Fishes of the Grand River

Ottawa County Water Quality Forum
October 31, 2012

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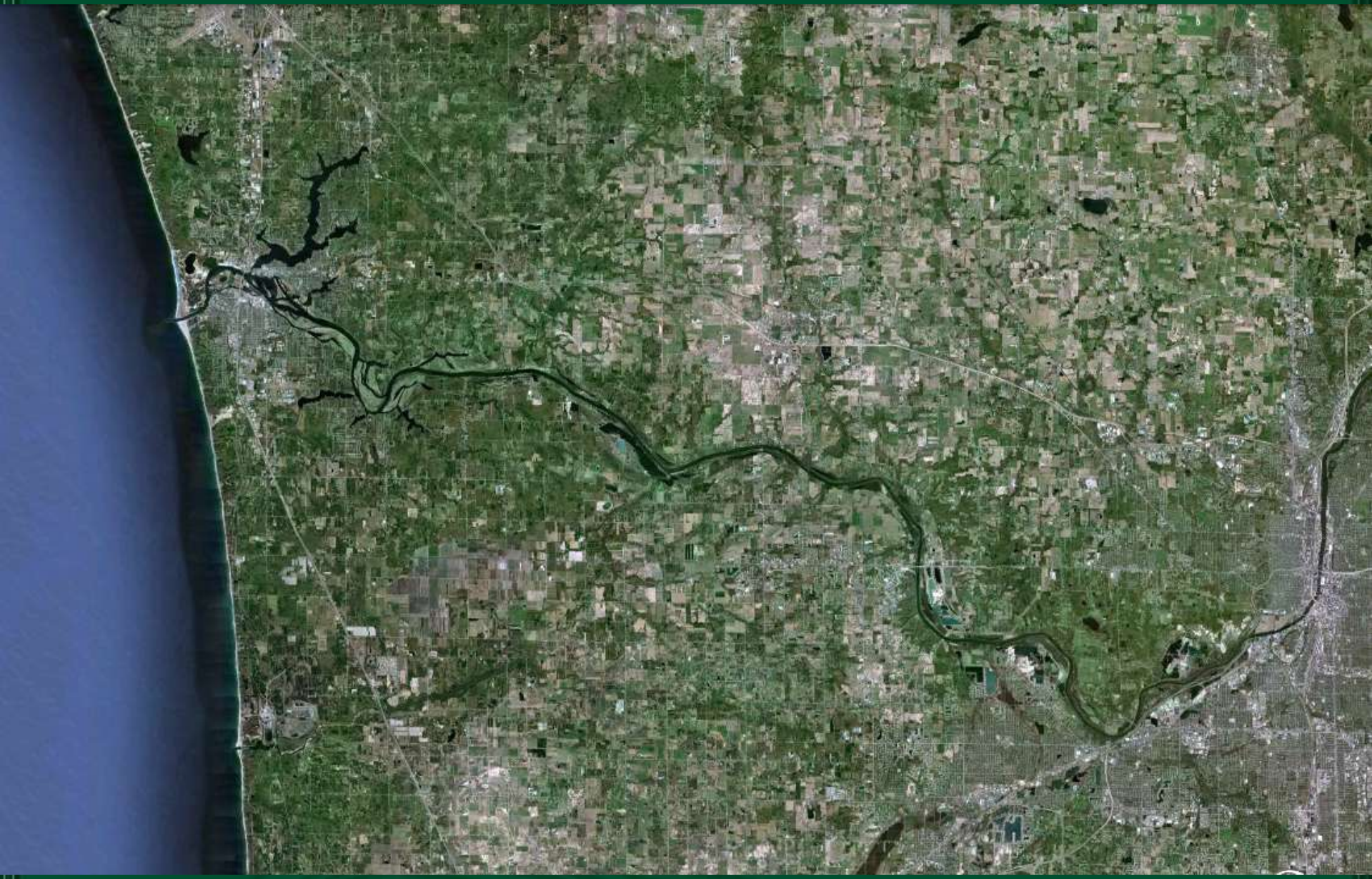
MSU Extension



Google Earth Image

Habitat Types

- Lake Michigan
- Grand River
- Bayous, Spring Lake, and Gravel Pits
- Diverse habitats = Diverse fishes
  - ~108 in Grand River system
  - 98 recorded in Ottawa County

Water Clarity

- Lake Michigan – very clear
- Lower Grand River - turbid
- Bayous, Spring Lake, and Gravel Pits - variable

Secchi disk for measuring water transparency.


120th Ave
Grand Lake
Van Lopik St
Limberlost Ln
120th Ave
118th Ave
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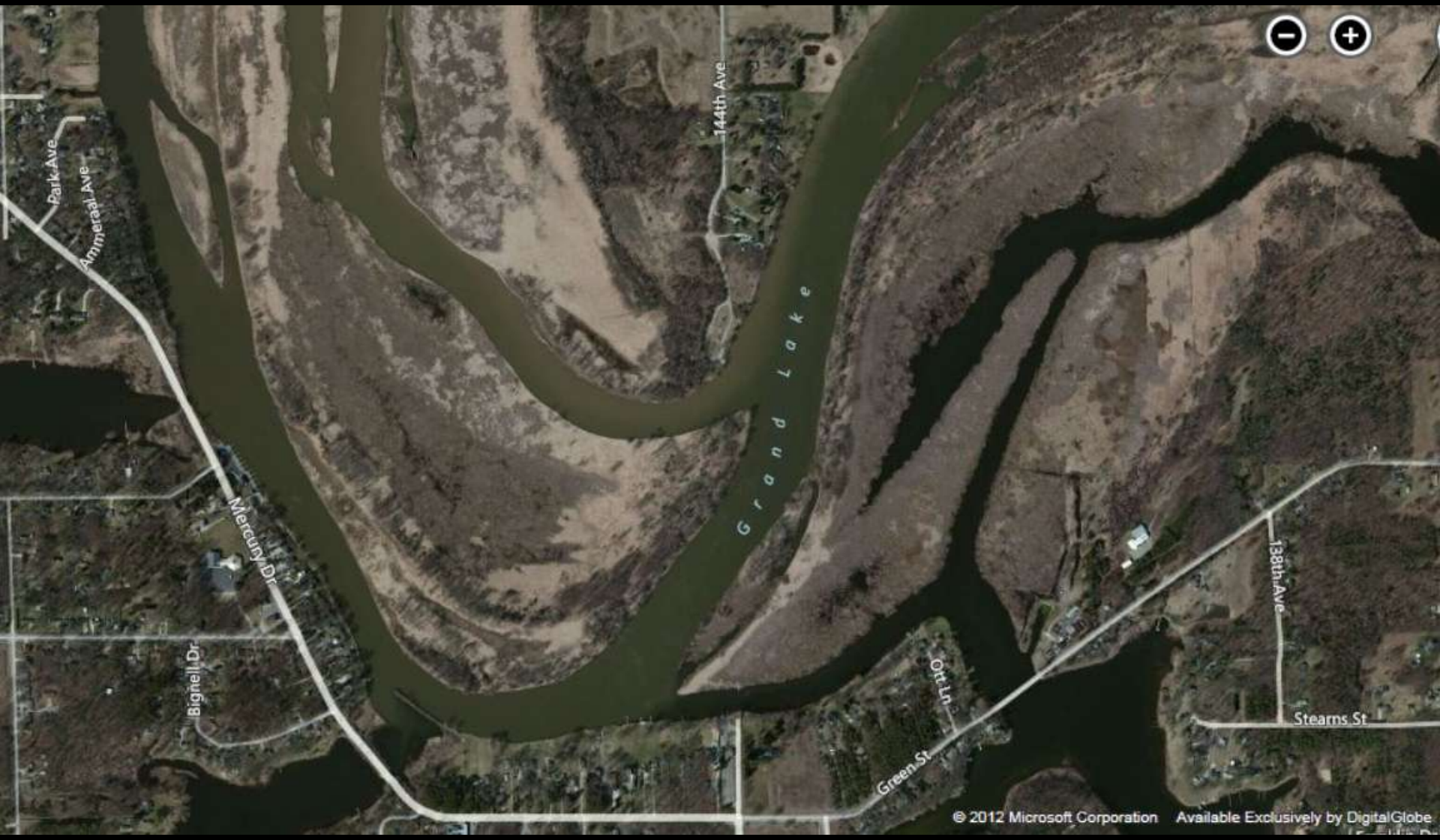
144th Ave
Park Ave
Ammerail Ave
Grand Lake
Mercury Dr
Bignell Dr
Ott Ln
Green St
138th Ave
Stearns St
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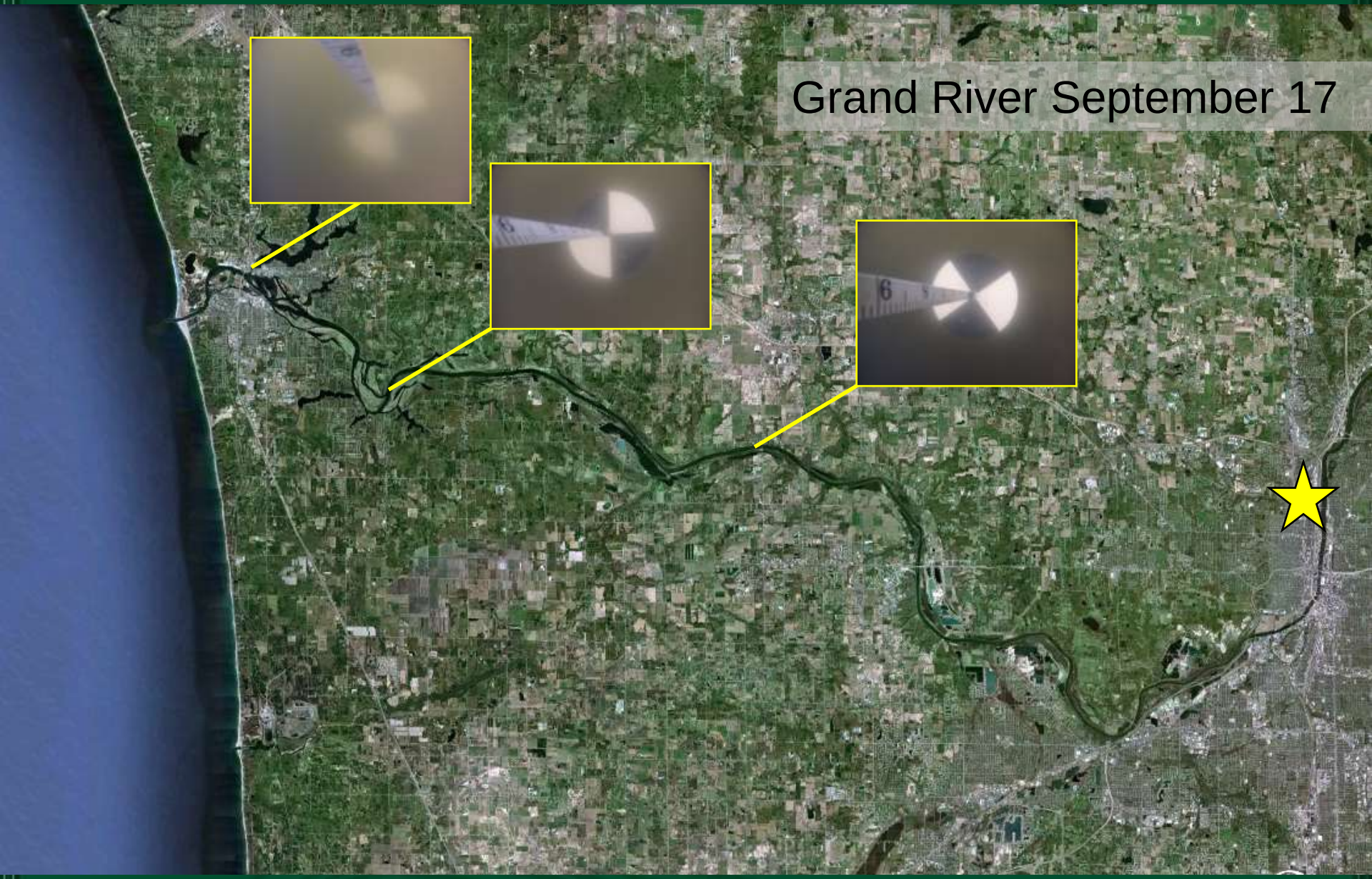


Google Earth Image

Channel and Flathead Catfish

- Use all senses to locate food; “swimming tongues”
- Turbid water protects young from predators
- Competitive edge in muddy waters

Northern Pike

- Visual lie-in-wait predator
- Spawns in wetlands after ice out
- Young tolerate warm water, adults do not

Extremely hot temperatures and lack of rain continues to take its toll around the country. Fish across the state of Michigan continue to die off in waves, like this pike kill in Dean Lake.

Hot, dry summer killing Midwest fish

Water temperatures have reached 100 degrees. Iowa reports 40,000 sturgeon lost.

August 06, 2012 | By Grant Schulte, Associated Press

LINCOLN, Neb. - Thousands of fish are dying in the Midwest as the hot, dry summer dries up rivers and causes water temperatures to climb in some spots to nearly 100 degrees.

Dead fish float in a drying pond near Rock Port, Mo. In Illinois, fish carcasses clogged... (AP)

About 40,000 shovelnose sturgeon were killed in Iowa last week as water temperatures reached 97 degrees. Nebraska fishery officials said they've seen thousands of dead sturgeon, catfish, carp, and other species in the Lower Platte River, including the endangered pallid sturgeon. And biologists in Illinois said the hot weather has killed tens of thousands of large- and smallmouth bass and channel catfish and is threatening the population of the greater redhorse fish, a state endangered species.

Every Fish is Dead in a Colorado State Park

October 11th, 2012

press release

BRUSH, Colo. — Due to low water levels and oxygen deprivation, North Sterling State Park has suffered a nearly complete fish kill, as of Tuesday, Sept. 18.

North Sterling State Park employees began seeing a few dead fish on top of the water on Saturday, Sept. 15. By Tuesday, Sept. 18 dead fish littered the entire south and east shorelines of the reservoir. Due to the species and the number of fish found, this appears to be a complete fish kill, meaning all of the fish that used to inhabit the reservoir are likely dead.

"Based on the fish that I and park staff observed at the reservoir, the fish kill is due to low oxygen levels in the reservoir," said Mandi Brandt, aquatic biologist. "Colorado Parks and Wildlife will begin work to rebuild the fishery as soon as better conditions are available, hopefully next spring."

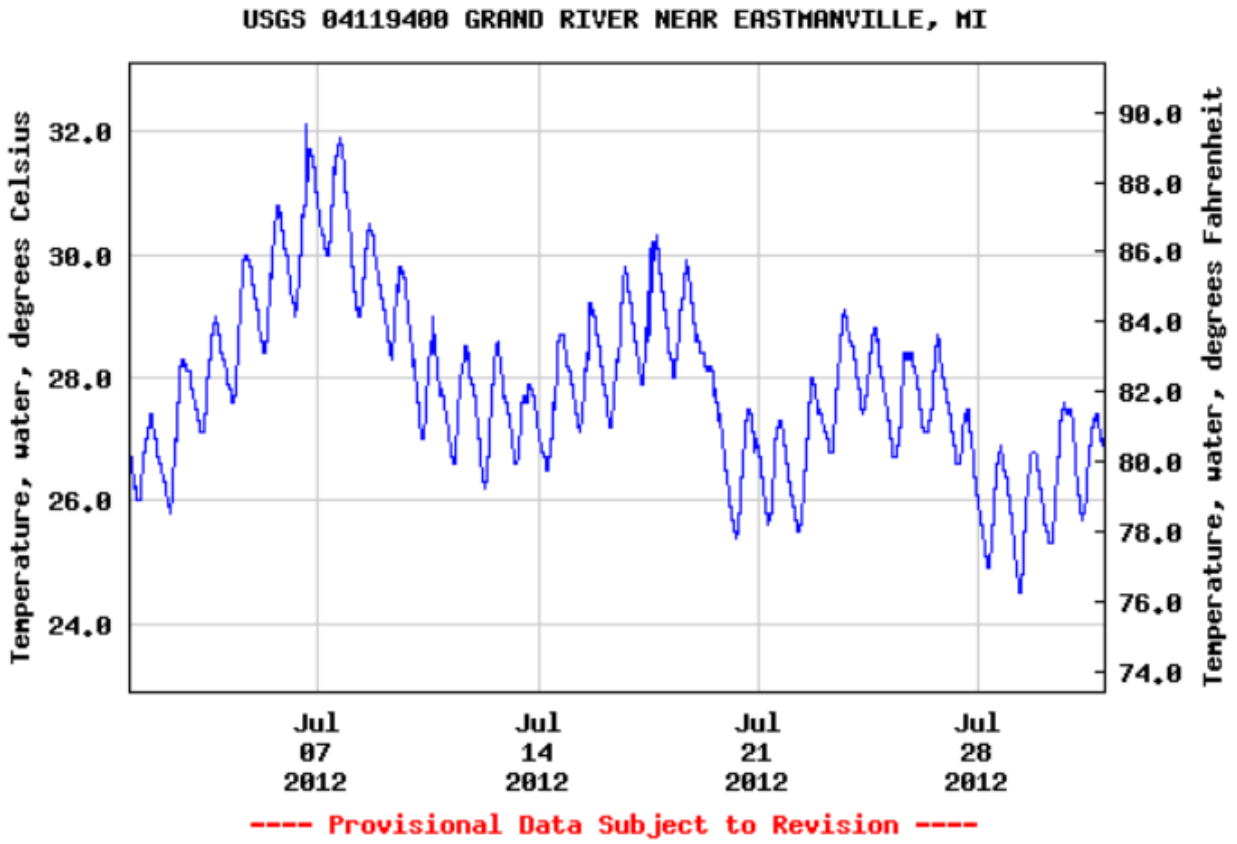
As the primary function of North Sterling Reservoir is to store irrigation water, the water level has

Colorado Parks and Wildlife announced that due to low water levels and lack of oxygen, every fish in North Sterling State Park reservoir has likely died.

July Water Temperature at Eastmanville

Temperature, water, degrees Celsius

Most recent instantaneous value: 7.8 10-31-2012 13:48 EST



Thermal Refugia

Oligotrophic Lakes: Deep water is cool with O_2

Eutrophic Lakes: low O_2 in deep water

Rivers: Tributaries and groundwater input

Nutrient-rich runoff and groundwater withdrawal can impact coolwater and coldwater fish

Habitat Connectivity

Latitudinal – across width of floodplain

Longitudinal – up and down river


Oxbow Lake
River
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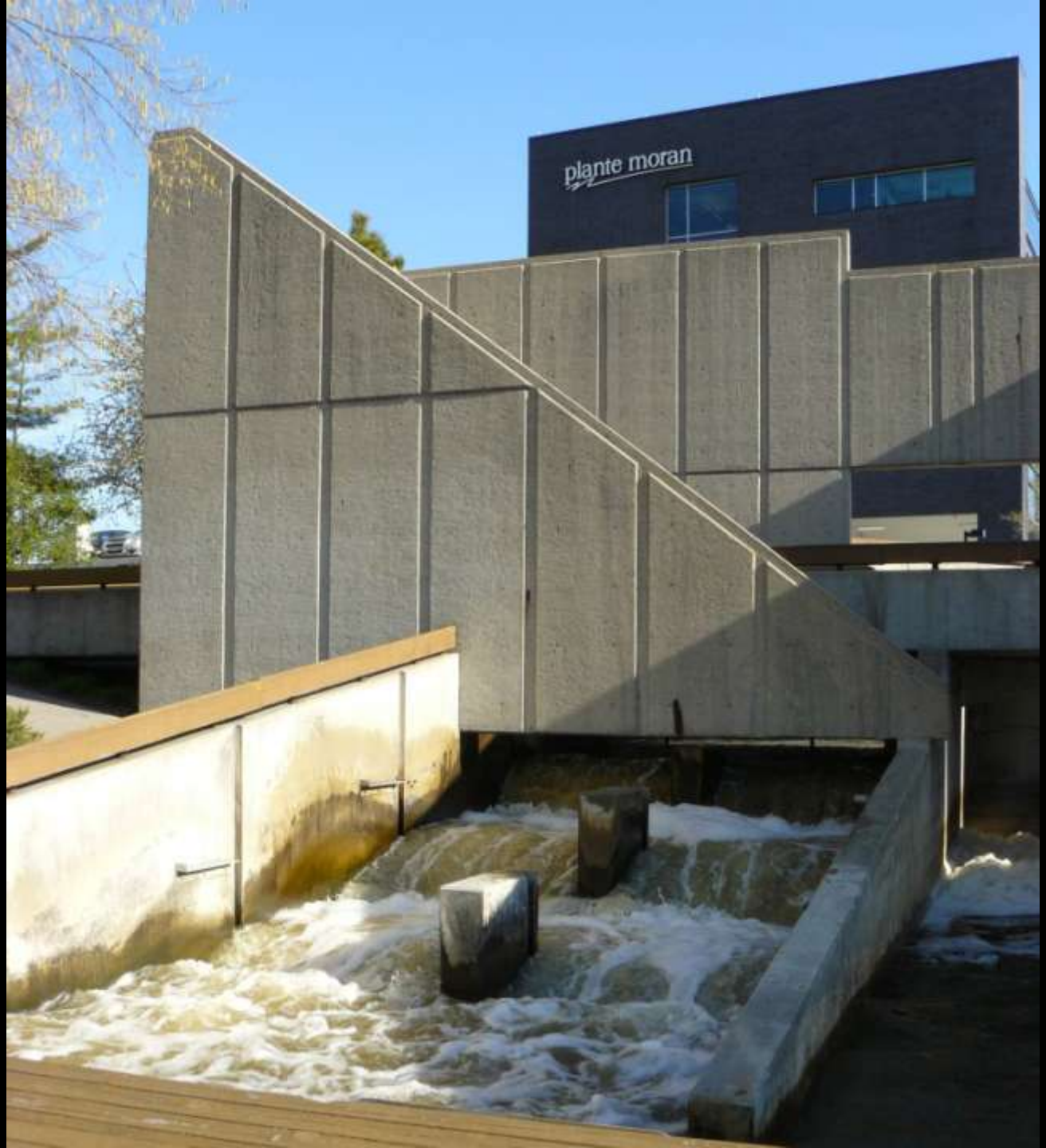
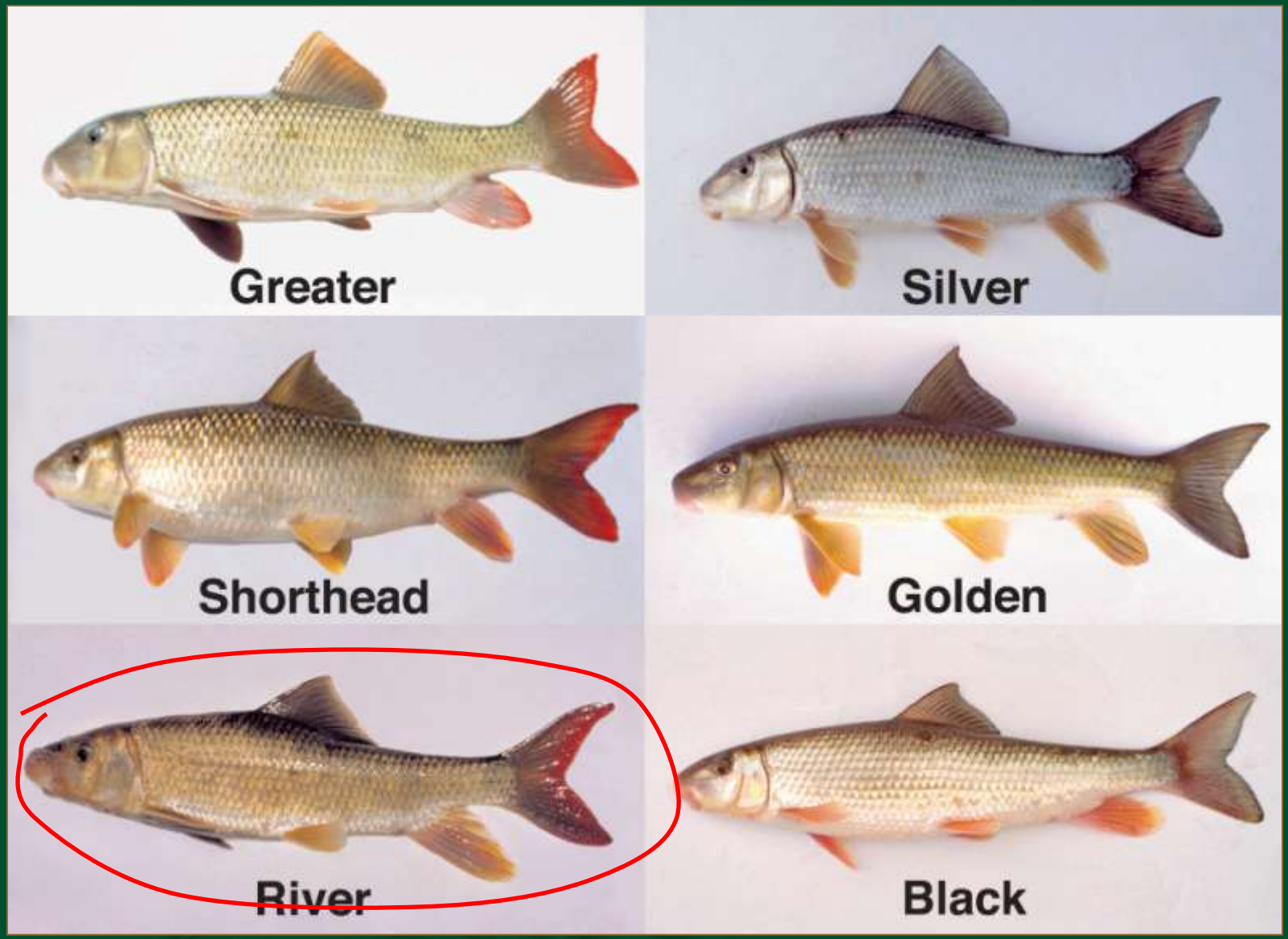

plante moran

Sucker Family

- 15 species found in Michigan
- ~13 species in Ottawa County
- Many species not tolerant of pollution
- ~44% of Grand River biomass (1978 data)

Redhorse Suckers of Michigan



Quillback (a type of sucker)

The Upside of Dams:

Invasive Species Control

Asian Carp

The silver carp has up to a 10-foot vertical leap.

Bighead carp grow to 100 pounds but are not known to jump.

Sea Lamprey

A single lamprey kills 40 pounds of fish in its lifetime. Native lake trout and several species of cisco were wiped out in Lake Michigan after lamprey invaded.

- Controls include chemicals, low-head barriers, and traps;
- Controls result in a 90% reduction
- Lamprey numbers have been above target for 13 of last 14 years in Lake Michigan; mostly due to one large river system
- Annual control cost $21 million

QUESTIONS?