



Monitoring and Response Workgroup (MRWG) Monthly Activities 2020 January through April 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. Additionally, the United States Army Corps 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 January through April 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 Report, published at the end of the year, for complete results

Lockport Pool

| Effort | 2018 | 2019 | 2020 |
|---------------------------|-------------|-------------|-------------|
| Yards of Net Fished | 27,200 | 5,200 | 0 |
| Miles of Net Fished | 15.5 | 3.0 | 0.0 |
| Hoop Net Nights | 0.0 | 0.0 | 0.0 |
| Mini Fyke Net Nights | 0.0 | 0.0 | 0.0 |
| Electrofishing Runs | 11 | 0 | 0 |
| Electrofishing Time (hrs) | 2.8 | 0.0 | 0.0 |
| 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 | 23,000 | 4,200 | 0 |
| Miles of Net Fished | 13.1 | 2.4 | 0.0 |
| Hoop Net Nights | 0.0 | 0.0 | 0.0 |
| Mini Fyke Net Nights | 0.0 | 0.0 | 0.0 |
| Electrofishing Runs | 12 | 0 | 0 |
| Electrofishing Time (hrs) | 3.0 | 0.0 | 0.0 |
| Total Asian Carp (AC) | 0 | 0 | 0 |
| Tons of AC Harvested | 0 | 0 | 0 |

Dresden Island Pool (Including Rock Run Rookery)

| Effort | 2018 | 2019 | 2020 |
|---|-------------|-------------|-------------|
| Yards of Net Fished | 53,200 | 9,750 | 0 |
| Miles of Net Fished | 30.2 | 5.5 | 0.0 |
| Hoop Net Nights | 0.0 | 0.0 | 0.0 |
| Mini Fyke Net Nights | 0.0 | 0.0 | 0.0 |
| Pound net night | 4 | 0 | 0 |
| Electrofishing Runs | 28 | 0 | 0 |
| Electrofishing Time (hrs) | 7.0 | 0.0 | 0.0 |
| Bighead Carp | 150 | 4 | 0 |
| Grass Carp | 19 | 0 | 0 |
| Silver Carp | 321 | 45 | 0 |
| Total AC | 490 | 49 | 0 |
| Asian Carp (AC) from Rock Run Rookery Lake (RR) | 74 | 4 | 0 |
| AC upstream I-55 (not in RR) | 0 | 0 | 0 |
| AC downstream I-55 | 416 | 45 | 0 |
| Tons of AC Harvested | 3.6 | 0.4 | 0.0 |
| AC/1000 yds of gill net | 9.2 | 5.0 | 0.0 |

Marseilles Pool

| Effort | 2018 | 2019 | 2020 |
|---------------------------|-------------|-------------|-------------|
| Yards of Net Fished | 70,100 | 96,950 | 37,750 |
| Miles of Nets Fished | 39.8 | 55.1 | 21.4 |
| Pound Net nights | 22 | 26 | 0 |
| Hoop Net nights | 0.0 | 0.0 | 0.0 |
| Mini Fyke Net Nights | 0.0 | 0.0 | 0.0 |
| Electrofishing Runs | 24 | 0 | 0 |
| Electrofishing Time (hrs) | 6.0 | 0.0 | 0.0 |
| Bighead Carp | 611 | 323 | 336 |
| Grass Carp | 15 | 29 | 0 |
| Silver Carp | 22,280 | 25,842 | 15,295 |
| Total Asian Carp | 22,906 | 26,194 | 15,631 |
| Tons of AC Harvested | 109.1 | 140.9 | 75.0 |
| AC/1000 yds of gill net | 309.8 | 266.0 | 414.1 |

Starved Rock Pool

| Effort | 2018 | 2019 | 2020 |
|---------------------------|-------------|-------------|-------------|
| Yards of Net Fished | 25,550 | 86,490 | 11,400 |
| Miles of Nets Fished | 14.5 | 49.1 | 6.5 |
| Pound Net nights | 0 | 0 | 0 |
| Hoop Net nights | 0.0 | 1403.7 | 162.1 |
| Mini Fyke Net Nights | 0.0 | 0.0 | 67.9 |
| Electrofishing Runs | 0 | 0 | 113 |
| Electrofishing Time (hrs) | 0.0 | 0.0 | 28.3 |
| Bighead Carp | 139 | 147 | 3 |
| Grass Carp | 174 | 905 | 94 |
| Silver Carp | 10,897 | 37,897 | 8,882 |
| Total Asian Carp | 11,210 | 38,949 | 8,979 |
| Tons of AC Harvested | 40.1 | 118.6 | 27.6 |
| AC/1000 yds of gill net | 438.7 | 450.3 | 787.7 |

Contracted Fishing

- Contract fishing took place in Marseilles Pool and Starved Rock Pool of the Illinois River.
- Contracted fisher set and pulled 49,150 yard of gill/trammel net
- 339 Bighead Carp, 94 Grass Carp and 24,177 Silver Carp were removed
- 205,200 pounds of Asian Carp was removed
- 28,190 fish representing 23 species and 2 hybrid groups were captured during contracted commercial netting effort in Marseilles and Starved Rock in February through April 2020.

Below is a summary of all IDNR contracted fishing activities through April 2020. For comparison purposes, data from the same time period in 2018 and 2019 are included.

| Fishing Activity | 2018 | 2019 | 2020 |
|----------------------------|-------------|-------------|-------------|
| Number of Days Fished | 17 | 31 | 8 |
| Number of Net Crew Days | 107 | 189 | 51 |
| Yards of Net Fished | 95,650 | 183,440 | 49,150 |
| Miles of Nets Fished | 54.3 | 104.2 | 27.9 |
| Number of Pound Net Nights | 22 | 26 | 0 |
| Number of Hoop Net Nights | 0.0 | 0.0 | 0.0 |
| Number of Bighead Carp | 749 | 470 | 339 |
| Number of Silver Carp | 33,164 | 63,739 | 24,177 |
| Number of Grass Carp | 187 | 470 | 94 |
| Number of Asian Carp (AC) | 34,100 | 64,679 | 24,610 |
| Tons of AC Harvested | 149.2 | 259.5 | 102.6 |
| AC/1000 yds of gill net | 344.2 | 352.9 | 500.7 |

Monitoring Bigheaded Carp Movement and Density in the Illinois River

Analysis of bigheaded carp densities from October 2019 hydroacoustic sampling was completed for the upper pools of the Illinois River (Dresden – Marseilles pools). Bigheaded carp densities throughout Starved Rock – Dresden Island pools remained low relative to past years (Figure 1). Fall 2019 densities in Starved Rock Pool were statistically similar to previous years (2016 – 2018). Fall 2019 densities in Marseilles Pool were statistically lower than any year since densities were assessed. However, water levels in Marseilles Pool were high during sampling which may have partially contributed to this reduction in observed densities. Bigheaded carp 2019 densities in Dresden Island Pool were statistically similar to 2018 densities (Figure 2). Mean observed bigheaded carp densities in Dresden Island Pool in 2019 was 96.7% lower than the mean observed density in 2012. Lower river densities from the October 2019 hydroacoustic sampling are currently being analyzed.

Analysis of telemetry data to compare the movements and habitat use of Common Carp and Silver Carp in Starved Rock Pool and upper Peoria Pool are on-going. This project is a collaboration between Southern Illinois University (SIU) and the USACE to evaluate the use of Common Carp as a surrogate species for Silver Carp in the CAWS. Tentative results indicate that microhabitat selection is different between the two species, but broader habitat use (e.g., main channel vs. side channel) may be similar. Initial results also suggest the ranges occupied by Silver Carp are larger than ranges used by Common Carp. Data collection for this project will continue through 2020.

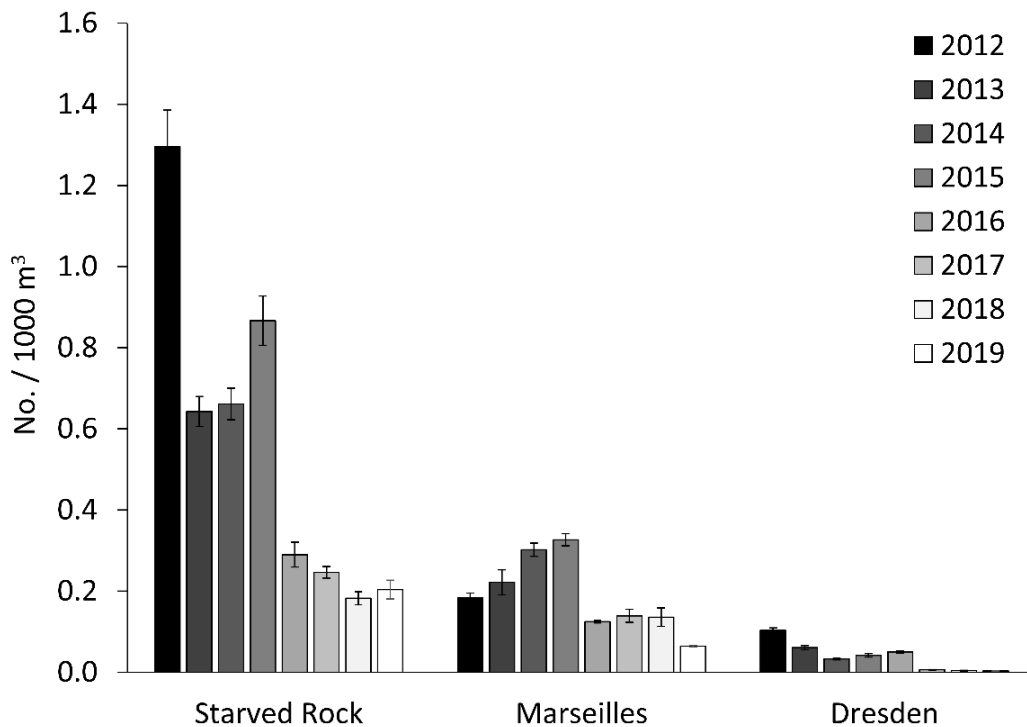


Figure 1. Mean (SE) bigheaded carp densities (Silver Carp and Bighead Carp combined) from October long-term hydroacoustic sampling in the upper Illinois River.

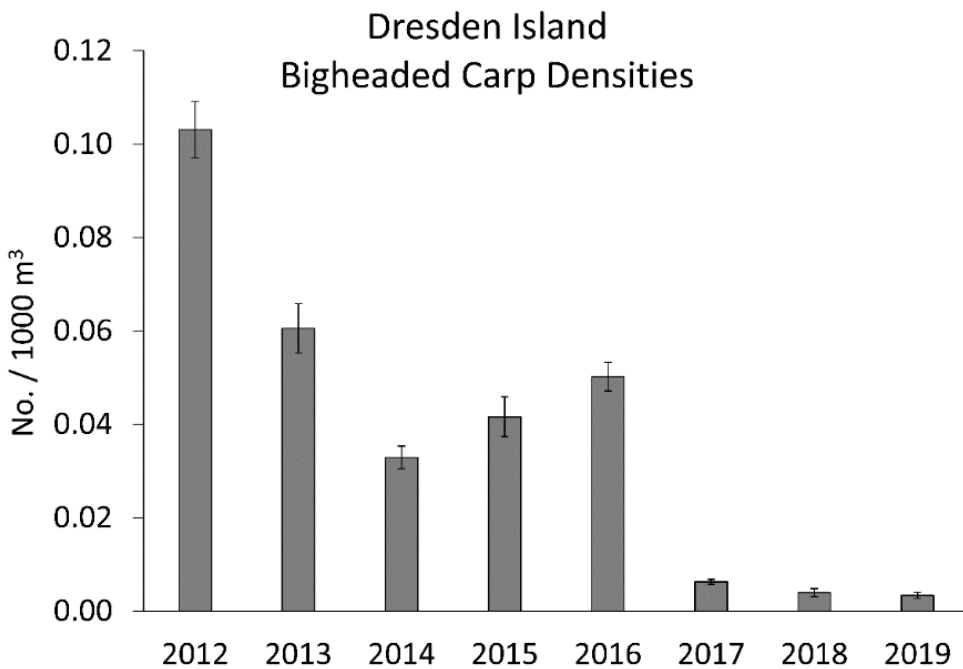


Figure 2. Mean (SE) bigheaded carp densities (Silver Carp and Bighead Carp combined) from October long-term hydroacoustic sampling in the Dresden Island Pool.

Analysis of bigheaded carp densities from October 2019 hydroacoustic sampling was completed for the lower pools of the Illinois River (Peoria – Alton pools). Bigheaded carp densities in lower river reaches (Alton – Peoria) were the lowest since monitoring began in 2012 (Figure 3). These reach-wide reductions in densities were due to much lower densities at main channel sites

compared to previous years which was likely due to high flow conditions. Main channel discharge, reported by United States Geological Survey (USGS) gauging stations, was higher during 2019 sampling than during sampling in previous years. High main channel discharge may have caused fish in 2019 to move into non-main channel habitats to avoid high flow conditions and into areas not sampled during the standardized fall surveys.

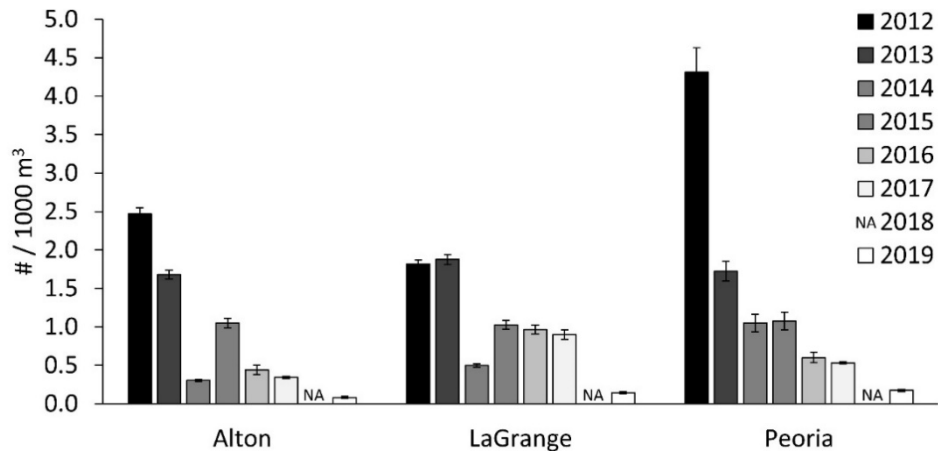


Figure 3. Long-term mean (standard error) bigheaded carp densities in the lower Illinois River reaches sampled at standardized sites during October of each year. Due to equipment repairs, densities in 2018 were sampled in November when water temperatures were much lower and fish spatial distributions were much different than in all other years. Therefore, 2018 densities are not included in these comparisons.

Mobile hydroacoustic sampling occurred in the HMS East Pit in Marseilles Pool on 2-Feb prior to the Unified Method harvest. A heatmap displaying bigheaded carp spatial distributions was generated and shared with IDNR harvest crews. 2019 acoustic telemetry data from bigheaded carp tagged throughout the Illinois River were also assessed for QA/QC and shared with the USGS for inclusion in the FishTracks database.

Ongoing analyses of telemetry data were conducted to compare the movements and habitat use of Common Carp to that of Silver Carp in Starved Rock Pool and upper Peoria Pool. This project is a collaboration between SIU and USACE to evaluate the use of Common Carp as a surrogate species for Silver Carp in the CAWS. Ongoing analyses specifically examined the habitat conditions associated with habitat use of Common Carp and Silver Carp and whether habitat use was associated with similar conditions for both species. SIU also worked with USGS to update the FishTracks database with telemetry data from SIU's Illinois River stationary receiver network.

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

The U.S. Fish and Wildlife Service conducted one mobile hydroacoustic fish survey at the Electric Dispersal Barrier System (EDBS) during January 2020. The survey was completed on January 6, 2020. A second survey was scheduled at the barrier on January 24, 2020 but was postponed to February due to ongoing annual maintenance at the EDBS. 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: Two large fish targets ≥ -28.7 dB were detected within the EDBS on January 6, 2020. Both fish were detected between Barrier IIB and the Demonstration Barrier. Two large fish targets ≥ -28.7 dB were detected below the EDBS. Fish were detected during all three replicate surveys.

The U.S. Fish and Wildlife Service conducted two mobile hydroacoustic fish survey at the EDBS during February 2020. The surveys were completed on February 7, 2020 and February 21, 2020.

Preliminary Results:

February 7, 2020: No fish ≥ -28.7 dB were detected within the EDBS on February 7, 2020. Three fish ≥ -28.7 dB were detected below the EDBS just above the Hanson Material Services Corporation docking slip.

February 21, 2020: One large fish ≥ -28.7 dB was detected within the EDBS, between Barrier IIB and the Demonstration Barrier, on February 21, 2020. One large fish ≥ -28.7 dB was detected below the EDBS just above the Hanson Material Services Corporation docking slip.

The U.S. Fish and Wildlife Service conducted one mobile hydroacoustic fish survey at the Electric Dispersal Barrier System (EDBS) during March 2020. A second survey scheduled for March 18, 2020 was cancelled due to the COVID-19 shutdown. The survey was completed on March 4, 2020.

Preliminary Results:

March 4, 2020: No large fish ≥ -28.7 dB were detected within the EDBS on March 4, 2020. One large fish ≥ -28.7 dB was detected downstream of the EDBS. The fish was only detected during Replicate Survey #1.

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 Pool, Brandon Road Pool, and Lockport Pool during March 2020. The Lockport Pool survey was completed on March 10, 2020. The Brandon Road Pool survey was completed on March 11, 2020. The Dresden Island Pool survey was completed on March 12-13, 2020. These pool surveys were designed to monitor for the presence and density of large fishes, potentially either Bighead or Silver Carp, greater than -28.7 dB (theoretical side-aspect target strength of a 12-inches (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 (HMSC) docking slip and Lockport Lock and Dam, a distance of approximately 6.5 km. The hydroacoustic survey in Brandon Road Pool covered the area between Lockport Lock and Dam and Brandon Road Lock and Dam, a distance of approximately 7.2 km. The hydroacoustic survey in Dresden Island Pool covered the area between Brandon Road Lock and Dam and Dresden Island Lock and Dam, a distance of approximately 23 km. In all pools, surveys consisted of a single clockwise-loop transect with the boat following the contour of the main channel edge while ensonifying water within the channel.

Preliminary Results

Lockport Pool:

Five large fish were detected in Lockport Pool during the survey. These five detections resulted in a calculated mean density of 0.4 large fish targets per 100,000 m³ in Lockport Pool. One fish was detected, on the -9.6° subsurface transducer, in 339,139 m³ of ensonified water. Four fish were detected, on the -3.2° surface transducer, in 661,820 m³ of ensonified water.

Brandon Road Pool:

Three large fish were detected in Brandon Road Pool during the survey. These three resulted in a calculated mean density of 0.4 large fish targets per 100,000 m³ in Brandon Road Pool. One fish was detected, on the -9.6° subsurface transducer, in 875,227 m³ of ensonified water. Two fish were detected, on the -3.2° surface transducer, in 1,640,210 m³ of ensonified water.

Dresden Island Pool:

Twenty-four large fish were detected in Dresden Island Pool during the survey. These 24 detections resulted in a calculated mean density of 1.1 large fish targets per 100,000 m³ were detected in Dresden Island Pool. Seven fish were detected, on the -9.6° subsurface transducer, in 638,135 m³ of ensonified water. Seventeen fish were detected, on the -3.2° surface transducer, in 1,024,486 m³ of ensonified water.

Telemetry

United States Geological Services (USGS)

January

1 Bighead Carp and 2 Silver Carp were detected at Illinois River above Dresden Island dam near Minooka, IL during the month of 1/2020 (Figure 4). The maximum number of bigheaded carp detected during a single day was 3 and the minimum was 1.

1 Bighead Carp and 2 Silver Carp were detected at Hanson Gravel East Pit near Morris, IL during the month of 1/2020 (Figure 4). The maximum number of bigheaded carp detected during a single day was 9 and the minimum was 0.

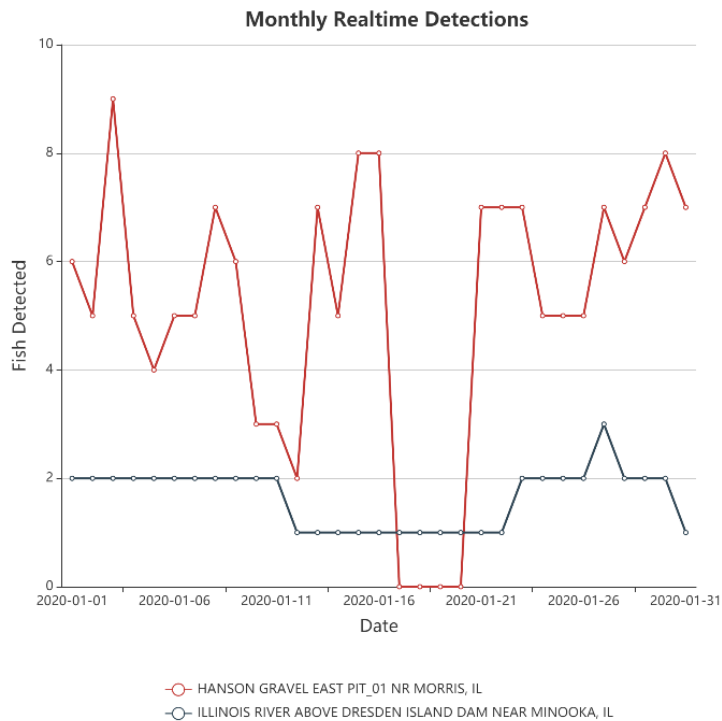


Figure 4. Fish detections for 1 January – 31 January 2020 from telemetry receivers in the Illinois River near Minooka, IL, Utica, IL, and in the Hanson Materials West Gravel Pit in Morris, IL.

February

2 Bighead Carp and 2 Silver Carp were detected at Illinois River above Dresden Island dam near Minooka, IL during the month of 2/2020 (Figure 5). The maximum number of bigheaded carp detected during a single day was 4 and the minimum was 1.

2 Bighead Carp and 2 Silver Carp were detected at Hanson Gravel East Pit near Morris, IL during the month of 2/2020 (Figure 5). The maximum number of bigheaded carp detected during a single day was 9 and the minimum was 0.

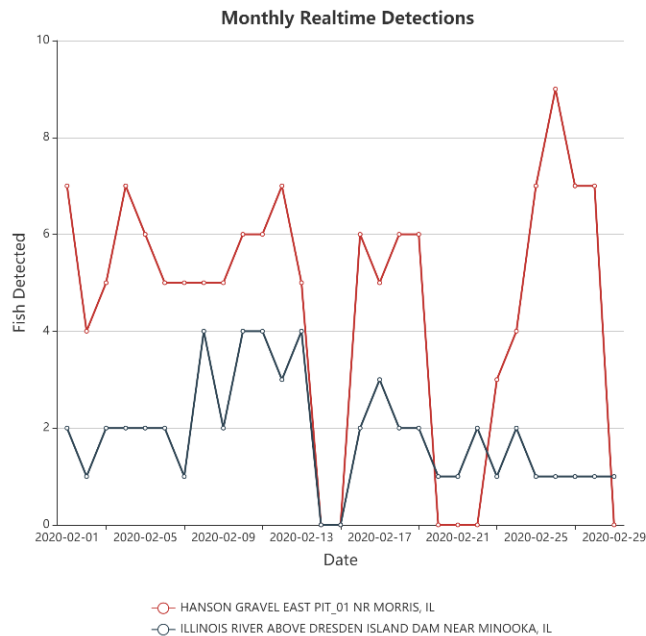


Figure 5. Fish detections for 1 February – 29 February 2020 from telemetry receivers in the Illinois River near Minooka, IL, Utica, IL, and in the Hanson Materials West Gravel Pit in Morris, IL.

March

1 Bighead Carp and 1 Silver Carp were detected at Illinois River above Dresden Island dam near Minooka, IL during the month of 3/2020. The maximum number of bigheaded carp detected during a single day was 2 and the minimum was 1 (Figure 6.).

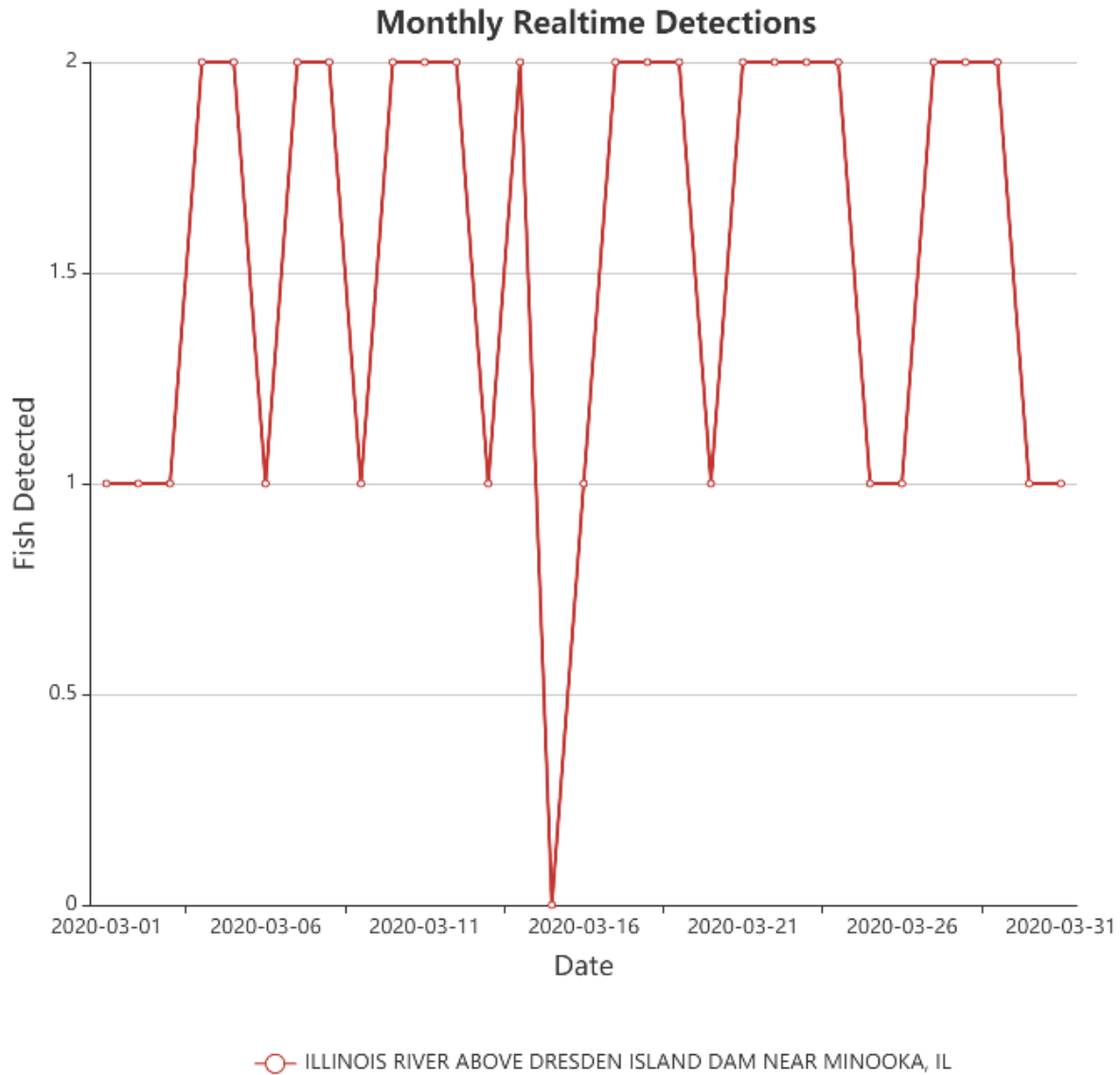


Figure 6. Fish detections for 1 March – 31March 2020 from telemetry receivers in the Illinois River near Minooka, IL, Utica, IL, and in the Hanson Materials West Gravel Pit in Morris, IL.

April

2 Bighead Carp and 5 Silver Carp were detected at Illinois River above Dresden Island dam near Minooka, IL during the month of 4/2020. The maximum number of bigheaded carp detected on a single day was 4 and the minimum was 1 (Figure 7.).

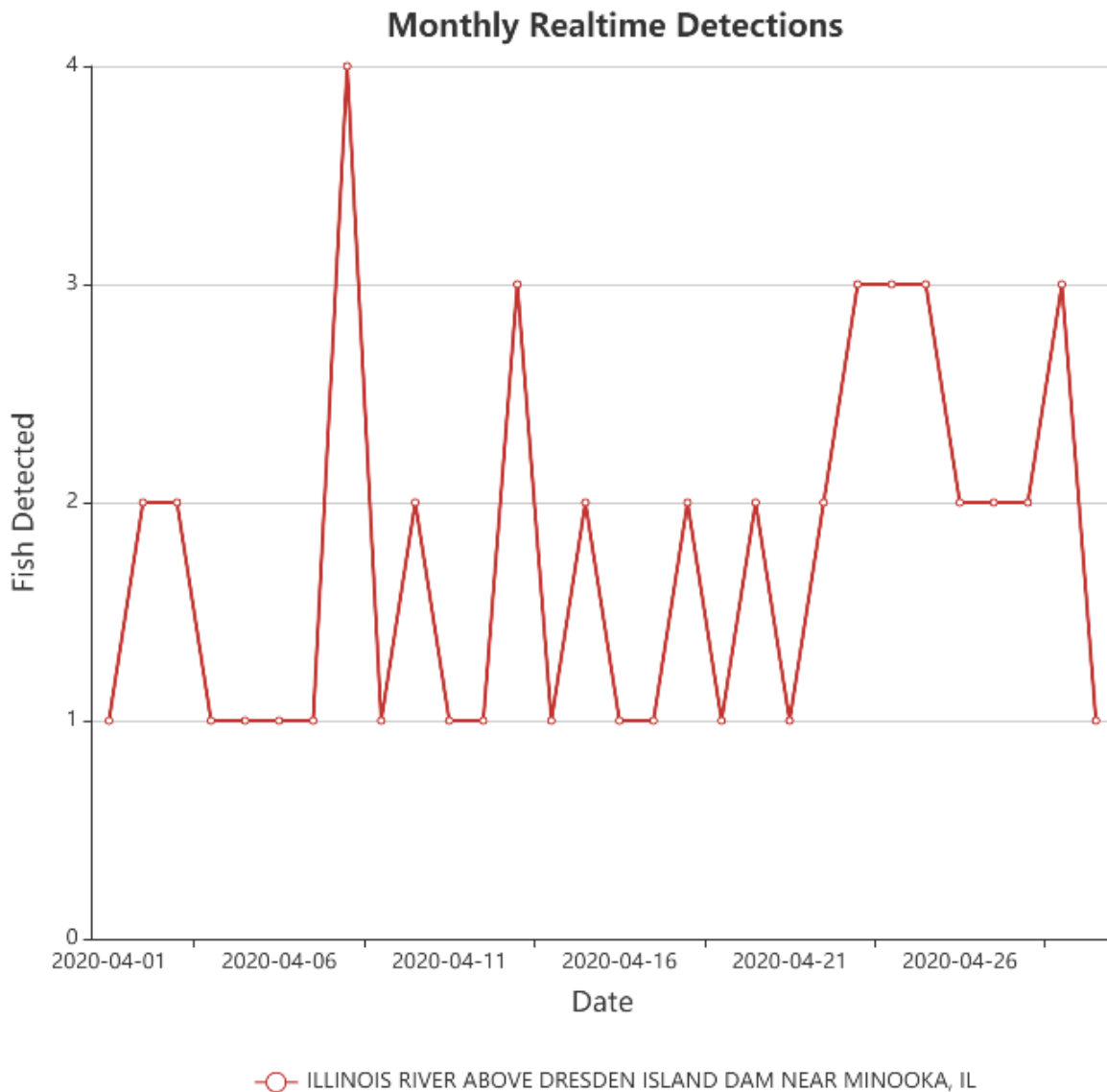


Figure 7. Fish detections for 1 April – 30 April 2020 from telemetry receivers in the Illinois River near Minooka, IL, Utica, IL, and in the Hanson Materials West Gravel Pit in Morris, IL.

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.

Barrier Operational and Maintenance Status

****2A/B in reduced winter settings of 1.7 V/in at surface when powered on until noted.

January 21, 10:20 - 10:41 AM - 2A power outage, 2B running, Demo off since Dec 18, 2019 for maintenance

January 22, 7:45 AM - February 4, 17:27 - 2A running, 2B off (annual maintenance; dive ops), demo turned on Jan 31, 10AM

February 18, 8AM - February 26, 3pm - 2A off (annual maintenance), 2B on, demo on

March 9, 7:25 AM - 13:00 - 2A off (dive operation at NRG), 2B on, Demo on

March 14, 23:46 - March 16, 13:00 - 2A narrow pulser fault/off wide running, 2B on (set to 2.3 V/in), demo on

March 19, 9:30 AM - 2A powered at 2.3 V/in

Alternate Pathway Surveillance in Illinois - Law Enforcement

- Invasive Species Unit (ISU) attended the Aquatic Life Resources Task Force meeting in St. Louis, MO to discuss commercial fishing enforcement strategies for 2020.
- ISU assisted the Department of Fisheries and Oceans Canada with an investigation pertaining to the illegal possession of an injurious species (Snakehead).
- ISU inspected a Chicago Retail Fish market after receiving a tip the business was selling prohibited live species. No violations were detected.
- ISU identified deficiencies within Illinois Fish and Aquatic Life Code, specifically to invasive species regulations and proposed new language to strengthen the laws.
- ISU investigated a complaint regarding the illegal sale of Shark fin in Chicago's Chinatown.