



SOUTH NATION
CONSERVATION
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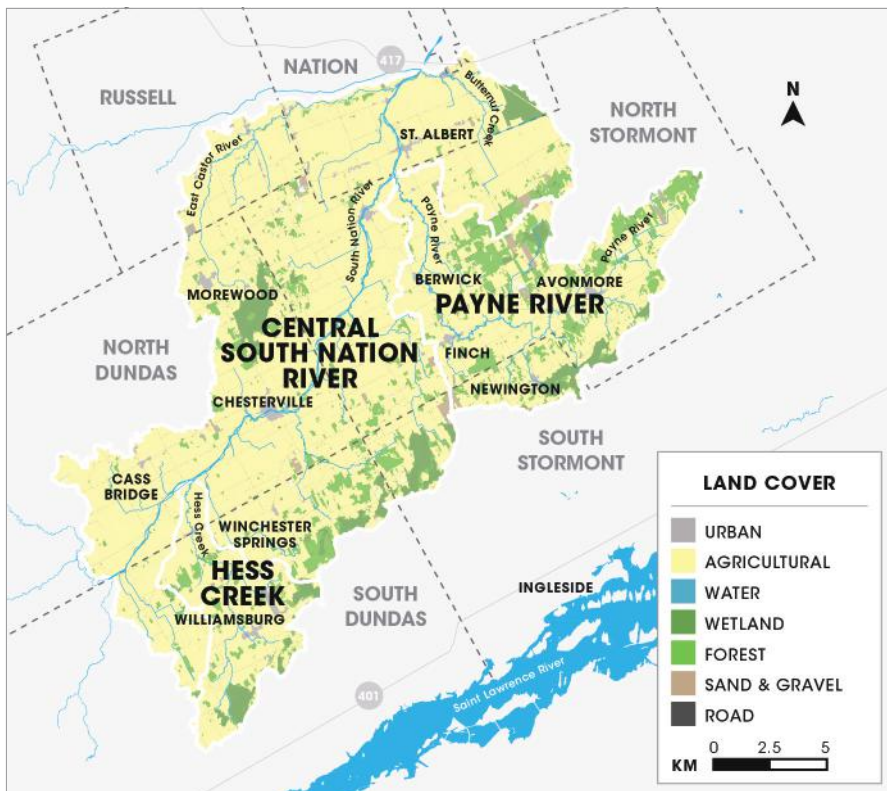
MIDDLE SOUTH NATION

SUBWATERSHED REPORT CARD

OCTOBER 2017

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 Middle South Nation Subwatershed is part of the larger South Nation Watershed and comprises parts of Russell Township, Nation Municipality, Township of North Dundas, Municipality of South Dundas, Township of North Stormont and Township of South Stormont. This report is a snapshot of current conditions, using key indicators such as forest, wetland, and water resources. Resource conditions will be revisited in 2021 to review changes and trends.



**MIDDLE
SOUTH NATION
SUBWATERSHED**

DRAINAGE AREA

826 km²

CATCHMENT AREAS

**CENTRAL SOUTH NATION RIVER,
HESS CREEK, PAYNE RIVER**

SNC MAINTAINS AND PROTECTS 4,384 KM² OF EASTERN ONTARIO



Vegetation survey being conducted at Reveler Conservation Area in the Central South Nation Subwatershed by SNC staff.

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 167/06 (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

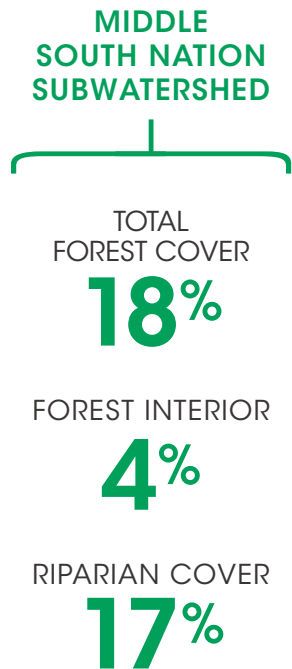
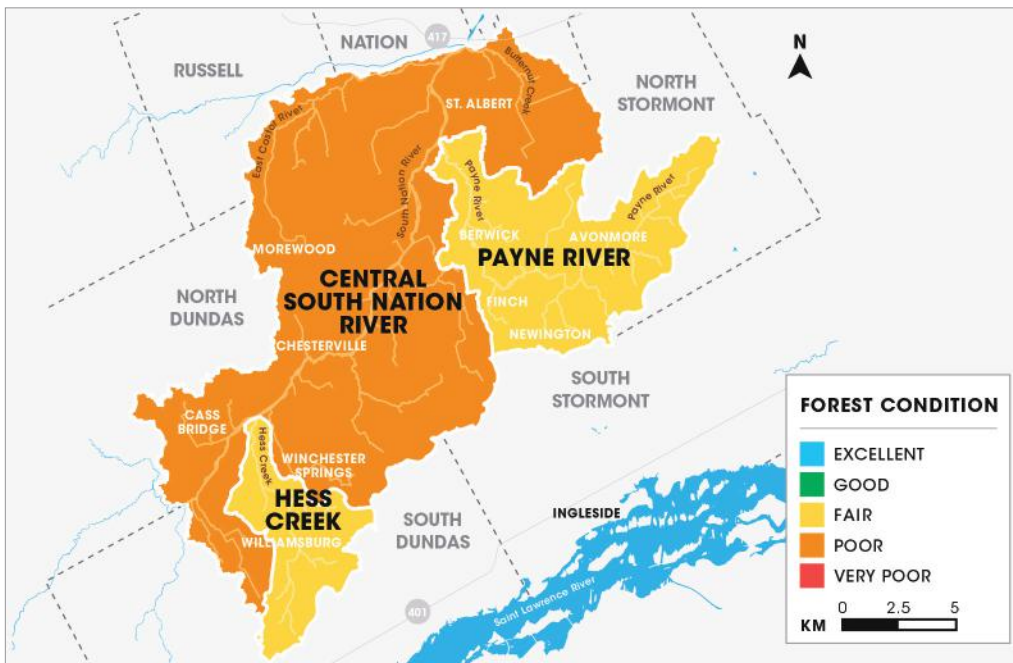
SNC has planted 2.8 million trees locally to act as windbreaks, control erosion along stream banks, and reforest idle land. More than 1,000 landowners in the SNC jurisdiction have been served by our tree planting program. SNC is a partner in the management of over 20,000 acres of community forest land 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, 4% Forest Interior, and that 75% of stream length should be naturally vegetated on both sides of the stream.



Forest Cover in the Middle South Nation Subwatershed is low at **18%**. The riparian cover needs considerable improvement and is very poor with **17%** cover. Overall, forest conditions need to be improved, especially within the Central South Nation Subwatershed around the main stem of the river. With such productive agricultural land in this area, South Nation Conservation is helping landowners and municipalities increase forest cover through programs such as the Tree Planting Program, the Woodlot Advisory Service, and the Clean Water Grant Program. Over 35,000 trees have been planted in and around the Middle South Nation Watershed over the past 5 years, and over 17 woodlot owners have partnered with SNC for the Woodlot Advisory Service.

EMERALD ASH BORER

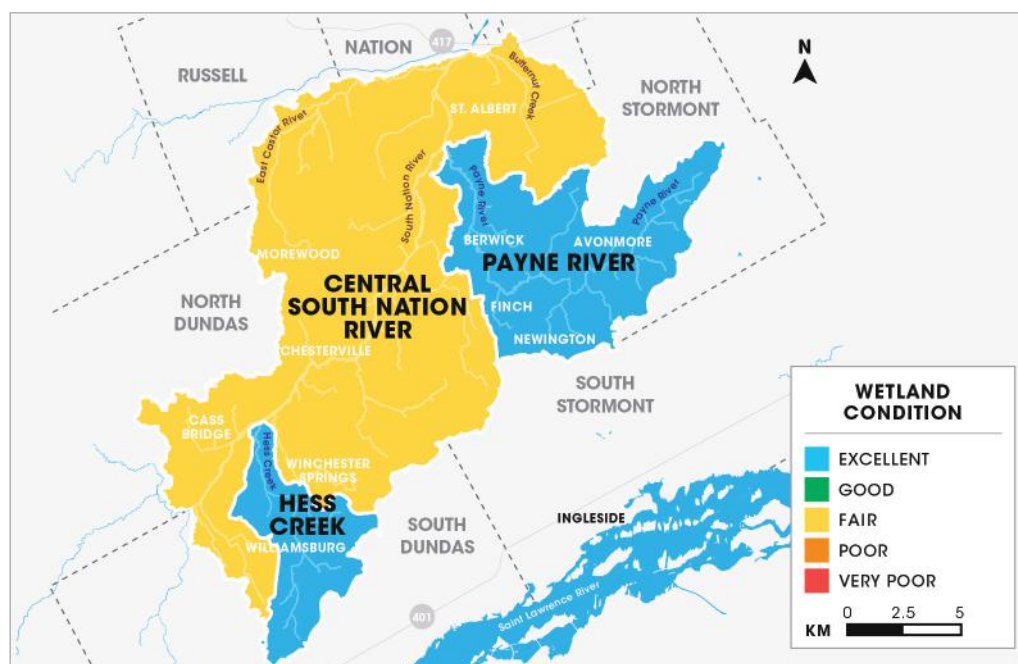
The Emerald Ash Borer (EAB) is an invasive beetle, native to Asia, that has caused considerable damage to Ash trees across SNC’s jurisdiction. SNC is helping to manage these pests by releasing 1 mm non-stinging wasps, within controlled areas throughout the jurisdiction, that target EAB eggs and larvae. 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.



MIDDLE
SOUTH NATION
SUBWATERSHED

TOTAL WETLAND
COVER

11%

Wetland cover is excellent to fair across the Middle South Nation Subwatershed at **11%** total wetland cover. Higher wetland cover is found at the headwaters of the Payne River and Hess Creek Subwatersheds. Some Provincially Significant Wetland complexes include the Newington Bog (5.6 km²), Morewood Bog (5.5 km²), Hoasic Wetland (8.9 km²), and Glen Becker Swamp (4.6 km²).

REVELER CONSERVATION AREA

Reveler Conservation Area boasts a diverse range of habitat and unique features including 10 acres of mature sugar maples, rare tree species such as Butternut, Rock elm and Slippery elm, and unique limestone outcroppings with fossils. In addition, the natural grasslands at Reveler are home to over 100 bird species including the endangered Eastern meadowlark, Bobolink, and Loggerhead shrike.

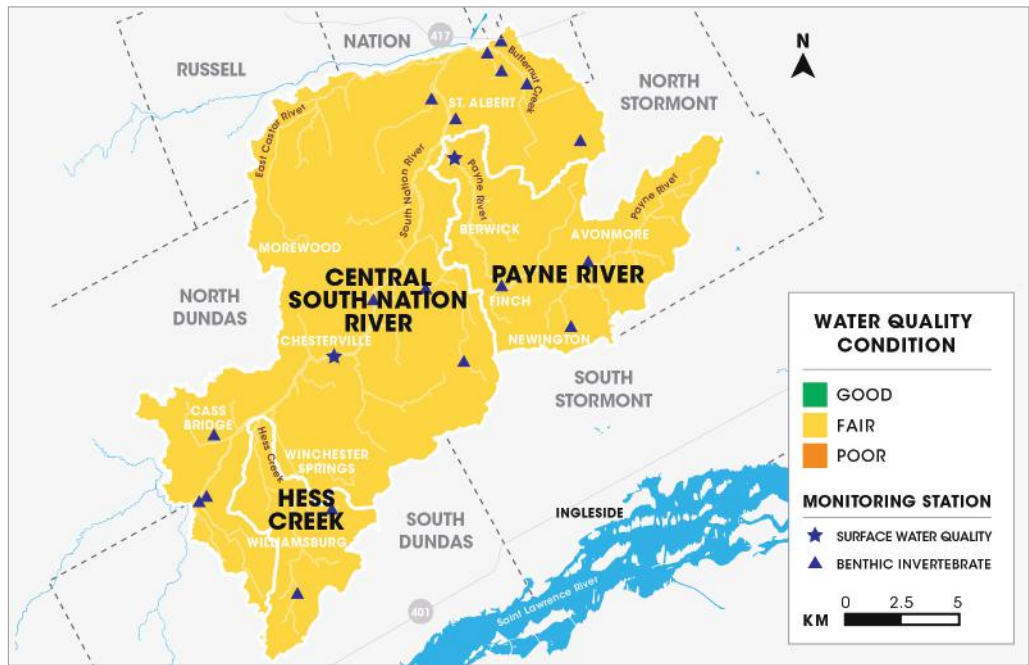


SURFACE WATER QUALITY

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.

Water quality in the Middle South Nation Subwatershed is fair. Phosphorus levels routinely exceed the Provincial Water Quality Objective (0.03 mg/L), while benthic invertebrate communities range from fair 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. 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.



Good surface water quality is essential to healthy rivers.

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 the SNC 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

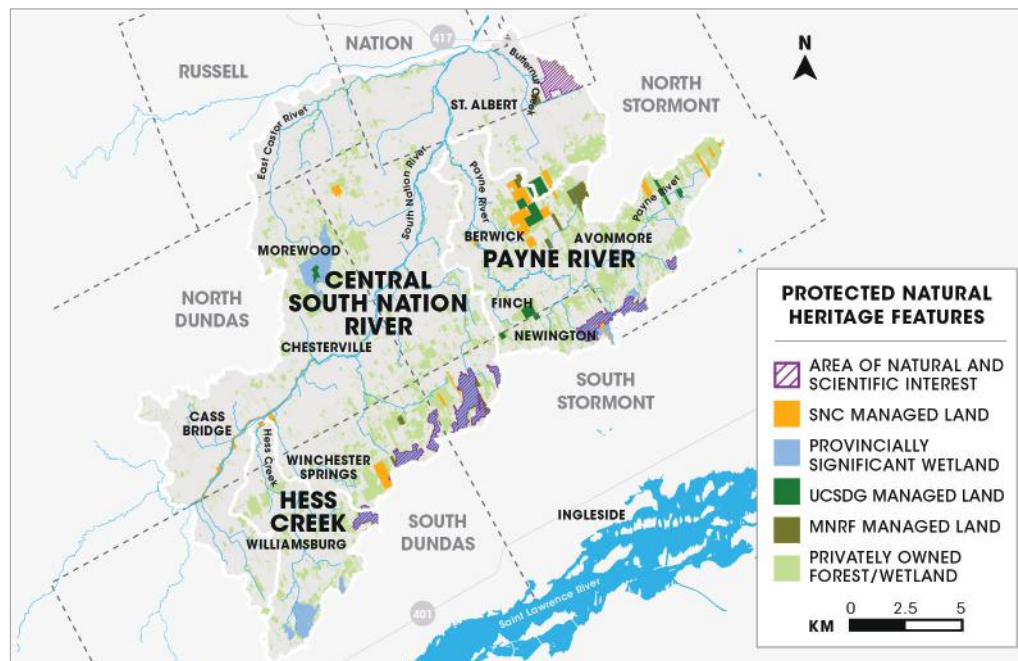
The Middle South Nation Subwatershed has many natural spaces that support a rich diversity of plants and animals, wetlands, forests, streams, significant geological formations, and important corridors for wildlife. The following map displays forests and wetlands that are protected as conservation lands.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

MIDDLE SOUTH NATION NATURAL HERITAGE FEATURES	% OF SUBWATERSHED
SNC Land	1.0%
Crown Land	0.6%
Stormont, Dundas and Glengarry Land	0.8%
Areas of Natural and Scientific Interest	2.4%
Provincially Significant Wetlands	3.0%
Privately-owned Forests and Wetlands	26%

*There is some overlap between categories




PUBLIC FOREST/WETLAND
 PRIVATELY-OWNED FORESTS/WETLANDS



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. Call SNC today.

MIDDLE SOUTH NATION FISH

The Ontario Stream Assessment Protocol was followed at all monitoring stations in 2016 to observe fish species and habitat. A species of interest that was found – the Brown bullhead, also known as mud-pout, is a nocturnal bottom feeder. Long sensory barbels on their chin assist them in locating food, including benthic invertebrates, fish, fish eggs, and plant material. To defend themselves, Bullhead species have sharp spines on their fins that release poison to sting and burn their predators.



Canoeing on the South Nation River at Crysler.

TOGETHER WE CAN IMPROVE THE MIDDLE SOUTH NATION SUBWATERSHED

BE A WATERSHED STEWARD!

By working together, we can make a difference. Improving the health of the Middle 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 2 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 Trees 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.

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