



SOUTH NATION
CONSERVATION
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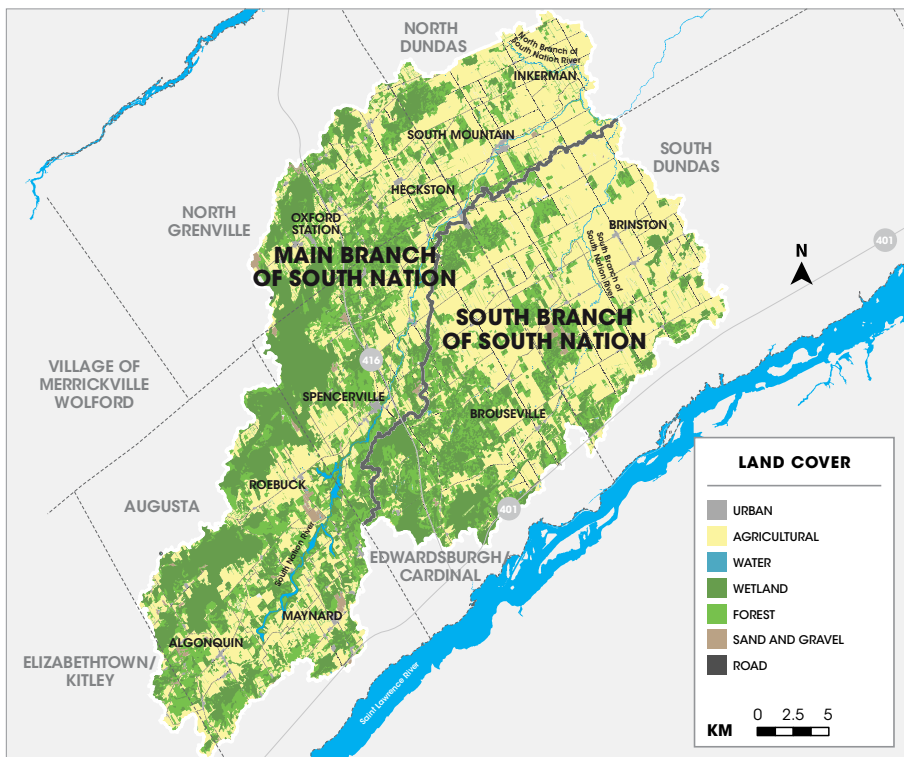
UPPER SOUTH NATION

SUBWATERSHED REPORT CARD

NOVEMBER 2019

SOUTH NATION CONSERVATION

SOUTH NATION CONSERVATION (SNC) works with partners to conserve, restore, and manage natural resources in local watersheds. Monitoring helps us better understand our watershed, focus our efforts where they are needed most, and track changes over time. The South Nation River gets its start through a series of wetlands in the Upper South Nation Subwatershed. The Upper South Nation Subwatershed is part of the larger South Nation Watershed and comprises parts of the following townships: Elizabethtown-Kitley, Augusta, North Grenville, Edwardsburgh/Cardinal, North Dundas and South Dundas. This report is a snapshot of current conditions, using key indicators such as forest, wetland, and water resources. Resource conditions will be revisited within 5 years to review changes and trends.



UPPER SOUTH NATION SUBWATERSHED

DRAINAGE AREA

795 km²

CATCHMENT AREAS

MAIN BRANCH OF THE SOUTH NATION RIVER – 483 km²

SOUTH BRANCH OF THE SOUTH NATION RIVER – 312 km²

SNC MAINTAINS AND PROTECTS 4,384 KM² OF EASTERN ONTARIO



Spencerville Poker Run on the South Nation River

WHAT IS SOUTH NATION CONSERVATION DOING?

PROTECTING THE SNC JURISDICTION

SNC is a local organization with a mandate to conserve, restore, and manage the water, land, and natural habitats of the SNC jurisdiction, a 4,384 km² area. SNC works closely with partner municipalities, government agencies, individual landowners, and community groups to maintain and improve the natural environment.

FLOOD FORECASTING AND WARNING, AND LOW WATER RESPONSE

Data, including weather information, water levels and flows, snow pack, and ice conditions, are used to help protect life and property from natural hazards such as high and low water conditions. For watershed conditions, visit www.nation.on.ca

SUSTAINABLE DEVELOPMENT

Land use planning input and administration of Ontario Regulation 170/06 (Development, Interference with Wetlands and Alterations to Shorelines and Watercourses) ensures the protection of people and their property, and that development does not negatively impact wetlands, shorelines, or waterways.

EDUCATION, OUTREACH, AND STEWARDSHIP

Public workshops, school programs, and local events provide environmental education opportunities. Programs exist to provide technical advice and financial assistance to landowners to implement stewardship projects that enhance and protect the jurisdiction.

ENVIRONMENTAL MONITORING AND REPORTING

Data collected through a variety of monitoring activities, including surface water, groundwater, and fisheries sampling, is used to evaluate and report on existing watershed conditions, identify changes, and target stewardship activities.

FORESTRY PROGRAM

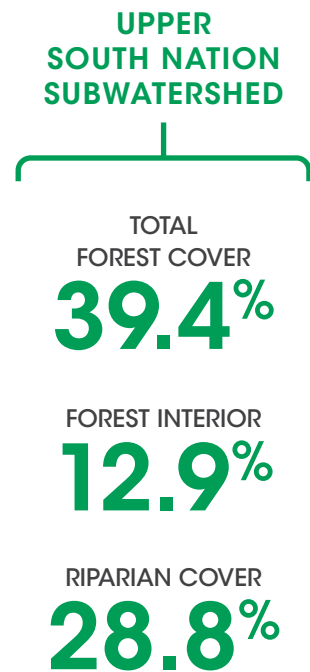
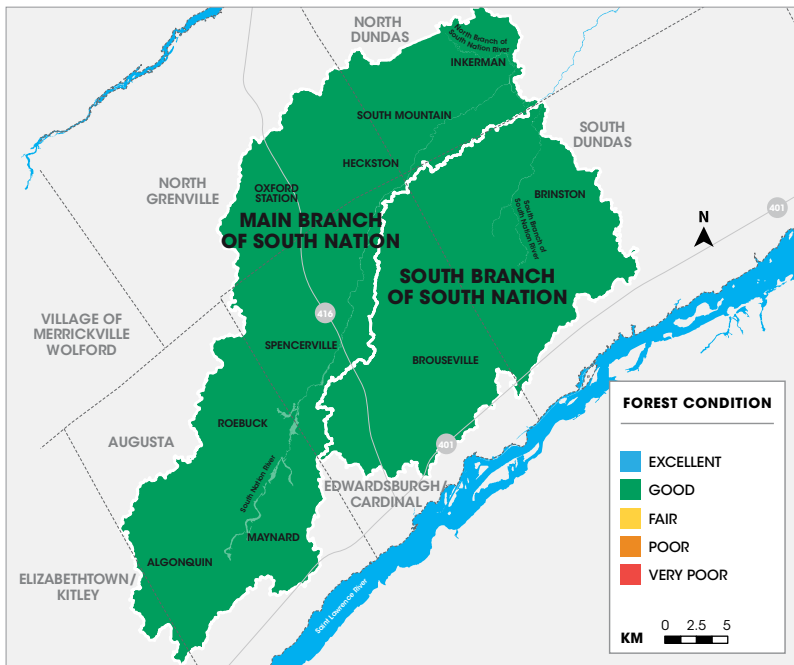
SNC has planted over 3 million trees locally to act as windbreaks, control erosion along stream banks, and reforest idle land. More than 1,000 landowners in the SNC jurisdiction have been served by our tree planting program. SNC is a partner in the management of over 20,000 acres of community forest land in Eastern Ontario. SNC encourages responsible, recreational use of our forests.



FOREST CONDITIONS

Forests are an essential part of a healthy watershed. Trees filter our air and water, prevent flooding and erosion, and provide food and habitat for wildlife. They also provide many economic, recreational, cultural, and social benefits. The quality of forest cover conditions is based on: **FOREST COVER** – the total area that is covered in trees; **FOREST INTERIOR** – the wooded area that is more than 100 metres from a forest’s edge (required by many species for survival); and **FOREST RIPARIAN ZONE** – the amount of forest within 30-metres on either side of a watercourse.

Environment and Climate Change Canada recommends a minimum of 30% Forest Cover, 10% Forest Interior, and that 75% of stream length should be naturally vegetated on both sides of the stream.



Forest Cover in the Upper South Nation Subwatershed is excellent with total forest cover at **39%** and forest interior at **13%**. The riparian cover is fair at **29%** cover and needs improvement. With such productive agricultural land in the South Nation jurisdiction, SNC is helping landowners and municipalities increase forest cover through Tree Planting Programs, Woodlot Advisory Services, and the Clean Water Grant Program. Over **60,000 TREES** have been planted in the past 5 years in this subwatershed, with approximately **400 ACRES** being approved under the Managed Forest Tax Incentive Program (MFTIP).

EMERALD ASH BORER

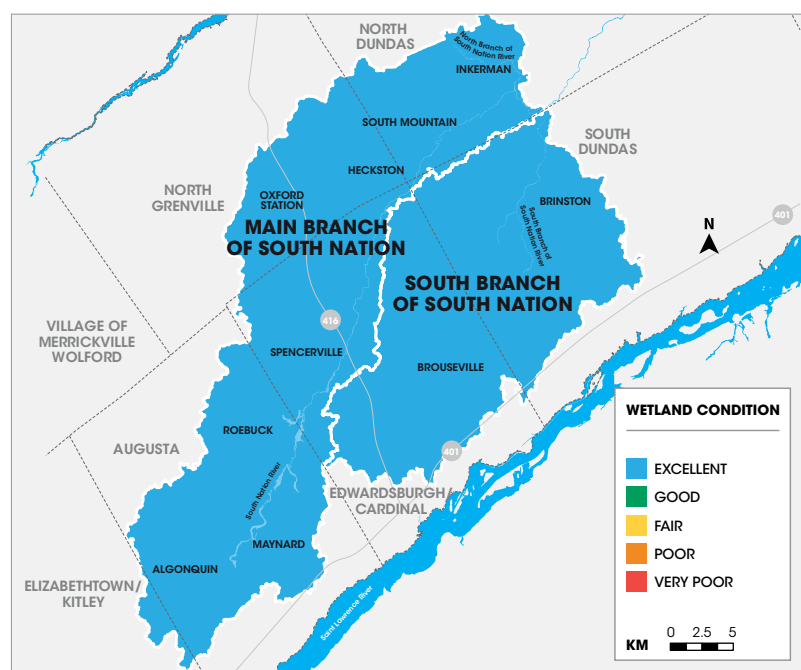
The emerald ash borer (EAB) is an invasive beetle, native to Asia, that has caused considerable damage to ash trees across SNC’s jurisdiction. SNC is helping to manage these pests by releasing 1 mm non-stinging wasps, within controlled areas throughout the jurisdiction, that target EAB eggs and larvae. Invasive species management initiatives help SNC protect biodiversity across the watershed.



WETLAND CONDITIONS

Wetlands provide natural flood control during peak flows and act as water reservoirs during dry weather. They filter pollutants before they enter streams, provide important habitat for plants and animals, and provide numerous economic, recreation, and aesthetic benefits. **WETLAND COVER** is the total area that is covered in swamp, marsh, fen, and bog habitat.

Environment and Climate Change Canada recommends 10% wetland cover.



UPPER
SOUTH NATION
SUBWATERSHED

TOTAL WETLAND
COVER

25.2%

Wetland cover is excellent across the Upper South Nation Subwatershed at **25%** total wetland cover. Higher wetland cover is located throughout the Main Branch of the South Nation Catchment where shallow soil over limestone creates gentle gradients and poor drainage. Important wetlands in this area include the Long Swamp Fen, Charleville Creek Wetland, Limerick Wetland and the Edwardsburgh Marsh.

LIMERICK FOREST

Limerick Forest is a 5782-hectare community forest located in Eastern Ontario, owned and managed by the United Counties of Leeds and Grenville. It forms part of the headwaters of the Upper South Nation Subwatershed and is home to several significant natural features including the Groveton Bog – an Area of Natural and Scientific Interest. Groveton Bog is comprised of undisturbed domed peatland overtop a sand plain outwash deposit. The bog is approximately 1,200 ha in size and is home to many flora and fauna.

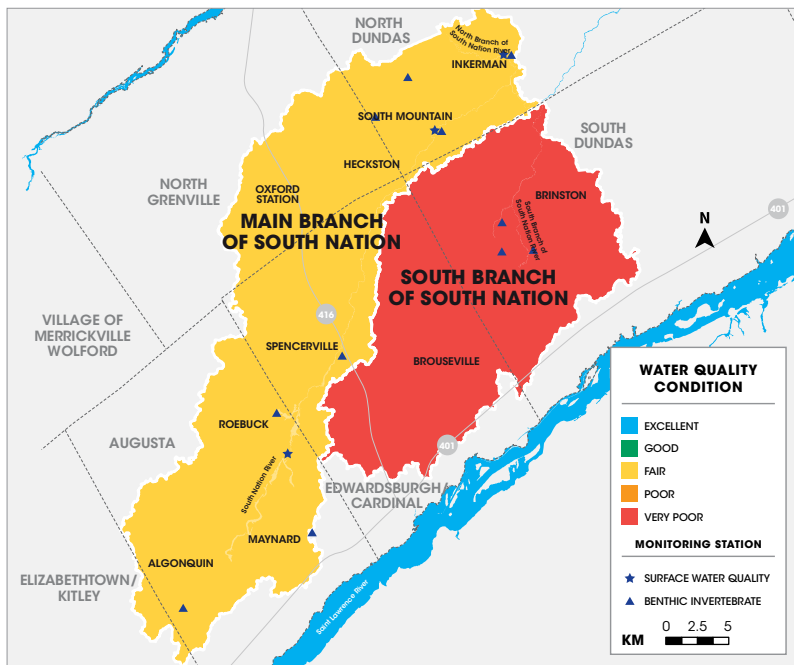


SURFACE WATER QUALITY

Healthy river systems provide invaluable services and benefits that sustain life and fuel human economies. Surface water quality is essential to healthy rivers. Two indicators that help determine water quality are:

- **TOTAL PHOSPHORUS** is naturally occurring in rivers, but can be elevated due to detergents, fertilizers, and sewage. Too much can result in algae blooms, affecting oxygen levels, and the fish and biota that live there.
- **BENTHIC MACROINVERTEBRATES** are small creatures that live in the river including: insects, mollusks, and worms. They are very sensitive to pollution and are excellent indicators for water quality and stream health.

Overall, water quality in the Upper South Nation Subwatershed is fair. Phosphorus levels slightly exceed the Provincial Water Quality Objective (0.03 mg/L), while benthic invertebrate communities range from good condition to poor condition depending on location. Sites in good stream health have good forest cover, especially along the banks of the rivers. Sites requiring improvement have low forest cover and are prone to erosion. Good surface water quality is essential to healthy rivers.



Programs administered by SNC offer grants to landowners to help improve the condition of rivers. These programs have received national and international recognition as effective tools to improve water quality.

GROUNDWATER CONDITIONS

Groundwater, an important and vital natural resource found in aquifers below the Earth's surface, supplies more than 95% of the rural population in SNC's jurisdiction with water. Approximately 42% of the population within SNC's jurisdiction rely on groundwater for drinking water supplies, with 12% coming from municipal wells, and 30% from private wells.

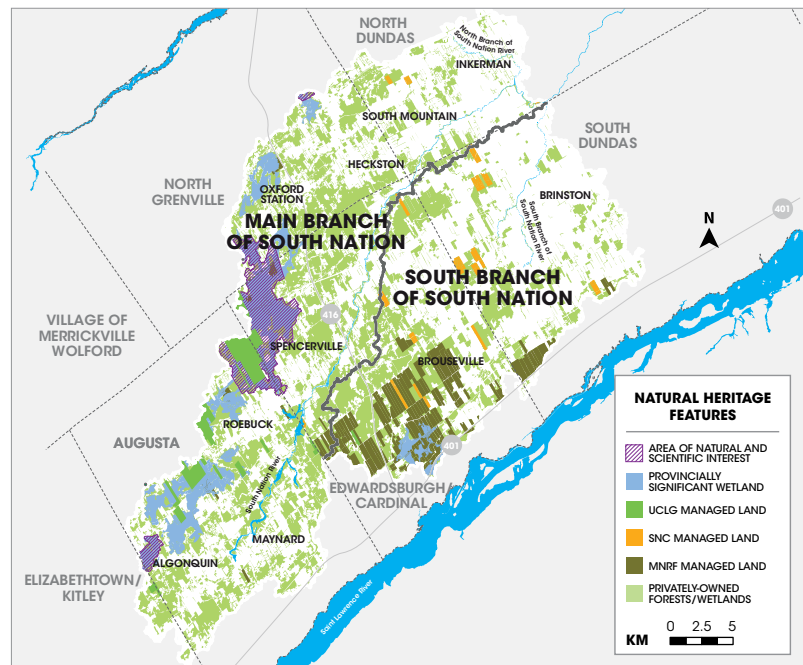
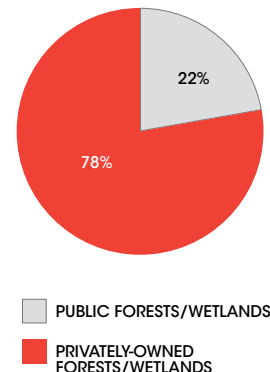


NATURAL HERITAGE FEATURES

The Upper South Nation Subwatershed has many natural spaces that support a rich diversity of plants and animals, wetlands, forests, streams, significant geological formations, and important corridors for wildlife. The following map displays forests and wetlands that are protected as conservation lands or public land. Most forests and wetlands in the watershed are privately owned and managed and provide important linkages to other natural heritage features on the landscape.

UPPER SOUTH NATION SUBWATERSHED NATURAL HERITAGE FEATURES	% OF SUBWATERSHED
Privately-Owned Forests and Wetlands	37%
SNC Land	1%
Crown Land	6%
Area of Natural and Scientific Interest	4%
Provincially Significant Wetlands	7%

*There is some overlap between categories



SNC can help people manage, enhance, and protect natural heritage features located on their properties through the Woodlot Advisory Service, Tree Planting Program, and Clean Water Program, among others.

UPPER SOUTH NATION FISH

The Ontario Stream Assessment Protocol was followed at all monitoring stations in 2018 to monitor fish species and habitat. A species of interest found in the Upper South Nation River is the Northern Pike. They are ambush predators that hold perfectly still waiting for prey such as fish, crayfish, frogs, mice, muskrat and young waterfowl. Pike strike with remarkable speed, clutching prey sideways in their mouths. Pike spawn in the spring; breeding grounds include areas that flood only in the spring and early summer and may be dry the remainder of the year. During spawning, Pike swim through vegetated areas of shallow water, randomly scattering their eggs, which then attach to the vegetation.



Painted turtle basking in the South Nation River

TOGETHER WE CAN IMPROVE THE UPPER SOUTH NATION SUBWATERSHED

BE A WATERSHED STEWARD!

By working together, we can make a difference. Improving the health of the Upper South Nation Subwatershed requires us to make choices that balance environmental concerns with everyday life. Here are some examples of stewardship activities that we can help you undertake to enhance your property and protect human and environmental health.

CLEAN WATER GRANTS

There is funding available to landowners in the SNC jurisdiction for cost-share projects that help improve water quality including: stream bank erosion control, decommissioning abandoned wells, education initiatives, among many others. Ask for more information on the Clean Water Program and Ottawa Rural Clean Water Program.

STREAM WATCH

The Stream Watch program uses a macro stream assessment protocol and local volunteers for surveying streams. Volunteers are guided by an experienced coordinator to help collect field data in shallow streams. Volunteers participate in activities such as fish sampling, aquatic invertebrate sampling, stream clean-ups, and habitat rehabilitation projects.

PROVIDING NATURAL SPACES AND OPPORTUNITIES TO GET OUTDOORS

SNC wants you to get outdoors and enjoy natural spaces. SNC has over 12,000 acres of public natural space that includes 14 day-use parks and trails, 9 river access points, 5 canoe/kayak routes along the South Nation River, and 3 Geo-Passports – self-guided geocaching adventures. SNC looks to acquire environmentally significant properties, protecting important natural resources for future generations.

WOODLOT ADVISORY SERVICE

Would you like to save up to 75% on your property taxes, while maximizing the potential of your woodlot? SNC's Woodlot Advisory Service promotes efficient and sustainable management of forests and establishes additional forest cover across the jurisdiction. A Woodlot Advisory Service technician will assist you in becoming aware of the value of your forest and the benefits it can provide.

TREE PLANTING PROGRAM

Everyone can benefit from planting suitable trees on their property. SNC partners with Forests Ontario to offer seedlings, site preparation/tending, and planting for a subsidized fee to landowners within the jurisdiction. There may be additional subsidies available if you are a City of Ottawa resident through the Green Acres Program or the Ottawa Rural Clean Water Program.

This subwatershed report was prepared following the 2012 Conservation Authority Watershed Report Card Guidelines.

