The Michigan State University Invasive Species Initiative

DOUGLAS A. LANDIS[1], ROBERT AHERN[1], DOUGLAS SCHEMSKE[2].
[1]Department of Entomology, Michigan State University, East Lansing MI. USA. [2]Department of Plant Biology and Kellogg Biological Station, Michigan State University, East Lansing MI. USA

Nonindigenous invasive species present one of today's most important environmental and economic challenges. As a central hub for international travel and commerce, Michigan and the surrounding Great Lakes region are particularly vulnerable to invasive species introductions. As part of the MSU Invasive Species Initiative we compiled a database of the nonindigenous species in Michigan. Of the n= 1263 nonindigenous plants and animals known to occur in the state, plants account for the overwhelming majority (n=948). Terrestrial invertebrates (n=218), the second most numerous group, are dominated by insects (n=125), and although this value is large, it is likely dramatically underestimated due to a lack of census data. Aquatic invertebrates (n=56) are the next most numerous group and are dominated by crustaceans (n=25) while aquatic vertebrates are comprised solely of fish (n=21). Within the terrestrial vertebrates (n=17), birds (n=7) represent the largest taxonomic group followed by herpetological species (n=6) and mammals (n=4). Data on invasive plant and animal diseases are still being compiled. The majority of non-indigenous plants and animals in Michigan originated from areas within the Palearctic region, with only a small fraction (~30) originating in tropical areas. A relatively small number of species are Nearctic in origin, most having expanded their range into Michigan from other parts of the US. Rates of introductions vary considerably among taxa. Among the most frequent new exotics are aquatic invertebrates which were recorded at an average of 1.7 new species per year during 1990-2000.