

## **American Eel Habitat Use and Timing of Freshwater Entrance in the Mississippi River**

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The U.S. Fish and Wildlife Service (USFWS) announced October 15<sup>th</sup>, 2015 that the American eel population is stable and endangered status was not warranted. . Such a decision was based on information collected predominately from the east coast of North America with minimal information available from peripheral locations. Specifically, more information about American eels is needed throughout the Mississippi River Basin to fully understand the status of the panmictic American eel population. As such, our study aimed to garner further information about American eels and the interrelations to the potentially limited habitats occupied in the Mississippi River. To gain further knowledge we used data provided by the Long Term Resource Monitoring (1993 to 2015) to carry out Non Metric Multidimensional Scaling (NMDS) to identify habitat associations with American eel. Furthermore, a subsample of American eels was collected from 2011-2013 (via daily electrofishing) to identify timing of freshwater entrance into the Mississippi River via otolith microchemistry. From 1993 to 2015 a total of 154 American eels were collected which were most commonly located in habitats characterized by rocky substrate and low velocity (identified by NMDS results). From 2011-2013 a total of 40 American eels were collected for otolith microchemistry. Microchemistry results indicated American eels enter freshwater at approximately two years of age. With information provided by this study biologists may begin to understand residence duration of American eels in the Mississippi River and more specifically which habitats are important during that time period.