

Environmental Implications of GLMRIS

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GLMRIS

“The Secretary, in consultation with appropriate Federal, State, local and nongovernmental entities, shall conduct, at Federal expense, a feasibility study of the range of options and technologies available to **prevent the spread of aquatic nuisance species between the Great Lakes and Mississippi River Basins** through the Chicago Sanitary and Ship Canal and other aquatic pathways.”



Chicago Area Waterway System

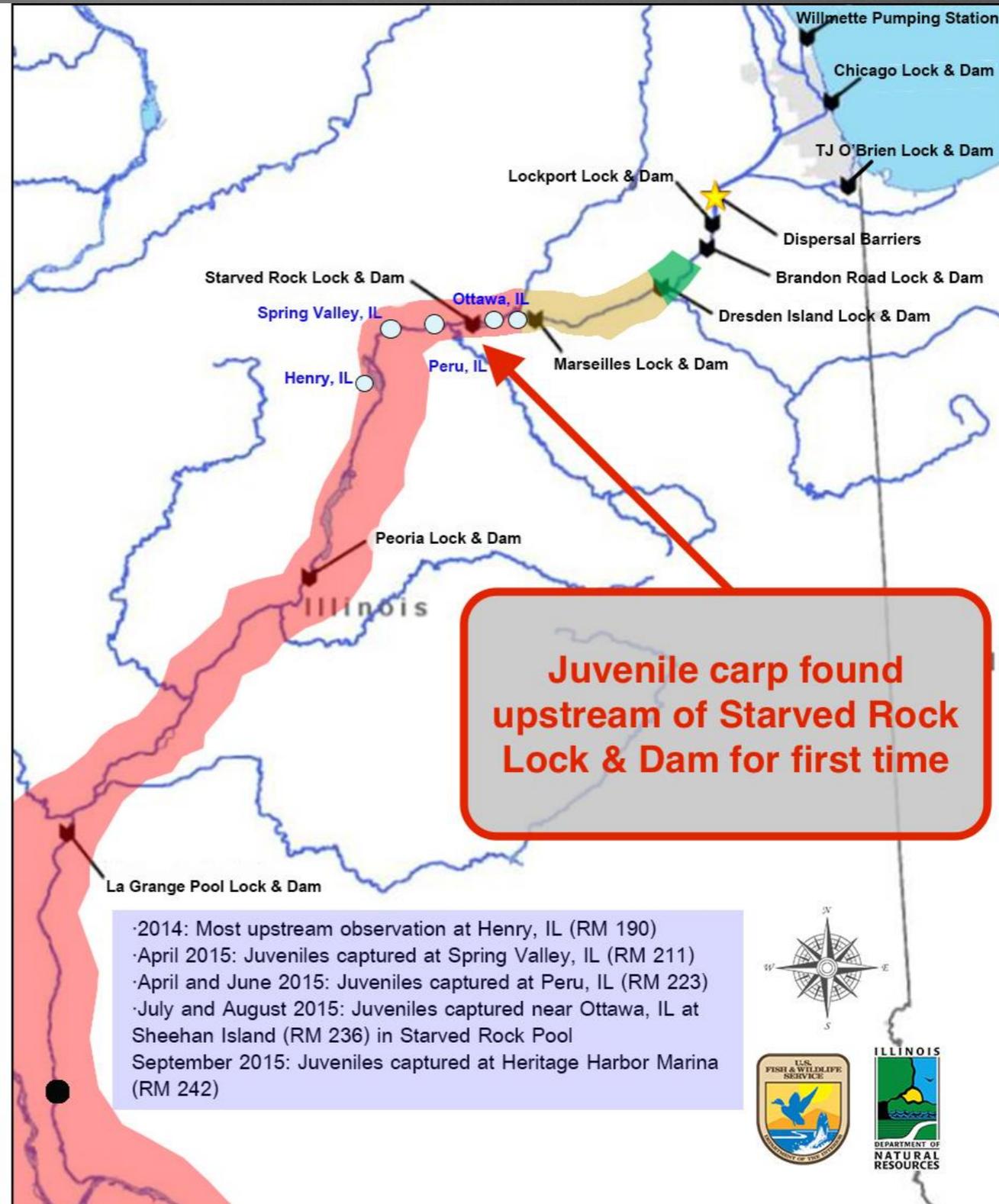
Where are the Asian carp?

Presence of Bighead and Silver Carp in the Illinois Waterway

-  Adult Population Front
-  Potential Spawning
-  Verified Spawning
-  Three Captures of Black Carp
-  Juvenile Collection
-  Lock & Dam
-  Dispersal Barriers

Distance From Lake Michigan

-  55 Miles : Adult Population Front
-  62 Miles : Potential Spawning
-  91 Miles : Verified Spawning
-  37 Miles : Dispersal Barriers



ANS of Concern (to the Great Lakes)

Table 2.2 Aquatic Nuisance Species of Concern for the Great Lakes Basin

Species	Mode of Interbasin Transfer
Species Posing High Risk	
None	
Species Posing Medium Risk	
Scud (<i>Apocorophium lacustre</i>)	Passive drift, hull fouling
Silver carp (<i>Hypophthalmichthys molitrix</i>)	Active swimming
Bighead carp (<i>Hypophthalmichthys nobilis</i>)	Active swimming
Species Posing Low Risk	
Northern snakehead (<i>Channa argus</i>)	Active swimming
Black carp (<i>Mylopharyngodon piceus</i>)	Active swimming
Skipjack herring (<i>Alosa chrysochloris</i>)	Active swimming
Inland silverside (<i>Menidia beryllina</i>)	Active swimming
Cuban bulrush (<i>Oxycaryum cubense</i>)	Passive drift
Dotted duckweed (<i>Landoltia punctata</i>)	Temporary vessel attachment, passive drift
Marsh dewflower (<i>Murdannia keisak</i>)	Passive drift, temporary vessel attachment

ANS of Concern (to the Mississippi River)

Table 2.3 Aquatic Nuisance Species of Concern for the Mississippi River Basin

Species	Mode of Interbasin Transfer
Species Posing High Risk	
Bloody red shrimp (<i>Hemimysis anomala</i>)	Passive drift
Fishhook waterflea (<i>Cercopagis pengoi</i>)	Passive drift, hull fouling
Species Posing Medium Risk	
Grass kelp (<i>Enteromorpha flexuosa</i>)	Passive drift, temporary vessel attachment
Red algae (<i>Bangia atropurpurea</i>)	Passive drift, temporary vessel attachment
Diatom (<i>Stephanodiscus binderanus</i>)	Passive drift, temporary vessel attachment
Reed sweet grass (<i>Glyceria maxima</i>)	Passive drift
Threespine stickleback (<i>Gasterosteus aculeatus</i>)	Active swimming
Tube-nose goby (<i>Proterorhinus semilunaris</i>)	Active swimming
Ruffe (<i>Gymnocephalus cernuus</i>)	Active swimming
Viral Hemorrhagic Septicemia (<i>Novirhabdovirus</i> sp.)	Passive drift; host & hull transport
Species Posing Low Risk	
Sea lamprey (<i>Petromyzon marinus</i>)	Active swimming, temporary vessel attachment
Blueback herring (<i>Alosa aestivalis</i>)	Active swimming
Parasitic copepod (<i>Neoergasilus japonicas</i>)	Host fish movement, passive drift
Waterflea (<i>Daphnia g. galeata</i>)	Passive drift, hull fouling
Harpacticoid copepod (<i>Schizopera borutzkyi</i>)	Passive drift
European fingernail clam (<i>Sphaerium corneum</i>)	Passive drift, temporary vessel attachment
Greater European peaclam (<i>Pisidium amnicum</i>)	Passive drift, temporary vessel attachment
European stream valvata (<i>Valvata piscinalis</i>)	Passive drift, temporary vessel attachment
Testate amoeba (<i>Psammonobiotus communis</i>)	Passive drift
Testate amoeba (<i>Psammonobiotus dziwnowi</i>)	Passive drift
Testate amoeba (<i>Psammonobiotus linearis</i>)	Passive drift
Cryptic algae (<i>Cyclotella cryptica</i>)	Passive drift, temporary vessel attachment
Water chestnut (<i>Trapa natans</i>)	Passive drift, temporary vessel attachment
Swamp sedge (<i>Carex acutiformis</i>)	Passive drift, temporary vessel attachment
Freshwater bryozoan (<i>Lophopodella carteri</i>)	Passive drift, hull fouling

Brandon Road

GLMRIS

Brandon Road





Upper Des Plaines River

Upper Des Plaines Recovery

- Significant recovery in recent decades
- Connectivity critical to restoring, maintaining habitat
- Native fish species nearly doubles between 1983-97
 - Species coming from Lower Des Plaines, Illinois River
- From 1997-2008 riverine species not observed in 1983 found in UPDR including
 - quillback, river carpsucker, silver redhorse, smallmouth buffalo, freshwater drum, flathead catfish