

INVASIVE SPECIES PATHWAYS: USING THE NAS DATABASE TO IDENTIFY CASE STUDIES FOR GAP ANALYSIS

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Invasive species are recognized globally as a major threat to native ecosystems and cost millions of dollars to manage. Aquatic invasive species (AIS) are nearly impossible to eradicate once introduced and are considered especially problematic. Preventing introductions of AIS is the most effective way to avoid the negative impacts they impose. Despite current federal efforts, new introductions of AIS are reported each year, indicating that prevention measures for specific introduction pathways are either ineffective or non-existent. To develop comprehensive management recommendations for improving AIS prevention, we are conducting a gap analysis of invasive species' primary and secondary pathways to determine where prevention measures are lacking. The results of this analysis will assist thirteen federal agencies involved in AIS prevention as well state governments that are responsible for regulating interstate transportation of AIS. We reviewed the U.S. Geological Survey's Nonindigenous Aquatic Species (NAS) Database containing over 1380 AIS documentation records to identify 15 AIS representative of 7 taxonomic groups (amphibians, reptiles, crustaceans, fishes, marine fishes, mollusks, and plants) and 8 introduction pathways (stocked, shipping, aquarium release, bait release, aquaculture, canals, pet escape, and hitchhiker). We narrowed the data by eliminating species based on origin, date of first documentation, number of records, and percentage of records within the last decade (since 2010). Our review will identify species to serve as case studies representative of the current state of management in a formal gap analysis of introduction pathways. The gap analysis will describe and quantify the difference between the current state of management and what we will establish as the ideal state. Upon completion of the gap analysis, we will evaluate whether new policies or other prevention measures are possible, identify tools available to managers for implementing new policies, and develop metrics to gauge the success of new prevention measures.

PRESENTER BIO: Zoey Hendrickson is a master's student in the SFFGS Fisheries and Aquatic Sciences program at the University of Florida. She received her B.S. in Biological Science from Florida State University and has worked for several years studying and increasing public awareness to the threats facing Florida's freshwater ecosystems.