

Canadian Wetland Inventory Progress Map

URL: <http://www.ducks.ca/cwi/>

Purpose

Ducks Unlimited Canada, the North American Wetlands Council (Canada) and partners have developed a status map to show areas of the country where a CWI-compatible inventory is either in progress or complete. Until now there has been no “one stop” website to access this type of information, especially in a geospatial context. A significant portion of Canada has been mapped or is in progress. The purpose of this application is to provide partners, communities of interest and the public with access to an interactive progress map which shows the location, status and other important information about CWI-compatible inventories across Canada. By clicking on an inventory polygon you can find the agency responsible for the inventory along with the year, status, size, contact information and partners involved. This map application also permits the visualization of detailed wetland polygons and attribute information for certain areas where wetland inventory data have been made available

Conservation Issue

In 2002, the Canadian Wetland Inventory (CWI) partnership was established between Environment Canada, Canadian Space Agency, Ducks Unlimited Canada and the North American Wetlands Conservation Council (Canada). Since that time, CWI partners, including several provinces and academic institutions, have developed standards for detecting, classifying and mapping wetlands by the different wetland types across Canada.

The objectives of the CWI are to provide a national wetland map that can be used for the conservation and sustainable management of wetlands for environmental and societal benefits and to provide easy access to standardized digital wetland mapping products.

Wetlands are among the world’s most productive ecosystems. Unfortunately, wetlands are also one of the Earth’s most threatened ecosystems. Wetlands provide a suite of environmental services that contribute to human health and economic well being. Wetlands function as natural water retention ponds, prevent flooding, filter and purify water, replenish and store groundwater, reduce erosion and protect shorelines. Wetlands provide exceptional biodiversity. One-third of Canada’s species at risk depend on wetlands for all or part of their lifecycle. Wetlands will also play a crucial role in the future of climate change. While they occupy only six per cent of the world's land surface, wetlands hold twice the carbon found in the tropical forests of the world. Despite their value, up to 70 per cent of wetlands have been lost or degraded in Canada as a result of urbanization, agriculture and industrial expansion. It is estimated that Canada has roughly 25 per cent of the world’s remaining wetlands. Currently, Canada lacks a comprehensive inventory of wetlands to be used in decision making and as a baseline for future monitoring of wetland status and trends.

Benefits

The CWI Progress Map will make existing wetland information more accessible and useful for planning and decision making. It will give partners and the public a map-driven overview of wetland inventories in Canada by ecozone. This will help answer basic questions crucial to wetland management:

- Where are the remaining wetlands?
- How much area do they cover?

- What type of wetlands are they?
- Are they threatened?

The CWI will be an invaluable tool to help:

- Support environmental assessment and sustainable development planning
- Model wetland carbon storage and climate change
- Develop policy based on science for all levels of government
- Manage wetlands to sustain their functions and values
- Measure performance towards sustainability objectives and assess the effectiveness of conservation programs
- Focus conservation, restoration and scientific research programs
- Provide a foundation for national wetland monitoring
- Maintain the well-being of all Canadians
- Carbon budgeting
- Enhanced management of water quantity and quality

The CWI Progress Map will identify gaps in wetland information and help focus resources and support to those areas of Canada where wetland mapping is inadequate. The application will also recognize the efforts of various partners who have contributed to mapping this critical resource.

Design

The intended audience was diverse including; research scientists, conservation partners, land developers, resource managers, private landowners, government agencies at all levels, environmental groups and the general public. The application was designed with the Flex API so that it would run on almost any computer, including those inside government networks. Simplicity and ease of use were top of mind. This is a focused application that performs efficiently and is intuitive to a wide range of computer users. The number of tools was kept to a minimum and the identify works without having to invoke an explicit tool. This was intentional so that non-GIS users would find the application intuitive and comparable to other popular web-base mapping applications. The use of transparency on key layers is extremely useful for viewing imagery underneath wetland polygons. The “inventory search” and “generate report” tools are useful for accessing summary information at the provincial level for viewing or printing. The “partner” tool is a great way to recognize the support of various governments, private agencies, and companies with logos and links to their sites.

The CWI Progress Map was released very recently and within days the value became evident as wetland mitigation became an important issue in some urban areas of Canada.