

Invited Talk: Invasion by Stages in the St Louis River Estuary

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Abstract: The St. Louis River estuary is recognized as an invasive species “hotspot” - the harbor ranks among the top locations in the Great Lakes reporting the first occurrence of new, aquatic non-native species. To date, 18 non-native benthic invertebrate, 4 non-native crustacean zooplankton, and 10 non-native fishes have successfully established populations in the system. Yet, the estuary is also a biodiversity hotspot, with over 200 native benthic invertebrate species, 36 native crustacean zooplankton species, and at least 40 native fishes. Only a few species that have invaded the estuary have become a nuisance. While some species such as ruffe, round goby, and zebra mussels have spread widely and obtained a relatively high and stable abundance, most non-native species remain obscure. As the Great Lakes busiest shipping port, the Twin Ports are highly vulnerable to non-native species introduction. Once introduced, both environmental and biological factors control the establishment success of these species. Indeed, the idea that these species will spread over time is not well-supported by biological survey data. Rather, an “invasion stage framework” is a biologically useful concept to consider the establishment and spread of non-native species. This framework can help reveal factors either helping or hindering the success of an introduced species in the estuary. As such, this framework is an important tool for considering the potential ecological, social, and economic impacts of an introduced species.

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Product: Not apply