

Water for Life:

Nova Scotia's Water Strategy
Progress Report, May 2014

Understand

NS Well Logs Database

The Nova Scotia well logs database is a searchable electronic database of location, depth, and water quantity yield from wells dug or drilled in Nova Scotia. In 2013 the database was updated to include 2012 wells, bringing the total number of wells in the database to 117,000.

NS Groundwater Observation Well Network

The Nova Scotia Groundwater Observation Well Network is a series of observation wells for monitoring groundwater quality and hourly groundwater levels across the Province. In 2013 two new observation wells were added at Simms Settlement and Maitland, bringing the total number of active provincial wells to 40. In addition, the province continues support for the Ecology Action Centre groundswell project which monitors a number of community-based observation wells.

NS lakes survey/inventory, surface water monitoring

The NS Automated Surface Water Quality Monitoring Network and the NS Lake Survey/Inventory program are two initiatives where surface water is monitored across the province. In 2013 water quantity and quality were monitored on an hourly basis at five river network stations, and seven lakes were added to the NS Lake Survey/Inventory program, bringing the total number of lakes sampled in the province to 1,232. Searchable electronic databases of 40 water quality and quantity parameters were updated in 2013 for these programs to include 32 additional (grab) water samples, 1280 water quality records, and nearly 44,000 hourly meter readings.

Study to support the protection of trout habitat

A project was initiated in partnership with Nova Scotia departments of Natural Resources, Fisheries and Aquaculture, and Environment to determine whether there is a relationship between the

baseflow percentage of total stream flow, and other hydrogeologic criteria, with stream temperature. In 2013 a spatial database was compiled including NSDFA stream temperature data combined with DNR baseflow estimations and other hydrogeologic criteria. The data will be analyzed in 2014 to assess the potential application of hydrogeologic criteria to predict the distribution of suitable salmonid habitat in the province.

A survey of naturally occurring methane in well water in Nova Scotia

In 2013, the department of Natural Resources collaborated with Natural Resources Canada to carry out a survey of methane levels in water wells located in the Carboniferous Basin of Nova Scotia. Approximately 100 water wells were tested for methane and follow up testing for higher-chain hydrocarbons, as well as hydrogen and carbon isotopes of methane, was completed for wells where elevated methane concentrations were identified. The companion report "Methane in Groundwater in Nova Scotia" provides detailed results of 2013 project activities.

Nova Scotia Watershed Assessment Program (NSWAP) Atlas

In 2013 the NSWAP project made significant progress on the development of a watershed assessment atlas for Nova Scotia. A total of 295 watersheds were studied and ranked against each other using variables that represent threats to the aquatic environment. The assessment identifies the most threatened watersheds, enabling informed comparisons among watersheds, and identifying where to focus resource management efforts. Achievements included completing new GIS layers for managed areas, soil erosion, and threatened watersheds, submitting a publication in the *Journal of Hydrology special issue on Urban and Regional Water Management*, and completing the layout for the atlas document. The atlas was released in March 2014.

Protect

Flood Mitigation Project

The Nova Scotia department of Agriculture has completed the first year of flood mitigation work providing provincial leadership in preparation for climate change. A series of projects were completed representing the various challenges facing the Nova Scotia provincial dyke system. A total of two-million dollars was budgeted for the various projects with one project remaining which was completed March 31. A prioritization model was created to ensure projects met design standards, community infrastructure protection, and agricultural marshland protection. Projects for the next fiscal year are currently being planned.

Storm water management workshop

In June 2013, Nova Scotia Environment supported Clean Nova Scotia and the Ecology Action Center in hosting a stormwater workshop entitled **NS SWIMS - Stormwater Innovation: Management and Solutions**. More than 90 individuals representing municipalities, the province, consulting agencies, developers, not-for-profit organizations, and other private-sector groups came together to learn about and discuss stormwater management issues and solutions for Nova Scotia. Participants heard from experts on practices and regulations that have been applied in Nova Scotia and/or in other North American jurisdictions, highlighting which tactics worked best, and why. Copies of presentations can be viewed at clean.ns.ca/programs/water/ns-swims/.

2002 Drinking Water Strategy Renewal

Nova Scotia Environment staff have begun work on renewing the 2002 Drinking Water Strategy. The renewal project will evaluate the current state of the drinking water program and update the 2002 strategy, with a focus on municipal and registered public drinking water supplies such as bed and breakfasts, campgrounds, and restaurants that use a private water supply. Staff have conducted targeted stakeholder consultations to identify issues in the Drinking Water Program, and are currently working to identify solutions. This work will ensure continuous improvement in protecting and regulating our drinking water supplies. A draft renewed strategy is expected to be ready by the end of 2014.

Engage

CURA H2O Community-Based Water Monitoring Program

In 2013 CURA H2O, a five-year project focused on increasing community capacity for integrated water monitoring and management in Canada and internationally, launched an online data repository for all groups that are collecting water quality information under the WET-PRO project. This is an exciting milestone in the development of community-based water quality monitoring. The database serves as a central location for all water quality data provided through this program. Throughout the year groups have been uploading their data and now the database has water quality data that spans Nova Scotia, New Brunswick, Newfoundland, PEI, and globally to Africa and Asia! Here is a link to the 2013 project summary: curah2o.com/wp-content/uploads/CURA-H2O-December-2013-Annual-Project-Summary.pdf.

Environmental Home Assessment Program

The Environmental Home Assessment Program (EHAP) continued to help Nova Scotians understand the importance of their on-site water wells and septic systems, and heating oil tanks. In 2013 EHAP completed 400 environmental home assessments and provided 67 septic repair grants. New in 2013, homeowners were also provided with a voucher to assist with the costs of well water testing.

Rural H2O program wrap-up

Clean Annapolis River's Rural H2O program was announced in 2012 as a two-year pilot program to provide rural homeowners in Western NS with information on water use on their properties. Participants learned about drinking water quality, septic systems, stormwater and riparian zone management and were provided with bacteria and chemical drinking water tests. A final report on the program is being completed and will include information on the well water test results. This data will be helpful in further understanding our groundwater resources.

