

Fish Assemblages in Iowa's Non-wadeable Rivers: Relationships with Habitat and Sampling Methods

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Goals and Objectives:

- describe the presence and abundance of fishes in Iowa's non-wadeable rivers, and
 - determine appropriate sampling designs and gears for effectively sampling fishes in Iowa's non-wadeable rivers
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Progress:

In two field seasons (i.e. 2007 and 2008) 22 sites were sampled on 16 different rivers throughout the state of Iowa. A total of 23,204 fish, representing 84 species and 17 families, were sampled. Twenty-three species of greatest conservation need (SGCN) were sampled, as well as one state threatened species (western sand darter). There were three noteworthy collections: 1) the first spotted gar documented in an interior Iowa river 2) the first skipjack herring documented beyond the lower extremes of Iowa's interior rivers since the early 1900s 3) the first western sand darter recorded from an interior Iowa river since 1958. Preliminary analysis indicates that electrofishing sampled significantly more species than seining or trawling ($p < 0.001$). Additionally electrofishing samples had a significantly higher species richness (Shannon-Weaver) than seining or trawling ($p < 0.001$). Trawling sampled the greatest number of SGCN.

Future Plans:

Monte Carlo resampling techniques will be used to determine the appropriate number of reaches to be sampled with each of the three gears (i.e., electrofishing, seining, and trawling). Non-metric multidimensional scaling and stepwise multiple regression analysis will be used to describe relationships between fish assemblages and habitat characteristics. An age and growth assessment will be conducted on common carp, river carpsuckers, and sand shiners using structures taken during the two field seasons.