

## Asian Carp Sampling Summary

A sampling summary for the week of September 17, 2012 is included below. All data presented in this summary are preliminary and subject to revision.

**Bottom Line:** Monitoring occurred in the CAWS and upper Illinois Waterway upstream and downstream of the Dispersal Barrier. NO BIGHEAD OR SILVER CARP were reported captured or observed upstream of the Barrier, nor were any found in new locations downstream of the Barrier.

### eDNA Monitoring Project

A crew from IDNR obtained 57 2-L water samples for eDNA analysis at Lake Calumet and another 57 samples from the Little Calumet River downstream of O'Brien Lock and Dam on Monday, September 17. Samples were filtered at the USEPA lab in Chicago and forwarded to ERDC in Vicksburg, MS for analysis. Results of eDNA analysis will be reported on the USACE web site listed below as they become available.

<http://www.lrc.usace.army.mil/Missions/CivilWorksProjects/ANSPortal/eDNA.aspx>

### Fixed and Random Site Sampling Upstream of the Dispersal Barrier

<b>Site 1:</b> Lake Calumet	<b>Area 1:</b> Lake Calumet Connecting Channel and Calumet River above O'Brien Lock
<b>Site 2:</b> Little Calumet River	<b>Area 2:</b> Calumet-Sag Channel
<b>Site 3:</b> Chicago Sanitary and Ship Canal near Western Ave. and South Branch Chicago River	<b>Area 3:</b> Chicago Sanitary and Ship Canal, Western Ave. to Dispersal Barrier
<b>Site 4:</b> North Branch Chicago River and North Shore Channel	<b>Area 4:</b> North Shore Channel, North Branch Chicago River and Chicago River
<b>Site 5:</b> North Shore Channel	

Crews from IDNR completed 30 15-minute electrofishing runs at five fixed sites (7.5 hours total) and 10 15-minute runs at randomly selected locations in the four random site areas upstream of the Dispersal Barrier (2.5 hours total). In addition, two contracted commercial fishing crews and assisting IDNR biologists set 3.1 miles of net (27 sets) at the five fixed sites and 2.1 miles of net (19 sets) at random sites upstream of the Barrier. No bighead or silver carp were reported captured or seen above the Barrier.

### Fixed Sites Downstream of the Dispersal Barrier

**Site A:** Lockport Pool – Lockport Lock and Dam to Electric Barrier  
**Site B:** Brandon Road Pool – Brandon Road Lock and Dam to Lockport Lock and Dam  
**Site C:** Dresden Island Pool – I-55 Bridge to Brandon Road Lock and Dam  
**Site D:** Marseilles Pool – Rt. 47 Bridge (Morris) to Dresden Lock and Dam

Contracted commercial fishers and assisting IDNR biologists set 1.8 miles of net (16 sets) at the four fixed sites downstream of the Barrier. No bighead or silver carp were captured at Sites A and B, nor were any captured at new locations at Sites C and D. Electrofishing at downstream fixed sites took place during the week of September 10.

### Additional Netting Downstream of the Dispersal Barrier

Two contracted commercial fishing crews and assisting IDNR biologists set 0.9 miles of net in Brandon Road Pool 5-10 miles downstream from the Dispersal Barrier. No Asian carp were captured or observed during this sampling.

### Distribution of Small Asian Carp Study

A crew from the USFWS-Carterville FWCO sampled for young Asian carp with mini-fyke nets and trap nets in the Peoria Pool of the upper Illinois Waterway. Mini-fykes were fished for a total of 18 net-nights and trap nets were fished for a total of 4 net-nights. No small Asian carp <12 inches long have been captured to date.

### **Barrier Defense Asian Carp Removal Project**

**Dresden Island Pool:** 10-24 miles downstream from Dispersal Barrier

**Marseilles Pool:** 24-51 miles downstream from Dispersal Barrier

**Starved Rock Pool:** 51-65 miles downstream from Dispersal Barrier.

Contracted commercial fishers and assisting IDNR biologists set 19.3 miles of net in the Starved Rock, Marseilles and Dresden Island pools of the upper Illinois Waterway and removed 411 bighead carp, 1884 silver carp, and 9 grass carp. A cumulative summary of the 2012 removal effort to date is shown in the table below.

<b>QUICK SUMMARY THROUGH: 30 September 2012</b>		
<b>Number of Days Fished</b>	48	days
<b>Number of Net Crews</b>	235	crew-days
<b>Miles of Nets Fished</b>	198.9	miles
<b>Number of Bighead Carp</b>	14,974	fish
<b>Number of Silver Carp</b>	16,649	fish
<b>Number of Grass Carp</b>	160	fish
<b>Number of Asian Carp (AC)</b>	31,783	fish
<b>Tons of AC Harvested</b>	211.1	tons
<b>CPUE (N/1,000 Yards of Net)</b>	91	fish

### **Monitoring Asian Carp Population Metrics and Control Efforts**

A crew from SIUC completed a 24-hour fixed station hydroacoustics survey in a connecting channel between a backwater lake and the main channel of the Illinois River near Morris (river mile 262). The survey will quantify movement of fish between the main channel and backwater habitats. Mobile hydroacoustics surveys incorporating two side-looking and one down-looking split-beam transducers were completed in backwater and main channel habitat throughout the Marseilles Pool. Survey data will be used to quantify abundance, size distribution and biomass of Asian carp and other fishes in the entire 26.5 nautical mile pool of the upper Illinois River. In addition, side-looking and down-looking data will be compared to determine the proportion of fish missed with down-looking techniques (from both evasion and small volume of water sampled).

A second crew from SIUC recorded ADCP (acoustic doppler current profiler) discharge measurements at three locations in the Illinois River. Discharge estimates will be compared to gage height measurement from the USGS and Army Corps and incorporated into Asian carp movement models. With assistance from IDNR and contracted commercial fishers, the SIUC crew also surgically implanted acoustic telemetry tags in 39 silver and bighead carp in the Starved Rock Pool and 13 silver ( $N = 5$ ) and bighead carp ( $N = 8$ ) in the Dresden Island Pool. The 39 Asian carp tagged in the Starved Rock Pool brought the total number of acoustically tagged Asian carp in that pool to 144 (57 bighead carp and 87 silver carp).

### **Gear Evaluation Study**

A Crew from INHS sampled with multiple gears in the CAWS at the Little Calumet River downstream of T. J. O'Brien Lock and Dam and in the CSSC near Western Ave. In addition to the standard gears, 6-foot diameter hoop nets (set for two net nights) and surface to bottom gill nets (two sets) were evaluated at the Western Avenue site. Gears and effort are shown in the table below. Results will be forthcoming after data have been entered into a database, checked for accuracy and analyzed.

**Gear Evaluation Study (continued)**

<b>Gear/Method</b>	<b>Effort</b>	<b>Gear/Method</b>	<b>Effort</b>
DC electrofishing	6 x 15-min. runs	Mini-fyke net	8 net-nights
Trammel net w/ pounding	4 sets	Small mesh purse seine	4 hauls
Small mesh gill net-sinking	4 x 4-hr. sets	Large mesh purse seine	4 hauls
Small mesh gill net-floating	4 x 4-hr. sets	Beach seine	4 hauls
Large mesh gill net-sinking	4 x 4-hr. sets	Cast Net	4 throws
Small mesh hoop net	8 net-nights	Midwater trawl	4 x 5 min. tows
Large mesh hoop net	8 net-nights	Hydroacoustics	15 min. runs
Trap net	8 net-nights		

**Larval Fish, Zooplankton, and Productivity Monitoring**

Two crews from INHS completed sampling for fish eggs and larvae, zooplankton, and phytoplankton productivity at the stations listed in the table below. Effort included four 5-minute tows for fish eggs and larvae with a 0.5-meter diameter ichthyoplankton push net, filtering 100 L of water for zooplankton, and taking water samples with an integrated tube sampler for productivity estimates. Samples are currently being processed.

<b>Pool and Station</b>	<b>River Mile</b>	<b>Pool and Station</b>	<b>River Mile</b>
CAWS		Peoria Pool	
Lake Calumet	327	Hennepin	~207-208
Little Calumet River	322	Henry/Lacon	189-197
Western Avenue	~320-321	Chillicothe	~178-180
Calumet-Sag Channel	~319	Upper Peoria Lake	~170-175
Worth Street	~311	LaGrange Pool	
Brandon Road Pool		Peoria Dam Tailwater	155-157.7
Lockport Tailwater	~289-291	Havana	119-122
Des Plaines River/CSSC confluence	~290	Bath Chute	107-113
Dresden Island Pool		Fredrick Main Channel	~97-98
Treats Island/I-55	277-279.5	Treadway Lake Backwater	~93.5
Marseilles Pool		Lilly Lake Backwater	83-84
Morris	262-265	Lilly Lake Main Channel	83-84
Starved Rock			
Ottawa	239.5-241.5		