Workplan

for the

Lake St. Clair Coastal Habitat Characterization and Restoration Project

for the

National Oceanic and Atmospheric Administration Coastal Services Center

and the

Great Lakes Commission

under a Cooperative Agreement

and for the

Michigan Natural Features Inventory

Under Contract to the Great Lakes Commission

The Great Lakes Commission (GLC) will undertake a two year initiative characterize and assess Lake St.Clair coastal habitat, represent that information in a digital format, develop an integrated coastal management tool for coastal habitat and produce a draft habitat conservation and restoration plan to be refined and applied in concert with comprehensive management and planning efforts for Lake St. Clair. The GLC will be the principal investigator, fiscal agent and general project manager, and will chair and provide staff support to the Project Management Team (PMT). The focus area for the project has been defined to within 1 mile landward of the shoreline, including all islands, and submerged lands that support nearshore aquatic habitat within that area.

This work will be executed through eight discrete, yet sometimes overlapping tasks by the project partners as follows:

Scope of Work

This scope of work is to be implemented consistent with the project "Tasks And Timelines Table."

I. ESTABLISH PROJECT MANAGEMENT FRAMEWORK (GLC Lead)

A. Formalize Project Management Framework.

1. A PMT will be established by formal invitation and confirmation. The PMT will have an active role in providing data, information and technical expertise where relevant, as well as guidance on all project tasks. The PMT will be comprised of representatives of state/provincial, federal, tribal and local agencies; private interests; nonprofit organizations; and academic institutions with data, technical expertise or management responsibilities involving the Lake St. Clair coastal zone. The GLC will provide staff support to the PMT.

2. The GLC will also establish an Advisory Committee. The Advisory Committee will have a less active, but important role in providing general feedback and guidance on project tasks and will help to ensure that project products are built on and integrated with the larger Lake St. Clair management plan under development.

3. Additional Work Groups may be established over the course of the project. These work groups will be comprised of individuals with specific technical expertise or professional experience who will focus on a specific project task (e.g., development of the decision support tool, compilation of data for GIS layers, etc.).

B. Maintain Project Management Framework. The GLC will maintain electronic rosters with complete contact information for the PMT, the Advisory Committee and any work groups established. The GLC will also develop a listserv for the PMT and the Advisory Committee.

II. Characterize and Assess Lake St. Clair Coastal Habitat Status and Stressors/Develop GIS Database (GLC lead; MNFI lead for ecological component)

GLC will assemble existing data and information on the socio-economic components (e.g., transportation corridors, marinas, urban centers, population and land use trends) and will coordinate the assembly of this socio-economic data and information with the ecological data and information provided by MNFI. Data will be used to develop relevant GIS layers. Other information will be used to develop written materials for online publication and attribute data for the GIS data base.

MNFI will assist in the characterization of the Lake St. Clair coastal ecosystem by assembling existing relevant data on the ecological components (i.e., species, natural community, or other natural features) of the Lake St. Clair focus area. The ecological characterization will involve locating data sources, assembling data, and developing GIS data.

A. Inventory of Data Sources, Metadata, Local Habitat Plans and Past/Current Restoration Projects

The main in-house data layers that MNFI anticipates using are "Biotics_p" (an element occurrence layer), an 1800 vegetation layer, and the most current land use/land cover layer. MNFI anticipates that the Michigan Department of Natural Resources' (DNR's) Integrated Forest Monitoring, Assessment and Prescription (IFMAP) will be utilized for the land use/land cover layer. Another layer that has applicability and may be tapped to fulfill the binational aspects of the project is the data derived from LANDSAT 7. In addition, the National Oceanic and Atmospheric Administration Coastal Services Center (NOAA CSC) will develop and provide to MNFI a number of additional layers for the entire focus area, including aerial photography, that will be incorporated into MNFI's work as appropriate. This data is available for both Michigan and Ontario.

Other layers as available and appropriate will be sought by project partners. The project partners from which data may be readily drawn include members of the PMT, Advisory Committee, GLC, and NOAA CSC. Ecological layers will be integrated by MNFI. Ecological data that would be sought include digital data on natural features, local habitat plans, and past/ongoing restoration projects within the project focus area. Digital data may include the NOAA and Environment Canada shoreline sensitivity indexes, National Wetland Inventory, or other layers as available and appropriate. Socio-economic layers will be developed and integrated by the GLC.

B. Data Compilation

MNFI will compile digital data on element occurrences and their correlating elements. An element occurrence is the species, natural community, or other natural feature such as a bald eagle. An element occurrence is the actual place where an element is located such as a nest, population of a rare plant, or natural community such as a marsh. Primarily this data will be compiled from in-house archives. Other project partner data that has potential for incorporation will be reviewed for compatibility and integration by the PMT and passed to the MNFI through the GLC.

The GLC will compile digital data on socio-economic features of the Lake St. Clair nearshore area where available. Possible data includes: population centers, land use, transportation corridors and boat marinas. The GLC will compile all data layers–ecological as provided by MNFI and others as well as socio-economic data into a single GIS data base.

C. Analysis of Data and Information

MNFI will provide results from existing analysis tools for expressing MNFI data including probability and frequency of known element occurrences. Probability displays the likelihood of encountering an element occurrence within a given area. Frequency displays the number of element occurrences within a given area.

MNFI will use the element and element occurrence data and input from project partners to establish defining criteria to develop an "ecologically significant site" data layer. The element occurrence data will be digitized based upon the best available information short of conducting actual ground-truthing exercises. A "vegetation change" data layer and "potential conservation areas" data layer will also be generated.

GLC will analyze socio-economic data and information to identify trends that are or can impact coastal habitat conservation and/or restoration either positively or negatively. This will help inform the identification of areas for conservation and/or restoration as well as policy and management options that will be incorporated into the draft habitat conservation and restoration plan.

D. Data Matching/Information Gaps

MNFI will identify information gaps on state and federally listed species and rare and exemplary natural communities within the Michigan portion of the Lake St. Clair focus area. Information gap analysis will be specifically targeted at element occurrences. MNFI staff will analyze existing in-house data, IFMAP, aerial photography, and other resources to identify information on which specie and community types are found to be lacking or absent and in which coastal habitats they are found. Ecological data prepared by MNFI will correlate as closely as possible, without losing geospatial or data detail, with information available from Canadian and First Nation counterparts. MNFI will assist the project partners, to the extent possible, to integrate ecological data for the entire Lake St. Clair focus area. Socio-econimic data compiled by the GLC will correlate as closely as possible, without losing geospatial or data detail, with information already available on existing GLC data layers. GLC will assist the project partners, to the extent possible, to integrate socio-economic data for the entire Lake St. Clair focus area.

III. Integrated Coastal Management Tool Development

NOAA CSC will have primary responsibility for development of the ICM tool/Decision Support System. The development will proceed in three phases that will require 18 months.

1. Tool Design. This task will be completed during months 1 through 12. The tool design requires a concept, development requirements, a system design, and a prototype. NOAA CSC will work with the Decision Support Work Group (Sub-Group of the Project Management Team) to formalize the tool design. The software concept will describe the basic functionality of the tool; what types of analyses will be performed, and what type of output will be available.

2. Development. This task will be completed during months 7-18. Phase 2 builds the tool as described in the Phase 1 Tool Design. The end of this phase occurs with an alpha release of the decision support system. It is expected that the alpha release will be used for the coastal habitat analysis.

3. Refinement. This task will be completed during months 18-22. Phase 3 will incorporate internal and external reviews, bug fixes and a final finished product release.

MNFI will primarily be responsible to provide to the project partners those components that address the natural features and resources for the Lake St. Clair focus area described in this project. These specifically include the elements, element occurrences, ecologically significant sites, and potential conservation areas identified or derived from analysis by MNFI in concert with project partners. GLC will have primary responsibility for providing NOAA CSC with those components that address socio-economic features for the project focus area.

In cooperation with NOAA CSC, MNFI will explore new methods and tools for expressing MNFI data and information to improve land use decision-making process, such as the development of a conservation value layer that would prioritize a given area based upon attributes of element occurrences found there. If it is felt at the outset of this effort that a repeatable and exportable process can be developed and integrated within the ICM, MNFI will seek concurrence of the project partners.

IV. Develop Draft Coastal Habitat Restoration and Protection Plan

GLC will have primary responsibility for the development of the draft Lake St. Clair Coastal Habitat Characterization and Restoration Plan. A series of management priorities will be identified based on the outcomes of Tasks Two and Three to develop: 1) a set of long-term objectives for managing the Lake St. Clair coastal habitat; 2) a set of conservation priorities for the project focus area; and 3) and a set of priority coastal areas for eventual restoration projects. MNFI's work will directly contribute to each of these priorities. In cooperation with the PMT and using the ICM tool where appropriate, the GLC will incorporate these priorities into a draft coastal habitat restoration and conservation plan for Lake St. Clair. The plan will recommend specific actions that need to be taken, lead agency(ies) responsible for implementing those actions and methods to assess progress toward the improvement of coastal habitat in the Lake St.

Clair basin. NOAA CSC will contribute to specific chapters as requested by the GLC. Internal and external reviews will be conducted by the PMT and the Advisory Committee during the last project quarter. The GLC have lead responsibility for ensuring that the draft habitat restoration plan will be integrated into the Lake St. Clair management plan under development.

V. Quality Assurance/Quality Control

GLC, NOAA CSC and MNFI will each operate under their own QA/QC plans for the duration of the project. Additional cooperative or independent plans will be developed as necessary. Consistent with the Research Agreement between GLC and MNFI, MNFI will utilize standardized in-house methods for quality assurance and quality control in the acquisition, use, and analysis of all data related to this project. Also, MNFI will conduct quality assurance and control for the element occurrences located within the project focus area. Upon request, the GLC shall submit its plan to assure quality to NOAA CSC. Upon request, MNFI shall submit its plan to assure quality to the GLC.

MNFI will also supply metadata for all data layers either developed specifically for this project or those existing in-house data layers that are utilized in the development of project products. This metadata will be provided to GLC as parsed Federal Geographic Data Committee (FGDC) compliant hypertext markup language (HTML) files. The FGDC compliant metadata include information on data identification, data quality, spatial data organization, spatial reference, entity and attribute, distribution, and metadata reference. Metadata text files delivered by MNFI to GLC will be run through a "chew and spit (CNS) metadata preparser and metadata parser. In addition, all data generated and/or displayed and incorporated into project products will be FGDC compliant.

VI. Material Publication

The GLC and the Center will each publish outreach material as necessary. The final publication of products from project tasks will be to web sites and/or CD-ROMS. The exception is the draft habitat conservation and restoration plan, a limited number of which will be published in hard copy as well as on the web.

VII. Training Material Development

NOAA CSC will take the primary role in developing training material for users of the GIS resource and the ICM Tool. The development of these materials will be completed during Phase 3 development of the ICM Tool and the final stages of the GIS Resource development.

VIII. Online Material Development

The GLC will take the lead in developing a web site that displays project information, including major milestones and project management as well as all final products that are appropriate for online publication. The web site will include data and information on ecological components (prepared by MNFI) and socio-economic components (prepared by the GLC) of Lake St. Clair

coastal habitat. This online information will be prepared based on data compiled and analyzed for the GIS data base, but will not be a "GIS online" product *per-se.* Rather, the web site will feature graphics, maps and other images, narrative and other features to allow the average user to access to the variety of information compiled that characterizes and assesses Lake St. Clair coastal habitat. GIS data layers will be available for downloading or via CD-ROM. The GLC will ensure that the final web site developed for this project is integrated within the Great Lakes Information Network (www.great-lakes.net).

MNFI will prepare abstracts similar to those found on their web page "Michigan Natural Features Inventory - Plant, Animal, and Community Abstracts" at URL:

http://www.msue.msu.edu/mnfi/abstracts.htm

in a detail appropriate for use with the overall project goals and as agreed upon by the project partners. The abstracts will include images, graphics, and information on status, range, distribution, recognition, habitat, biology, management, research needs, and references. These abstracts will be prepared for the elements found within the focus area. Abstracts will be prepared as Adobe® portable document format (.pdf) files. The abstracts and metadata prepared by MNFI will be available to the general public on the final project web site, which will be developed by the GLC.