

## Asian Carp Sampling Summary

A sampling summary for the week of June 11, 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. Sampling for the Lake Calumet level-1 response resulted in no bighead or silver carp captured or seen.

### eDNA Calibration Project (ECALS)

Crews from USACE with support from USEPA, MWRDGC and the City of Chicago initiated a storm sewer experiment on the South Branch of the Chicago River near Cermak Road, as part of the alternative vectors analysis portion of the ECALS Project. Final sampling for the experiment will take place the week of June 25. A second experiment assessing alternative eDNA sampling methodologies (grab, sieve, and centrifugation samples) was completed in a backwater of the Illinois River near Morris, Illinois. Results of both experiments will be forthcoming after eDNA samples have been processed and analyzed.

### eDNA Monitoring Project

A crew from USFWS – La Crosse Fish and Wildlife Conservation Office obtained 60 water samples for eDNA analysis from the North Shore Channel and another 45 samples from Lake Calumet on Monday, May 22. The Lake Calumet samples were taken in place of regularly scheduled sampling in the South Branch Chicago River in support of the Lake Calumet level-1 response. 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/AsianCarp/eDNA.htm>

### Lake Calumet Level-1 Response

Contracted commercial fishers with assisting IDNR biologists and three electrofishing crews from the IDNR, USFWS and USACE completed two days of sampling in Lake Calumet and nearby Calumet-Sag Channel and Calumet and Little Calumet rivers. A total of 11.75 hours of electrofishing (47 transects covering about 11 miles of shoreline) and 9,100 yards (5.2 miles) of deployed trammel and gill nets produced no bighead or silver carp captures or observations. Many species of fish were collected including: largemouth bass, smallmouth bass, bluegill, pumpkinseed, and yellow perch were common sport fish. Common carp, buffalo, and freshwater drum dominated commercial gears. Invasive species collected included grass carp, common carp, goldfish, carp x goldfish hybrids, white perch, and round gobies. An Illinois state threatened fish, banded killifish, were also collected in fairly good numbers.

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

**Site 1:** Lake Calumet

**Site 2:** Little Calumet River

**Site 3:** Chicago Sanitary and Ship Canal near Western Ave. and South Branch Chicago River

**Site 4:** North Branch Chicago River and North Shore Channel

**Site 5:** North Shore Channel

**Area 1:** Lake Calumet Connecting Channel and Calumet River above O'Brien Lock

**Area 2:** Calumet-Sag Channel

**Area 3:** Chicago Sanitary and Ship Canal, Western Ave. to Dispersal Barrier

**Area 4:** North Shore Channel, North Branch Chicago River and Chicago River

Crews from USFWS – La Crosse FWCO 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 2.2 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.

### **Additional Netting Downstream of the Dispersal Barrier**

Two contracted commercial fishing crews and assisting IDNR biologists set 1.0 miles of net (9 sets) in Dresden Island Pool. No Asian carp were captured in new locations downstream of the Barrier.

### **Fish Behavior Study at the Barrier**

Crews from USFWS-Carterville and Columbia Fish and Wildlife Conservation offices recorded behavior of common carp and freshwater held in a cage alongside a boat passing through the Demo Barrier and a control site in the CSSC away from the barrier. A total of 9 passes were made through the barrier and 2 passes were made through the control site.

### **Distribution of Small Asian Carp Study**

A crew from the USFWS Carterville Fish and Wildlife Conservation Office completed 31 electrofishing transects (7.75 hours) in the Starved Rock, Marseilles, and Dresden Island pool of the upper Illinois Waterway. No small Asian carp were captured.

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

Crews from SIUC performed maintenance on and downloaded data from VR2 receivers located in the Illinois River from the Mississippi River confluence upstream to Marseilles Pool. In addition, two receivers were redeployed below Starved Rock Lock and Dam and a third was deployed below La Grange Lock and Dam. The total number of SIUC receivers now collecting information on Asian carp movement in the Illinois River is 30. SIUC grad students also collected 60 silver carp from the Big Muddy River and a seasonally connected backwater for use in experiments at University facilities.

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

Crews from the INHS completed sampling for fish eggs and larvae, zooplankton, and phytoplankton productivity at the stations listed in the table below. The Lake Calumet sample coincided with the level-1 response summarized above. Effort at each site included four 5-minute tows with a 0.5-meter diameter ichthyoplankton push net, pumping and 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		

### **Gear Evaluation Study**

A crew from INHS boat with assistance from a contracted commercial fisher deployed two Lake Michigan style pound (trap) nets in a private Illinois River backwater near Morris, Illinois. This is an initial trial run for the pound net evaluation and early results suggest that these nets are catching modest numbers of bighead and silver carp. Additional evaluations will occur at this location and in Lake Calumet during summer (July) and fall (September/October) 2012 and again in spring (April/May) 2013.

### Gear Evaluation Study (continued)

The spring session for evaluation of other gears used to sample Asian carp has been completed. Below is a preliminary summary of the all fish caught for the 10 Chicago area and Illinois Waterway sampling sites to date (2012). Gears evaluated were: DC electrofishing, trammel nets, gill nets (large and small mesh; surface-to-bottom), hoop nets (4- and 6-foot diameter), trap nets, mini-fyke nets, purse seines (large and small mesh), midwater trawl, beach seines and cast nets.

#### Spring Catches by Site.

Species	La Grange Pool			Peoria Pool		Starved Rock Pool	Mar-seilles Pool	Dres-den Island	CAWS		All Sites
	Lily Lake	Mat-anzas Lake	Havana	Peoria L&D	Henry	Ottawa	Morris	I-55	West-ern Ave.	O'Brien L&D	
Emerald Shiner	1	3	10	286	547	185	81				1113
Gizzard Shad	59	44	128	221	142	57	235	21	13	124	1044
Spotfin Shiner				6	37	636	76		90		845
Bluegill	34	18	6	7	19	18	24	105	189	133	553
Bullhead Minnow		133	10		4	34	5		123	168	477
Shortnose Gar	89	65	66	75	85	11	1	2			394
<b>Silver Carp</b>	<b>26</b>	<b>71</b>	<b>105</b>	<b>70</b>	<b>52</b>	<b>51</b>					<b>375</b>
Common Carp	21	19	49	7	15	12	6	93	114	36	372
Sand Shiner	2				183	125	12			2	324
Freshwater Drum	74	24	75	14	62	8	11	2		2	272
White Bass	25	17	53	51	31	27	33			24	261
Yellow Bass	2	176	26	11	1		26				242
Pumpkinseed								1	39	149	189
Skipjack Herring			20	83	17	35	19	1			175
Green Sunfish	1						2	41	103	21	168
Smallmouth Buffalo	5	4	36	3	29	33	44	3		2	159
Channel Catfish	7	3	4	3	7	18	35	76	2	2	157
Black Crappie	29	94	3	9	2	1		2	3	2	145
Bluntnose Minnow	97				10	19	5	4		3	138
Bigmouth Buffalo	7	87	33		4	1	1				133
River Carpsucker	8	10	8	21	24	46	14	1			132
Red Shiner	28	1			44	53					126
Black Buffalo	5					79	1	7			92
Longnose Gar	6	21	24	2	10	7		21			91
<b>Grass Carp</b>		<b>4</b>	<b>40</b>	<b>16</b>	<b>5</b>	<b>8</b>					<b>73</b>
Banded Killifish										61	61
Largemouth Bass	1	2		5	1	5	7	6		34	61
Creek Chub					59						59
<b>Bighead Carp</b>	<b>2</b>	<b>11</b>	<b>25</b>	<b>3</b>	<b>6</b>		<b>7</b>				<b>54</b>
Shorthead Redhorse	15		6	6	3	4	3	2			39
Goldeye	16		8	12	2						38
White Perch					1		1	1		32	35
Alewife										32	32
Sauger	2		10	4	12	2	2				32
Quillback	2	7	1	1	14	3	2				30
White Crappie		10		6	2		10				28
Bowfin	12	10		4	1						27
Golden Shiner					1			1	20	2	24
Oriental Weatherfish									20		20
Mosquitofish	1				14				3		18
<b>Bighead x Silver Carp</b>	<b>1</b>		<b>2</b>	<b>3</b>		<b>1</b>	<b>10</b>				<b>17</b>
Flathead Catfish			1	1	2	6	3	1			14
River Shiner					14						14
Brook Silverside		1		1						10	12
Spottail Shiner				2	8	1				1	12
Blackstripe Topminnow	2				6			2			10
Golden Redhorse					3	7					10
Rock Bass							1	4		5	10
Black Bullhead		1				1		2	4	1	9
Orangespotted Sunfish	2				4	1	1				8
Round Goby						1		3		3	7
Smallmouth Bass					1	5				1	7
White Sucker								2		5	7
Yellow Bullhead		1						1	3	2	7

Spring Catches by Site (continued).

Species	La Grange Pool			Peoria Pool		Starved Rock Pool	Mar- seilles Pool	Dres- den Island	CAWS		All Sites
	Lily Lake	Mat- anzas Lake	Havana	Peoria L&D	Henry	Ottawa	Morris	I-55	West- ern Ave.	O'Brien L&D	
Silver Chub			1	3		1					5
Sunfish Hybrid								1		4	5
Goldfish								1		2	3
Northern Pike				2	1						3
Brown Bullhead					1					1	2
Hornyhead Chub			2								2
Paddlefish	1	1									2
Silver Redhorse						2					2
Spotted Gar			1					1			2
White x Striped Bass			1	1							2
Blackside Darter					1						1
Fathead Minnow	1										1
Goldfish x Com. Carp			1								1
Grass Pickerel					1						1
Logperch					1						1
Longear Sunfish					1						1
Mud Darter	1										1
Muskellunge				1							1
Redear Sunfish			1								1
Walleye					1						1
Yellow Perch										1	1
<b>Total</b>	<b>586</b>	<b>838</b>	<b>756</b>	<b>941</b>	<b>1499</b>	<b>1504</b>	<b>679</b>	<b>413</b>	<b>726</b>	<b>866</b>	<b>8808</b>