Angler Participation, Recruitment, and Retention in Michigan, 1995–2004: Using Data-mining Techniques for Customer Relationship Management

Shari L. Dann

Michigan State University; Department of Community, Agriculture, Recreation and Resource Studies, 147B Natural Resources Building, East Lansing, Michigan 48824

Angelita Alvarado, Dain Palmer, and Brandon Schroeder

Michigan State University, Department of Fisheries and Wildlife, 16 Natural Resources Building, East Lansing Michigan 48824

Mark Stephens

Michigan State University, Department of Community, Agriculture, Recreation and Resource Studies, 131 Natural Resources Building, East Lansing, Michigan 48824

Abstract.–Angling has provided a significant customer base for fisheries and aquatic resource management, yet with concern over declines in angler numbers, there is a great need to use computerized point-of-sale data to track and analyze changes in angler demographics. The purposes of this study were to demonstrate data mining techniques, to examine angler population dynamics including recruitment and retention trends in the state of Michigan, and to make recommendations regarding customer relationship management (CRM). We compiled preexisting data from national and state sources, and developed detailed protocols for analysis of angler license data for license years 1995 through 2004. Complex preprocessing and deduping protocols allowed for an innovative analysis of data for distinct customers and for matching of customer records to track retention rates over time. The number of distinct Michigan angling customers declined 14.5% over only 10 license years. The total proportion of the Michigan population as distinct angling customers also declined, while the mean age of anglers has increased substantially. Two-year retention rates, particularly among male anglers, declined over the 10-year period, with some stabilization in the last two license years. This project demonstrates that data mining and CRM analysis approaches are feasible. Recommendations include: putting computerized point-of-sale data to greater use to identify CRM opportunities and investing in diverse CRM strategies to build relationships between agencies and customers. Through this work, fisheries agencies will achieve greater benefits for aquatic resources through long-term CRM.