

The Black Creek Marsh Coastal Wetland Restoration at Lake St. Clair Metropark, implemented by the Huron-Clinton Metropolitan Authority (HMCA), will generate environmental data and information, including data regarding pre- and post-restoration water quality, as well as avian and fish populations and diversity. All monitoring and data collection protocols will be conducted per a NOAA-approved Quality Assurance Project Plan (QAPP), written upon commencement of the project.

Water quality parameters, such as temperature, dissolved oxygen, total dissolved and suspended solids, conductivity and pH will be recorded using hand-held water quality sampling meters at several locations within the Black Creek channel on at least three different dry weather days at a minimum of monthly intervals before and after the channel is restored. Water quality monitoring will be conducted by an aquatic ecologist from the Clinton River Watershed Council.

Additionally, pre- and post-restoration monitoring of the numbers and species of birds and fish using the Black Creek Marsh restoration area will be collected. The bird inventories will be completed by an avian biologist who has been collecting bird data at Lake St. Clair Metropark for many years. A standard protocol for the avian surveys has been consistently applied for years at this park and will continue for the 2015 and 2016 field seasons funded by this grant. This will allow the data to be completely comparable to previous years' data and more meaningful in the evaluation of longer-term trends in avian usage of the marsh. Avian surveys will be conducted using both transects and standardized point count methodology. To be consistent with data collection efforts from previous years in the Black Creek Marsh, waterfowl surveys will be conducted via monthly point counts from September through April, shorebird surveys will be conducted via monthly point counts from April through October, and breeding bird surveys will occur during June and July.

For monitoring fish populations, the proposed monitoring protocol consists of conducting population surveys using approved seining or shocking techniques along three, evenly spaced pre-selected transects within the historic Black Creek channel during one sampling event timed to occur between July 15 and August 30, before and after restoration. The primary objective of the study is to determine species diversity, distribution and relative abundance of fish species utilizing the newly restored channel. Sampling protocols will follow guidelines from the Michigan DNR's Manual of Fisheries Survey Method II (December 2006). Two data sheet

forms from the manual will be completed for each sampling event: Fish Collection, Survey Information and Fish Collection, Random Site One-Pass Run. The fisheries work will be completed by the same aquatic biologist from the Clinton River Watershed Council who will be performing the water quality monitoring.

The specific protocols for data collection for each of the parameters will follow those outlined in the final approved QAPP. Data will be collected in field notebooks and transferred to electronic spreadsheets for storage and analysis. Interim pre-restoration reports for each of the parameters (i.e., water quality, birds, fish) will be generated. Once the post-construction monitoring is completed, a final report for each of the parameters will be generated, comparing the data from before and after the restoration.

The collected data, details about our methods, and completed reports will be available to any member of the public upon request, free of charge, starting no later than May 1, 2015. The Project Team will share data and reports as they are generated through a web-based "portal" with access via a password assignment. Not only will NOAA staff be able to access data, reports, and other project documents (e.g., conceptual and final restoration plans, monitoring data sets, publications, presentations, survey and GPS data, and permits) at any given time, but also any interested party could request access to the portal and be able to download any of the available documents. This website/portal will be activated as soon as the pre-restoration monitoring begins, and data will be made available throughout the duration of the project and for at least one year after the grant closes. After that date, data requests can be made directly to HCMA:

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In the past, members of the Project Team have also shared similar data through grant progress reports and presentations at local, state, and regional conferences.