

**** FINAL DRAFT SUBMITTED 4/15/15****

**Elk River Chain of Lakes (ERCOL):
Watershed Protection Plan Project**

Client:

Tip of the Mitt Watershed Council in partnership with
The Watershed Center Grand Traverse Bay and
The ERCOL Watershed Plan Implementation Team (ERCOL-WPIT)

Project Members:

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INTRODUCTION

The purpose of this document is to give the SNRE Team a clear sense of what is needed for successful completion of the ERCOL Watershed Protection Plan Project and a basic road map of how to get there.

The purpose of the overall Project is to develop the **first draft** of a comprehensive Watershed Protection Plan and a framework of implementation for a critical sub-watershed of Lake Michigan's Grand Traverse Bay: the ERCOL in Antrim County. As noted in our proposal, "We need a team of students to do the field work, including some monitoring and several inventories; help with the baseline social survey work; create appropriate maps and tables; develop an Information and Education Strategy; hold informational town halls; and write a comprehensive first draft of a watershed management plan for ERCOL, according to the EPA's Nine Elements. You will have strong mentoring and guidance, along the way."

The two primary questions we seek to answer are, A) what is the current state of the ERCOL watershed; and B) how should a scale-specific Watershed Plan be designed to best protect and restore water resources for the ERCOL into the future. The Project is divided into two major components: *Watershed Assessment* and *Watershed Plan Development*.

The *Watershed Assessment* component entails investigation of the non-point source pollution issues affecting the water quality in the Chain of Lakes, resulting in subsequent data generation, compilation, and analysis. A comprehensive search must be done to find and assemble all existing water quality, natural resource inventories and other relevant data. This information is readily available to you from the ERCOL-WPIT, but it must be organized and reviewed for any gaps or missing details.

The *Watershed Plan Development* component of the Project uses the information from the first component, in addition to public participation efforts, to develop the very important first draft of a Watershed Protection Plan for the Chain of Lakes. We will specify what should be included, below.

We asked the SNRE Team to review the lists under Objectives found below; prioritize them; and confirm what they can do, given the time they have to work, as a team. After doing that and having an in-person meeting, we finalized the project plan to be clear about exact expectations for the project.

Once the SNRE Project is finished, the ERCOL-WPIT will then take on the task of completing anything required to finish the plan and submit it for approval. Upon approval and publication of the final Plan, the SNRE Project Members will be very prominently acknowledged for their critical input and hard work to produce the final Plan.

Additionally, this Watershed Plan will be a sub-plan of the larger Grand Traverse Bay Watershed Protection Plan, which is due for an update soon. Currently, the larger Plan includes the ERCOL; this Project focuses on the ERCOL and devotes an entire, standalone Plan to this important sub-watershed. Thus, the watershed management plan and implementation for the ERCOL must be coordinated synergistically with the Grand Traverse Bay Watershed Protection Plan update.

Ultimately, the ERCOL Watershed Protection Plan will be submitted for approval by the Michigan Department of Environmental Quality (DEQ) and the US Environmental Protection Agency (EPA).

To create the first draft, the SNRE Project will include a good amount of public participation. As with most watershed planning efforts, this Plan includes the added twist of the multi-jurisdictional protection of these water resources. One of the biggest challenges in any watershed planning project is stakeholder involvement, and approval of the plan. A broad range of water users and interested parties must be included in the process to attain success.

GOAL AND OBJECTIVES

Goal

Create a scale-appropriate first draft of a Watershed Protection Plan for ERCOL that is vetted and supported by local stakeholders.

Objectives

Watershed Assessment

1. Literature and data research to compile all available data for the ERCOL sub-watershed of Grand Traverse Bay.
 - a. Summarize all work, including managerial BMPs completed in the ERCOL in the last 10 years, in accordance with the existing plan.
 - b. Compile relevant background information about the ERCOL, including surface waters, geology, climate, historic land use, recreational use, and other background information, and synthesize into a narrative about the ERCOL.

- c. Go to USEPA, DEQ, USGS, GTBB, etc. to seek out and compile all historical data and summarize the following key elements. This list includes all the elements that need to be in the final plan. It is understood that the ERCOL-WPIT will work on anything that is not completed in the SNRE first draft. The SNRE Team will concentrate on the items that are marked this way: *
- i. Water Quality Monitoring (includes Health Dept. data on beach monitoring) *
 - ii. Stream Hydrology (Discharge and Geomorphology) *
 - iii. Biological Inventories *
 - iv. Land Cover and Land Conservation *
 - v. Agriculture and Forestry Inventory *
 - vi. Stormwater and Impervious Surfaces *
 - vii. Septic System and Sewer Information *
 - viii. Road Stream Crossing Inventories
 - ix. Stream Riparian Surveys
 - x. Lake Shoreline Surveys
 - xi. Wetland Inventories/Assessments
 - xii. Groundwater Monitoring/Modeling
 - xiii. Aquatic Habitat Surveys
 - xiv. Aquatic Invasive Species Management
2. Organize compiled data into databases, reports, or other formats. Be sure all data is summarized and gathered according to standards expected by EPA's "Nine Elements" for watershed plans.
 3. Review and assess the information to determine lakes and streams/watershed health, data gaps, non-point source pollutants and other stressors, priority parcels analysis, as well as priority areas for protection and critical areas for remediation.
 4. Perform resource inventories and water quality monitoring, as needed, for ground-truthing and to fill gaps found in existing data analysis (item 1.C above).
 - i. Agriculture and Forestry Inventory (meet with USDA & DNR; conduct windshield surveys afterward, as needed)
 - ii. Stormwater and Impervious Surfaces (data already there, may need some ground-truthing)
 - iii. Road Stream Crossing Inventories **
 - iv. Stream Riparian Surveys **

*** For RSX and Stream/Riparian Surveys, we will have to sit down, assess what has been done, what needs to be done, and prioritize, based on the amount of time the team has left.*

5. Gather and develop GIS data layers to perform spatial analyses, run relevant models, and develop maps depicting relevant information gathered for the watershed. The Watershed Center and Tip of the Mitt Watershed Council will advise you on use of the various relevant models.

Watershed Plan Development

1. Coordinate and participate in the agenda of two Town Hall-style meetings for citizens and local officials throughout summer 2015 to get input, feedback, and guidance from local stakeholders. This includes setting up meeting agendas, presentations, and synthesis of meeting results. It will also include tasks that require coordination with TOMWC policy intern to create and distribute promotional materials, contact local stakeholders, reserve meeting space, and other similar logistical considerations.
2. Summarize all information and education efforts outlined from the existing watershed plan to develop first draft of the information and education strategy.
3. Collaborate with stakeholders to formulate strategies and develop a framework for watershed plan implementation steps. Identify and produce a matrix detailing resources needed for each implementation task. Identify costs, milestones, timelines, potential partners and funding sources for each project. This will include a basic set up of a matrix (not completely filled out) and two half day workshops with ERCOL-WPIT in which the SNRE Team informs members of what they have compiled throughout the last year. Limited effort will be directed toward assigning priority plan implementation to particular groups or particular funding sources.
4. Develop a water quality summary narrative for inclusion in the Plan, as well as summaries for resource inventories.
5. Draft evaluation strategy (as detailed in EPA Nine Elements requirements) to track both progress of the implementation of watershed plan and water quality improvements.
6. Develop comprehensive watershed management plan (draft) that has been formatted into a report including table of contents, chapters and sections, a matrix of implementation steps, and all other EPA Nine Elements requirements.

PRODUCTS

- Deliverables: What documents/products/reports will the team deliver upon completion of this project?
- Implementation: How will project outputs be used by the ERCOL-WPIT? Will the project team's recommendations be shared with a broader network/audience?

Deliverables:

1. Comprehensive inventory of existing data and information for the ERCOL watershed, including GIS data layers and maps. Final GIS data will be shared in organized Geodatabases format based at completion of the project.
2. Additional data collected to fill gaps identified through the resource inventory within the following elements:
 - Water Quality Monitoring (includes Health Dept. data on beach monitoring) *
 - Stream Hydrology (Discharge and Geomorphology) *
 - Biological Inventories *
 - Land Cover and Land Conservation *
 - Agriculture and Forestry Inventory *
 - Stormwater and Impervious Surfaces *
 - Septic System and Sewer Information *
3. A detailed assessment and summarization of lake and stream ecosystems and watershed health for ERCOL, including a complete pollution source and threats inventory following EPA's "Nine Elements" process for watershed plans.
4. Participate in two Town Hall meetings held that include educational and outreach materials for watershed residents, businesses, and local elected officials. Organization and meeting logistics to be performed in coordination with the TOMWC summer Policy Team intern.
5. The first draft of an information and education strategy.
6. A framework for watershed plan implementation that includes a matrix detailing implementation tasks, costs, project milestones, timeline, priority for completion, and potential partners and funding sources for each implementation task. Project team will focus on finalizing formatting and main components of the matrix. Other sections will remain in draft format for the final deliverable.
7. Comprehensive first draft of a watershed management plan for ERCOL containing all elements required by EPA for watershed plan approval.
8. Present final draft document to ECROL-WPIT team to identify future efforts to complete watershed management plan.

Implementation:

All of the listed outputs will be used to create the final plan from the draft presented by the SNRE team. The plan developed with help from the SNRE team will be used by stakeholders throughout the ERCOL Watershed for the next ten years to guide watershed management efforts and implement recommendations that reduce and protect water resources from nonpoint source pollution. This plan will also provide the framework for future plan updates. Their recommendations will be shared very broadly; all local government entities in the ERCOL will get copies of the final plan, in addition to local Lake Associations and conservation and environmental groups in the area.

The TASK TIMELINE and PROPOSED BUDGET can be found on separate documents.