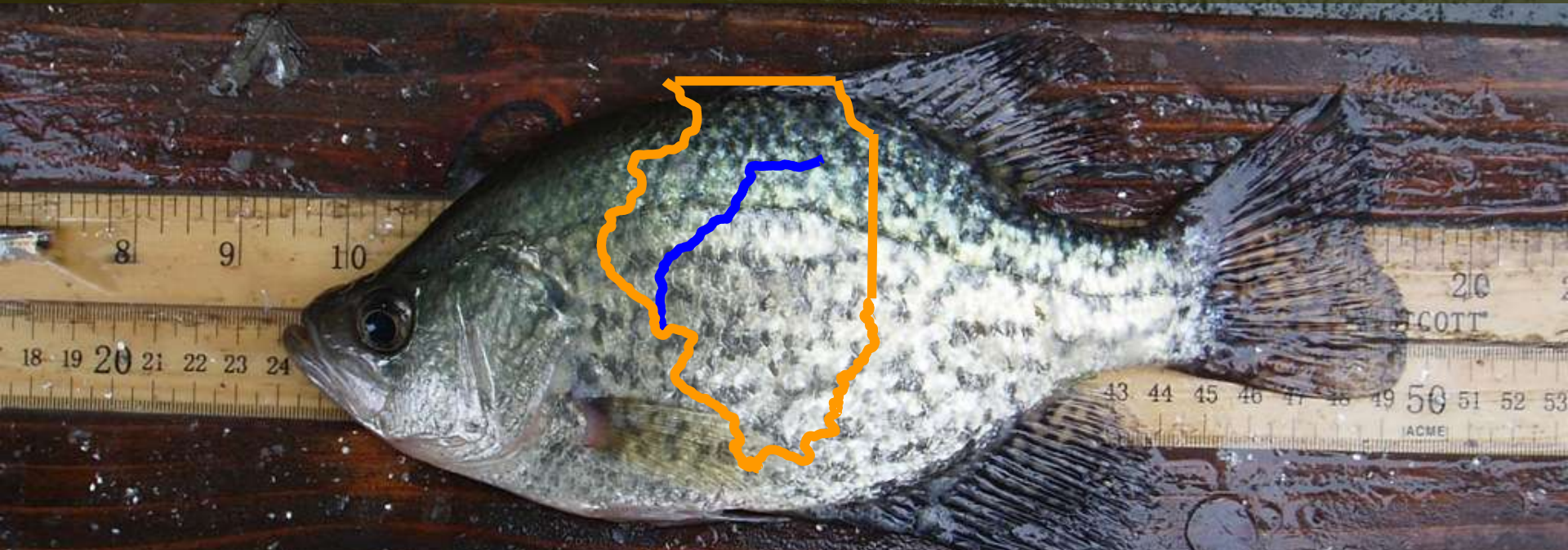


The Long-Term Illinois River Fish Population Monitoring Program, 1957-2010



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The Long-Term Illinois River Fish Population Monitoring Program (LTEF)

- Initiated in 1957 by Dr. William Starrett
- Designed to provide information useful for determining spatial and temporal fish pop. trends
- Hopefully then link trends to biotic/abiotic factors

The Long-Term Illinois River Fish Population Monitoring Program = LTEF (Long-Term Electrofishing)



1950's-60's

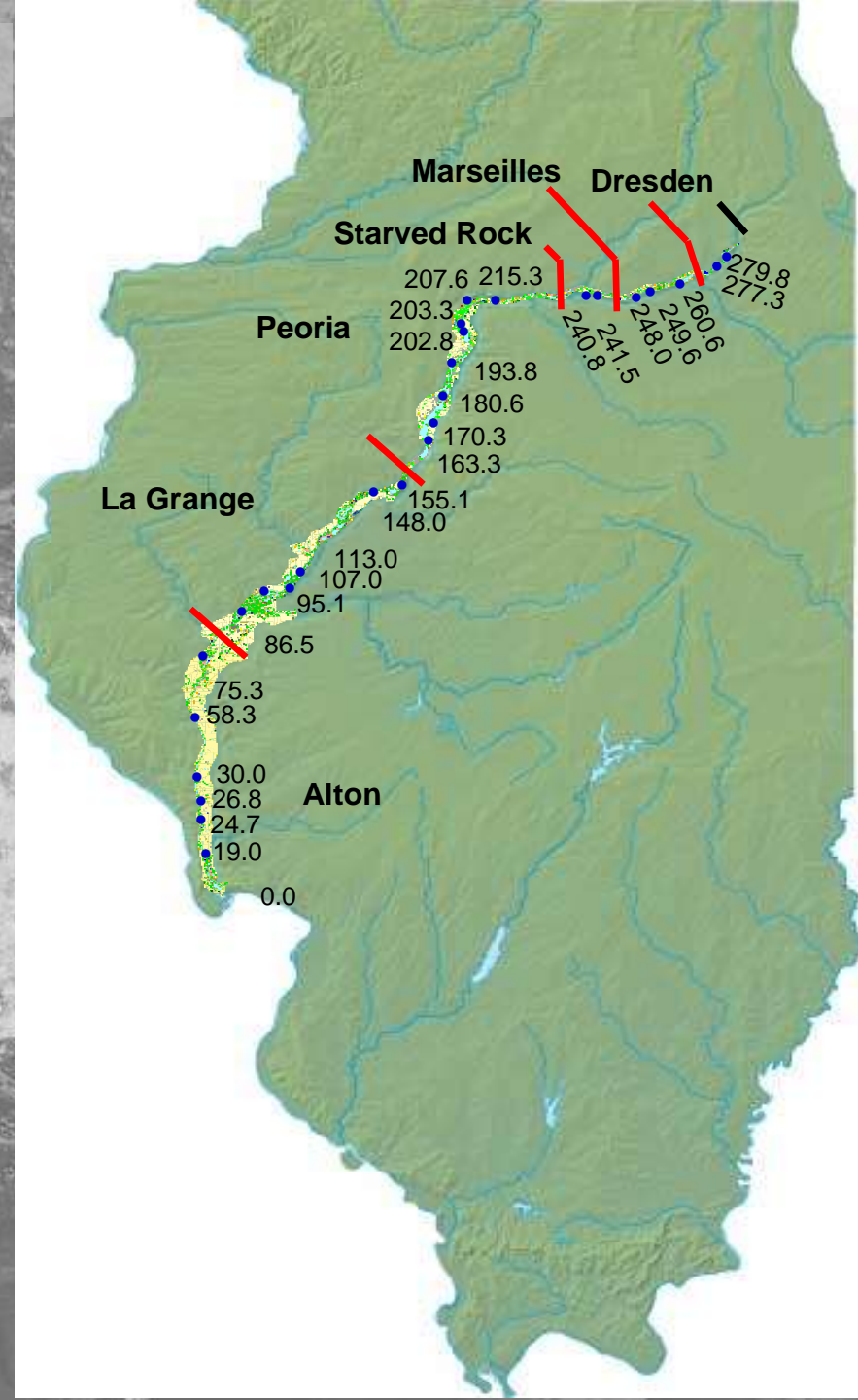


Present



LTEF Sites

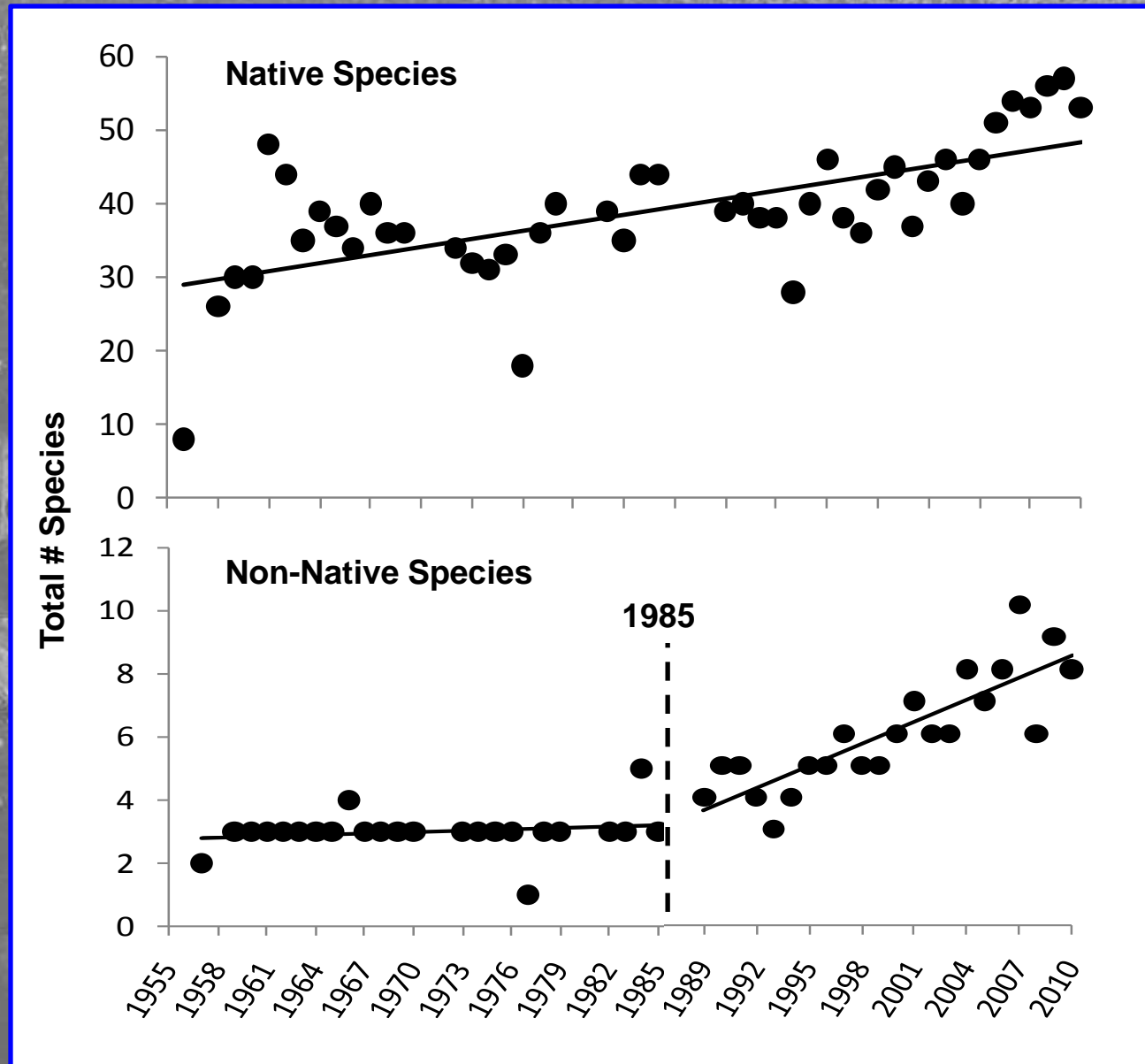
- Fixed Site sampling design
- 27 collection sites on the Illinois River waterway
- 1 reference site on the Mississippi R.
- Longer navigation reaches have more collection sites
- Mostly side channel habitats



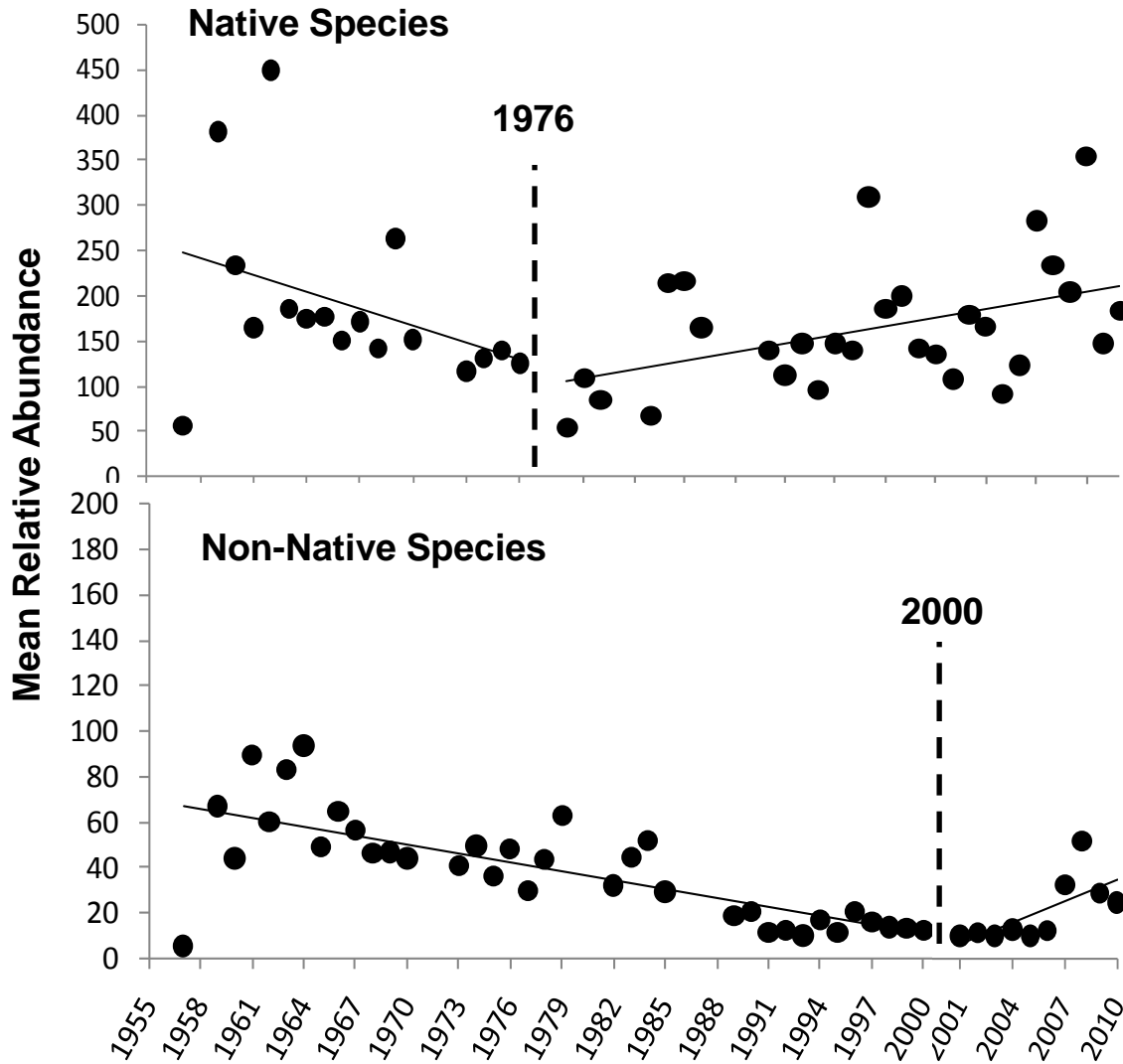
Catches For Each Reach – All Years

	N	Total Abundance	Effort (hrs)	Taxa	Mean #/hr
Upper River					
Dresen	65	13,505	43.5	63	211.3
Marseilles	128	19,093	53.9	79	173.1
Starved Rock	81	19,552	42.2	73	259.5
Total	274	52,150	139.6	88	207.7
Lower River					
Peoria	322	84,072	153.2	90	267.0
LaGrange	242	47,819	116.7	75	202.5
Alton	196	21,451	112.7	72	113.3
Total	760	153,342	382.6	98	206.8
Illinois River Total	1,034	205,492	522.2	108	207.1

Native and Non-Native Species Richness Trends



Native and Non-Native Fish Relative Abundance Trends



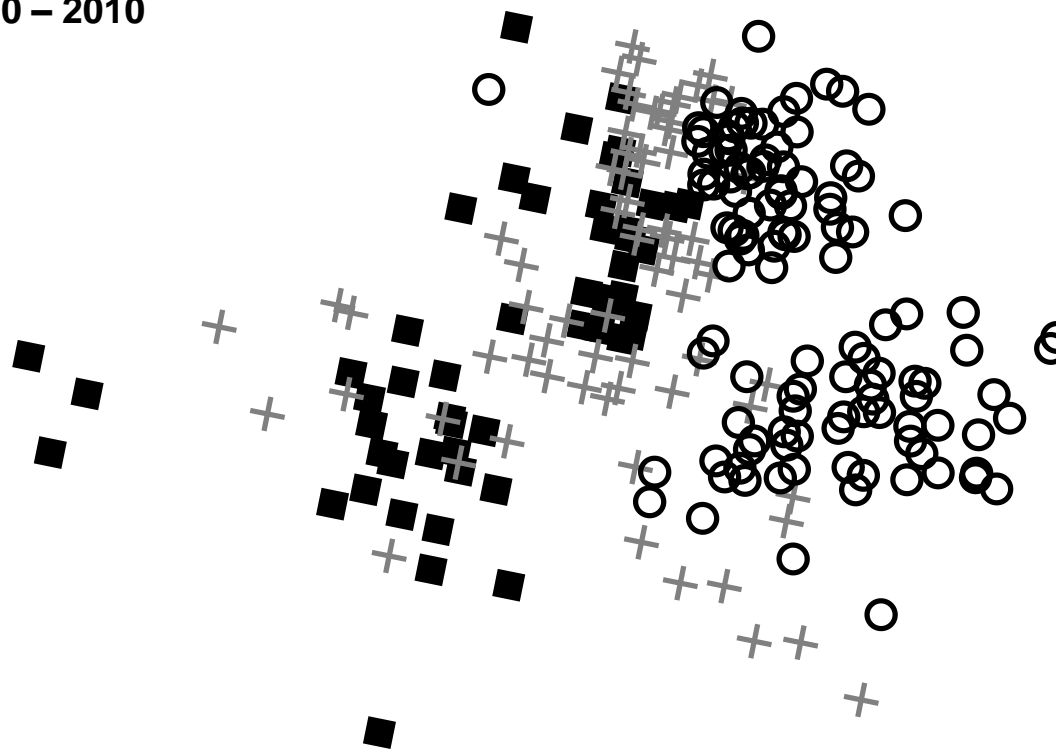
Illinois River Fish Communities

■ 1957 – 1969

+ 1970 – 1989

○ 1990 – 2010

Stress = 0.18



Dominant Species Changes

Species Contributions at 90% cutoff

NMDS indicated a change over time of the fish community

SIMPER shows what change occurred to the community

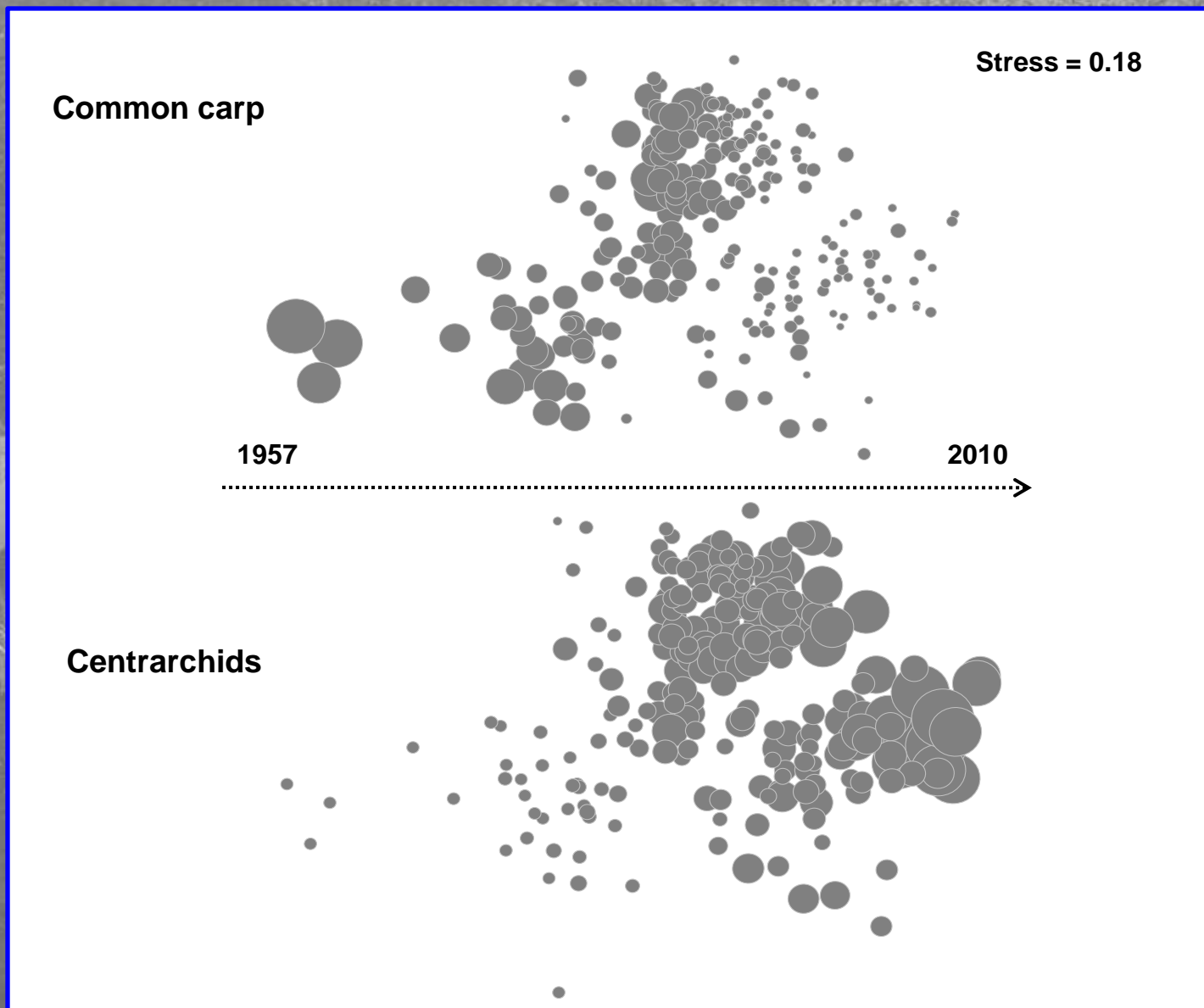
1957-1969

Common carp	24.9
Gizzard shad	20.4
Emerald shiner	19.3
Goldfish	6.6
Common carp x Goldfish	3.0

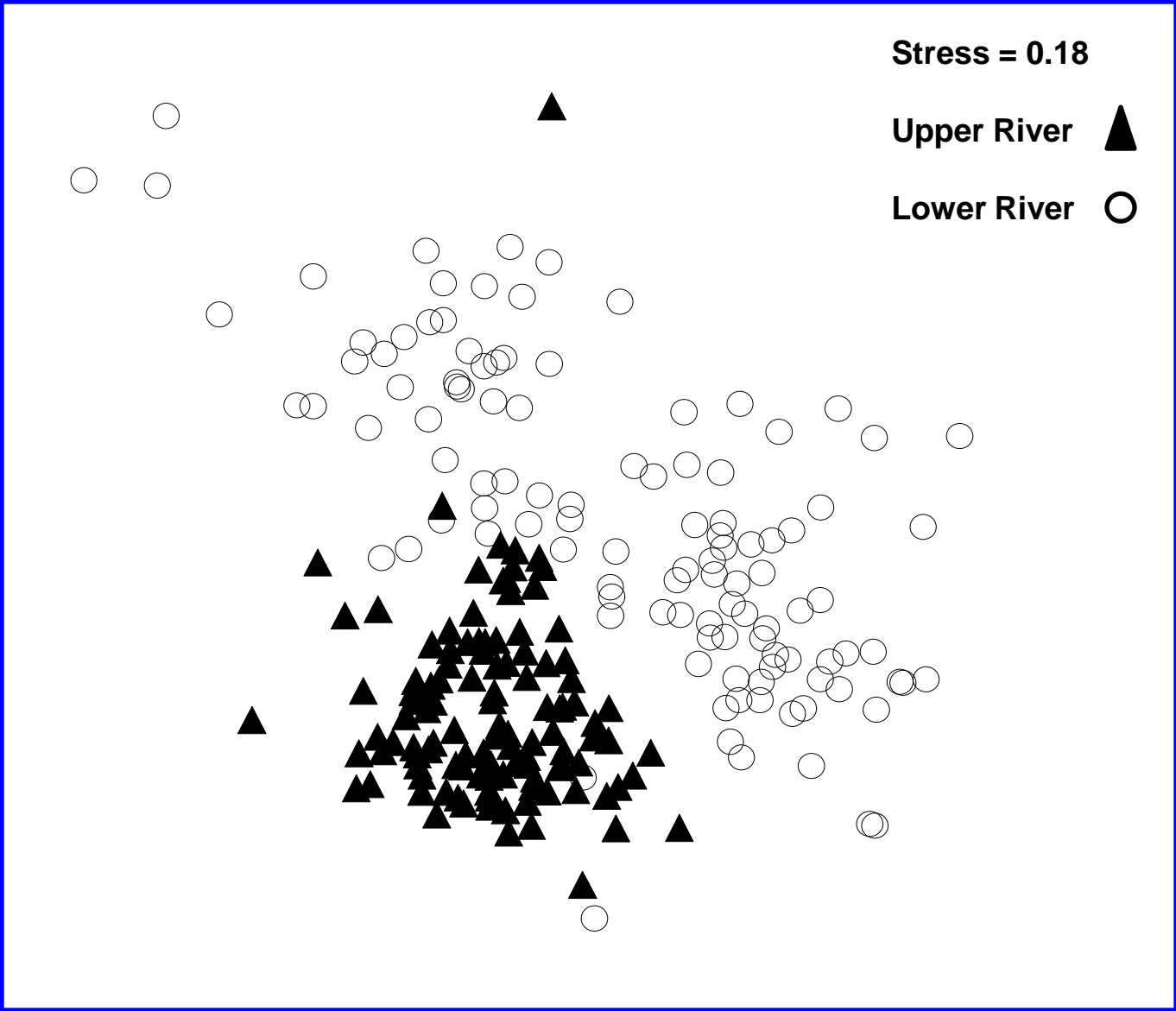
1990-2010

Gizzard shad	16.2
Bluegill	13.1
Emerald shiner	10.6
Common carp	7.6
Largemouth bass	6.4
Channel catfish	5.6
Green sunfish	5.3
Freshwater drum	4.8
Smallmouth buffalo	4.5
Goldfish	—
Common carp x Goldfish	—

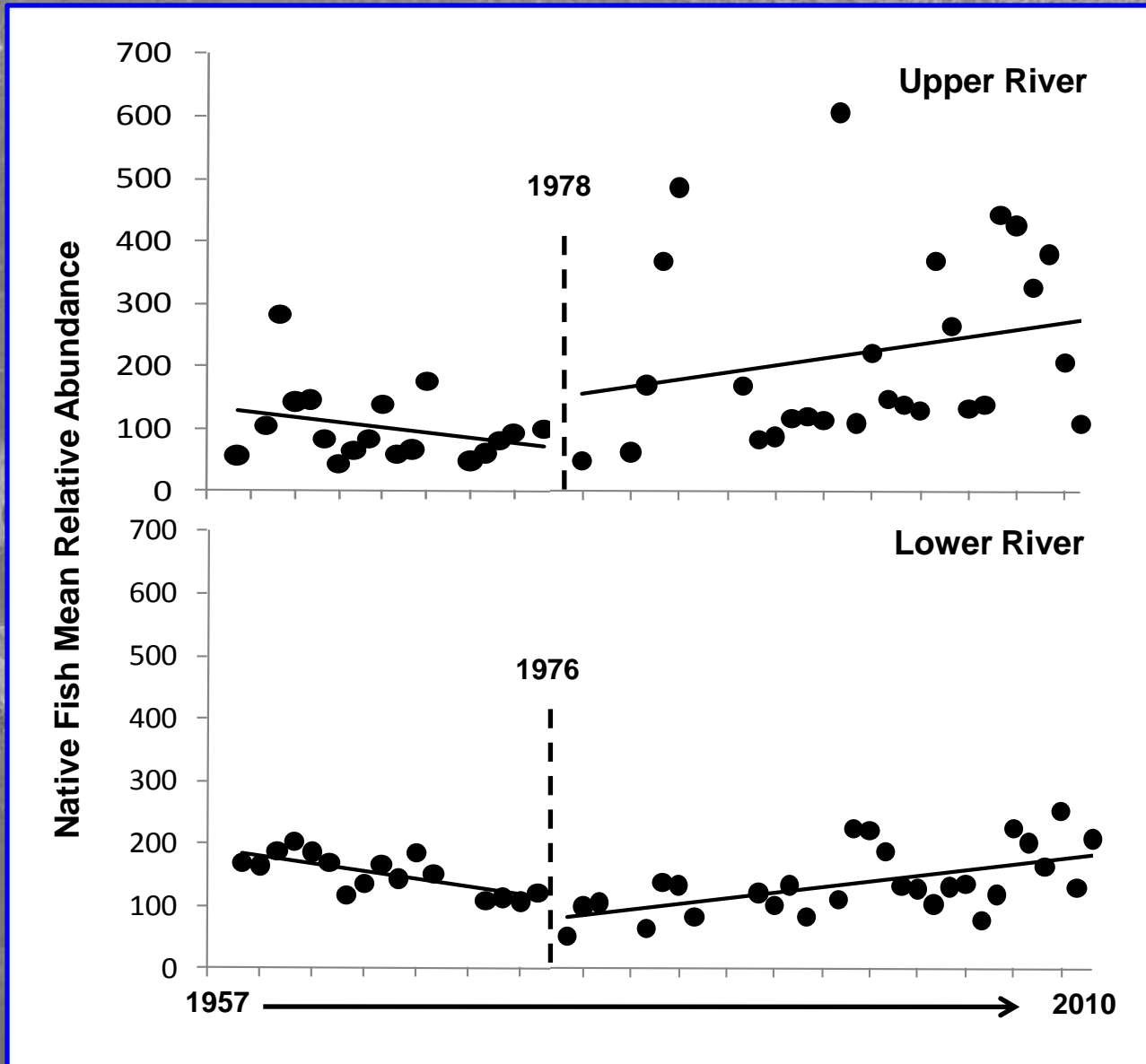
Illinois River Fish Communities



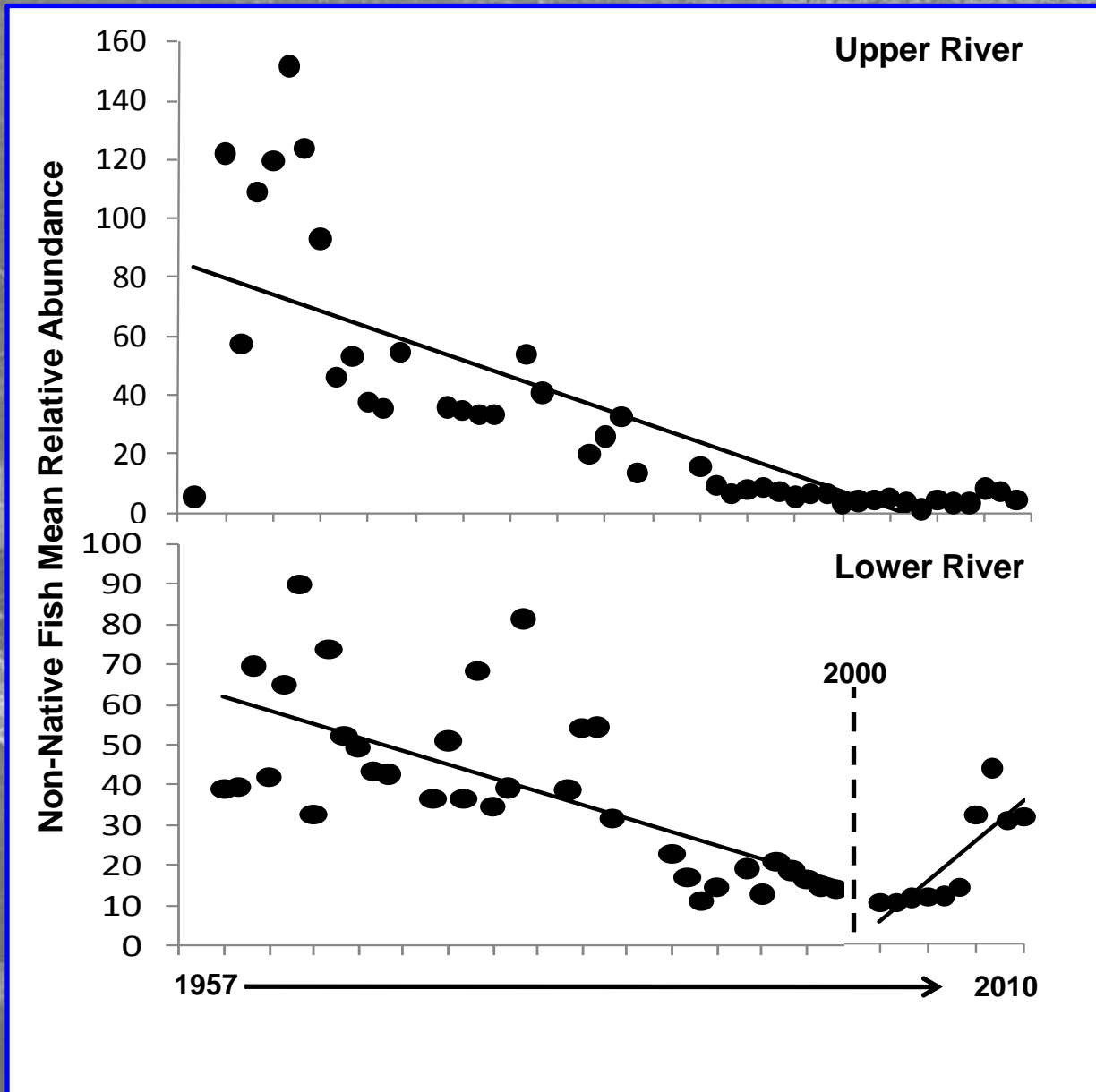
Longitudinal Fish Community Patterns



Longitudinal Fish Community Patterns

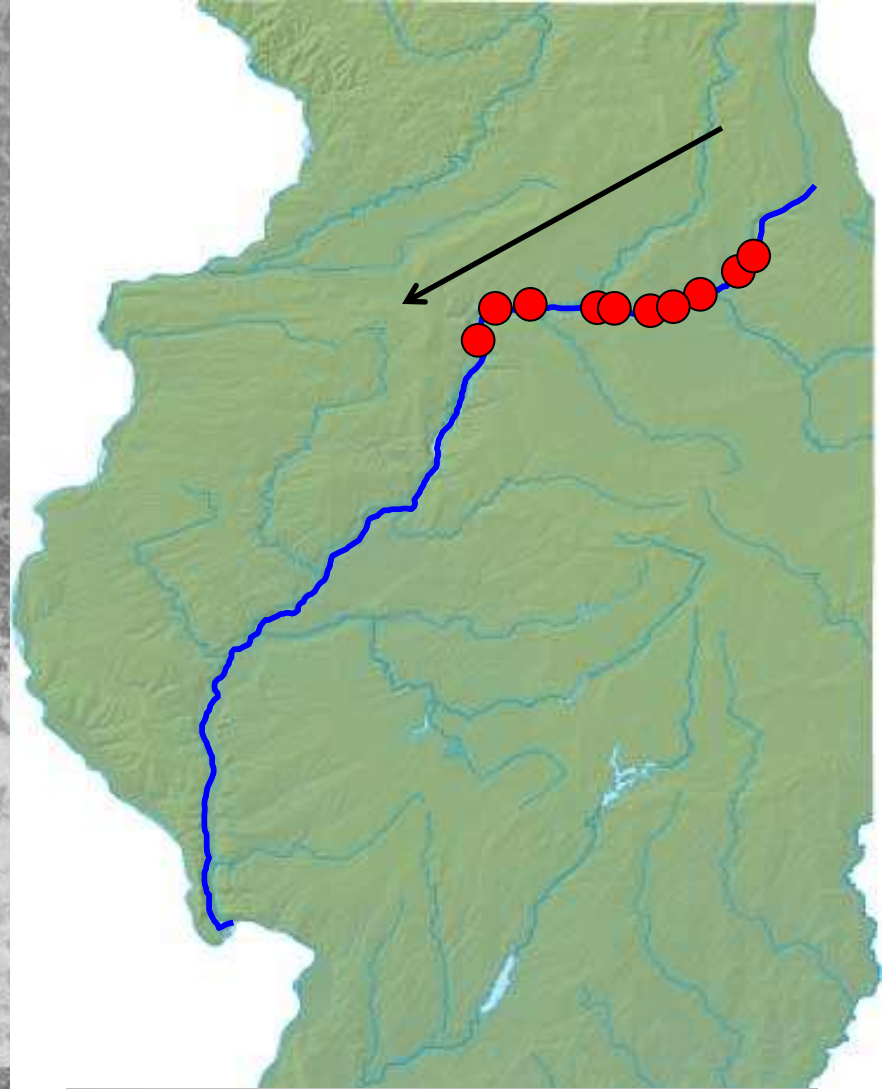


Longitudinal Fish Community Patterns



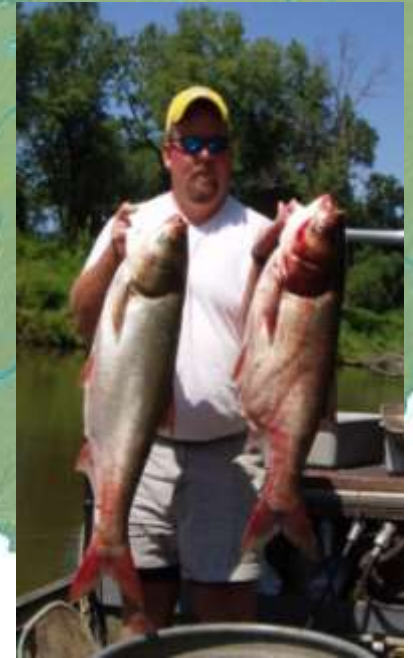
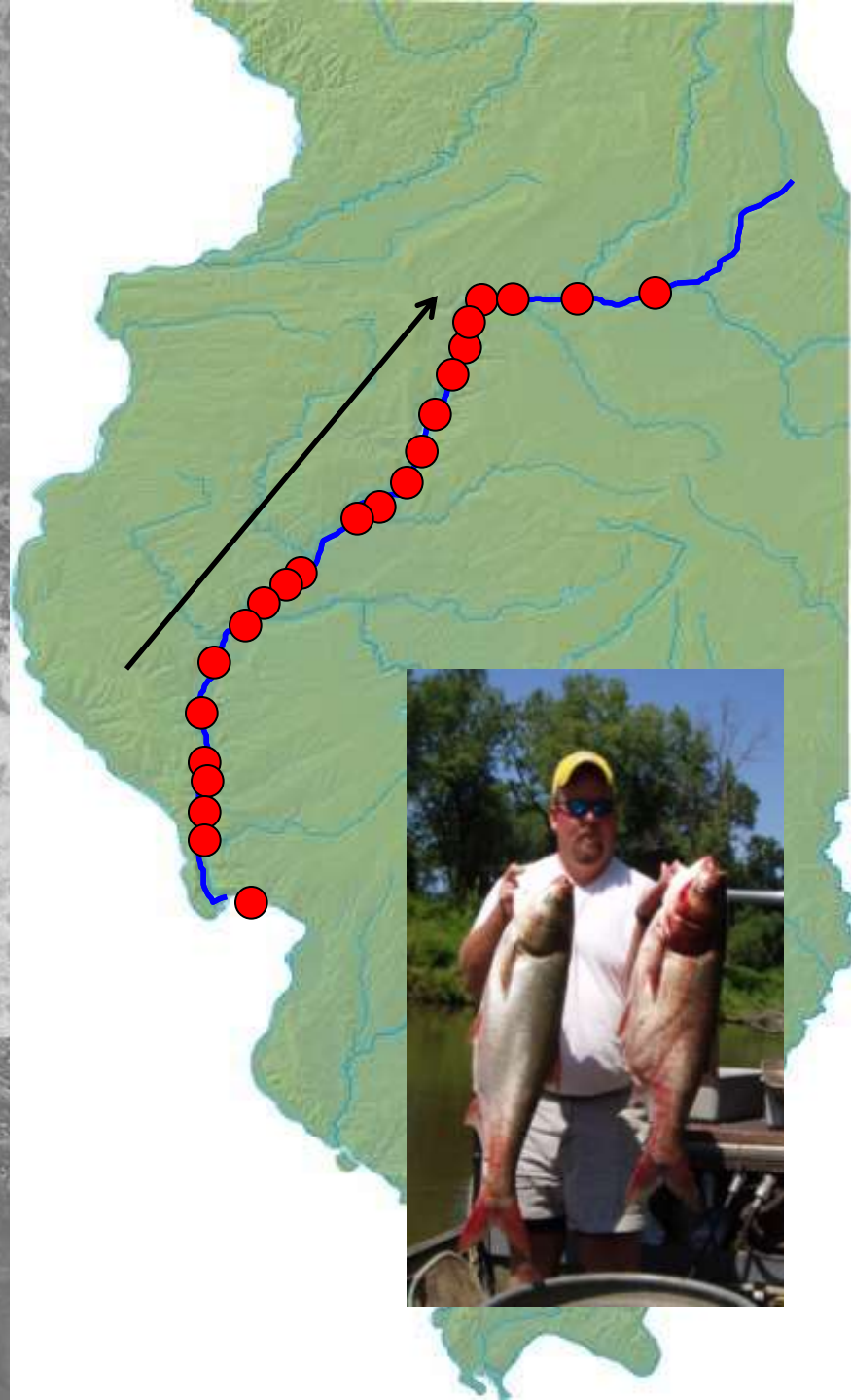
Round Goby Collections 2004-2007

- Round goby were first collected at sites in Dresden Reach and Marseilles Reach in 2004
- Round goby collections have occurred down into Peoria Reach

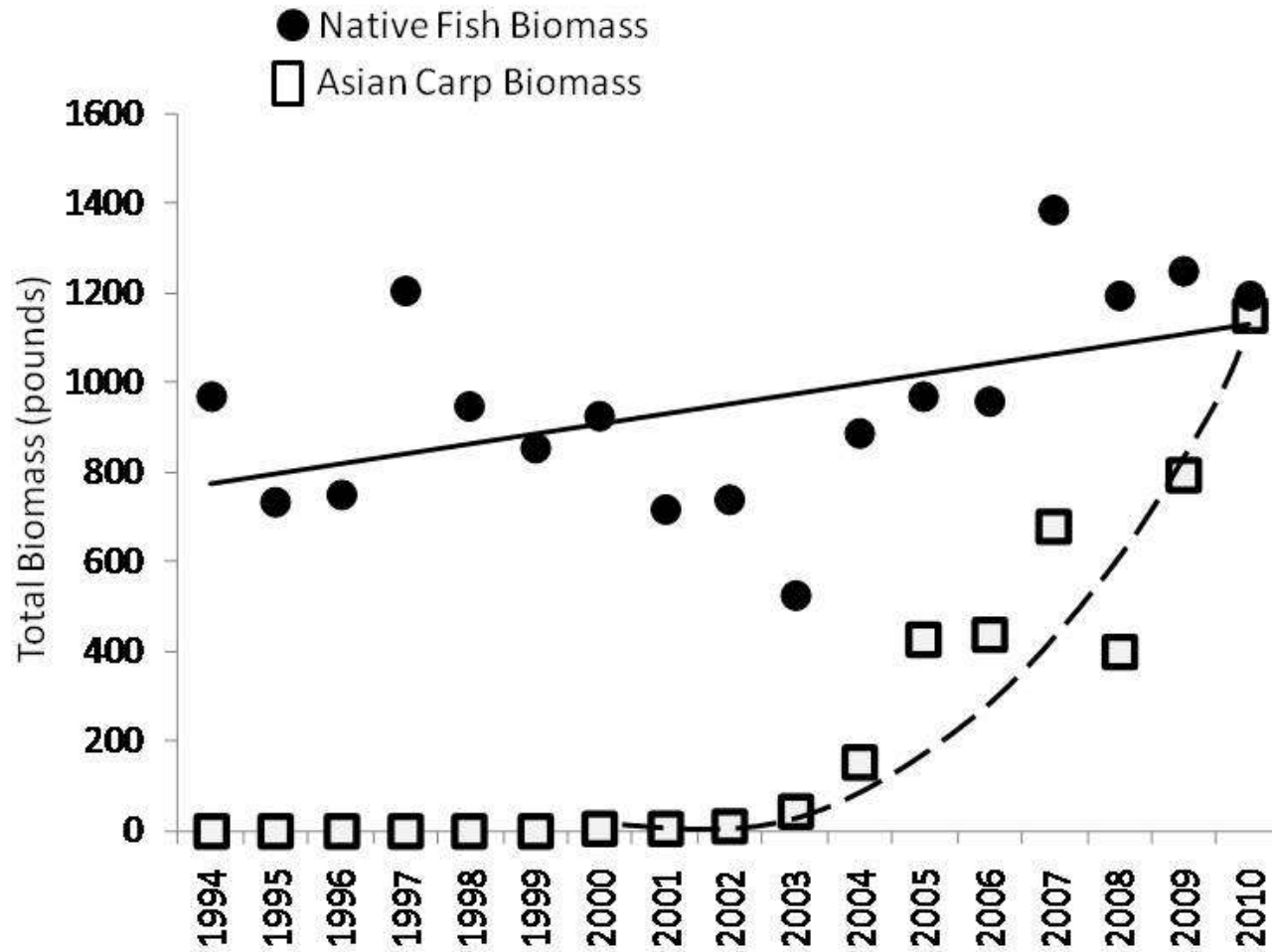


Asian Carp Collections 2000-2007

- Asian carp were first collected at sites in La Grange Reach in 2000
- Asian carp have expanded far upstream and collections have occurred at sites in Starved Rock Reach

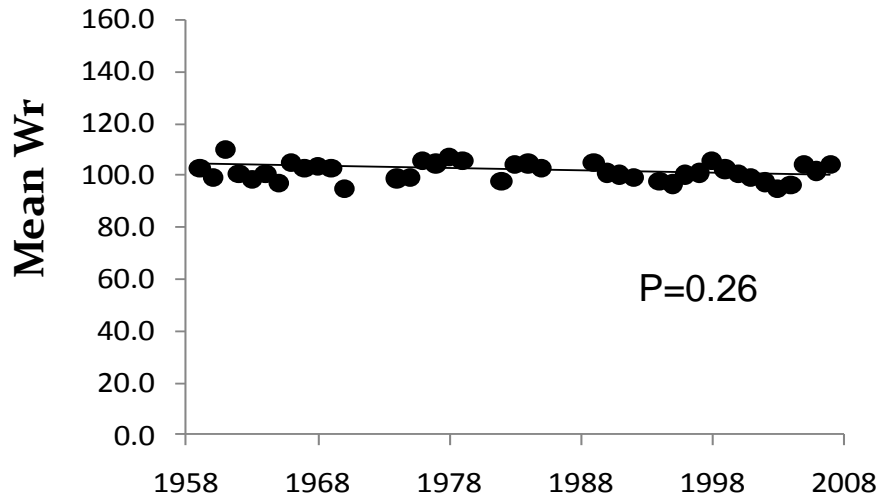


Asian Carp

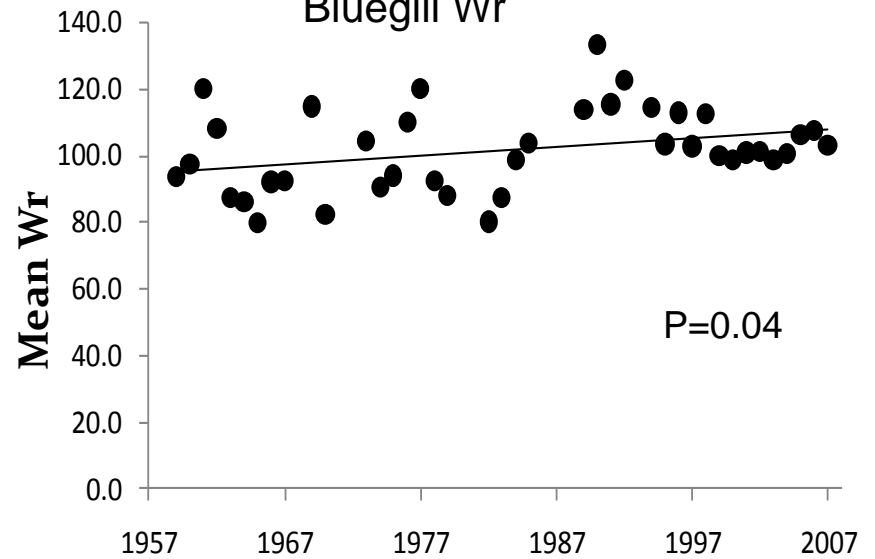


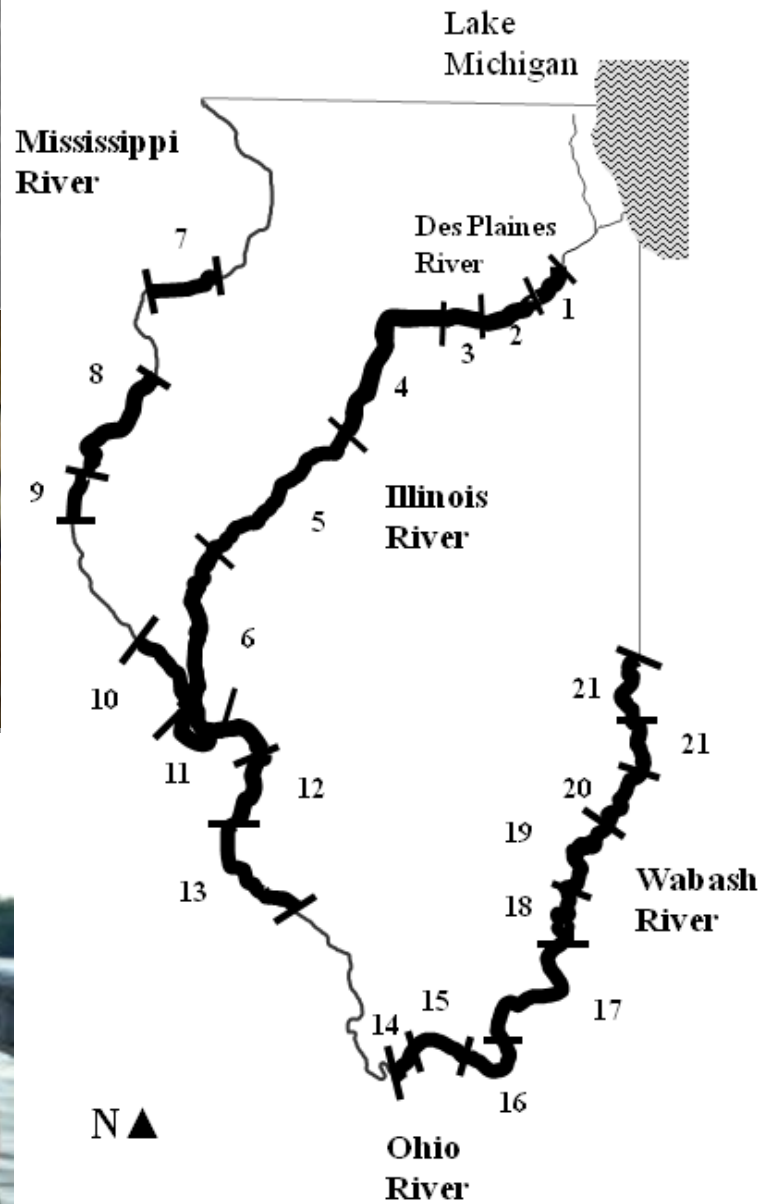
Asian Carp Influence on Sportfish

Largemouth Bass Wr



Bluegill Wr





Illinois Waterway
Illinois and Des Plaines Rivers

- 1 Dresden
- 2 Marseilles
- 3 Starved Rock
- 4 Peoria
- 5 La Grange
- 6 Alton

Mississippi River

- 7 Pool 16
- 8 Pool 19
- 9 Pool 20
- 10 Pool 25
- 11 Pool 26
- 12 Open River - Chain of Rocks
- 13 Open River - Kaskaskia Confluence

Ohio River

- 14 Confluence
- 15 Pool 53
- 16 Pool 52
- 17 Smithland Pool

Wabash River

- 18 Confluence
- 19 New Harmony
- 20 Mt. Carmel
- 21 Vicennes
- 22 Palastine

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Questions?

