

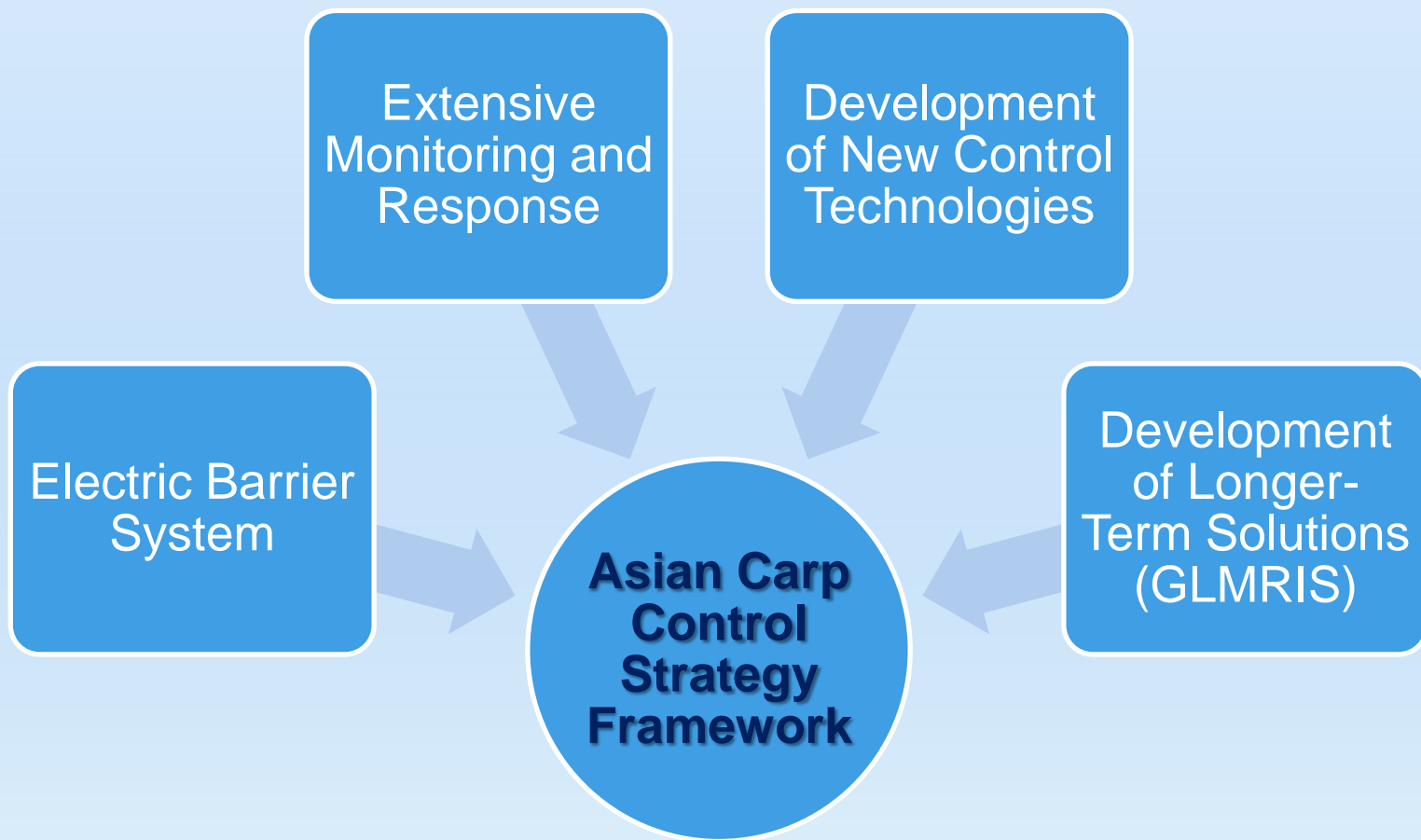


Asian Carp Regional Coordinating Committee

Update for the Great Lakes Panel

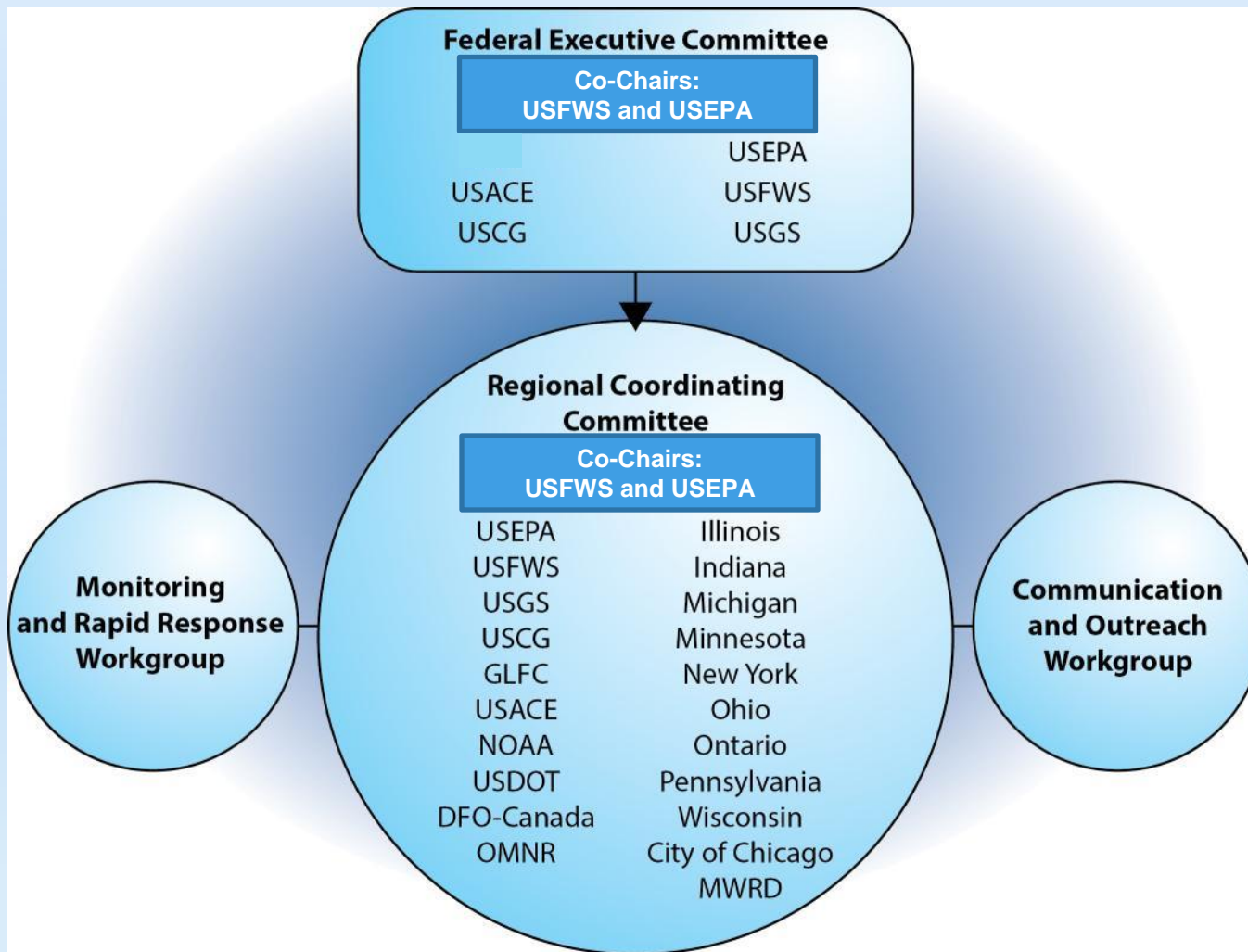


Collaborative Response with Multiple Components





Asian Carp Regional Coordinating Committee





ACRCC Control Actions

Accomplishments

- Asian carp not established in the Great Lakes
- All Great Lakes States, Ontario and Canada now partners
- Only CAWS is high-risk pathway for Asian carp to GLs
- Redundant and effective electric barriers in place
- New nets, gear and sampling techniques developed and implemented for Asian carp

Ongoing Actions

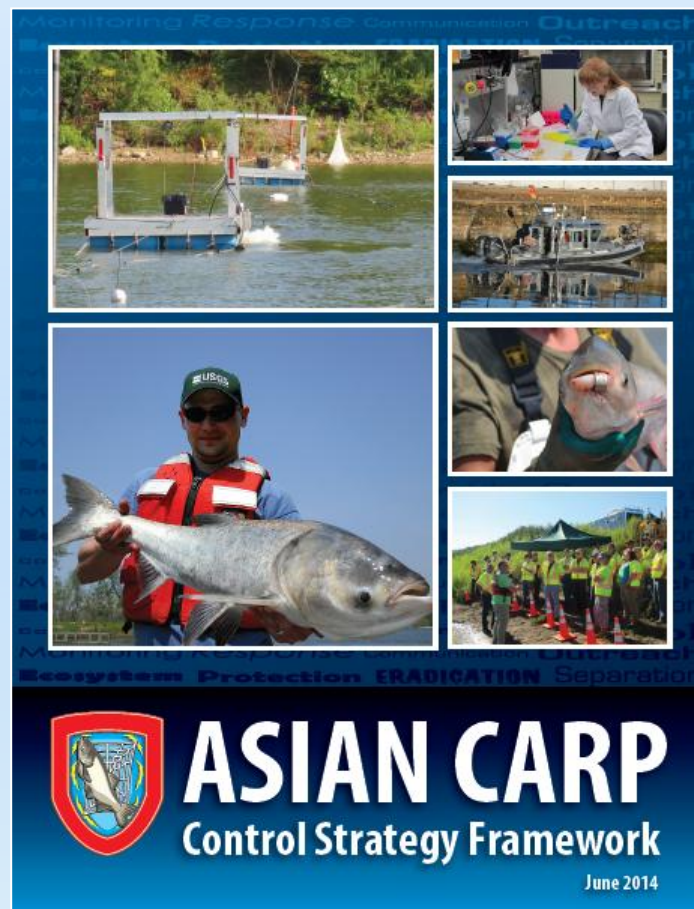
- eDNA/fish sampling implemented Great Lakes basin wide
- Testing new technologies (e.g. water guns, toxicants, CO2)
- Commercial harvest being conducted below electric barriers
- Refining eDNA technology and identifying potential vectors
- GLMRIS control options identified



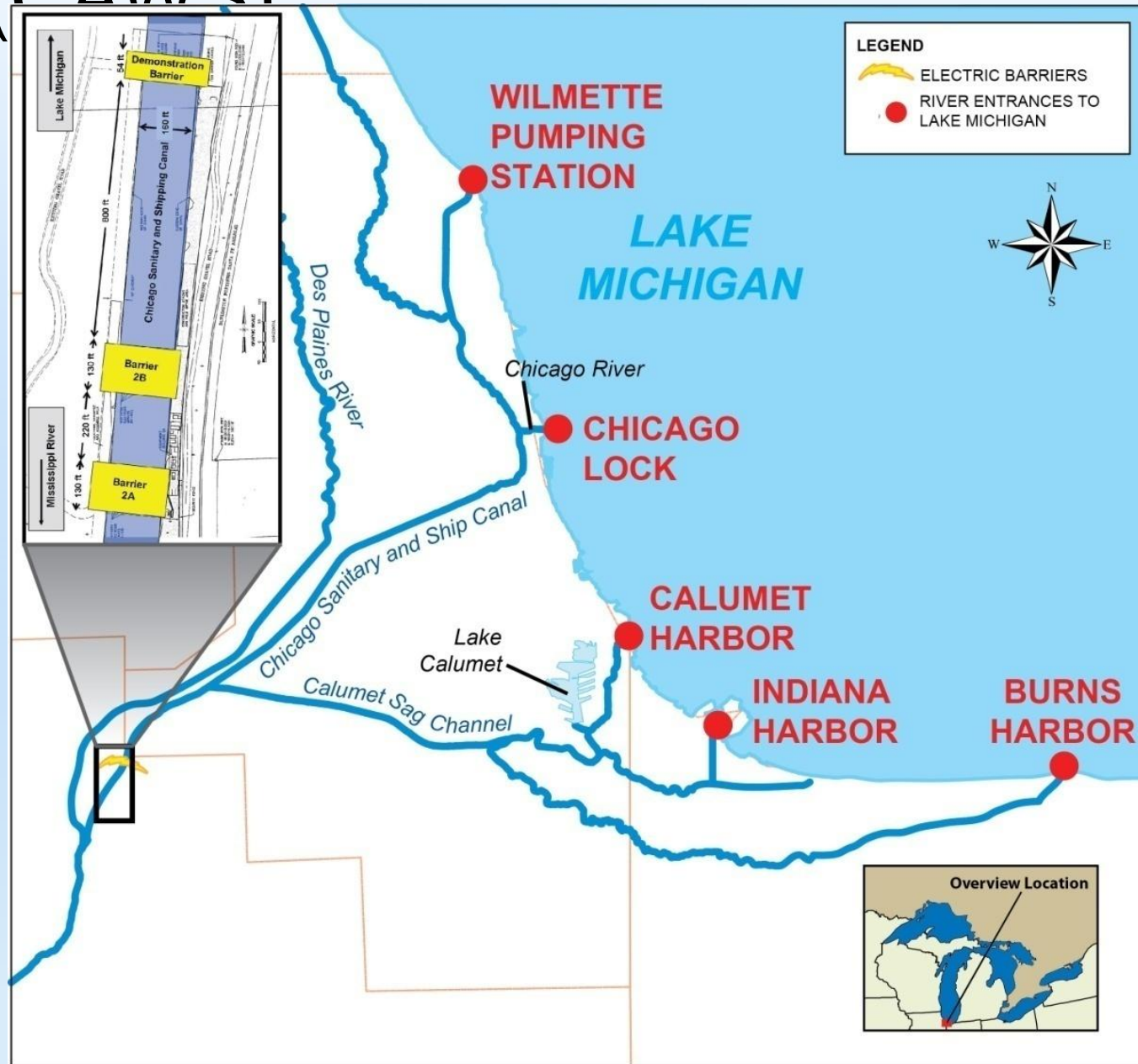
ACRCC Control Strategy Framework

Currently developing FY2015 Control Strategy Framework

- Builds off and complements previous years' work
- Funded through the Great Lakes Restoration Initiative
- Includes research and development, monitoring and early detection, control and dispersal technology, law enforcement, and communications activities



Chicago Area Water System (CAWS)



Characterizing Risk: Bighead and Silver Carp

Distances from Lake Michigan

37 miles Dispersal barriers

55 miles Adult Population Front

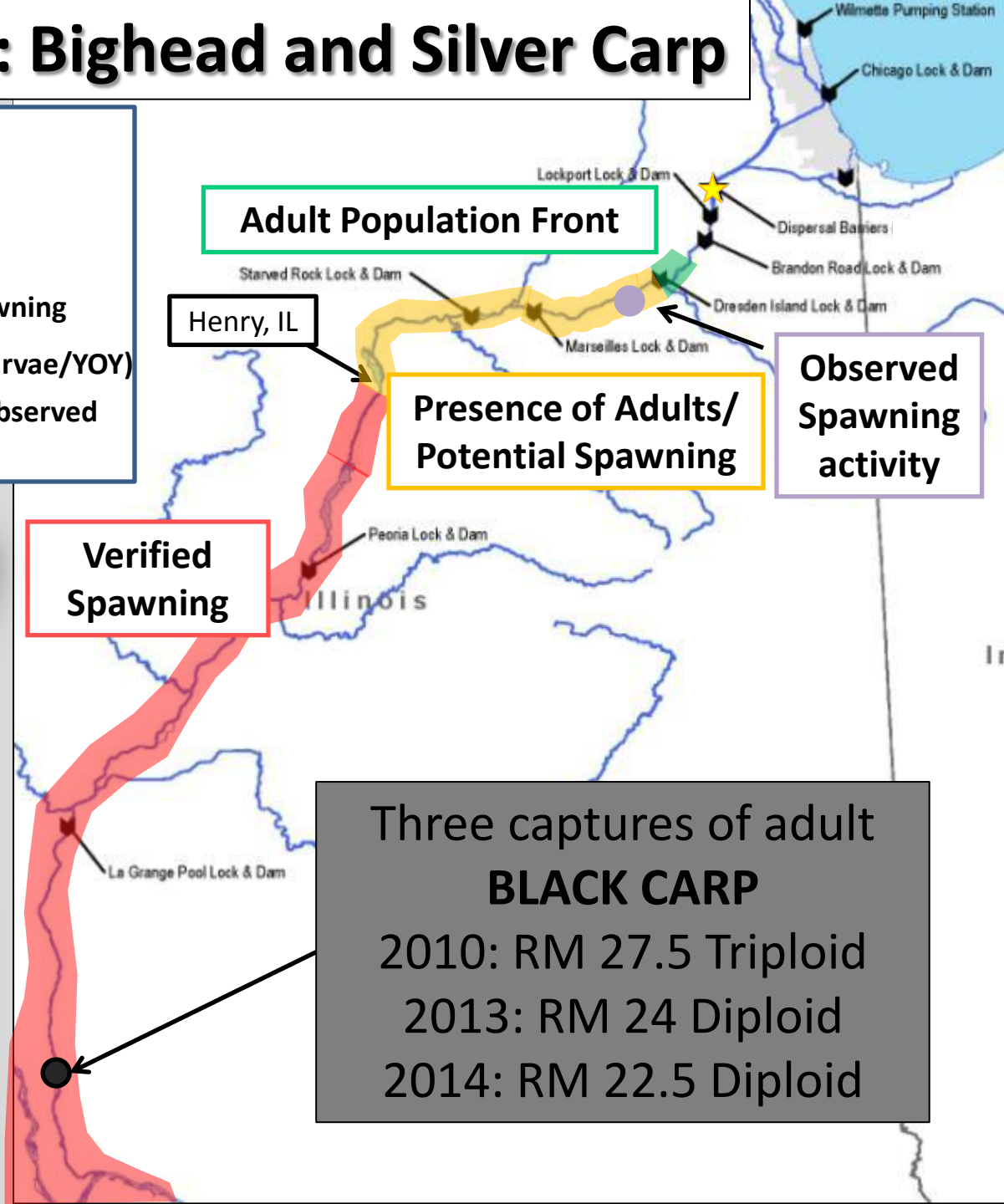
62 miles Presence of Adults/Potential Spawning

64 miles Observed Spawning activity (no larvae/YOY)

143 miles Established population: Closest observed small Asian carp (Henry, IL in Peoria Pool)



Overall leading edge of Asian carp invasion has not changed since 2006 (Dresden Island Pool; I-55)



Adult Population Front

Henry, IL

**Presence of Adults/
Potential Spawning**

**Observed
Spawning
activity**

**Verified
Spawning**

Three captures of adult
BLACK CARP

2010: RM 27.5 Triploid

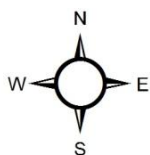
2013: RM 24 Diploid

2014: RM 22.5 Diploid

Bighead and Silver Carp: Characterization of Relative Abundance in the Upper Mississippi River and Ohio River Basins



0 50 100 200 300 400 Miles



Legend

● Lock and Dam

Established population/verified

spawning

Presence of adults/potential

spawning



Created: Nov 12, 2014



Monitoring and Response Work Group

- Conducted seasonal Asian carp monitoring above barriers
 - June and September events: over 22,000 fish collected
 - No Bighead or Silver Carp captured or observed
- Increased efforts below the barriers:
 - Focused removal efforts where Asian carp are in moderate abundances (2.6M lbs removed through 2014)
 - Increased monitoring where Asian carp are in low numbers or not found at all (leading edge)
 - eDNA still used above barrier for early detection
- Heightened evaluations for AC at Brandon Road Lock
- Continued integration and development of new technology

Serves as a model for Asian carp response/monitoring for other basins and jurisdictions
2014 Monitoring and Response Plan and 2013 Interim Summary reports available at: www.asiancarp.us





Fish-Barge Interaction Studies

- Led by USFWS; assessing likelihood of Asian carp entrainment and transfer through electrical dispersal barriers
- Surrogate fish in cages and tethered live surrogate fish to test barge entrainment in 2013; DIDSON/underwater video cameras used to assess fish entrainment and transfer
- Tests revealed “void spaces” around the barges could entrain live fish past the barrier (dependent on barge configuration)
- 2015 Studies will address these questions
 - Will fish get entrained?
 - How many will get entrained?
 - How far does the barge entrain them?
 - What species and sizes are entrained?
 - Will live fish be entrained past the barrier?





eDNA Regional Surveillance Program

- Led by USFWS; early detection monitoring tool
- Inform other efforts, to include traditional monitoring gear: help verify presence of live fish and rule out other vectors
 - Must be used in a monitoring context
 - Not a single indicator of fish presence
 - Identifies areas of concern to increase vigilance
- eDNA results collected repeatedly over time in the same areas provides a baseline level of eDNA
- 5 to 10-day delay in posting results after state notification
- New marker information from ECALS applied in 2014
 - Less inhibition/false negatives, increased confidence in results

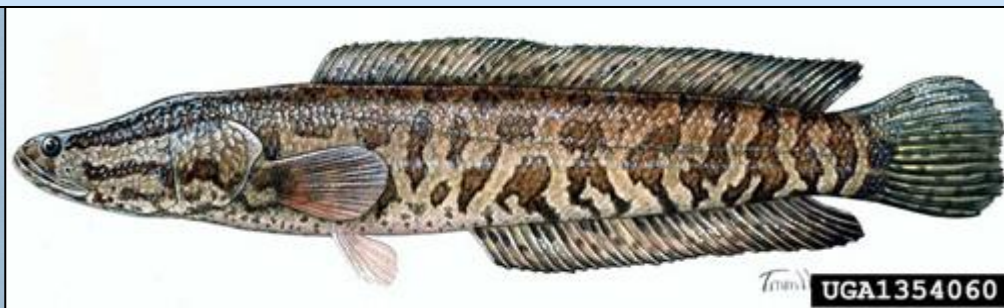


Future eDNA Research

- USFWS will continue to work with USACE and USGS to further refine the science of eDNA to investigate ways we can help determine the source of bighead and silver carp DNA, relative abundance, and as an early detection method for other species



Black Carp (*Mylopharyngodon piceus*)

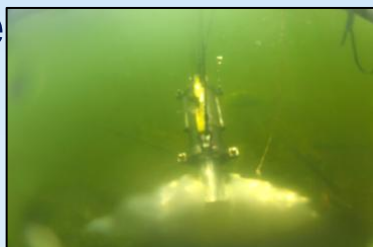


Northern Snakehead (*Channa argus*)



USGS Asian Carp Science Focus: Management Tools and Information

- IPM Approach - Asian carp biological and life history knowledge
 - Understanding is essential for prevention, surveillance, and control tool development and application
- Asian carp control technologies
 - Tools to keep Asian carp from moving into the Great Lakes and to reduce current populations outside the Great Lakes basin
- Asian carp monitoring
 - eDNA and rapid microbial methods to detect Asian carp and





USGS Control Technology Research

▣ Microparticle (piscicides)

- ▣ Working with EPA/USFWS to complete microparticle registration process

▣ Algal Attractants

- ▣ Conducted field trials in August 2014: integrated with waterguns and commercial fishing efforts
- ▣ Potentially incorporate into microparticle or commercial netting use

▣ Tributary Assessment Tool

- ▣ Predictive model for assessing suitability of rivers for Asian carp spawning

▣ Seismic Technology/Watergun

ACRCC ▣ Conducting structural effects study in CAWS (USACE collaboration) 14



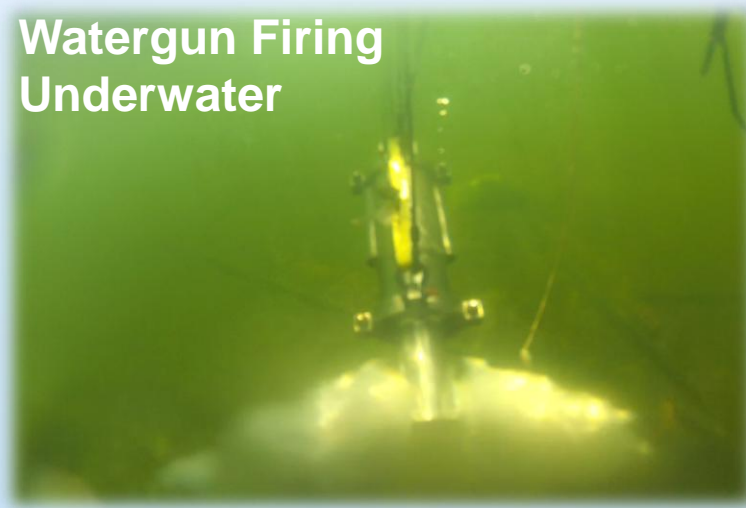
Integrated Control Tool Field Trials at Morris, IL

IL DNR/USGS/Southern IL U. Collaboration

Algal Attractant Setup



Watergun Firing Underwater



Commercial Fishermen



**Asian Carp netted:
About 15,000 lbs**





WRRDA 2014



- Signed into law on June 10, 2014
- Directs the USFWS to lead a multiagency effort to slow the spread of Asian carp (all four species) in the Upper Mississippi and Ohio River basins and tributaries, and develop a report on Asian carp prevention over previous 2 years.
- Report to Congress includes:
 - Any observed changes in the range of Asian carp in the Upper Mississippi and Ohio River basins and tributaries
 - Summary of agency efforts to control the spread of Asian carp in the Upper Mississippi and Ohio River basins and tributaries;
 - Research that could improve the ability to control the spread of Asian carp;
 - Quantitative measures to document progress in controlling the spread of Asian carp; and
 - A cross-cut accounting of Federal and non-Federal expenditures to control the spread of Asian carp



WRRDA 2014 Report to Congress

- **THANK YOU** to all of our ACRCC state and federal partners that submitted info for the WRRDA 2014 Asian Carp Report to Congress data call
- Draft sent for state and federal agency review on Nov 17 (due to Congress Dec 31, 2014)
- Communication and outreach plans will subsequently be developed



THANK YOU

For more information

Please visit www.asiancarp.us