



OAKLAND COUNTY PARKS HERPETOLOGICAL INVENTORY

Prepared for:



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May 2016

Suggested Citation: Environmental Consulting & Technology, Inc. and Herpetological Resource and Management. 2016. Oakland County Parks Herpetological Inventory. Herpetological Resource and Management Technical Report. Chelsea, MI 48118 205 pp.

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Executive Summary

This executive summary should not be used as an isolated document. It must be understood in the context of the entire report and serves only as a summary of the monitoring procedures and results.

In 2015, Oakland County Parks and Recreation (OCPR) engaged Environmental Consulting and Technology, Inc. (ECT) and Herpetological Resource and Management (HRM) to conduct a season long survey for herpetofauna species on County properties with the goal of better informing management decisions. OCPR staff identified the need for additional information regarding the presence and distribution of herpetofauna within the park system. Herpetofauna, or reptiles and amphibians, are sensitive to the quality of their environment, meaning they are relatively intolerant of environmental disturbance and/or pollution. Thus, their presence or absence can be used as a proxy to infer the quality of an ecosystem or as a surrogate for overall biodiversity. Although indicator species are an excellent monitoring tool, they are best viewed as an “early warning system” or “canaries in the coal mine” that signal to conservation managers when an environmental condition has changed. Since ecosystems are complicated synergistic systems, determining the exact cause of the change and how it is correlated generally requires further investigation using multiple indicators/measurements over prolonged periods to determine the specific cause(s) of impairment.

ECT and HRM examined twelve Oakland County Parks totaling approximately 6,700 acres. The 12 Parks included: Addison, Orion, Independence, Waterford, White Lake, Groveland, Springfield, Rose, Highland, Lyon, Glen, and Red Oaks. The primary herpetological survey areas, termed Priority Areas, were concentrated within a subset of these parks of approximately 1,200 acres of lakes, ponds, streams and associated wetlands and uplands. The project team established methodology necessary to complete a comprehensive herpetofauna survey designed to document amphibian and reptile diversity within the parks, assess habitat use and spatial distribution, and help identify habitat indicative of threatened, endangered or special concern herpetofauna species. In total over ninety herpetofaunal surveys were conducted from April into September 2015 within Oakland County. Surveys were conducted during appropriate weather conditions by teams of two to six biologists trained in the identification of herpetofauna. Surveyors performed time constrained meandering transects through properties surveying both aquatic and terrestrial habitats. Areas were searched for all life stages of amphibians and reptiles as well as evaluated as potential habitat for herpetofauna. GPS units were used to log herpetofauna information and location.

From April through September, ECT and HRM logged over 3,000 person hours in the field of survey effort and documented a total of over 16,000 herpetofauna across all parks. Addison Oaks had the largest proportion of herpetofauna species with over 7,000 recorded. Red Oaks was the only park where no herpetofauna species were observed. The herpetofauna species observed at each park were summarized in tables in the respective sections. Table 1 in Appendix D summarizes the total number of herpetofauna as well as the number of herpetofauna from each order observed at each park.

A total of twenty-eight species of herpetofauna were observed within the twelve Oakland County Parks surveyed in 2015 including sixteen species of amphibians and twelve species of reptiles. Of the twenty-eight species ten species are listed as SGCN by the WAP. These rare and declining or data-

deficient species include, Northern Leopard Frog, Pickerel Frog, Spotted Salamander, Eastern Tiger Salamander, Four-toed Salamander, Eastern Musk Turtle, Blanding's Turtle, Eastern Massasauga Rattlesnake, Northern Ribbon Snake, and Butler's Garter Snake. Additionally, two of these species the Blanding's Turtle and the Eastern Massasauga Rattlesnake are listed as Species of Special Concern. The Eastern Massasauga Rattlesnake was also recently suggested for listing under the Endangered Species Act as a federally Threatened Species.

Based on survey results, ECT and HRM determined management recommendations for each park, including techniques appropriate for park wide implementation and those particular to Priority Areas. These recommendations, designed to support herpetofauna populations, included: implementing specific management strategies to promote targeted species, such as Blanding's turtle and Eastern Massasauga rattlesnake; increasing the suitability of the habitat on site, such as adding woody debris and controlling invasive species; and large-scale landscape improvements, such as increasing connectivity and maintaining mosaic habitats. In addition, at each park the top three management objectives were identified to help OCPR staff focus effort on specific techniques and areas that will likely have the greatest impact in addressing the particular needs of each property. In general, the largest threat to natural areas across Oakland County Parks is caused by the pressures from human-related use in and around the parks. Large numbers of visitors presents an increased risk of for the spread of invasive plant species between parks and within the parks themselves. Invasive species were seen in abundance at many of the sites surveyed in 2015 and have the potential to dramatically reduce the quality of habitat available for herpetofauna and other wildlife species. However, HRM and ECT believe implementing the recommendations outlined herein will significantly improve the habitat quality for herpetofauna, and likely other native flora and fauna, across OCRP properties.