LAKE SIMCOE BASIN PRE- TO POST-DEVELOPMENT PHOSPHORUS (P) BUDGET TOOL

Software / Nutrient Management

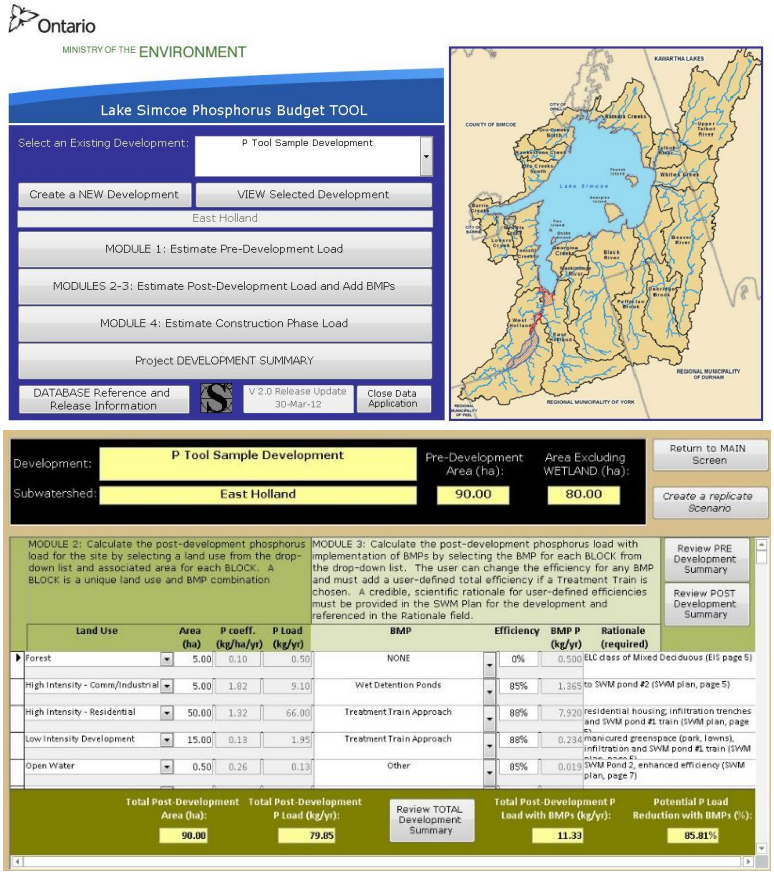
Phosphorus Budget Tool in Support of Sustainable Development for the Lake Simcoe Watershed

Client: Ontario Ministry of the Environment: Completed 2011.

Lake Simcoe is impacted by nutrients from land use activities in its watershed and has, for many years, been the focus of efforts to protect and restore its water quality. The *Lake Simcoe Protection Act* was passed by the Ontario legislature in 2008 and required establishment of the Lake Simcoe Protection Plan (LSPP). This award-winning Plan was approved in 2009 and includes policies that are intended to restore water quality and other ecological attributes.

This project saw the development of a unique software tool (with documentation) by an Ontario-based team in response to Policy 4.8e of the LSPP, which states:

> *"An application for major development shall be accompanied by a stormwater management plan that demonstrates...*
>
> *e.) through an evaluation of anticipated changes in phosphorus loadings between pre-development and post-development, how the loadings shall be minimized."*



The "P-Budget Tool" was developed by Greenland and Hutchinson Environmental Sciences. A land use export coefficient approach was used and based on results from calibrated and un-calibrated subwatershed models of the Lake Simcoe Basin. These models were developed previously by Greenland™ using CANWET™. The P-Budget Tool was designed to assess pre- to post-development load conditions, construction phase impacts, and applications of Best Management Practices (or BMPs).

The P-Budget Tool was intended to standardize the assessment of pre- to post-development phosphorus loadings and encourage Ontario's development industry to design for phosphorus load reductions in their stormwater management plans. Stakeholder workshops were also completed by the project team.