



Monitoring and Response Workgroup (MRWG)
Monthly Activities
2021 December Summary

Bottom Line: A set of safety protocols developed during the COVID pandemic to ensure safe operations were carried over into the start of the 2021 field sampling. A large number of small (<6”) Grass Carp, and Silver Carp were collected in the Peoria Reach on down. **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 December 2021 from all effort within the Upper Illinois Waterway. The same time period in 2019 and 2020 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 Pool

Effort	2019	2020	2021
Yards of Net Fished	59,400	47,800	88,900
Miles of Net Fished	33.7	27.2	50.5
Hoop Net Nights	163.8	156.2	164.4
Mini Fyke Net Nights	22.2	20.8	22.9
Electrofishing Runs	69	77	93
Electrofishing Time (hrs)	17.3	19.3	23.3
Dozer Trawl Runs	0	0	87
Dozer Trawl (hrs)	0.0	0.0	7.3
Total Asian Carp (AC)	0	0	0
Tons of AC Harvested	0	0	0

Brandon Road Pool

Effort	2019	2020	2021
Yards of Net Fished	54,000	52,000	95,200
Miles of Net Fished	30.7	29.5	54.1
Hoop Net Nights	158.9	160.4	162.4
Mini Fyke Net Nights	33.1	20.6	22.6
Electrofishing Runs	61	69	80
Electrofishing Time (hrs)	15.3	17.3	20.0
Dozer Trawl Runs	0.0	0.0	82
Dozer Trawl (hrs)	0	0	6.8
Total Asian Carp (AC)	0	0	0
Tons of AC Harvested	0	0	0

Dresden Island Pool (Including Rock Run Rookery)

Effort	2019	2020	2021
Yards of Net Fished	164,650	106,600	189,500
Miles of Net Fished	93.6	60.6	107.7
Hoop Net Nights	96.2	162.4	162.5
Mini Fyke Net Nights	66.2	68.1	121.9
Electrofishing Runs	73	87	344
Electrofishing Time (hrs)	18.3	21.8	30.3
Pound net night	2	0	3
Dozer Trawl Runs	0	0	143.0
Dozer Trawl (hrs)	0.0	0.0	11.9
Bighead Carp	45	22	33
Grass Carp	8	3	5
Silver Carp	275	140	182
Total AC	328	165	220
Asian Carp (AC) from Rock Run Rookery	49	21	29
AC upstream I-55 (not in RR)	8*	2*	6
AC downstream I-55	271	142	185
Tons of AC Harvested	2.7	1.2	1.6
AC/1000 yds of gill net	2.0	1.5	1.1

*indicates Grass Carp

Marseilles Pool

Effort	2019	2020	2021
Yards of Net Fished	220,010	203,370	220,050
Miles of Nets Fished	125.0	115.6	125.0
Hoop Net nights	153.6	157.9	168
Mini Fyke Net Nights	65.1	68.2	69.0
Electrofishing Runs	93	93	93
Electrofishing Time (hrs)	23.3	23.3	23.3
Pound Net nights	26	0	0
Bighead Carp	1,556	1,356	2,035
Grass Carp	86	33	52
Silver Carp	44,027	34,057	27,536
Total Asian Carp	45,669	35,446	29,623
Tons of AC Harvested	257.3	195.7	178.4
AC/1000 yds of gill net	190.1	174.1	134.6

Starved Rock Pool

Effort	2019	2020	2021
Yards of Net Fished	388,015	279,080	316,050
Miles of Nets Fished	220.5	158.6	179.6
Hoop Net nights	162.1	170.7	168.0
Mini Fyke Net Nights	61.7	71.4	72.0
Electrofishing Runs	106	108	96
Electrofishing Time (hrs)	26.5	27.0	24.0
Pound Net nights	1	0	0
Bighead Carp	2,162	2,268	739
Grass Carp	2,851	1078	955
Silver Carp	163,834	127,252	141,604
Total Asian Carp	168,847	130,598	143,298
Tons of AC Harvested	571.3	423.5	386.9
AC/1000 yds of gill net	431.5	466.1	391.7

Contracted Fishing Below the Electric Dispersal Barrier

- Contracted fishing took place in Lockport, Brandon Road, and Dresden Island Pools of the Illinois River Waterway
- Contracted fishers set and pulled 67,400 yards of gill/trammel net
- 34,138 fish representing 20 species were captured during contracted commercial netting
- 43 Bighead Carp, 256 Grass Carp, and 27,793 Silver Carp were removed
- 175,089 pounds of Bighead, Grass and Silver Carp were removed

Below is a summary of all Illinois Department of Natural Resources (IDNR) contracted fishing activities through December 2021. For comparison purposes, data from the same time period in 2019 and 2020 are included.

Effort	2019	2020	2021
Number of Days Fished	153	108	119
Number of Net Crew Days	732	597	731
Yards of Net Fished	886,075	688,850	909,700
Miles of Nets Fished	503.5	391.4	516.9
Number of Pound Net	29	0	3
Number of Hoop Net	0.0	0	0.0
Number of Bighead Carp	3,758	3,646	2,807
Number of Grass Carp	2,921	1,088	1,012
Number of Silver Carp	207,262	160,900	169,266
Number of Carp	213,941	165,634	173,085
Tons of AC Harvested	831.3	620.4	566.8
AC/1000 yds of gill net	236.5	240.5	169.5

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, 30 fishermen have entered into contracts to catch invasive carp from this pool. From inception through the remainder of calendar year 2019, 518,132 pounds of invasive carp were caught in the Peoria Pool, throughout the year 2020 a total of 2,882,725 pound were caught, and to date in 2021 an additional 3,324,938 pounds have been caught for a total of 6,725,795 pounds. Of these total catches, 6.10% are Bighead, 71.15% are Silver and 22.75% are Grass carp. **No Black carp have been reported.**

*Table 3. Table of Enhanced Contract Fishing – Peoria Pool from inception, September 2019 through December 2021. **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 (Jan thru December)	3,324,938	209,526	2,496,381	619,031
GRAND TOTALS	6,725,795	410,534	4,785,179	1,530,082

* September 2019 program inception.

** No Black carp reported.

Monitoring Bigheaded Carp Movement and Density in the Illinois River

Hydroacoustic data was being processed from fall standardized sampling that took place in October from Dresden Island to Alton pools. Telemetry detection data were also being analyzed to determine movement rates of bigheaded carp among pools.

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 in December 2021 at the Electric Dispersal Barrier System (EDBS) on December 14. The survey was 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 (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". Results are reported as a sum of all fish tracks detected across replicate surveys; therefore, some may represent the same fish.

Preliminary Results

Dec 14, 2021: Zero large fish tracks ≥ -28.7 dB were detected within the EDBS on December 14, 2021. Three large fish tracks ≥ -28.7 dB were detected downstream of the EDBS, one each during Replicate Surveys #1, 2, and 3. All three fish tracks were detected in fairly close proximity; thus, some may have represented the same fish target.

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

The U.S. Fish and Wildlife Service conducted mobile hydroacoustic fish surveys in Dresden Island, Brandon Road, and Lockport pools on December 13th and 17th, 2021. These pool surveys were 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). The hydroacoustic survey in Brandon Road Pool covered the area between Lockport Lock & Dam and Brandon Road Lock & Dam (7.2 km). Lastly, the hydroacoustic survey in Dresden Island Pool covered the area between Brandon Road Lock & Dam and Dresden Island Lock & Dam (23 km). In all pools, surveys were 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.

Preliminary Results

Lockport Pool:

Five (5) fish tracks corresponding to fish > 12" were detected in Lockport Pool in 1,386,953 m³ of water on December 17, 2021. Mean target strength (TS) of fish tracks was -24.4 dB (SE = 1.08). Fish tracks were primarily located in the lower portion of the pool (Figure 1A).

Brandon Road Pool:

Three (3) fish tracks corresponding to fish > 12" were detected in Brandon Road Pool in 895,564 m³ of water on December 17, 2021 (Figure 1B). Mean TS of fish tracks was -23.5 dB (SE = 3.43).

Dresden Island Pool:

Twenty-four (24) fish tracks corresponding to fish > 12" were detected in Dresden Island Pool in 3,252,428 m³ of water on December 13, 2021. Mean TS of fish tracks was -26.1 dB (SE = 0.47). Fish tracks were primarily located upstream of the confluence of the Des Plaines and Kankakee Rivers and upstream of I-55 bridge adjacent to Rock Run Rookery (Figure 1C).

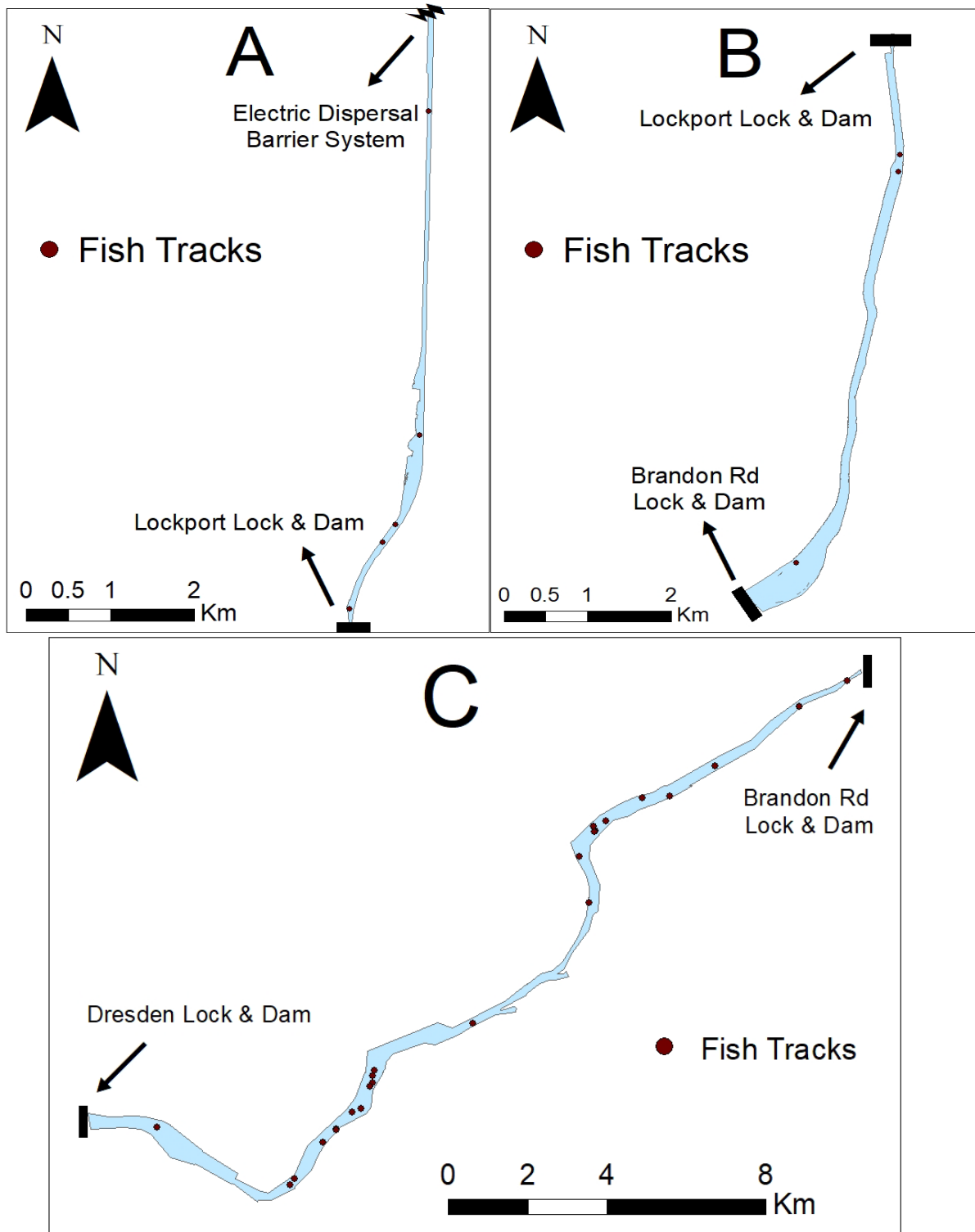


Figure 1: Locations of fish tracks detected from hydroacoustic surveys in Lockport (A), Brandon Road (B), and Dresden Island (C) pools of the Upper Illinois Waterway during December 2021.

Telemetry Support for the Spatially Explicit Invasive Carp Population Model (SEICarP)

During December 2021, a Wilmington Fish and Wildlife Service crew conducted a total of three days of effort, December 7th, 8th, and 13th, for the SEICarP telemetry project. Efforts focused on removing and downloading data from stationary telemetry equipment. All receivers were recovered, downloaded, and removed for winter.

Table 1. Detections of fish at each receiver location in the Peoria Pool. Receiver = serial number, Station name = combination of river mile (RM) and geographic/visual location information, # Fish = number of unique tagged individuals, # Detections = number of recorded detections by a receiver.

Receiver	Station Name	# Fish	# Detections
VR2W-129785	RM166.6 Peoria Lake Narrows	5	193
VR2W-129781	RM182.4 US Chilli Bridge_Peninsula	2	210
VR2W-129779	RM188.1 DS Lacon_MC Sawyer Slough	8	2374
VR2W-129787	RM194.8 US Upper Henry Island	12	14810
VR2W-137063	RM202.7 Lower Twin Sisters Island	0	0
VR2W-137065	RM216 US of Clark Island	3	2258
Totals		26	19845