

THE REGIONAL AND NATIONAL RESPONSE TO ASIAN CARP *A GREAT LAKES PERSPECTIVE*

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*June 28, 2013
MAFWA, Lexington, KY*

“We got ‘em. You don’t want ‘em!

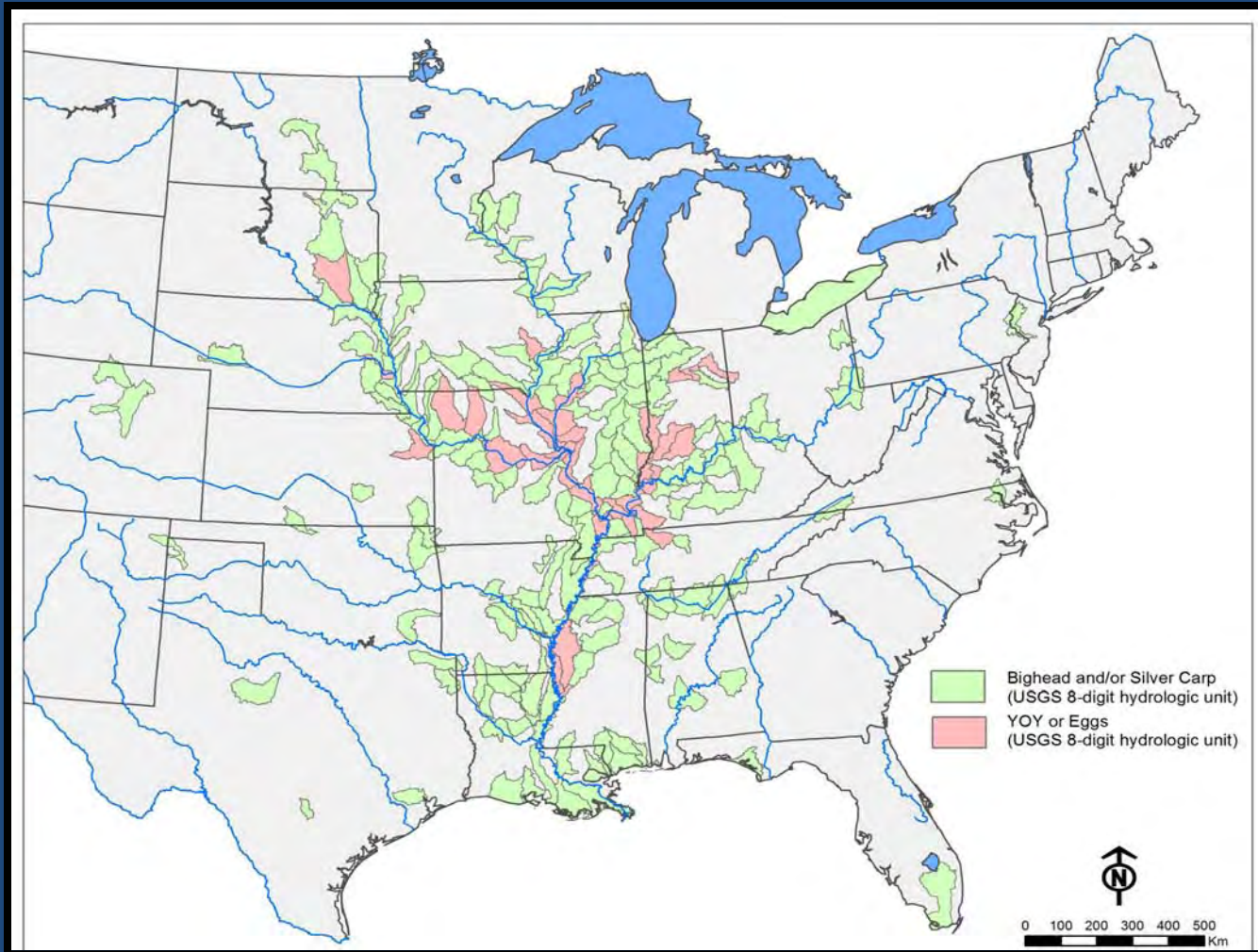
--MICRA

Bighead carp, c. 1997



“Clawing at the door of the Great Lakes”

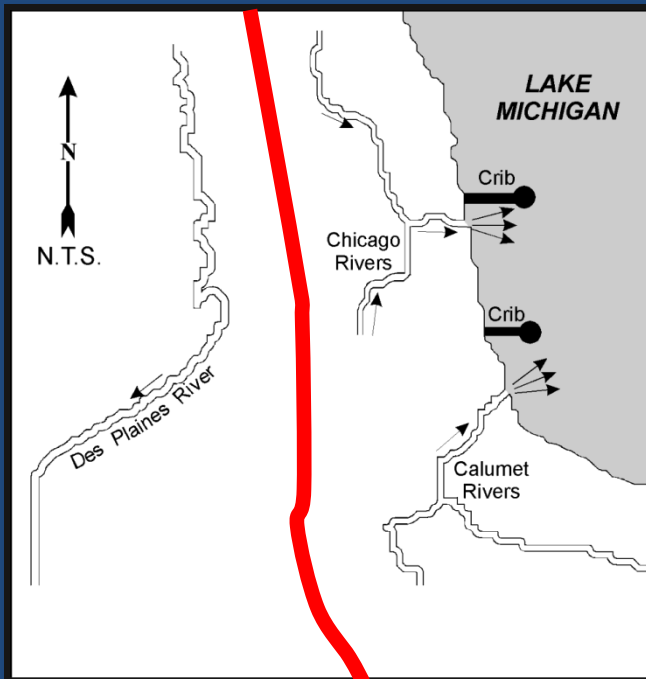
Bighead carp, 2013





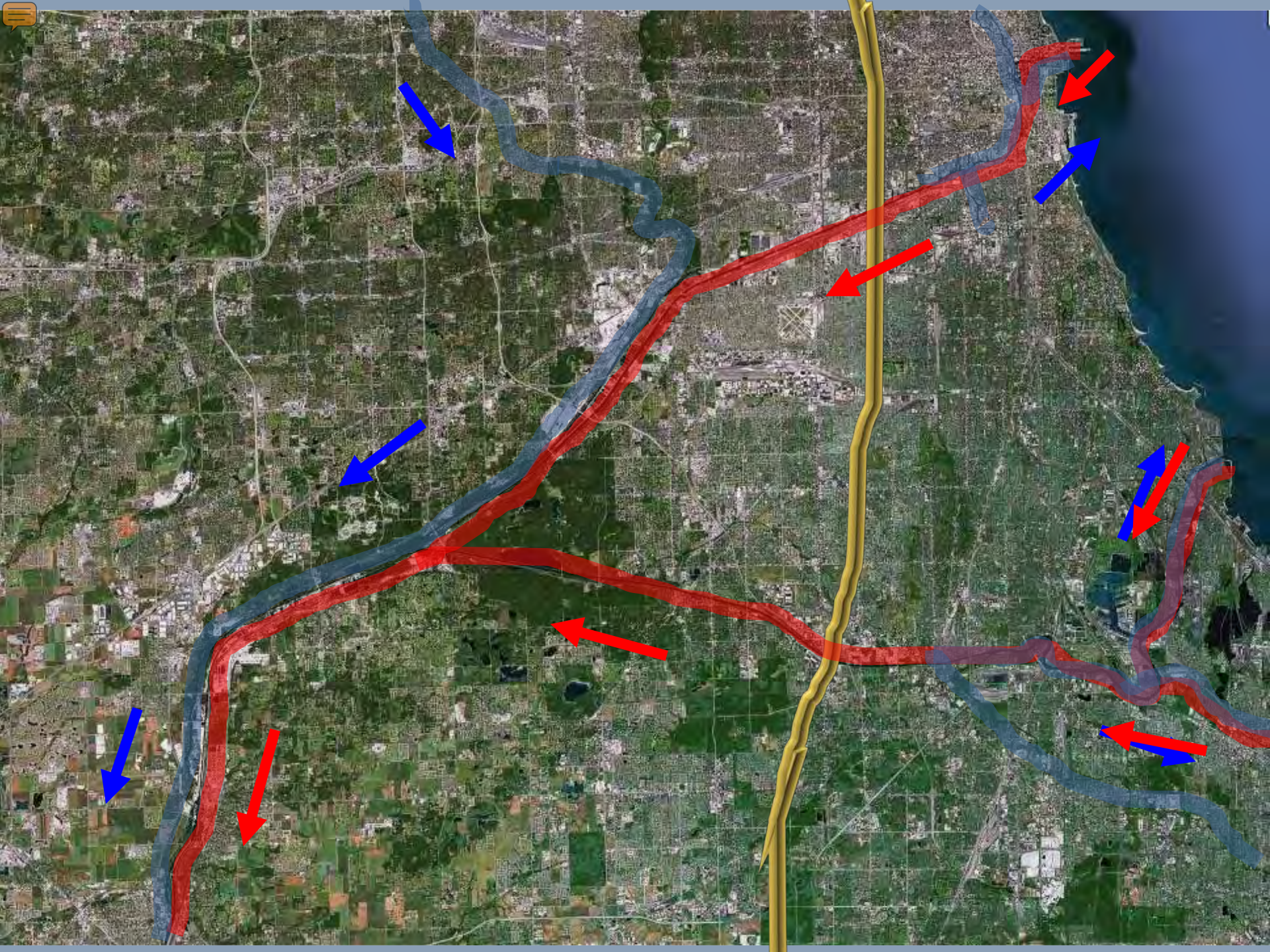
**Why are we
concerned?**





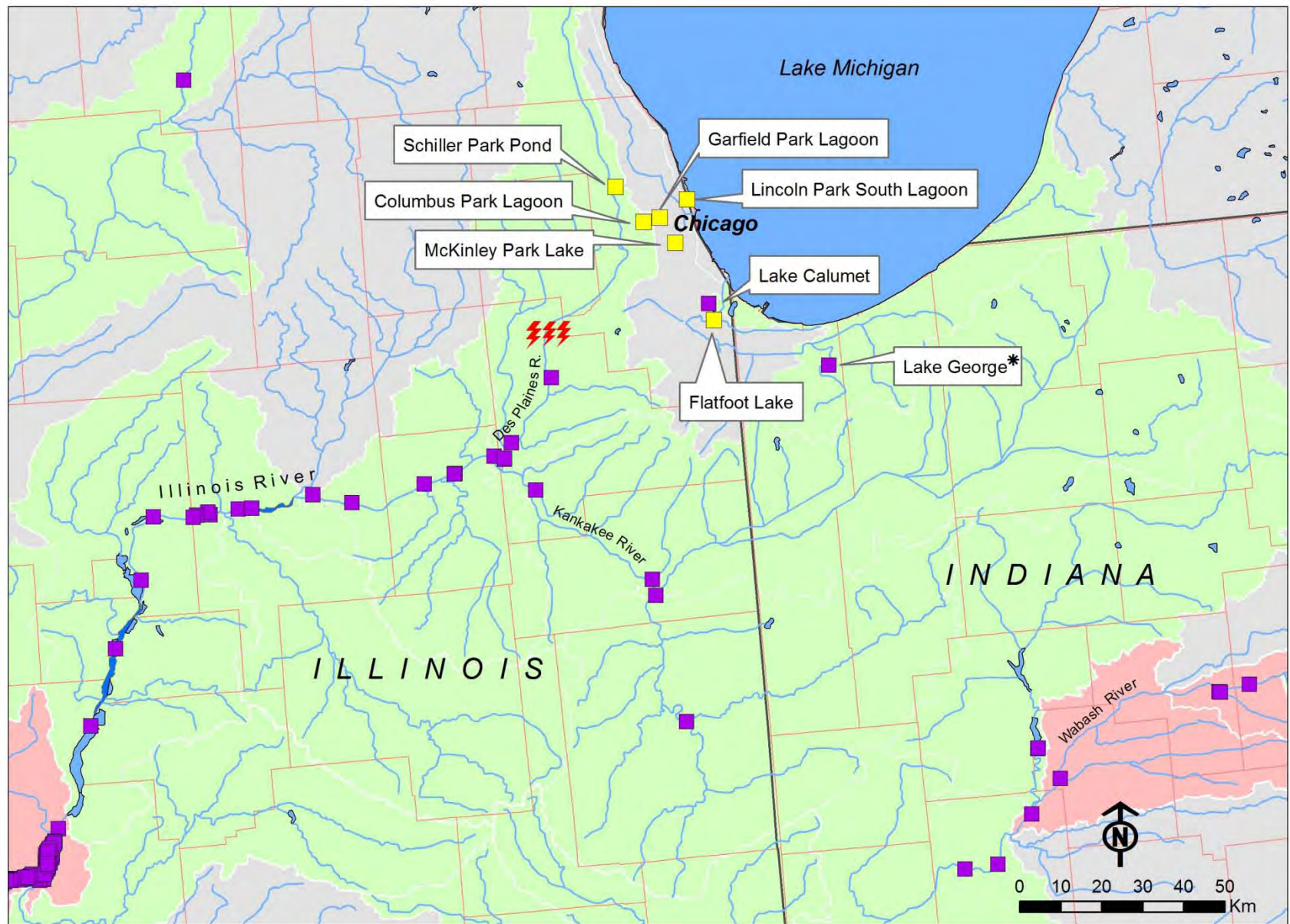
Why are we
concerned?











Asian Carp Collections in Chicago Area Ponds

Bighead and/or Silver Carp Adults
(USGS 8-digit hydrologic unit)

YOY or Eggs
(USGS 8-digit hydrologic unit)

Asian Carp in Waterway
Asian Carp in Urban Ponds

Electric Barrier

Data Source: U.S. Geological Survey and Illinois Dept. of Natural Resources

*Single bighead carp found dead along shoreline

April 2013

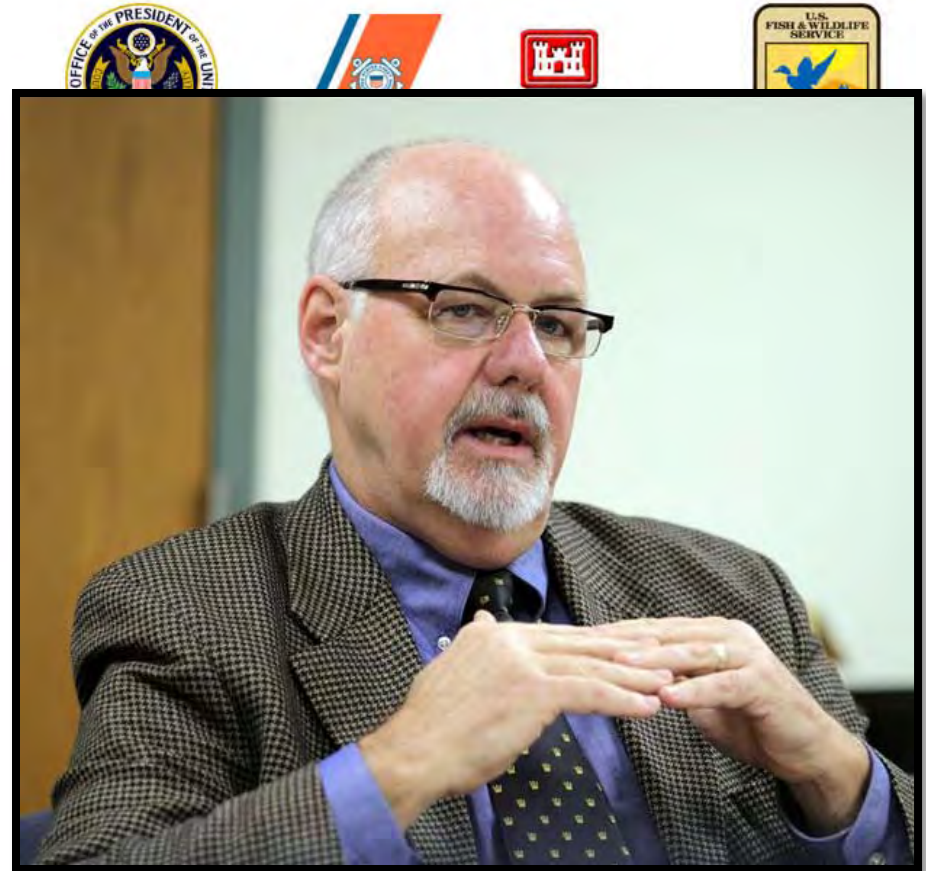
BINATIONAL RISK ASSESSMENT

Why are we concerned?

- CAWS most likely entry point
- Spread highly likely if entry occurs
- Establishment in all lakes highly likely
- As few as 10 adults of each sex can establish a population
- Consequences significant
 - changes in planktonic communities
 - reduction in planktivore biomass
 - reduced recruitment of fishes with early pelagic life stages
 - reduced stocks of piscivores



A JURISDICTIONAL CHALLENGE!



Canada



RESPONSE TO THE THREAT



ACRCC CONTROL ACTIONS

Accomplishments

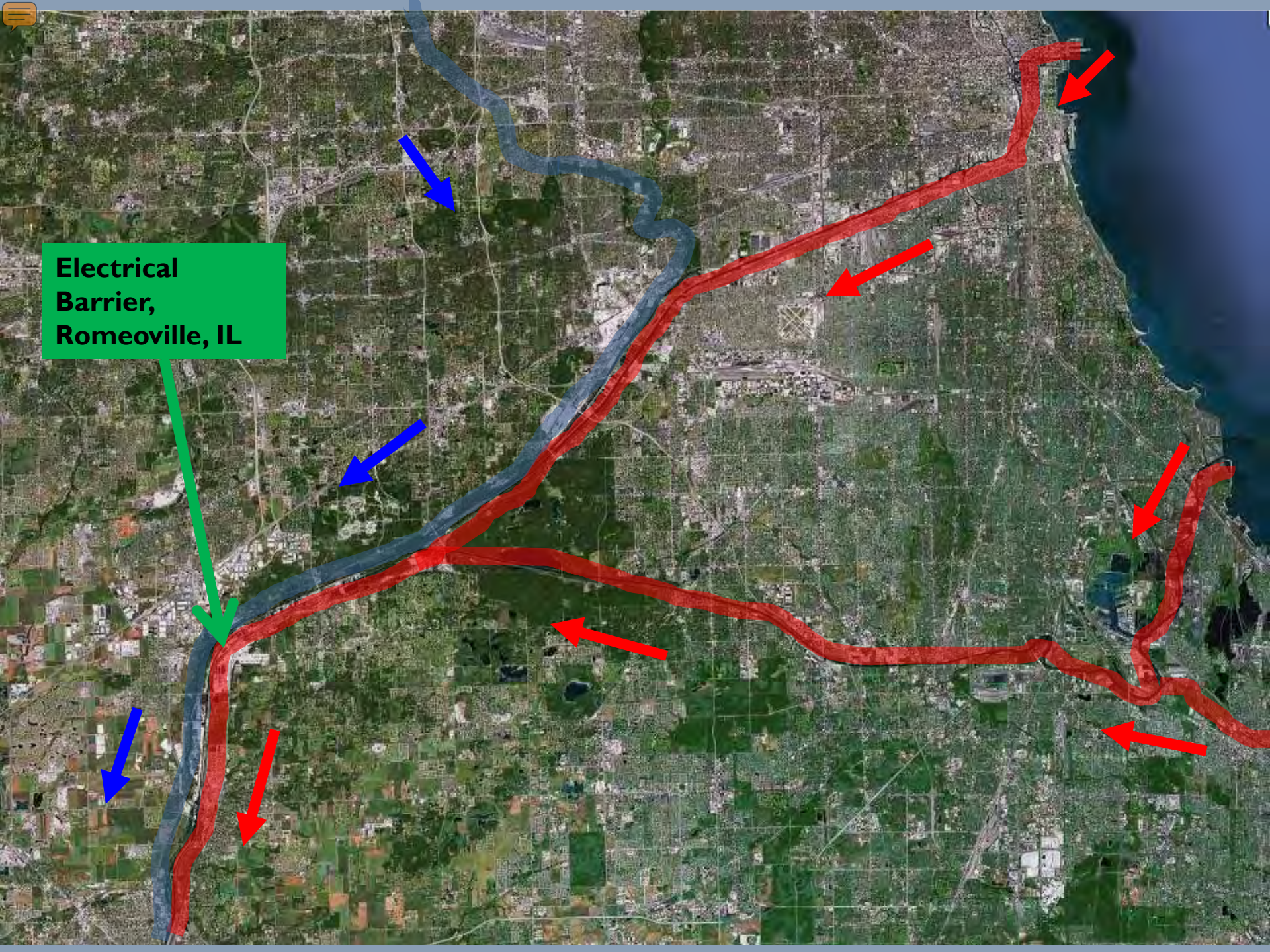
- Asian carp not established in Chicago or the Great Lakes
- All Great Lakes States, Ontario and Canada as partners
- Only CAWS a high risk pathway for Asian carp
- Redundant and effective electric barriers
- New nets, gear and sampling techniques for Asian carp

Ongoing Actions

- Best GLMRIS control options identified in 2013
- eDNA and fish sampling Great Lakes basin wide
- Testing new technologies like water guns and toxicants
- Harvest Asian carp below the electric barrier
- Refining eDNA technology and identifying vectors



**Electrical
Barrier,
Romeoville, IL**



14 CAWS RESPONSES SINCE 2009

No Asian Carp Found since 2010

Rotenone	<ul style="list-style-type: none">• December 2009• May 2010
Traditional Gear/Novel	<ul style="list-style-type: none">• May 2010• June 2010• June/July 2010• August 2011• October 2011• May 2012• 3x June 2012• July 2012• 3x October 2012• November 2012

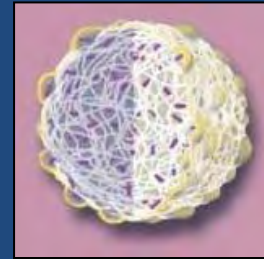


USGS ASIAN CARP SCIENCE

EXCLUSION-DETECTION-ATTRACTION-REMOVAL

Partner-Driven Science Strategy

- Developing new tools and methodologies
- Working to transfer these tools to managers
- Approach can be applied to other invasives



Current and Future Research

- ✓ Evaluating use of waterguns (sound energy waves) to deter and repel Asian carp
- ✓ identifying potential river spawning locations

✓ Examining food availability in the Great Lakes

✓ Using pheromones to attract then capture Asian carp

✓ Developing toxic microparticles to control Asian carp, minimizing effects on non-target species

NATIONAL ASIAN CARP CONTROL PLAN

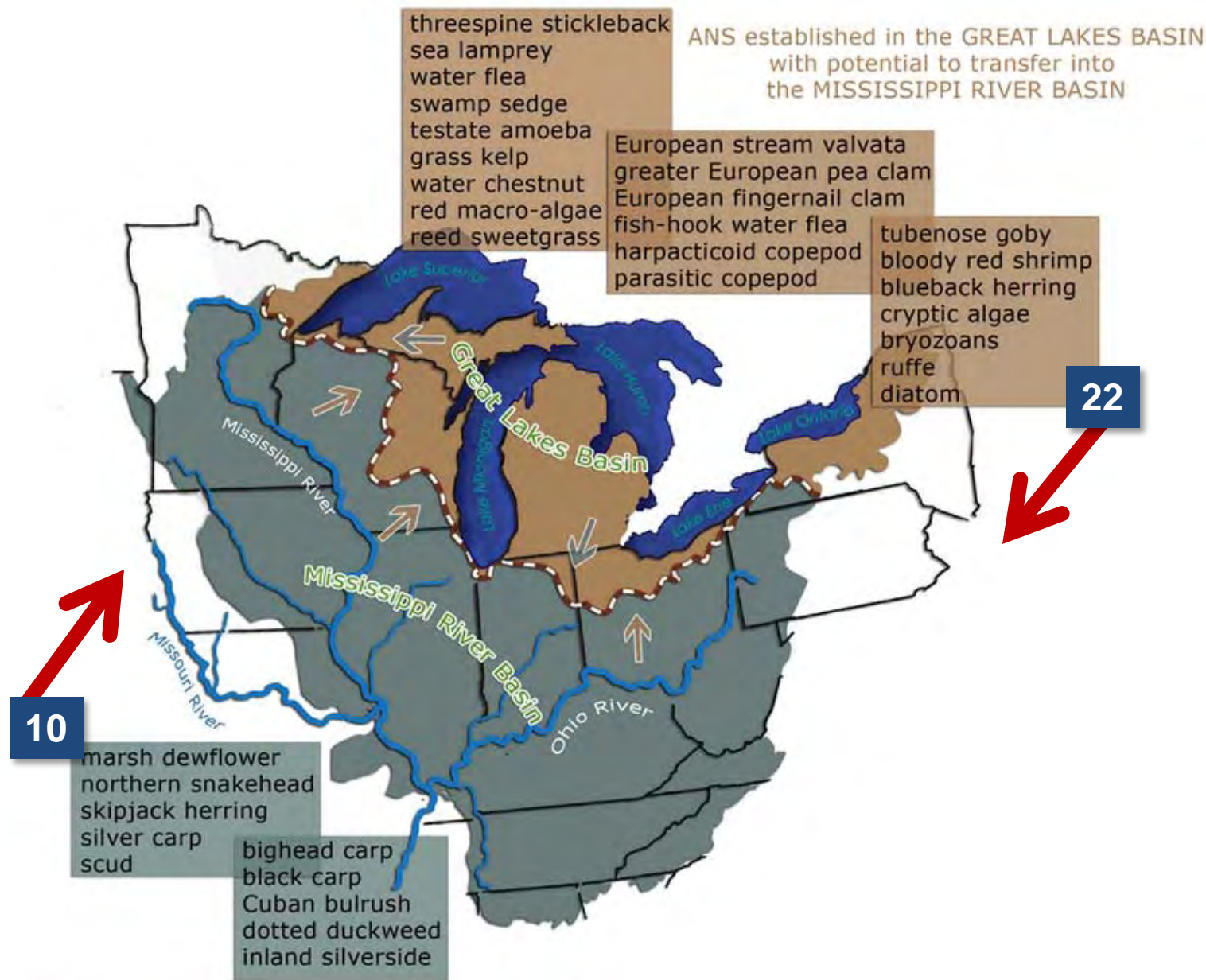
- Prevent new introductions
- Prevent continued spread
- Population control
- Minimize adverse effects
- Research
- Education
- Implementation



An aerial photograph of a coastal region. A river flows from the top left towards the center. A yellow bridge spans the river. A red line runs along the coastline, and a blue line runs parallel to it. The background is a green overlay containing text.

TWO MAJOR SEPARATION INITIATIVES

- “Restoring the Natural Divide”
- GLMRIS



ANS established in the MISSISSIPPI RIVER BASIN
with potential to transfer into the GREAT LAKES BASIN

Thank You!



ACKNOWLEDGEMENTS

Jim Bredin, Council on Environmental Quality
John Goss, Council on Environmental Quality
Chris Goddard, Great Lakes Fishery Commission
Bob Lambe, Great Lakes Fishery Commission

VISIT:

WWW.ASIANCARP.US



GLRI and Asian Carp Funding

- Over \$1 billion GLRI dollars invested in the Great Lakes ecosystem to improve the health and environment of the area's 30 million Americans
- Asian carp is an Administration priority
- More strategically using GLRI for long term solutions

FY	Base	GLRI	Total
2010	\$26,604,846	\$38,583,000	\$65,187,846
2011	\$14,741,122	\$24,900,756	\$39,641,878
2012	\$32,275,000	\$19,389,717	\$51,664,717
Total	\$73,620,968	\$82,873,473	\$156,494,441



SEISMIC TECHNOLOGY/WATERGUN

- Use of seismic technology to divert invasive Asian carp
- Progress: Data analyses on trout, pike and carp studies have been completed
- Next Steps: Conducting structural effects study in CAWS (USACE collaboration)
- Test different size guns
- Observe fish behavior i.e.
 - Will it keep fish away?
 - How many guns needed?





State of Michigan Attorney General Bill Schuette

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Schuette Continues Fight Against Invasive Asian Carp

Contact: Joy Yearout 517-373-8060

October 9, 2012

LANSING - Michigan Attorney General Bill Schuette today announced that his office will continue to move forward with a lawsuit aimed at protecting the Great Lakes from invasive Asian carp. Schuette has joined four states and an Indian tribe in legal action to force the Army Corps of Engineers to quickly develop and implement plans to permanently separate the Great Lakes from Asian carp-infested Illinois waterways.

"Asian carp are knocking at the front door of the Great Lakes, and we cannot afford to wait on a federal government that fails to act. This ecological disaster has been building and building for years, with no definitive action," said Schuette. "We need to permanently separate these two bodies of water as soon as possible. The time for talk is over; Michigan citizens have been patient for long enough, we need results."

Attorneys for the federal government have argued that a July 2012 law passed by Congress requiring the Corps to complete, by January 2014, a study of options for permanently blocking the movement of Asian carp and other invasive species through the Chicago Area Waterway System makes litigation unnecessary. However, on October 5, 2012, the Army Corps of Engineers announced that it does not intend to recommend any separation plan within the deadline set by Congress, and instead plans years of additional study, despite the impending Asian carp invasion of the Great Lakes. Four days later, the Corps disclosed 30 new positive test results for Asian carp environmental DNA from samples collected in the Chicago Waterway. There have now been a total of 80 such positive results above the Corps' electrical Barrier system in 2012 alone.

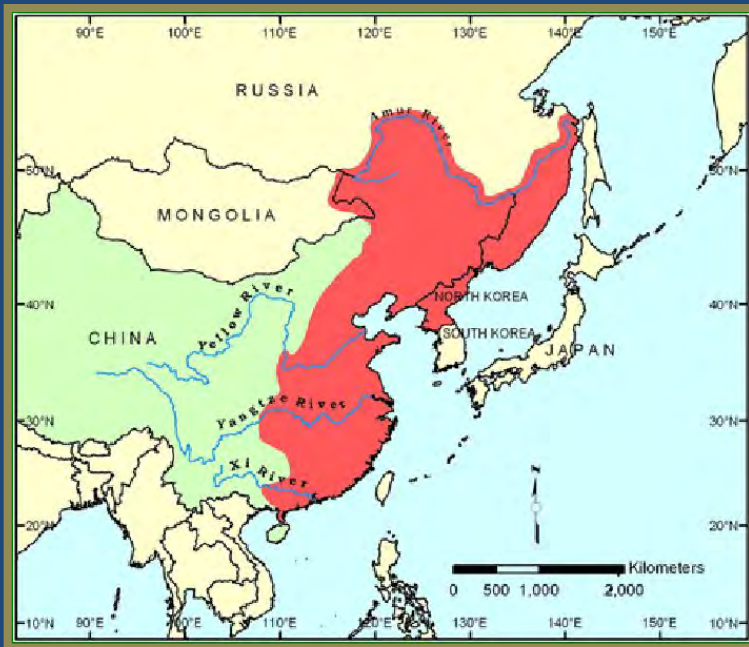
On October 9, 2012, Schuette's office filed a response to the supplemental motion to dismiss in *Michigan, et al v Corps of Engineers, et al* before Judge John J. Tharp, Jr. in U.S. District Court for the Northern District of Illinois. Judge Tharp is expected to determine whether Schuette's lawsuit can proceed later this year.

Today's response makes clear that Schuette is continuing forward with Michigan's lawsuit against the Army Corps of Engineers and the Chicago Water District, joined by attorneys general from Minnesota, Ohio, Pennsylvania and Wisconsin, as well as the Grand Traverse Band of Ottawa and Chippewa Indians.

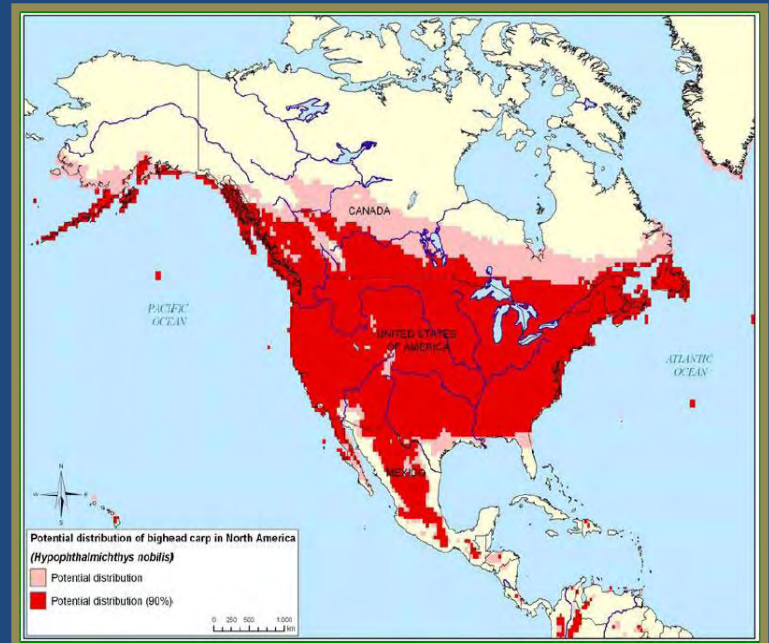
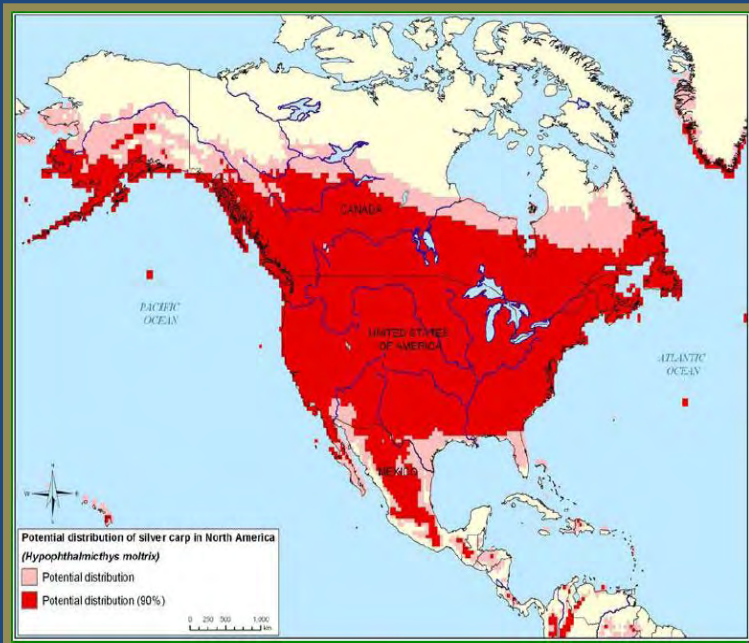
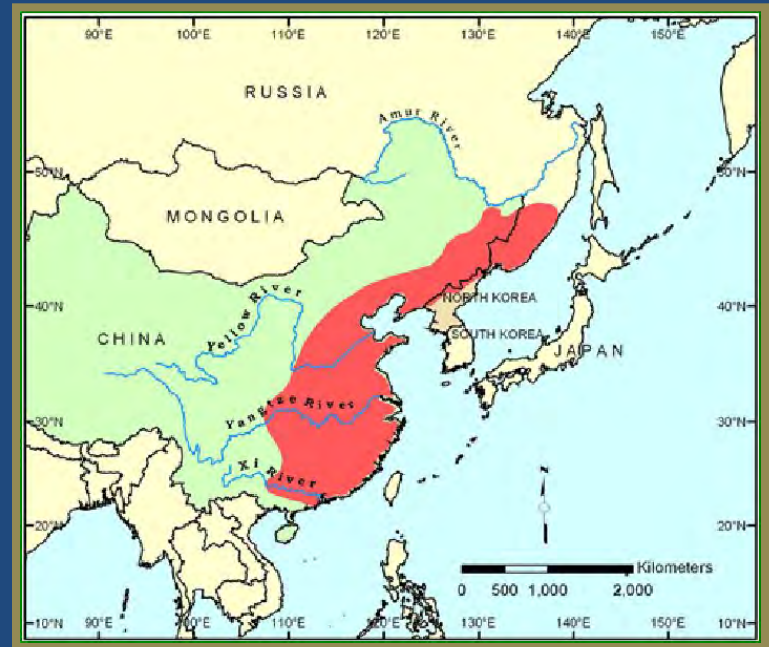
Schuette continues to fight to keep Asian Carp out of the Great Lakes on multiple fronts. For more information about the Attorney General's efforts, please go to www.michigan.gov/ag and click "Environment."

of Engineers to get to work."

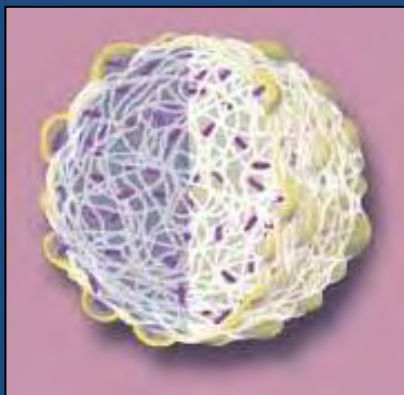
SILVER CARP



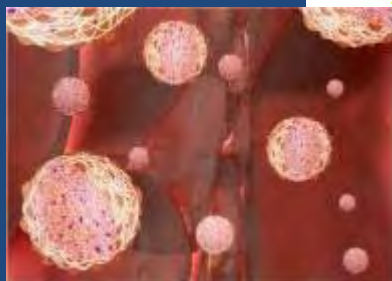
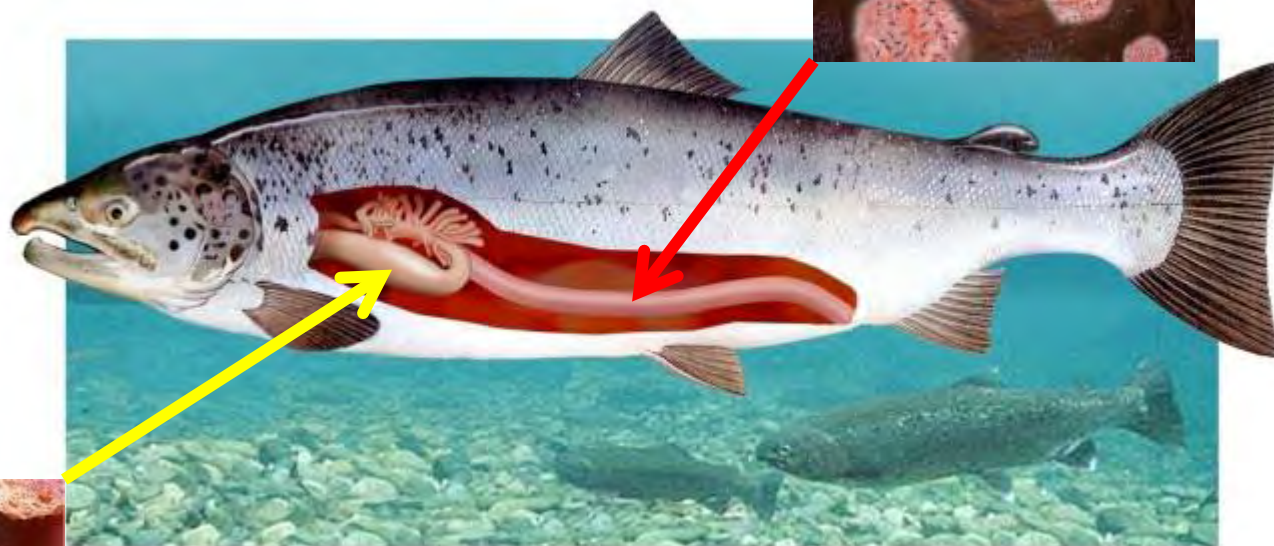
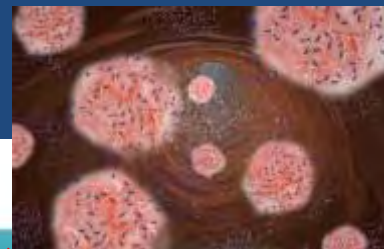
BIGHEAD CARP



TOXIC MICROPARTICLES



**Bioactive released
in intestine**



**Bioactive passes through
stomach unaltered**

GREAT LAKES MISSISSIPPI RIVER INTERBASIN STUDY (GLMRIS)

- The USACE studying the full range of options and technologies to prevent the spread on Aquatic Nuisance Species (ANS) through the Great Lakes and Mississippi River Interbasin Study (GLMRIS)
- GLMRIS is evaluating the CAWS and the 18 other pathways along the 1,500 mile Great Lakes and Mississippi River basins divide for 38 species

