

**Brian Graeb**

**President of the Fisheries Management Section  
American Fisheries Society**



**Associate Professor**

**Department of Natural Resource Management  
South Dakota State University**

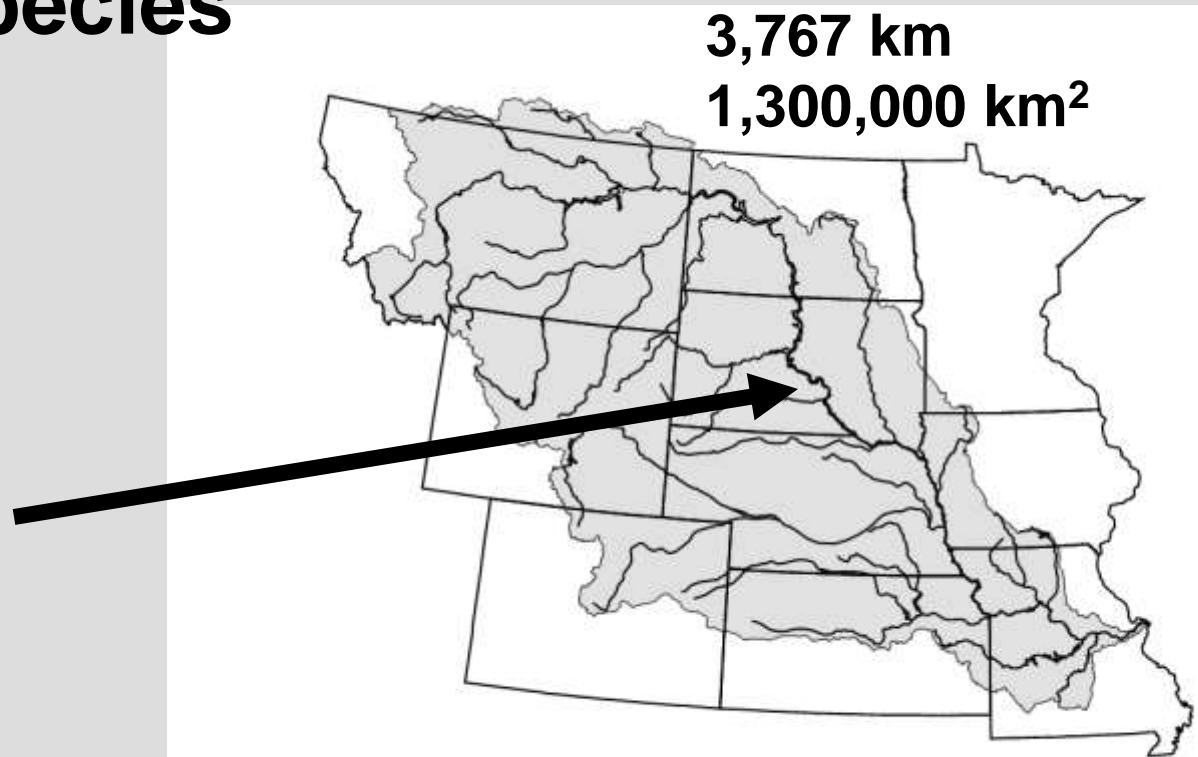
# Graduate Students



# Missouri River:

1. Sport fisheries
2. Native fish conservation
3. Reservoir aging
4. Invasive species

**South  
Dakota**

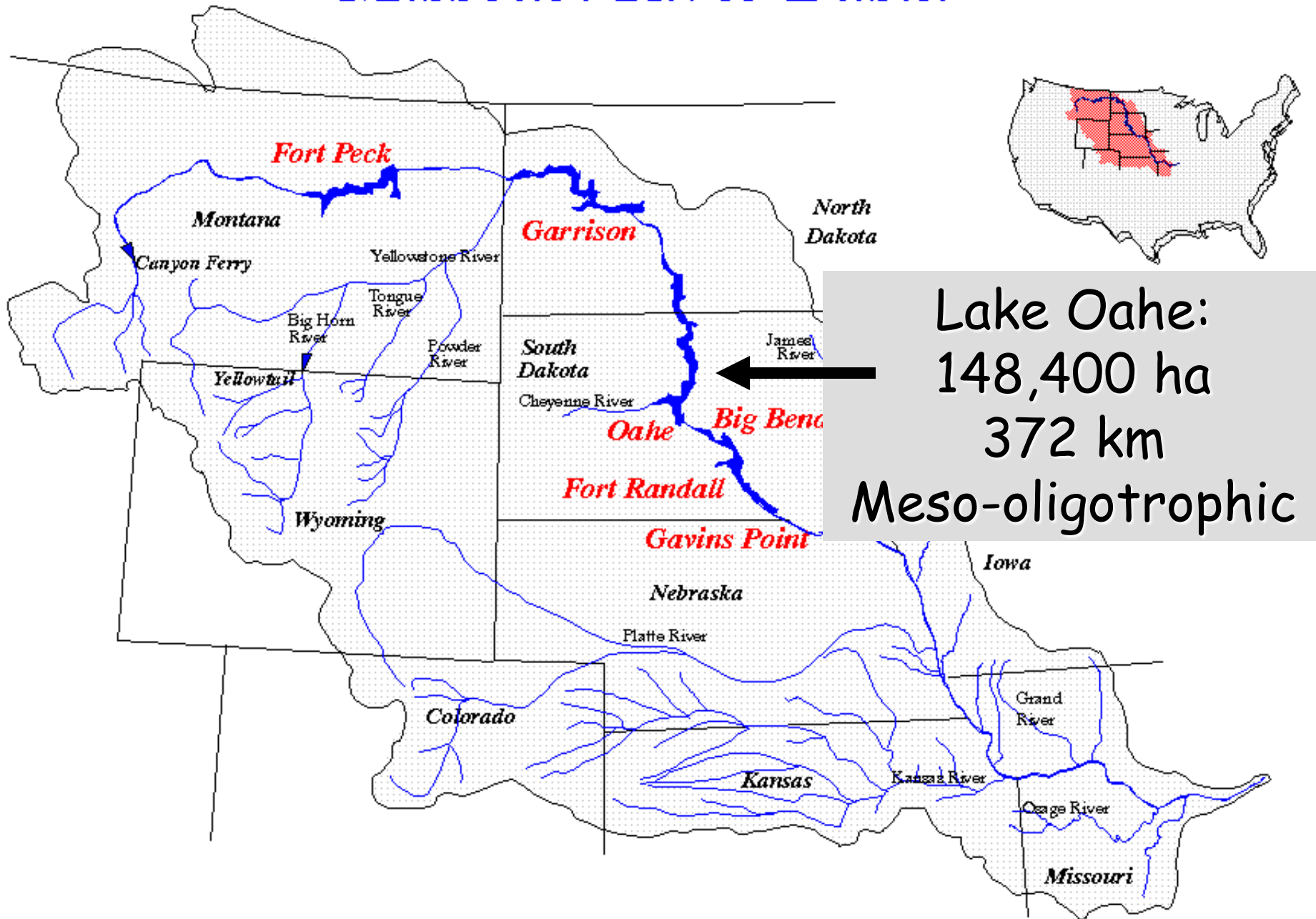


# Modern Riverscapes

An aerial photograph showing a large reservoir on the left, a dam with multiple spillways in the center, and a winding river extending to the right. The surrounding landscape is a mix of green fields, some yellowed agricultural land, and patches of trees. The sky is blue with light clouds.

**Large Reservoir Ecosystems**

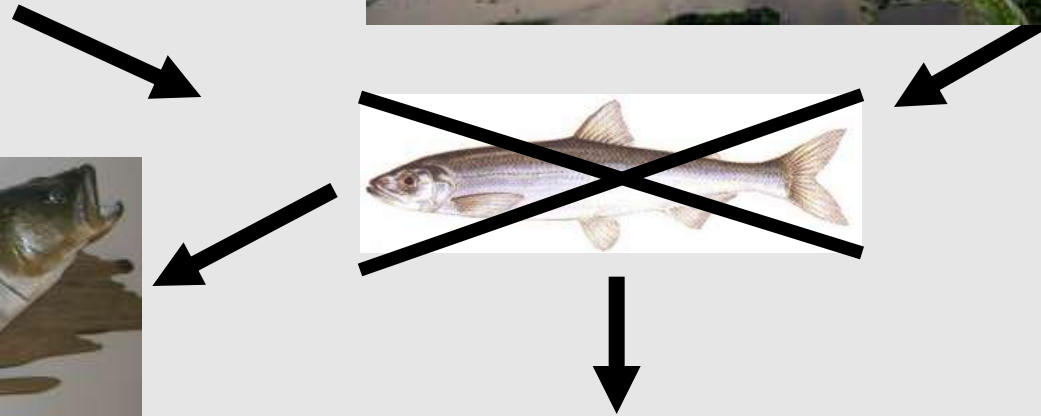
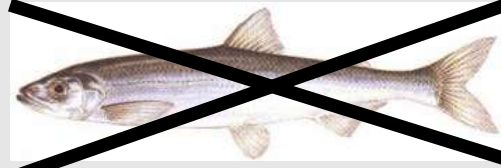
# Missouri River Basin



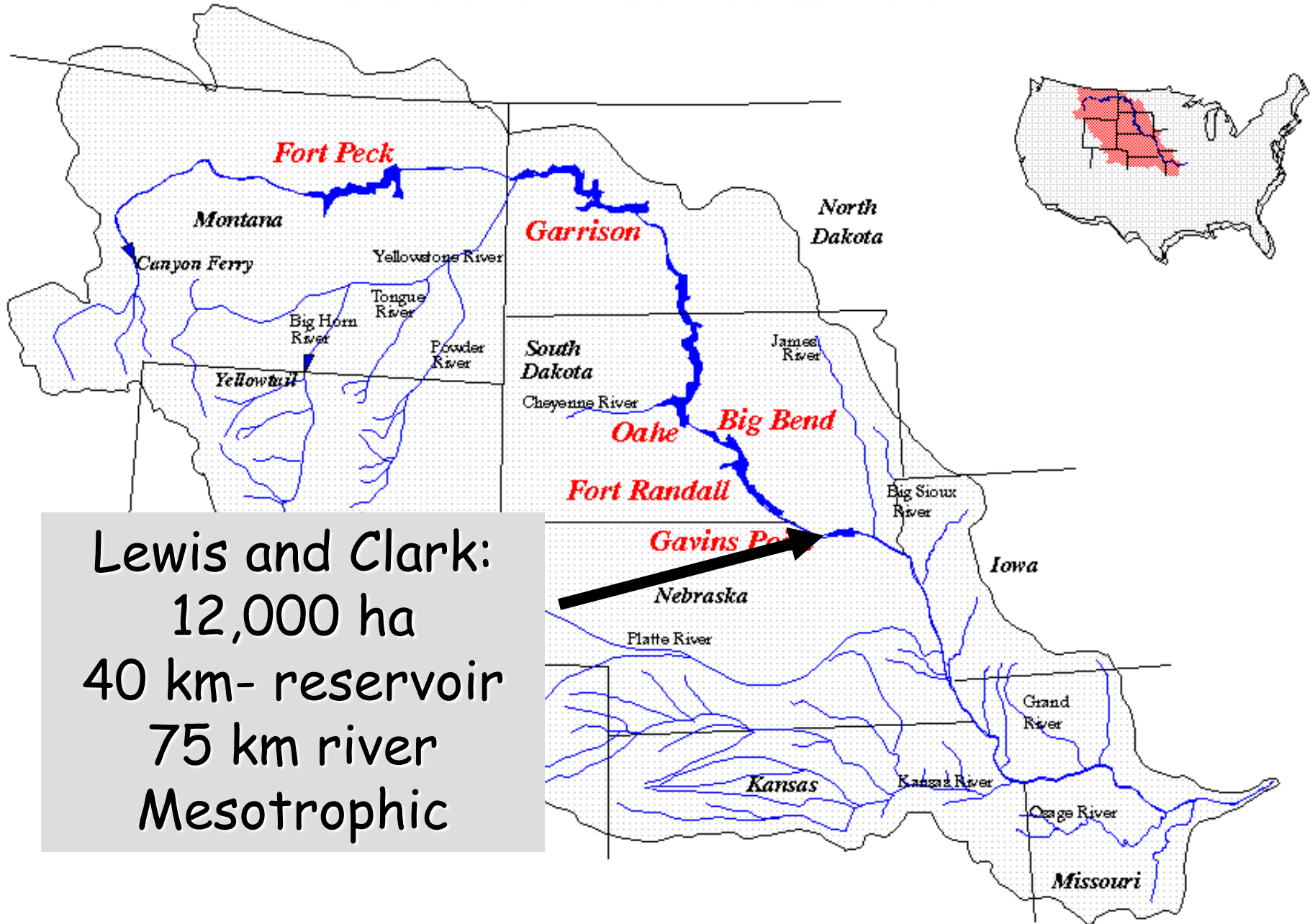
**\$30 Million- direct**  
**1.32 million angler hr**  
**600,000 walleye harvested**



# Floods, Droughts, Predators and Prey

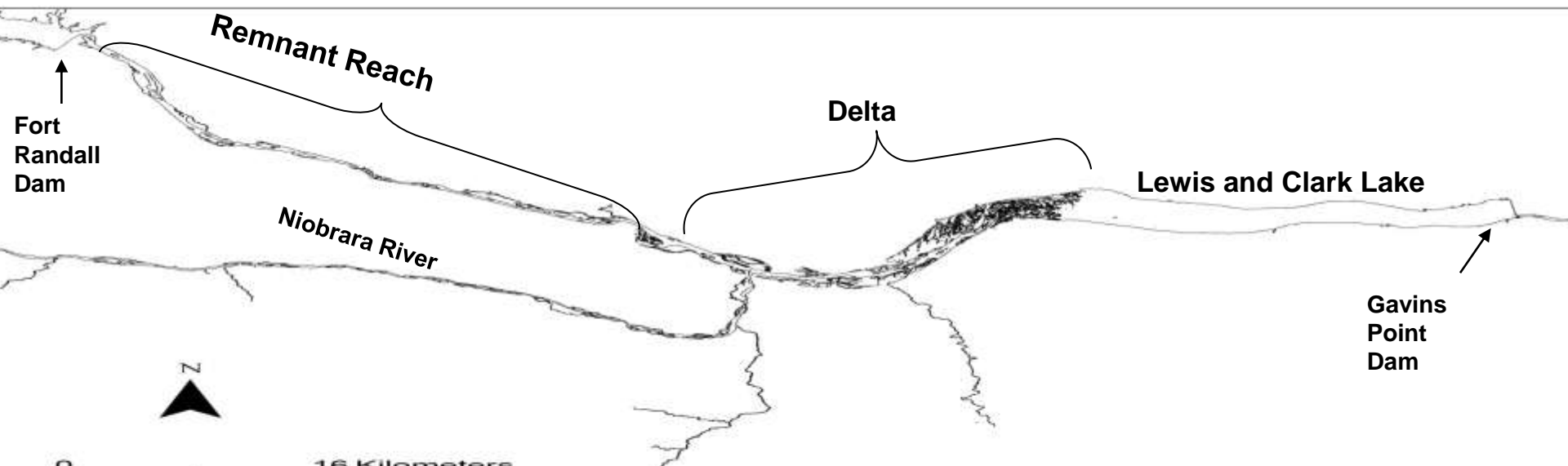
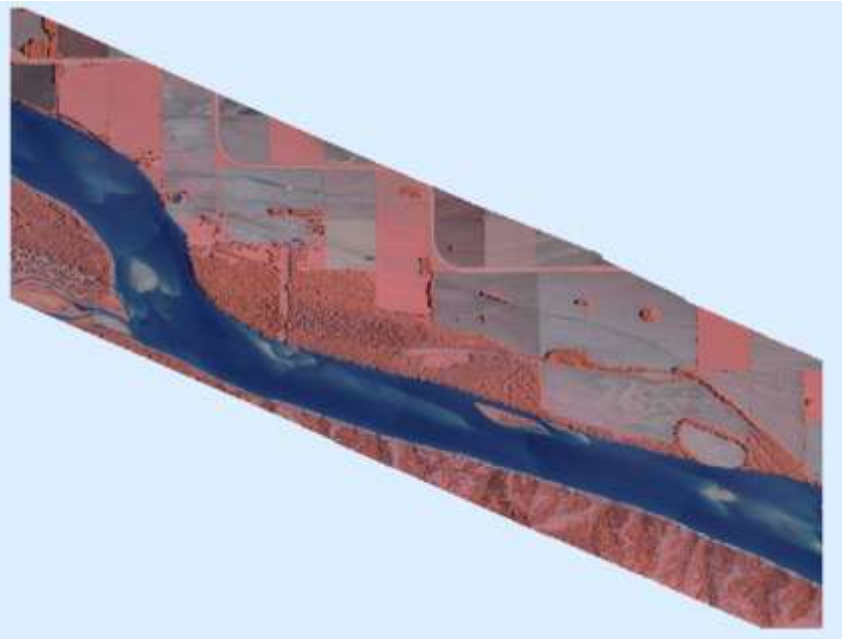


# Missouri River Basin



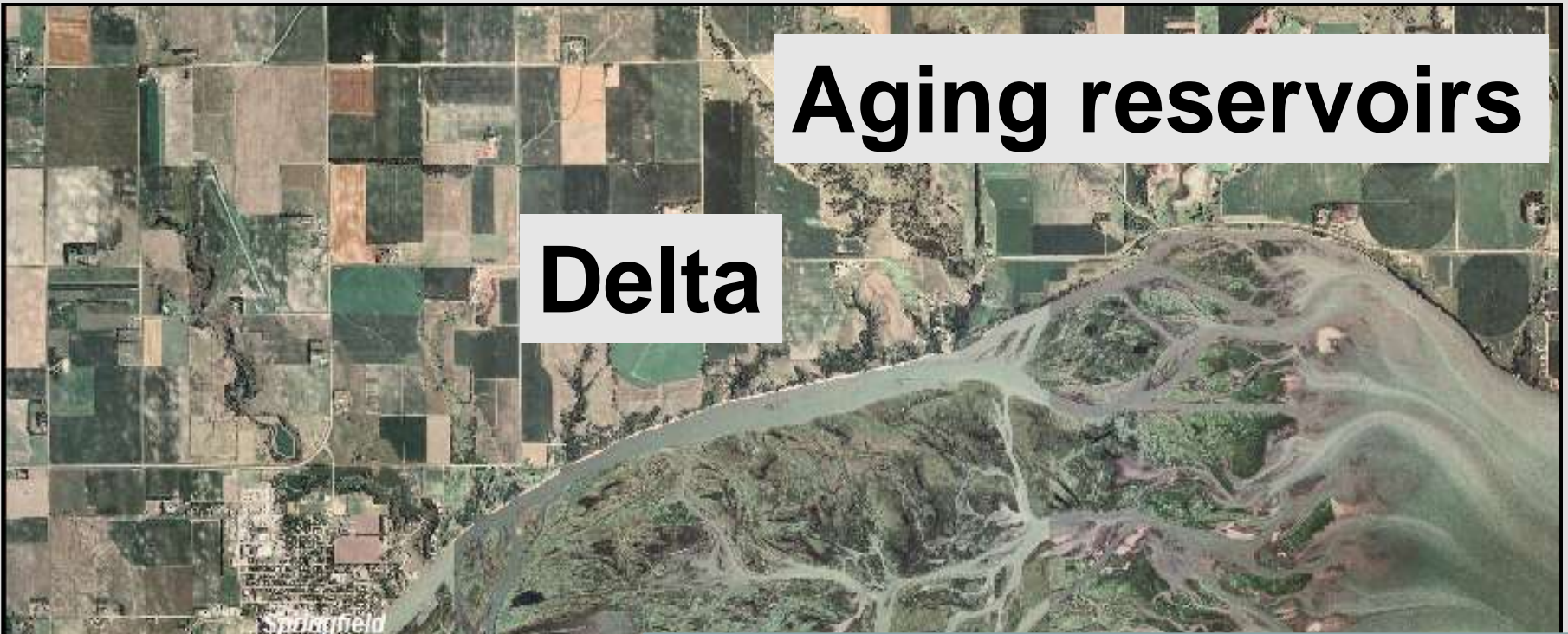
Lewis and Clark:  
12,000 ha  
40 km- reservoir  
75 km river  
Mesotrophic





# Aging reservoirs

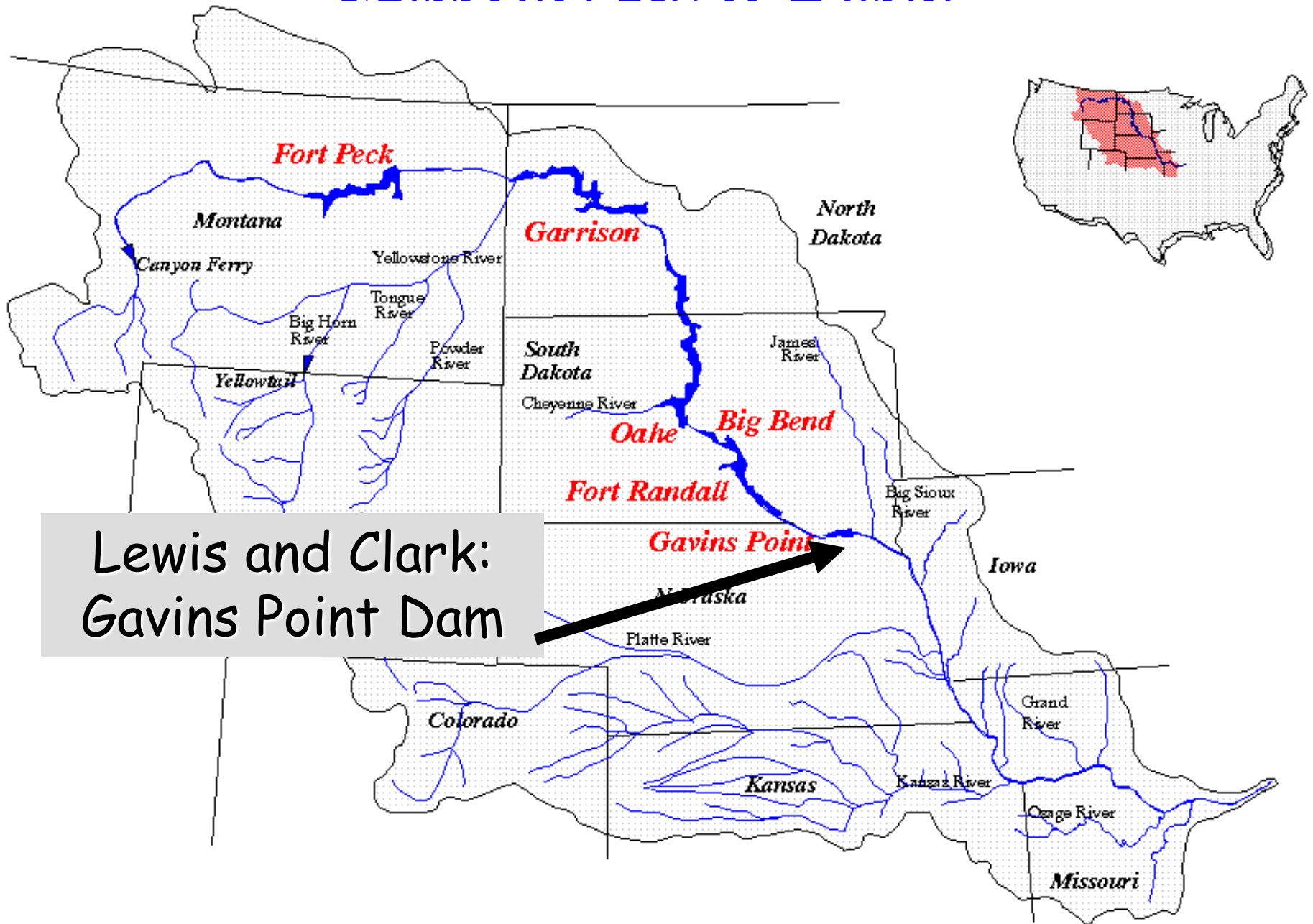
Delta



# Asian carps- bighead and silver



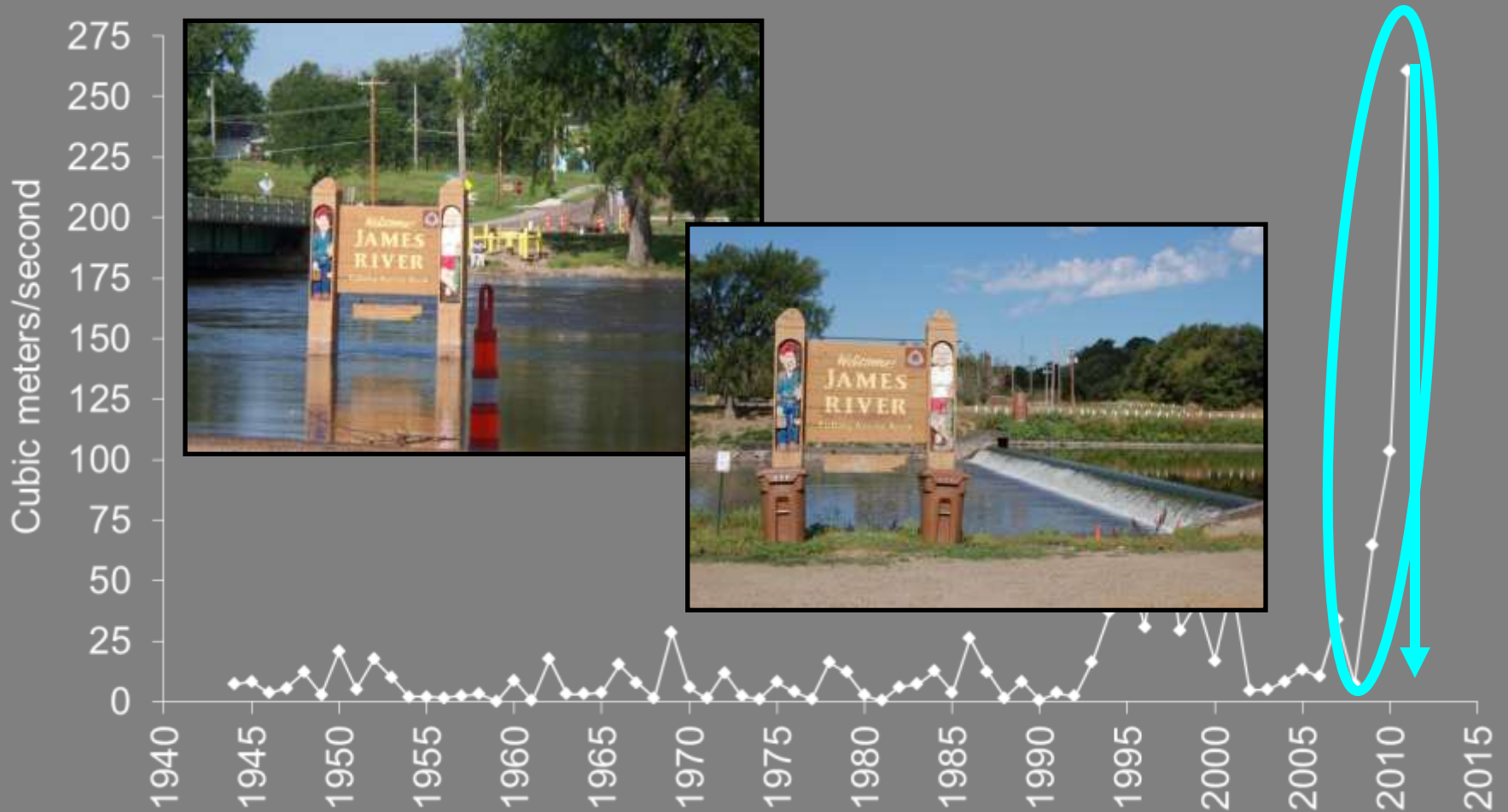
# Missouri River Basin



# The Perfect Storm

# Dissipates!

- Record flooding 2010-2011





Gizzard shad



Walleye



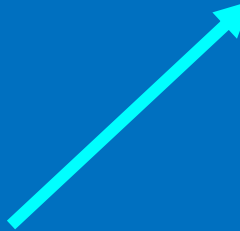
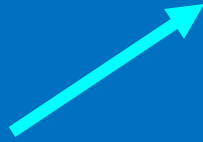
Small cyprinids



Zooplankton



Algae





Walleye



Small cyprinids



Bighead carp



Zooplankton



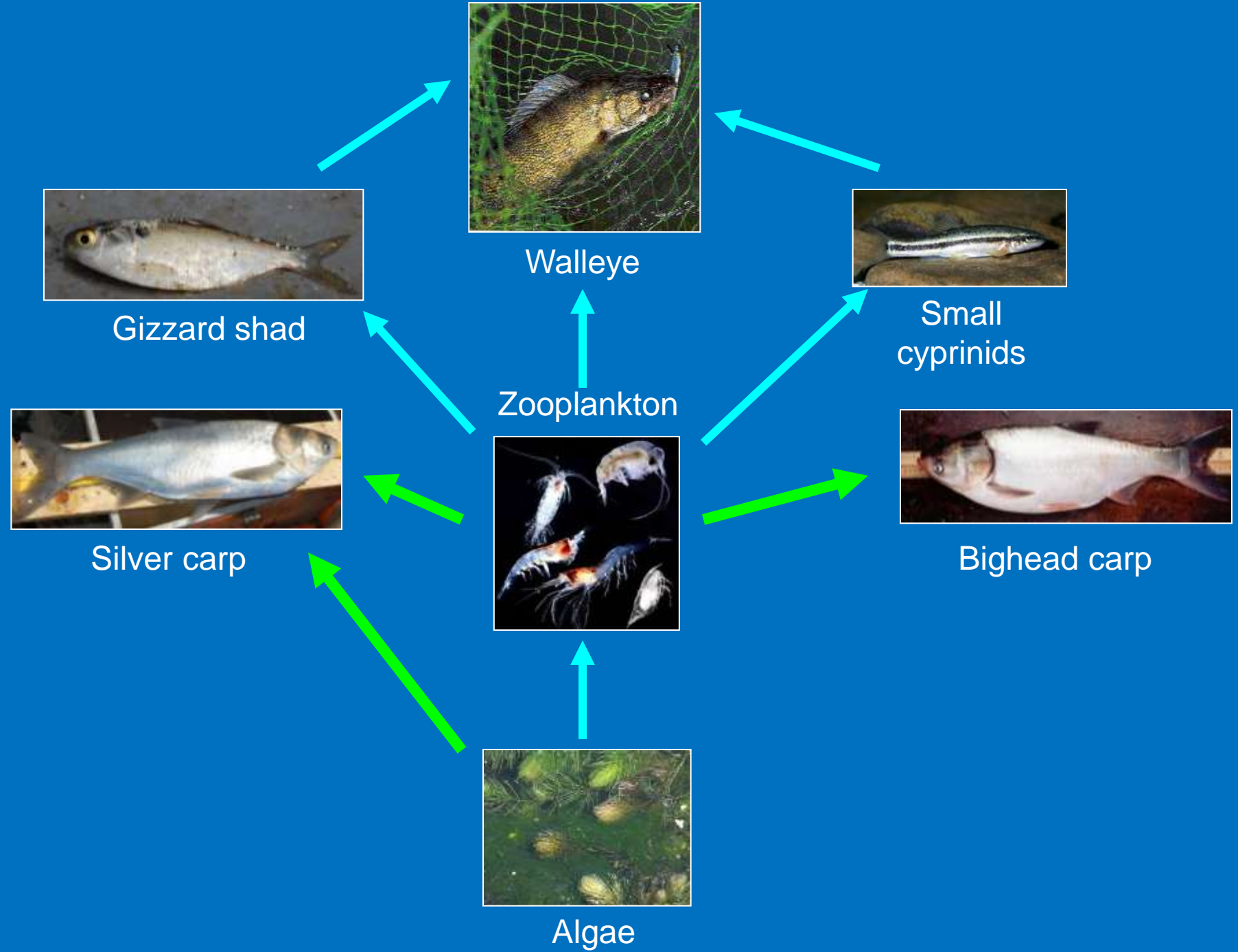
Algae



Gizzard shad



Silver carp







Aquatic/Terrestrial  
vegetation



Zooplankton



Grass carp

Algae



Bighead/silver carp



Gizzard shad



Walleye



Small  
cyprinids

