the vicinity of the EDBS to aide in assessing the risk of large fish—and potentially Bighead or Silver Carp—passing through the EDBS during barrier operational changes and/or maintenance. However, it is important to note that hydroacoustic technology does not distinguish or identify fish species, and therefore fish detected should not be assumed to be a particular species. Hydroacoustic surveys consisted of three replicate passes along an upstream and downstream transect with paired, side-facing 200-kHz transducers. Each replicate covered the

area between Hanson Material Services Corporation 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”. Results are reported as a sum of all fish tracks detected across replicate surveys; therefore, some may represent the same fish.

Results:

Apr 4, 2022: Zero large fish tracks ≥ -28.7 dB were detected within the EDBS on April 4, 2022. Two large fish tracks ≥ -28.7 dB were detected downstream of the EDBS, both during Replicate Survey #1. Results reflect similar abundance of large fish targets in the vicinity of the EDBS compared to the previous two surveys on March 3 and March 21, 2022, and similar abundances compared to early April surveys in previous years.

Apr 18, 2022: Zero large fish tracks ≥ -28.7 dB were detected both within and downstream of the EDBS on April 18, 2022. Results reveal similar low abundance of large fish in the vicinity of the EDBS compared to the previous survey on April 4, 2022.

USGS Invasive Carp Database Management and Integration Support

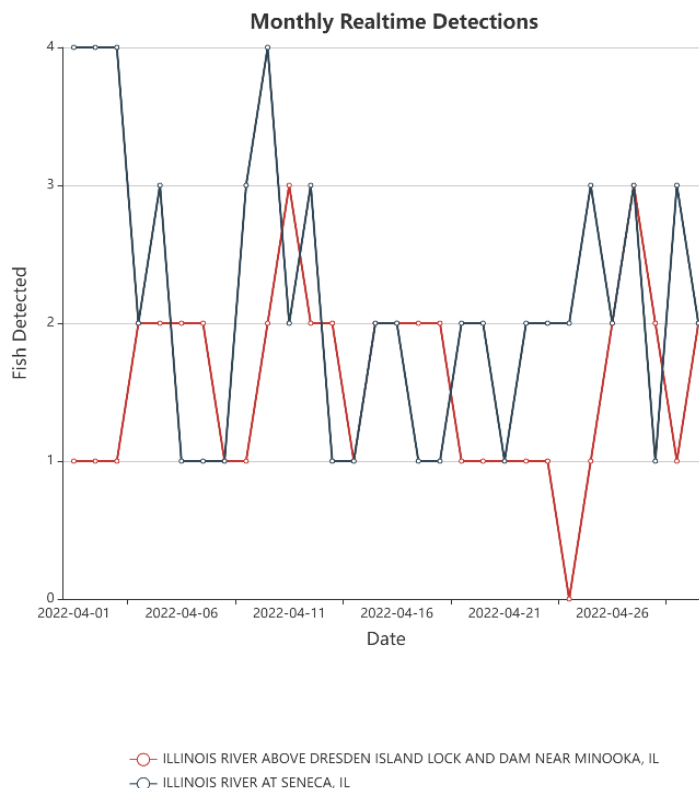


Figure 1. There were 5 bigheaded carp (2 Bighead Carp and 3 Silver Carp) detected at ILLINOIS RIVER ABOVE DRESDEN ISLAND LOCK AND DAM NEAR MINOOKA, IL during the month of April 2022. The maximum number of bigheaded fish detected on one day was 3 and the minimum was 0.

There were 7 bigheaded carp (0 Bighead Carp and 7 Silver Carp) detected at ILLINOIS RIVER AT SENECA, IL during the month of April 2022. The maximum number of bigheaded fish detected on one day was 4 and the minimum was 1.

Telemetry - USACE

During the Month of April USACE downloaded the nine receivers that were left at strategic choke points in the Illinois Waterway (IWW) to monitor overwintering fish movements around lock and dams and the electric dispersal barrier. Additionally, USACE deployed 19 receivers (receivers (three upper Lockport, four lower Lockport, three Brandon Road, and nine Dresden Island) throughout the IWW to bring the total receiver network to 28 stations. Preliminary analysis of the overwintering telemetry data suggests that no transits between navigation pools occurred. Eleven Silver Carp in the Dresden Island Pool were implanted with acoustic telemetry tags and released near the Dresden Island Lock and Dam. No Invasive Carp were observed transiting between pools or approaching Brandon Road Lock. The next download of the full receiver network will be in May.

Barrier Operational and Maintenance Status

Barrier Operations and Maintenance Schedule April 2022

The barriers are currently operating at the following parameters”

IIA – Narrow & wide arrays off for controls replacement

IIB – 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

Barrier I – 1D (Full water - 5 Hz, 4 ms, 400 V = ~1.0 V/in & benthic 5 Hz, 4 ms, 100V) and 1N (34 Hz, 2.3 ms, 1700 V = ~2.3 V/in) operational

The scheduled outages for April occurred as follows:

4/18/22 – 2B array – 1 hour – Generator maintenance

4/18/22 – 2A array – Off at 13:20 maintenance for approximately 3 months.

4/19/22 – 1N array – Fall protection installation

The unscheduled outages that occurred during April 2022 are as follows:

4/22/22 – 2B narrow array – 9 hour – fault and failed auto restart of narrow array, wide array active

4/25/22 – 2B narrow array – 41 minutes – fault and failed auto restart of narrow array, wide array active

4/27/22 – 2B – 9 minutes – emergency stop accidentally pressed, complete outage of 2B

Alternate Pathway Surveillance in Illinois - Law Enforcement

ISU focused on preventing the transportation, possession, and use of invasive species within the bait industry during the month of April. A fish truck transporting minnows and goldfish to an Illinois bait shop was stopped and inspected in Fayette county. No violations were detected. ISU provided all sworn Conservation Police officers a summarization of IDNR crayfish laws and identification tools to assist with enforcing bait regulations on Illinois waterways. Two aquatic life dealer’s who were advertising live crawfish on Facebook were contacted and notified that possessing live non-approved species such as Red swamp crayfish were illegal. One of the businesses traveled weekly throughout Southern and Central Illinois selling aquatic life from a cargo van at various pop-up locations. Conservation Police Officers seized live Red swamp crayfish being used as bait on the Illinois river and Clinton Lake. An interview of some of the fishermen revealed the crayfish were purchased from an Asian food market in Chicago. ISU inspected the market and seized invoices listing over 2600 pounds of live red swamp crayfish purchased and then sold by the market in April of 2022. The manager claimed he was unaware

the activity was illegal and promised not to sell live red swamp crayfish anymore despite the high demand for the product from his customers.



Figure 2. Red Swamp Crayfish confiscated by Conservation Officers from fisherman using as bait on Clinton Lake, April 2022.