November Summary

Bottom Line: Monitoring occurred in the CAWS and upper Illinois Waterway upstream and downstream of the Dispersal Barrier in November. **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.

Barrier Maintenance and Fish Supersession

On 4 November; IDNR, USFWS and USACE conducted a fish clearing at the fish dispersal barrier. The operation was initiated at 8:30 am; at that time MWRD reduced flows in the Lockport pool. USACE performed manual tracking of 24 radio tagged fish (Largemouth bass and Common carp) released between the barriers, 5 fish were located. USFWS then performed a preliminary hydroacoustic scan which located 8 fish over 12 inches in length. After the scan, IDNR and USACE crews electrofished approximately 30 minutes each, and IDNR deployed the 100 yard 30' deep water gill net for the same period of time. Electrofishing yielded one Bluegill less than 12 inches, while the deep water gill net caught 3 Common carp over 12 inches and no radio tagged fish were captured. After the electrofishing and netting, USFWS performed a post scan of the area. The USFWS post-clearing scan yielded four fish greater than 12" in length. The netting and electrofishing operation ended 11:00 am and sampling crews returned safely to ramp, at this time MWRD was notified to resume flows. With the results from this clearing event and ongoing Asian carp monitoring in Lockport and Brandon Road pools there was high confidence **NO** Asian carp were between the dispersal barriers.

Monitoring Fish Abundance, Behavior, and Fish-Barge Interactions at the Barrier

On the afternoon of 4 November the scheduled closure allowed USACE to tag and release 13 radio tagged common carp directly in front of a tow. The tow was pushing two barges in series with a rake to box configuration. The fish were released through a fish slide built into the rake of the leading barge. Mobile tracking was conducted over the next several days in addition to the stationary receivers collecting data.

On 5 November, USFWS and USACE attempted tethered fish entrainment with a rake to rake, 2x2, barge configuration while pulling instead of pushing with the tow. Flow velocity was well above average at approximately 4200 cfs. During this time the tow was unable to adequately traverse the barriers and was commonly stalled out by the high flow and boxed barges.

On 7 November, USFWS and USACE crews deployed experimental gill nets between a rake to box, 2x2 barge configuration. Each net set was approximately 64 feet across and 6 feet deep from the water's surface. Three runs were completed in the morning, two in barriers and one below. Three additional runs were completed in the afternoon while releasing fishes into the barge void simultaneously. 180 fish including gizzard shad, threadfin shad and centrarchids were released during the afternoon runs of which only one was captured. No free roaming fish were captured in the morning.

On 8 November, USFWS and USACE conducted further tethered fish work using a 2x2 rake to barge configuration. Three runs were completed in the morning where the tow

stopped for a period of two minutes just downstream of the barriers before transiting. This stopped period allowed for conscious fish to swim away from the barge junction. Three runs were completed in the afternoon in the same configuration. Afternoon runs attempted an angled or zigzag approach to the barriers in an attempt to create flow through the barge junctions. Entrainment rates remained high even though some flow was generated.

USFWS Carterville performed 3 pre-generator and 3 post-generator test scans at the barrier. Data are being analyzed.

USFWS Carterville performed a full scan of Lockport Pool. Data are being analyzed.

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

- Two crews from the IDNR completed 30 15-minute electrofishing runs at five fixed sites (7.5 hours total) and 16 15-minute runs at randomly selected locations within the four random areas upstream of the Dispersal Barrier (4 hours total) during the week of November 25.

- Two contracted commercial fishing crews and assisting IDNR biologists set 2.7 miles of net (24 sets) at the five fixed sites and 2.2 miles of net (19 sets) at random sites upstream of the Barrier during the week of November 4.

- 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 during the week of November 18.

- **No Bighead or Silver Carp** were reported captured or seen upstream of the Dispersal Barrier.

Fixed and Random Site Sampling 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

- Crews from USFWS, and U.S. Army Corps of Engineers (USACE) completed 16 electrofishing runs at fixed locations (4 hours total) and 16 runs at randomly selected locations (4 hours total) in the Lockport, Brandon Road, Dresden Island,

and Marseilles pools downstream of the Barrier during the weeks of November 4 and 11.

- Crews from IDNR, and USACE completed 16 electrofishing runs at fixed locations (4 hours total) and 16 runs at randomly selected locations (4 hours total) in the Lockport, Brandon Road, Dresden Island, and Marseilles pools downstream of the Barrier during the weeks of November 11 and 18.

- No Bighead or Silver Carp were reported captured or seen during electrofishing in the Lockport, Brandon Road, Dresden Island, and Marseilles pools.

- Two contracted commercial fishing crews and assisting IDNR biologists set 3.64 miles of net (32 sets) at the four fixed sites and 3.64 miles of net (32 sets) at random sites within the four pools downstream of the Barrier during the weeks of November 4 and 18.

- **No Bighead or Silver Carp** were reported captured or seen during commercial netting in the Lockport, Brandon Road, and Dresden Island pools. One Silver Carp was collected at a fixed site (western end of Peacock Sleugh), and one Bighead Carp was collected at a random site (just upstream of barge slip near western end of Heidecke Lake) in the Marseilles pool near Morris.

- Hoop net (6' diameter) and minnow fyke sampling downstream of the barrier by IDNR scheduled for November was postponed to December due to a full schedule.

Rock Run Rookery Preserve Lake

Contracted commercial fishing crews fished the Rock Run Rookery Preserve Lake in Will County by the Will County Forest Preserve. In November contracted fisherman netted one day collecting 25 Bighead Carp and four Silver carp. Below is a quick summary of activities in the Preserve Lake since sampling was initiated in the lake November 2, 2012.

Rock Run Summary	
Sets	104
Effort (yds)	68160
Miles of Net	38.71488
Person-Days	134
Bighead	1069
Silver	80
Grass carp	3
Total AC removed	1152
Total AC lbs removed	26259.6
Tons	13.1298

Barrier Defense

Barrier defense was conducted the weeks of the November 4th and 18th .Below is a quick summary of the activities for 2013 with 1 sampling week remaining.

QUICK SUMMARY:		
Number of Days Fished	68	days
Number of Net Crews	340	crew-days
Miles of Nets Fished	330.2	Miles
Number of Bighead Carp	11389	Fish
Number of Silver Carp	37471	Fish
Number of Grass Carp	209	Fish
Number of Asian Carp (AC)	49069	Fish
Tons of AC Harvested	271.5	Tons
CPUE: Number of Asian Carp/ 1,000 yards net	84	Fish

Gear Comparison

Field activities for the gear comparison study have concluded for 2013. Activities during the month of November consisted of data entry, summarization of sampling results, and preliminary analyses of detection probabilities for bighead carp using hoop nets and silver carp using DC electrofishing. Of sites downstream of the electric barrier where Asian carp were detected, the probability of detecting bighead carp with hoop nets was found to be lowest at Ottawa (0.07), whereas the probability of detecting silver carp with DC electrofishing gear was lowest at Morris (0.17). Given these detection probabilities, a minimum of 42 hoop net-nights would be required to achieve a 95 percent cumulative probability of detecting bighead carp at a site, whereas 17 fifteen-minute electrofishing transects would be required to achieve this same objective for silver carp. Additional study will be required to understand the relationship between Asian carp abundance and detection probability with different gear types. Additional data analyses are ongoing and results will be reported once available.

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Larval fish and Productivity Sampling

INHS sampling for productivity and larval fish has concluded for 2013. No Asian carp eggs or larvae have thus far been identified from any samples taken upstream of Henry (Peoria Pool) in 2013. Additionally, no Asian carp eggs or larvae have been identified form any samples taken later than June. Sample processing, data entry, and data analysis are ongoing.

Telemetry Monitoring Project

The Center for Fisheries and Aquatic Sciences at Southern Illinois University, with assistance from DNR contracted fishermen, surgically implanted 204 Asian carp with acoustic transmitters during November. Fish were also tagged with aluminum jaw tags and fin clipped for genetic testing. The total fish tagged in 2013 is now 291. From November 7-21, 45 fish were tagged in the Starved Rock pool, 58 in the Marseilles pool, 51 in the Peoria pool, and 50 in the Alton pool. The breakdown by species is as follows.

		Fish tagged
Alton		50
	Bighead carp	15
	Hybrid Asian carp	2
	Silver carp	33
Marseilles		58
	Bighead carp	2
	Hybrid Asian carp	2
	Silver carp	54
Peoria		51
	Bighead carp	6
	Silver carp	45
Starved Rock		45
	Bighead carp	6
	Silver carp	39

Ontario Ministry of Natural Resources (MNR) – Asian Carp Surveillance

Great Lakes Surveillance

The Lake Erie Management Unit's regular sampling programs include

- Commercial fishery monitoring using full Port Officer presence, commercial catch sampling program, and by-catch monitoring program
- Gill net programs in western and central basins of Lake Erie
- Trawl programs in the eastern basin of Lake Erie
- Trap net survey in Lake St. Clair
- Electrofishing programs in tributaries.

The Upper Great Lakes Management Unit's regular sampling programs include

- On-board commercial catch samplers in northern and southern Lake Huron (including the North Channel) and southern Georgian Bay
- Gill net program inshore areas of the North Channel and South Bay (Manitoulin Island).

No Asian carp have been detected through these activities to date.

Alternate Pathway Surveillance in Illinois-Law Enforcement

The Invasive Species Unit (ISU) organized a two day meeting and training session with members of the Wisconsin DNR in Chicago. Topics discussed were the history and spread of Asian Carp, Illinois ISU efforts, enforcement techniques, and case review.