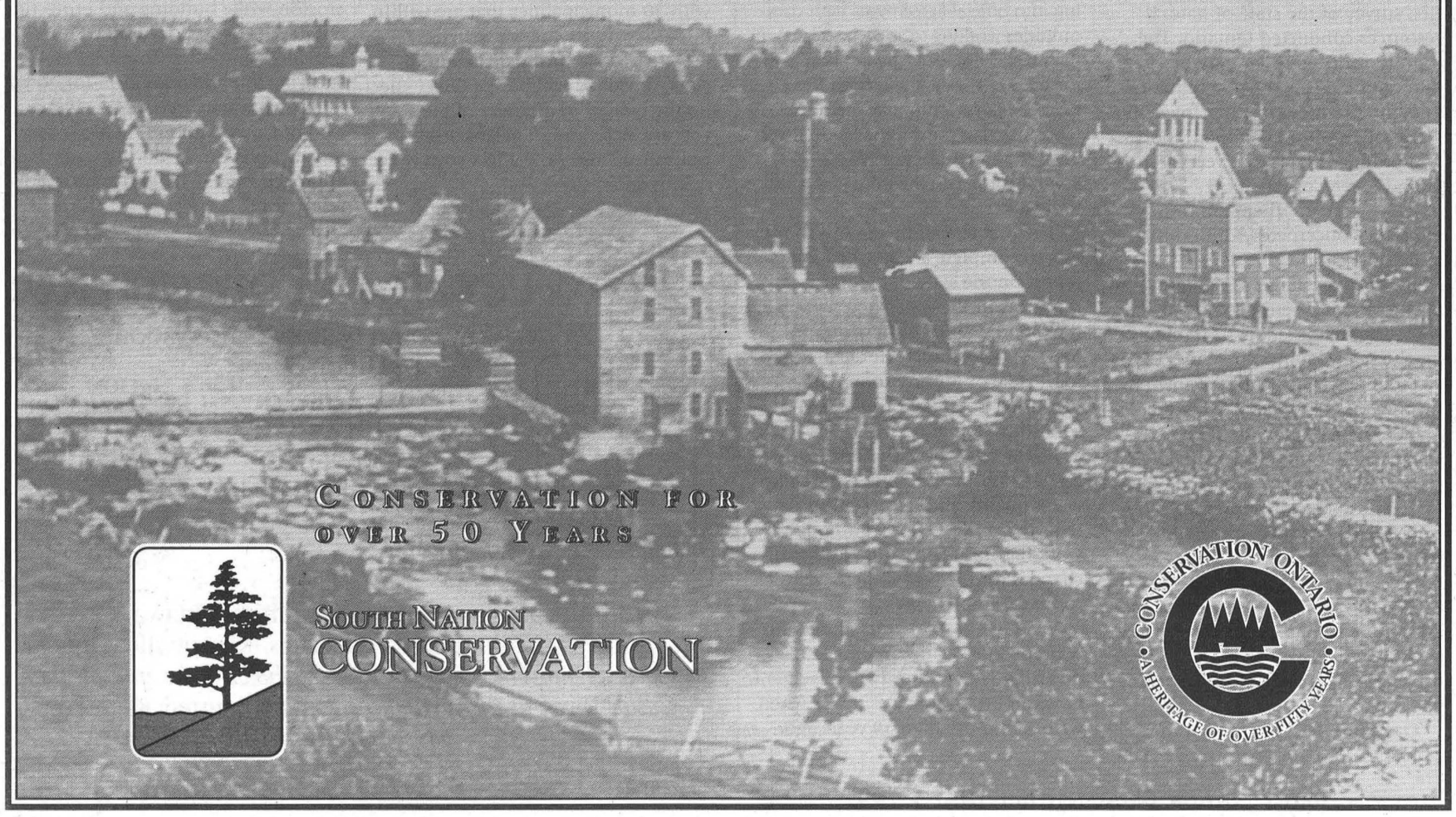
1947

A River for Tomorrow

1997



Conservation for over 50 Years

South Nation Conservation

Conservation Ontario
A Heritage of Over Fifty Years

Conservation roots run deep

The origins of SNC date back to 1943, but the conservation movement is older than that. A provincial tree planting program was already established. National parks for recreation and landscape preservation had been set up more than 50 years previously in Canada and the United States.

The Federal Commission on Conservation had identified the need for Canada-wide resource management decades earlier, in 1909.

In the South Nation Watershed, widespread floods destroyed crops, property, and posed significant risks to life. Forest cover was shrinking, exposing more and more soil to erosion by wind and water. People all across the province were experiencing similar problems. They soon realized that solutions required cooperation. Individual efforts were fine on a small scale, but they addressed the symptoms, rather than the cause of the problem.

In 1931, several naturalists clubs in Southern Ontario banded together as the Federation of Ontario Naturalists. The FON initiated the first survey of the state of natural resources conducted Ontario. The report produced in January of 1938 laid out plans for the rehabilitation and enhancement of King Township, north of Toronto. A similar report was produced later that year by the Grand River Conservation Commission, another community-led body concerned with flooding and reforestation.

By 1941, pressure was mounting on the provincial government to provide conservation legislation. Community involvement continued to grow.

Mounting concern for the environment in eastern Ontario, led to the formation of the Nation River Conservation Committee in 1943. Eric Casselman, Mahlon Zeron, and others were instrumental in addressing problems in our watershed. In part, this committee built on work already in progress. In its most important step, the Conservation Committee took natural resources management to the next level: watersheds. It needed to address two areas of concern: reforestation and flooding.

Only about 15 per cent of the original forest cover in the South Nation Watershed remained in the early 1900's. Land unsuitable for agriculture was cleared, and these areas quickly degraded, giving rise to "blow sands" such as the Bourget Desert. In 1908 Professor Ed Zavitz from the Ontario Agricultural College identified this area in his "Report on the Reforestation of Waste Lands in Southern Ontario".

Ferdinand Larose began his forestry work in 1928. The area now known as the Larose Forest exists because of his dedication. Over the past seven decades, the forest has grown to more than 40,000 acres, boasting recreational trails and wildlife habitat, and anchors soil in place which improves water quality.

Flooding was a perennial problem in the north end of the watershed. Channelizaton work to control flood waters in Plantagenet was initiated in 1939. Since that time, diversions and reservoirs have been proposed, and dams and channelizaton work implemented. Planning now strives to harmonize human activities with the river's behavior.

Faced with public pressure from all sides, Dana Porter, Minister of the Department of Planning and Development, decided in 1944 to establish a Conservation Branch. In 1946, the Ontario government passed the Conservation Authorities Act, entering into official agreements with communities working to solve problems in their respective watersheds. Soon after the CA Act passed, the Nation River Conservation Committee members reorganized as the South Nation River Conservation Authority in May, 1947. South Nation was the third authority formed.

The first task of the new authority was to complete a watershed-wide report on the state of natural resources in the watershed. By 1948, the South Nation Valley Interim Report was complete. It detailed the local state of the environment and identified potential problems and solutions. Some specific issues, such as discharges by creameries, are no longer a problem. Other issues, like water quality and reforestation, require ongoing efforts. Although work has been constant and the changes for the better, there is always room for improvement.

Over the past 50 years, the South Nation Conservation mandate has diversified. Community involvement is as important today as it was when we began more than 50 years ago.

What is a watershed?

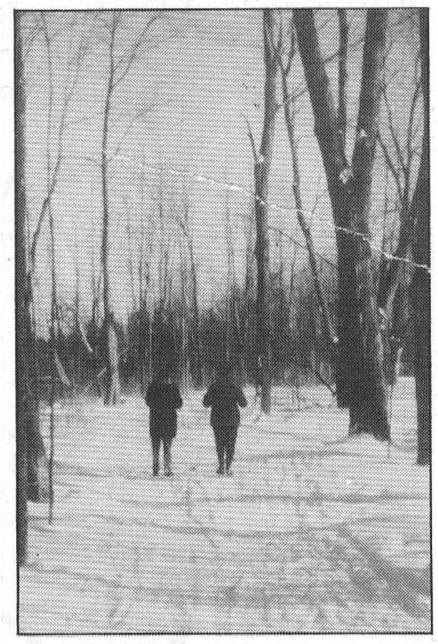
Throughout this 50th Anniversary Report, you will come across references to the "South Nation Watershed". What does this mean? Unlike municipal, provincial, or national boundaries, a watershed is a natural boundary determined by the flow of water. Each watershed is the drainage area of a river and all its tributaries. Conservation Authorities were created in 1947 by the Province of Ontario to manage watersheds.

The South Nation Watershed includes the river itself, the Castor, Scotch, and Payne Rivers, and Bear Brook. The sources of the smallest streams and creeks that feed these tributaries define the extent of the watershed.

Since this boundary is defined by nature, the watershed is often shared by many municipalities that have created their own boundaries based on other criteria. South Nation Conservation manages one watershed unit, but shares responsibility for it with 30 municipalities that are within, or partly within, the watershed.

Activities occurring upstream in your watershed will have a direct effect on the quality or quantity of the water you use. Activities in neighboring watersheds may only affect your water quality indirectly.

For example, water quality at



Plantagenet is affected by activities in Chesterville or Gloucester. Although Plantagenet is in Prescott-Russell, Chesterville in Stormont, Dundas & Glengarry, and Gloucester in the RMOC, they are all in the South Nation Watershed. SNC monitors activities in all these areas to ensure water quality is not adversely affected downstream at Plantagenet.

Ontario's watershed management model is becoming renowned worldwide as a natural conservation strategy to control flooding and reduce soil erosion while building and protecting habitat for fish and wildlife. Other provinces and other countries are studying Ontario's solution to protect their own watersheds. Following the lead of Conservation Ontario, other jurisdictions can begin the watershed approach to managing natural resources.

A River for Tomorrow

Produced by South Nation Conservation
15 Union Street
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Cover photo: The village of Russell, showing the mill on the Castor River, at the turn of the century, courtesy Keith Boyd Museum, Russell.

Adapting to the winds of change

CRYSLER - The winds of change in Ontario have blown open the door of opportunity for the province's conservation authorities.

That was the message brought to the 50th anniversary dinner of South Nation Conservation here June 6 by Conservation Ontario chair Wendy Stewart who told the gathering of 200 from across the 1440 sq. mile watershed that conservation authorities picked up on the changes while they were still a "subtle breeze" and were able to weather the "tornado" of provincial government grant slashing by returning to their roots of providing local solutions to local environmental problems and concerns.

Stewart, head of the Rideau Valley Conservation Authority and elected head of the 38-member provincial body, said conservation authorities should look at the irreversible changes in the relationship between authorities and the provincial government to forge closer ties with the municipalities that comprise their memberships and to come up with more creative funding methods.

She praised South Nation Conservation, made up of the 30 municipalities from Elizabethtown in the west to Wendover in the east drained by the river and its tributaries, as a leader among the province's 38 authorities, listing the accomplishments it has achieved since that day in February, 1947 when municipalities met in an Ottawa court house and voted to establish a conservation authority.

SNC (formerly known as the South Nation River Conservation Authority) came into being as a vehicle to alleviate the spring and flash flooding that afflicted portions of the watershed and was officially created by a provincial order in council in May of that year.

In the past 50 years the authority has achieved enviable status among similar bodies for its programs to improve water quality and quantity, reduce flooding, improve slope stabilization, provide environmental education, reduction of non-point pollution, tree planting and the provision of incentives for farmers, Stewart said.

"The collective municipalities known as South Nation Conservation have earned the right to celebrate tonight."

SNC and its staff have earned a province-wide reputation and "serve as a template" for others in Ontario to follow. The Rideau Valley Conservation Authority looks to the local authority for guidance and strategies as it re-invents the visionary spirit led to its founding 50 years ago, she said.

And the changes taking place at the senior government level do not mean that there has to be a lowering of environmental expectations, she said, likening the present to the situation of 50 years ago when municipalities decided to band together to find a common solution to their problems.

The reduction in provincial grants have provided authorities with an "opportunity in disguise", giving them the chance once again to demonstrate that they are the bodies with the expertise to provide services throughout the region that individual municipalities could never hope or afford to provide.



Directors of South Nation Conservation at the authority's 50th anniversary dinner in Crysler Fri., June 6. Seated from left, general manager Dennis O'Grady, Bob Graham, vice-chair, Leeds-Grenville, Denis Perrault, chair, Regional Municipality of Ottawa-Carleton, Albert McKeown, past chair, RMOC, Kevin Grace, RMOC; standing from left, Jerry Lalonde, RMOC, Robert Gratton, Prescott-Russell, Tom VanDusen, P-R, Norm Tinkler, SD&G, Claude Cousineau, SD&G, Floyd Dingwall, SD&G. (Missing from photo is Jean-Marie Groulx, P-R.)

This watershed approach to problems like the annual flooding of thousands of acres in the Oak Valley and Plantagenet areas, overcome with massive channelizaton projects and the construction of flow control measures, demonstrates the "basic bottom line of savings by acting in concert".

Conservation authorities are finding new methods of funding and many Eastern Ontario municipalities are rediscovering their value as they now provide information and advice formerly provided by the province. Conservation authorities provide consultation on local matters with "local people making local decisions," in a "one-window" planning service, Stewart said.

"This gives us the opportunity to solidify our relationship with our stakeholders, customers and communities and bring us back to our grassroots."

The value of the work done by local CAs for individual municipalities is evidenced by the Regional Municipality of Ottawa-Carleton which sees the three authorities – including SNC – which serve its jurisdiction "as allies contributing to the success of the RMOC and other municipalities" and has left the region's contributions to the authorities unscathed, despite the RMOC bobbing on a flood of changes brought about by a "boat-load of downloading".

The region sees the authorities as providing "good service at fair prices," she said.

Changes in funding brought about by the cuts in grants from Queen's Park have provided a similar window of opportunity, Stewart said.

Authorities are turning more to their own resources, developing sponsorships, in-kind donations, the formation of "friends groups" - four have sprung up in the Rideau Valley in the past year – and seeking donations for their programs.

Corporate sponsors "see us as very salable...we're clean and green and good for corporate images" she said of the new partnerships being forged with corporations eager to be seen as environmentally-friendly.

Dofasco has recently come on board with a $1-million contribution to Conservation Ontario for a province-wide environmental campaign to start in the fall and this is just the thin edge of the green wedge as word spreads in corporate circles of the benefits of associating with environmental bodies like CAs, Stewart concluded.

Her remarks dovetailed neatly with the SNC's 50th anniversary theme "A River for Tomorrow", also used as the title for slide show on the authority's history and accomplishments since 1947 presented by authority general manager Dennis O'Grady which closed out the golden anniversary evening.

Partnerships help preserve heritage

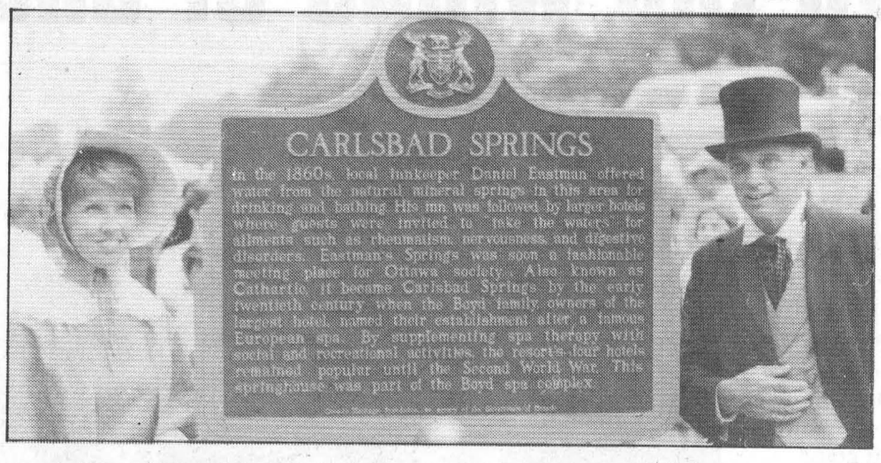
Carlsbad Springs

For over 50 years, from the 1880s to the 1930s, the Mineral Springs were frequented by visitors from Montreal, New York, and as far away as Boston.

Today, only part of a kitchen and a single Mineral Springs pavilion remain. The pavilion was restored in the fall of 1996 thanks to the efforts of Carlsbad Springs residents, local businesses, community groups, and SNC. This summer, the Ontario government recognized the historical significance of the Mineral Springs Complex on Russell Road with a Provincial Plaque.

The plaque was installed near the Mineral Springs pavilion. A walking trail, interpretive signs featuring the natural and cultural history of the mineral springs, and footpath access to the Bear Brook are planned for the future.

A grant from Canada Trust's Friends of the Environment Foundation will pay for some of this work.

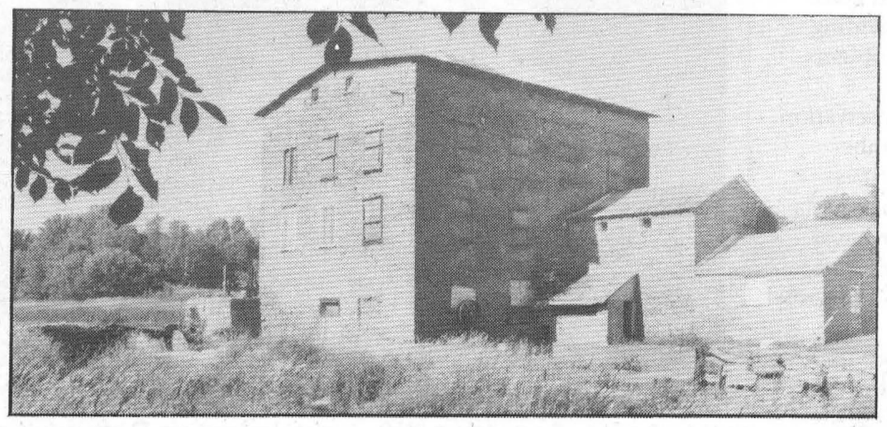


Spencerville Mill

The Spencerville Mill is in danger of collapsing if stabilization work is not conducted immediately.

The last remaining mill on the South Nation River has been a landmark in the Village of Spencerville for over 130 years. It stands where the first mill in the watershed was built over 185 years ago. A mill was first established at the future site of Spencerville in 1811 by Peleg Spencer. Spencer realized in those early days of Canada than owning a water-powered mill would be a profitable venture. He left his tanning business along the St. Lawrence and built a wooden sawmill and dam north of Johnstown where the trail crossed 'Big Creek', as the South Nation River was referred to by First Nations people at the time.

This first structure was destroyed within three years. Spencer's son David took over in the succeeding years and is credited with the founding of the village of Spencerville, referred to as Spencers' Mill at that time. Fire destroyed several structures over the years until 1862, when the younger Spencer's health and stamina were not sufficient to undertake rebuilding after a particularly disastrous fire. Robert Fairbairn purchased the site, and in 1864 constructed the stone structure that exists today.



Operations at the mill were finally abandoned in 1972 after a succession of owners, bringing to a close the water powered milling industry on the Nation River begun by Peleg Spencer 160 years before. South Nation Conservation purchased the mill in the mid 1980's and later turned it over to the Eastern Valley Heritage Foundation.

The mill is in desperate need of attention. Years of neglect and weathering have taken its toll on the building and adjacent weir. Much of the dam has collapsed to the point where fisheries habitat is threatened. Rotten timber joists and collapsing stone masonry have weakened the building so it can no longer safely withstand snow loads and normal spring runoff.

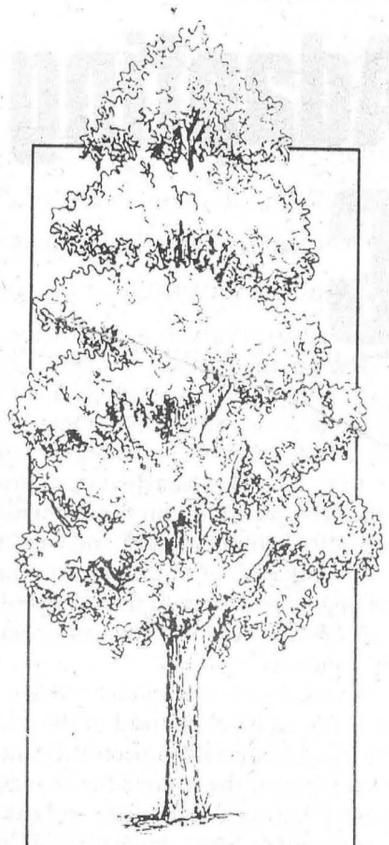
John Silburn of Restoration Engineering in Brockville, who specializes in old building restoration, reports that "the building... appears to be in real danger of collapse, and work is required immediately to stabilize the structure."

The Eastern Valley Heritage Foundation has invested $15,000 in Mill repairs over the past two years and are active in raising the awareness of its heritage. The organization's volunteers were dismayed by the assessment and now realize that they must increase their efforts to save the Mill.

Bob Marcellus, EVHF Chairman, said while everyone in the community realizes this is an old structure, the report is a "wake-up call". "We cannot take for granted that it will be here forever. Now is the time to do the necessary work if we want to ensure its preservation for the next generation. We need to enlist some serious help," said Marcellus.

Restoring the site has the potential to enhance the local economy by providing a centre for retail sales, and social and recreational facilities.

Serious help has come forward in the form of Earl Connell of Spencerville and Earl Baker of Long Sault. Each has donated $100,000 towards the restoration of this important landmark. The badly needed money, along with $25,000 from SNC, will be used to rebuild the weir and for critical structural repairs on the mill itself. Additionial partners working on the weir this summer include Thousand Islands Concrete, St. Lawrence Cement, St. Lawrence Testing and the Portland Cement Association. If you are interested in helping, contact the Eastern Valley Heritage Foundation at (613) 658-3099, Box 215, Spencerville, K0E 1X0 or South Nation Conservation.



Tall oaks from little acorns grow.

David Everett
(1769-1813)

Congratulations, South Nation on 50 years of Conservation



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Lure of the river's fishery

At the end of the last century, seven to eight foot sturgeon, probably over 100 years old, were pulled from the South Nation and Ottawa Rivers near Plantagenet.

While the South Nation River is still home to a vigorous sport fishery, the sturgeon are all but gone.

Local businesses and community groups rely on the health of this resource to draw thousands of anglers to the area each year for income and fundraising events.

Recognizing the importance of this natural resource, South Nation Conservation Board of Directors approved the formation of a Fisheries Committee last fall. The first order of business for the group is to collect information on the current state of the fishery.

"It's important that we have the best information available, and we can get a lot of it from local residents who fish on the river," said Tom Van Dusen, SNC Director, referring to participation by area anglers. Personal experience as well as scientific studies will be used to update the picture.

A study is underway to determine which fish habitat is most at risk in the watershed. Once this is complete, work will begin to restore some areas, and create habitat in others. The last watershed-wide study of the fishery was completed in 1978. This committee will provide the first opportunity since then to bring all interested parties and their information together. This is the first time that the fishery will be considered as a whole, bringing all interested parties together and considering the entire ecosystem, rather than just localized areas.

Recreation along the Nation

Once problems of flooding and reforestation had been addressed, SNC looked for other ways to enhance the quality of life for residents of the South Nation Watershed.

Since purchasing picnic tables for the Casselman and Russell reservoir properties in 1967, SNC has been more involved in providing recreational opportunities.

If you like hiking, bird watching, boating, snowmobiling, horseback riding, skiing, or fishing, you're in luck. These activities, and many more, are possible in the 3900 km^2 South Nation River watershed. This is a brief look at some activities you can participate in year round in the watershed. Access is free of charge at all areas listed in this article.

The Finch Township Recreational Trail and the Glen Stewart Nature Trail offer a chance for outdoor enthusiasts to try hiking in the summer, and cross-country skiing in the winter. Check each Trail for permitted activities. SNC also manages over 3640 hectares of forested land. Some areas, as well as the LaRose Forest, boast excellent snowmobiling and skiing trails.

The Cobbs Lake Creek Trail offers a look at historic sites, important natural areas, and agricultural practices in the South Nation River watershed. A pamphlet is available to guide you through the 132 kilometre trip. If you want to spread the trip over a few days, or follow the trail by bicycle, the pamphlet outlines three shorter loops that cover all points of interest.

To explore nature a little more closely, try the Alfred Bogwalk. Completed in 1994, a boardwalk allows you to discover one of the largest and most significant bogs in Ontario. A variety of plants, animals, birds, and insects make their home in this 4200 hectare wetland. More than 18 species found in the bog are considered rare at provincial, national, and continental levels. The Alfred Bog is not only an essential part of the South Nation River watershed, but an ecosystem of international importance.

If you prefer to spend time on the water, four of SNC's five Conservation Areas have boat launch ramps. With more than half of the 180 kilometre South Nation River navigable, and numerous tributaries, you could spend years exploring it all.

The South Nation is especially known for its walleye fishery. Every year communities up and down the River hold fishing derbies sponsored by local community groups and SNC. Canoe races are another annual event that draws people out onto the River. SNC also publishes a guide to canoeing the River from South Mountain to the Ottawa River.

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Reaching out to the community

South Nation Conservation was originally created as a way for local people to make local decisions about their environment. It allowed them to implement solutions that were best suited to their particular problems. Projects that are important to watershed residents remain the priority for SNC today. Water quality, and education and awareness remain high on people's priority list. SNC is involved with many community projects that will improve understanding of natural resources, and benefit the environment as well.

Information & Education

SNC supports the Nationview Outdoor Education Centre in South Mountain, and Cercle Néon near Plantagenet. Thousands of students have been introduced to their local environment, and learned about the importance of protecting it.

South Nation Conservation also attends fairs and trade shows such as the Ottawa Valley Farm show. We distribute talk to people and distribute information about the South Nation Watershed, and our programs that help protect our natural resources.

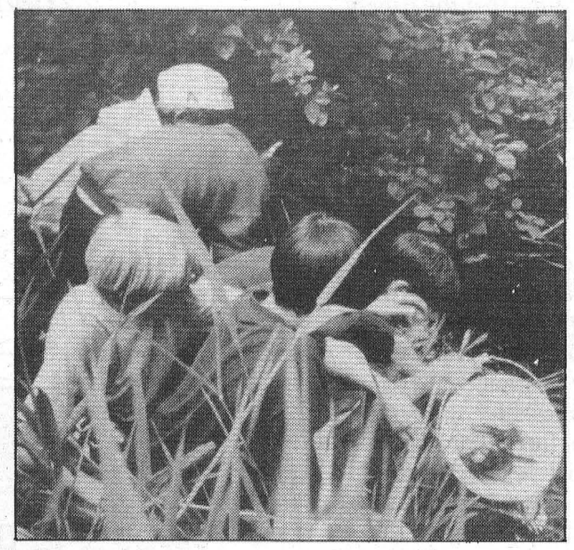


School Tree Planting

A School Tree Planting Program was established to educate children about trees and clean water and give them the opportunity to plant trees in their own communities. After three years, over 3,500 schoolchildren at 30 schools have helped plant more than 5,000 trees and shrubs in school grounds and in public spaces across the Watershed. School children can make a real contribution towards improving their environment, at the same time actively involving the entire school community in environmental projects and activities.

North Castor at Greely

The North Castor River project in Greely implements recommendations of the North Castor River Subwatershed Plan. The focus is on restoration of fish habitat to sustain a Brown Trout population and maintain the long-term health of the watercourse. Phase One of fish habitat improvements was completed in 1996 in partnership with the residents of Greely and the Township of Osgoode.



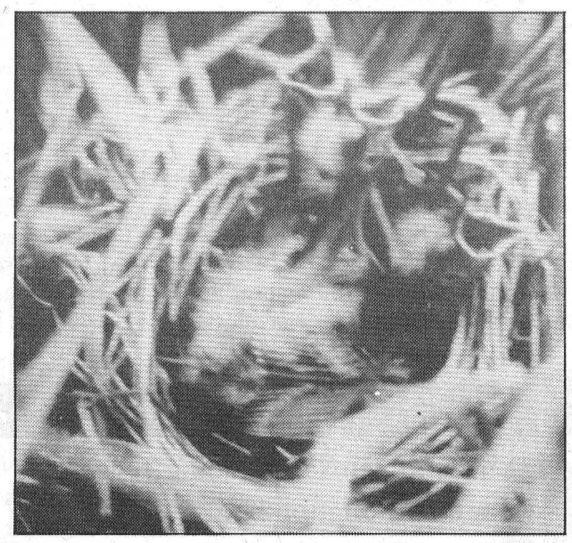
Phase Two is to be completed in 1997, and Phase Three will be done in 1998. Excellent community participation has helped this project move along extremely well.

Scotch River in Kenyon Township

The Scotch River project brought together landowners living in Kenyon Township who shared concerns about flooding. The purpose of the project was to reduce high water levels while maintaining the natural integrity of the River. Old beaver dams were removed carefully to minimize sediment damage to the aquatic environment. A beaver baffle was installed to lower water levels behind a beaver dam that is in use, without having to remove the beavers. A mid-level river crossing was rebuilt to increase water flows, and electric fencing installed to improve water quality by keeping cattle out of the river. Water levels have dropped by about one foot, thereby alleviating the flooding concerns of landowners while maintaining the pristine characteristics of the watercourse. Areas adjacent to this stretch of the Scotch are being considered for similar work.

South Nation River at Crysler

The South Nation River project is focused on naturalizing the shoreline of the River in the Crysler Community Park. Children from St. Rosaire school have been planting trees for the past three years. Through their efforts, the shoreline is taking on a more natural look and many birds and small mammals are reclaiming the area for their homes. The Community Development Association, Community Centre Association, and SNC have teamed-up to provide more shade by planting larger trees throughout the site.



3W's part of naturalization work

The funding for the Wetlands / Woodlands / Wildlife program was provided by Agriculture and Agri-food Canada until March 1997. SNC prepared a pamphlet on *Managing Agricultural Drains to Accommodate Wildlife* along the South Branch of the South Nation River. Reforesting streambanks with more than 20,000 trees improved water quality and provides wildlife habitat. Other projects included water quality sampling, and fish and wildlife monitoring. Information on managing your agricultural drain for wildlife is available from SNC.

Residents have 'vision' for SNC

The future of clean water was scrutinized by more than 65 people at community meetings in the late fall of 1996. They met with staff from South Nation Conservation to discuss Vision 2020, the strategic plan that provides direction for the organization's programs.

Originally released in early 1995, Vision 2020 must be reexamined every few years to keep in step with issues important to watershed communities. In light of recent funding cuts by the government, this review is more important than ever. This is the first of such revisions, and the input from watershed residents was used to help decide which programs to focus on in 1997 and beyond.

You can have your say. Program direction at SNC comes from staff, directors, municipal representatives, and most importantly, watershed residents. If you would like to suggest a project, volunteer, or join a committee, please call. You don't have to wait until the next official review. We'd be happy to hear from you anytime.

THE State OF THE Nation

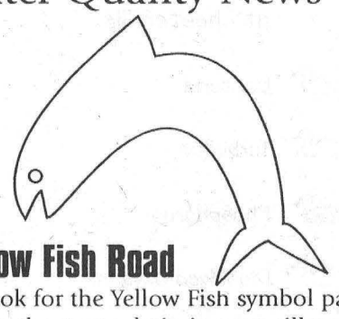
A water quality report card for the South Nation River

Good water quality is essential for wildlife, fish and healthy rivers. Everything depends on it. We all share in the responsibility too. Pollution in the South Nation River comes from many sources including industries, sewage lagoons, agriculture, septic systems and runoff.

Monitoring

SNC monitors over 100 stations along the South Nation River and its tributaries to follow the trends in nutrients, turbidity and bacteria concentrations in our rivers. We put all this water quality data in a database that has more than 30 years of information. This data is used to target our water quality programs where they are most needed. For more information about water quality near your community, please call our office.

Water Quality News

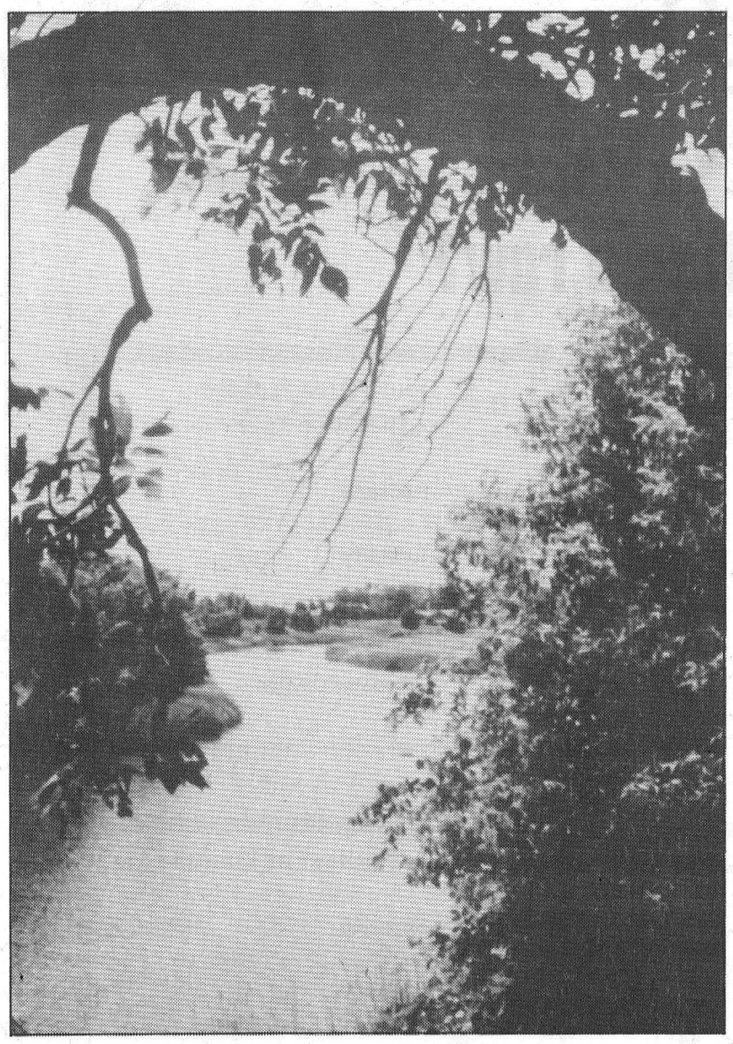


Yellow Fish Road

Look for the Yellow Fish symbol painted beside the storm drain in your village. Remember that whatever goes down the drain ends up in our Rivers! You can help protect our river water quality by stopping motor oil, pesticides, pet waste, and fertilizers from getting into storm drains.

Groundwater connection

Groundwater is connected to our rivers. It supplies the rivers with the majority of water in the summer when flow is lowest. In the same way, water on the surface can get into the groundwater supply and carry contaminants with it. You can help protect both groundwater and surface water quality by maintaining your septic system, carefully managing hazardous wastes and applying fertilizer and pesticides at the proper rate and timing.



Wetlands

Wetlands are essential to the health of the river. They store water in times of flood and release it back to the waterway in times of low water. Wetland vegetation helps to filter out excess nutrients and sediment.

Wastewater discharge

There are 16 municipal and industrial wastewater treatment lagoons discharging treated wastewater into the South Nation River system. Discharges from these lagoons meet water quality standards. SNC is working with lagoon operators and the Ministry of Environment & Energy to minimize the impact of these sources on the quality of our water.

Working for water quality

Since 1993, South Nation Conservation's RiverWatch program has monitored water quality at 30 different sites with the help of volunteers. This year, about half a dozen are taking a well deserved break. SNC asked for new volunteers in the Spring of 1997.

"The response was great. We have about a dozen more people involved in the program," said Naomi Langlois, RiverWatch Coordinator. "There are about forty people working with us now. Volunteers can cover areas our staff can't visit on a regular basis."

Training is usually done early in the summer. Volunteers monitor a site close to their homes from spring to fall. Once a month they test for nitrates, turbidity, pH, and phosphate. The kits are supplied by SNC. Results are entered into a database, and used by SNC in water quality publications.

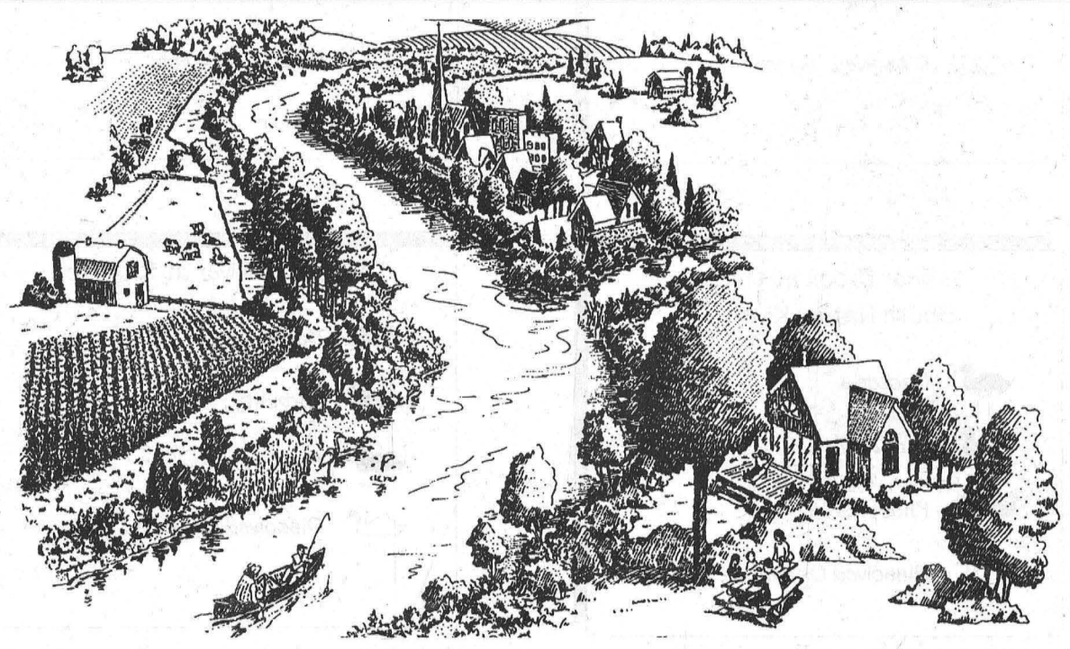
Natural shorelines

An important part of improving water quality is to maintain a vegetated buffer strip along the shoreline. Natural vegetation along our rivers plays an important role in preserving aquatic environments. Buffers should be at least 10 feet wide, and can be native plants, trees or shrubs, or long grasses.

Natural shorelines...

- trap sediment, nutrients and bacteria by filtering runoff
- provide shelter and food for animals and fish
- support spawning beds for fish
- discourage growth of algae and aquatic plants
- prevent shoreline erosion
- save time and energy on maintenance - "let it grow"

Buffers along agricultural drains are also very effective at reducing drain maintenance. There are many considerations for establishing a buffer. Contact SNC for assistance.



Water quality along the South Nation River

Are our ducks all in a row?

Key to Water Quality

- Good Water Quality
- Fair Water Quality
- Poor Water Quality

1. South Nation River at Roebuck

- Bacteria
- Turbidity
- Phosphorus
- Dissolved Oxygen

2. South Branch of the South Nation River

- No Data — Bacteria
- Turbidity
- Phosphorus
- Dissolved Oxygen

3. South Nation River at Chesterville

- Bacteria
- Turbidity
- Phosphorus
- Dissolved Oxygen

4. Payne River at Crysler

- Bacteria
- Turbidity
- Phosphorus
- Dissolved Oxygen

5. Castor River at Russell

- Bacteria
- Turbidity
- Phosphorus
- Dissolved Oxygen

6. South Nation River at Casselman

- Bacteria
- Turbidity
- Phosphorus
- Dissolved Oxygen

7. Bear Brook at the South Nation River

- Bacteria
- Turbidity
- Phosphorus
- Dissolved Oxygen

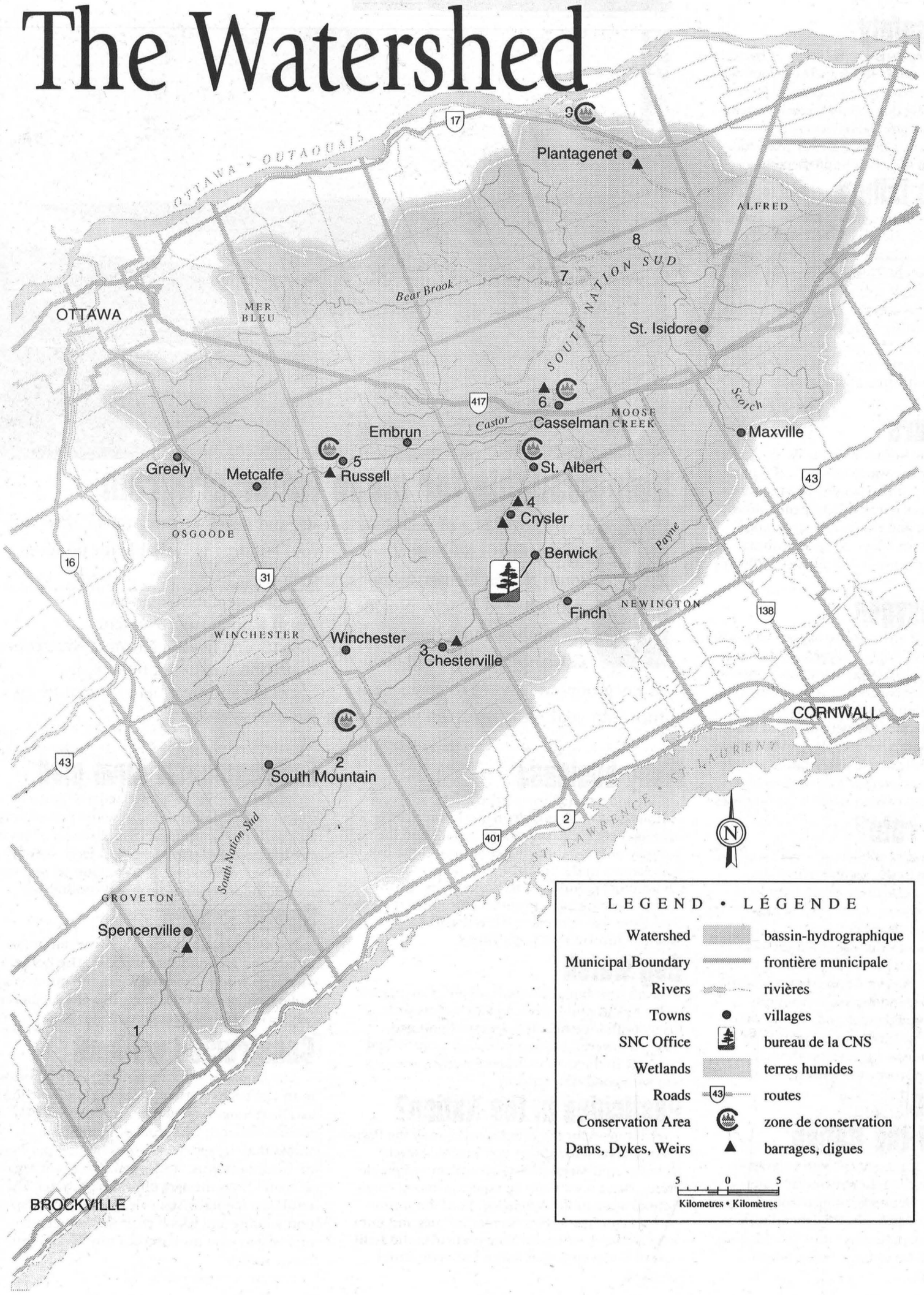
8. Scotch River at Riceville

- Bacteria
- Turbidity
- Phosphorus
- Dissolved Oxygen

9. South Nation River at Hwy # 17

- Bacteria
- Turbidity
- Phosphorus
- Dissolved Oxygen

The Watershed



Swimming safety

Safe swimming depends on the levels of bacteria in the water. High bacteria levels increase your risk of getting sick. Some bacteria are naturally present, but high levels may be due to faulty septic systems or manure runoff. Bacteria levels generally are highest in the summer, can vary greatly from location to location, and are often unpredictable.

Phosphorus failure

Phosphorus helps plants grow: it occurs naturally in the environment. However, too much of it can over-fertilize the aquatic environment. Algae begins to grow profusely. This floating scum cuts down light to plants and animals. As the algae dies and decays, it robs the water of oxygen. This suffocates the fish and wildlife which live there. Phosphorus is found in fertilizers, detergents and human and animal waste. It runs off fields and lawns and comes from streambank erosion and storm water runoff.

Water colours

Natural sediments from the clay soils along the streams and rivers make water brown. It is part of the river's character. Human activity can increase sediments. This causes reduced light penetration, higher temperatures, and covers fish spawning beds. Landslides, riverbank erosion, agricultural runoff and construction sites can all raise sediment levels.

Dissolved oxygen

Aquatic plants and animals use oxygen which is dissolved in the water. Higher oxygen levels support a greater variety and larger number of organisms. More oxygen is dissolved in water at lower temperatures. Maintaining vegetation on the streambanks helps reduce temperatures and maintain higher oxygen levels for a healthy river. When oxygen levels are too low, fish and wildlife are suffocated. Excess organic matter from human and animal wastes uses up oxygen when it decomposes.

How do we rate?

"A" for effort - studies show that overall water quality is improving in the South Nation River.

This is thanks to the actions of residents and farmers and improvements to municipal and industrial wastewater treatment.

Needs Improvement - there is still a lot of work to be done to meet provincial standards for a healthy River. South Nation Conservation is working with individuals, landowners, community groups, schools, municipalities and other government agencies to solve problems on your River.

Thanks to all watershed residents who have made an effort to improve our environment!

Data source for State of the Nation

A variety of data sources were used to prepare this document, including the Provincial Water Quality Monitoring Network (Ministry of Environment and Energy), RiverWatch volunteers, and SNC monitoring programs. More information on water quality can be obtained from South Nation Conservation.



Help available for clean water program

Do you know of a project that would benefit water quality? South Nation Conservation would like to help by providing funding and technical assistance. Farmers and community groups are invited to contact our office with your ideas. SNC will visit your site and develop your project idea with you. Funding is available for projects such as:

- shoreline naturalization
- fish habitat improvement
- restricting livestock from a watercourse
- repairing faulty septic systems
- storage and treatment of manure and milkhouse waste

Fishy business

Fish and aquatic insect populations are good indicators of water quality in our rivers. SNC is working with local community groups and the Ministry of Natural Resources to protect the fish populations in the South Nation River. Community groups in Greely along the North Castor River are actively enhancing one of the few cold water fish streams in the watershed to re-establish brown trout populations.

Bug watch

Learn how bug collecting will give you an idea of the health of the river. Aquatic insects such as maggots and leaches are tolerant of polluted waters. However, a large number of stonefly and caddisfly in the river indicates a healthy river system with good water quality.

Pesticides in the Nation?

Good news for the fish and wildlife of the Payne River. A SNC study shows that pesticide levels (Atrazine and Metalochlor) are within acceptable limits. These results can be expected in other agricultural areas in the watershed. Read the instructions, use proper application techniques and minimize amounts when applying pesticides and fertilizers to both residential lawns and agricultural cropland.

Environmental farm plan

Many farmers have completed a voluntary review of their farms to increase their awareness of the environment on their farm. Farmers highlight environmental strengths on their farm, identify areas of environmental concern, and set realistic goals to improve environmental conditions.

Septic systems

Poorly maintained septic systems can pollute surface and ground water supplies. Use household chemicals wisely, conserve water and pump your septic tank at least once every five years. Funding may be available for septic system repair.

Constructed wetland

The Dignard Artificial Wetland near Embrun is an engineered system designed to mimic the excellent water quality treatment process of a natural wetland. Two years of monitoring shows that the system removes over 99 per cent of the phosphorus, suspended solids and organic matter from the agricultural wastewater. The result is a natural system clean enough to support wildlife and which gives the farmer a natural way to treat his barnyard runoff and milkhouse wastes.

The realities of the new Ontario

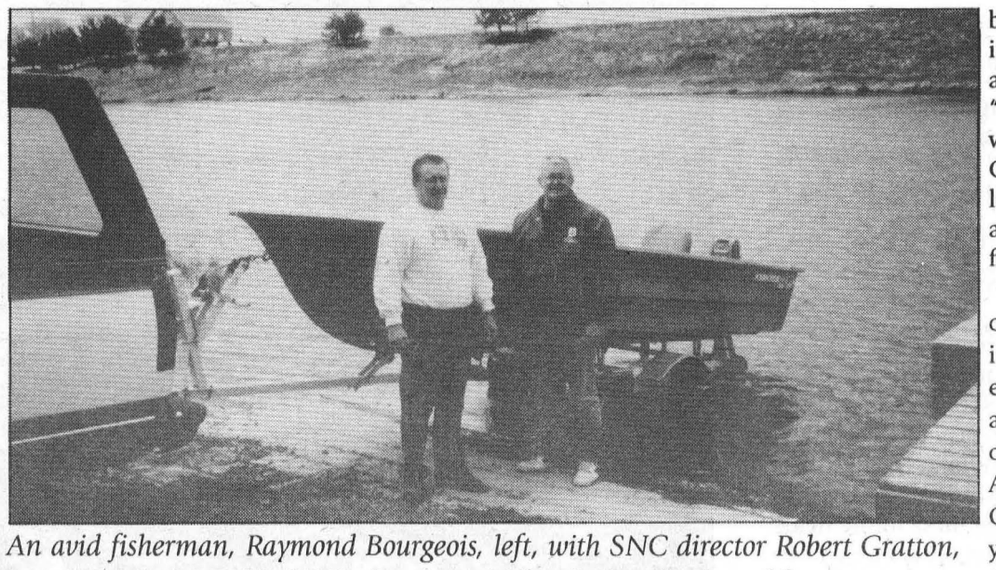
South Nation Conservation granted charitable status

Last year, South Nation Conservation was granted charitable status, allowing it to issue official tax receipts to donors. While the organization has in the past received gifts of cash and land, it has not been able to provide a tax benefit.

Contributions are welcome in all shapes and sizes. The Environmental Club at Nationview Public School in South Mountain donated part of the proceeds from a rummage sale. Recently, another donation has helped SNC and boaters on the South Nation at St. Albert.

After expressing some concern over the condition of the boat launch ramp at St. Albert Conservation Area, Raymond Bourgeois decided get involved. A new ramp was opened early this summer. An avid fisherman, Mr. Bourgeois' donation paid for four new concrete pads that make up the ramp.

"Partners like Mr. Bourgeois help us complete projects that are important to people in the watershed. Otherwise, the work might have to wait, or be cancelled instead," said SNC Chair Denis Perrault. "Working with local residents is very important in this era of provincial cutbacks."



An avid fisherman, Raymond Bourgeois, left, with SNC director Robert Gratton, became a partner with SNC when he paid for the installation of four new concrete pads for the boat launch ramp at the St. Albert Conservation Area.

Conservation Ontario has been seeking partnerships to promote the role conservation authorities have played in resource management over the past 50 years. Chair Wendy Stewart and John Mayberry, President and CEO of Hamilton steel producer Dofasco Inc. announced a new agreement in May of this year. "We're very pleased to have Dofasco as our senior patron. We're entering a unique partnership," Stewart stated. Dofasco is donating $1,000,000 to fund this awareness campaign.

"This is not just about a financial contribution, its also about getting involved as a company and as individuals," Mayberry said. "Dofasco has had a long term involvement with environmental matters. We recognize the on-going need for all of us to protect Ontario's environment and we believe that this partnership is one very positive way to go about it," Mayberry added. "We believe in all the good work of Conservation Ontario to protect sensitive lands, and provide education and recreation opportunities for all Ontarions."

Conservation Ontario is one of the province's most important advocates for the environment. They have assembled over 340,000 acres of land in 352 Conservation Areas across the province. Over 5,000,000 people each year use Conservation Ontario's lands and over 1,000,000 people each year learn about conservation in the educational and interpretive facilities on conservation lands.

"We're an important part of Ontario's conservation past and we're a necessary element for Ontario's environmental future," Stewart emphasized. "We intend to complete the legacy that we've been assembling which includes many unique heritage sites, international biosphere lands and interpretive and educational centres on many of our lands."

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SNC manages 8,000 acres of forests

Samuel de Champlain passed forests of tamarack, white pine, and elm in the early 1600's while exploring the Ottawa River. In the 1700's, lumbering advanced northward into the South Nation Watershed from the St. Lawrence River. At the time, the St. Lawrence was the main transportation route to markets in Québec.

The late 1700's and early 1800's saw the arrival of settlers intent on agriculture. They viewed the forest as the enemy. The task of land clearing was formidable, and most of the wood was wasted. Trees were felled and burned in these future fields, and only a small amount ended up as lumber or fuel wood.

Commercial lumbering marked a milestone in 1806: the first square timber raft successfully negotiated the Ottawa River. In just a half century - by the 1860's - these rafts were becoming a thing of the past. The South Nation River was also used to drive logs to markets via the Ottawa River in the spring of each year.

In 1850 nearly half the forest had been removed from the watershed, and by 1900 less than 30 per cent of the forest remained. This decline continued until 1940 when less than 14 per cent remained. Fuelwood has been the only continuously supplied forest product from the South Nation River Watershed, and until 1850 wood was the only fuel available. Steamships on the St. Lawrence River used wood, not coal, to run their boilers.

Today, SNC manages over 8,000 acres of forests for future generations. Some of these forests will soon produce lumber, pulp wood, or fuel wood. Other land will only be productive in a few decades if properly managed today. SNC forests are retained to stabilize soil, or enhance water quality.

South Nation forest facts

The first sawmill on the South Nation River was located on the North Branch in the Township of Mountain in 1818.

The first local paper mill was built in 1882 in Cornwall and depended on the forest of the South Nation for its wood supply.

Black Walnut was once important, not for nuts, but for timber.

A single moderately-sized tree uses over 10,000 gallons of water per year.

Tamarack forests once flourished on lowlands in the South Nation River watershed - in 1890 larch saw-fly destroyed these forests.





South Nation Forestry News

Grant from Royal Oak provides 25,000 trees

In 1994, SNC received US $10,000 from the Royal Oak Foundation in Switzerland to plant native oak trees in Eastern Ontario. The Eastern Ontario Model Forest has also contributed another $10,000 to prepare planting sites. To date, SNC has planted 25,000 oaks. Partnerships like this increase the effectiveness of our programs.

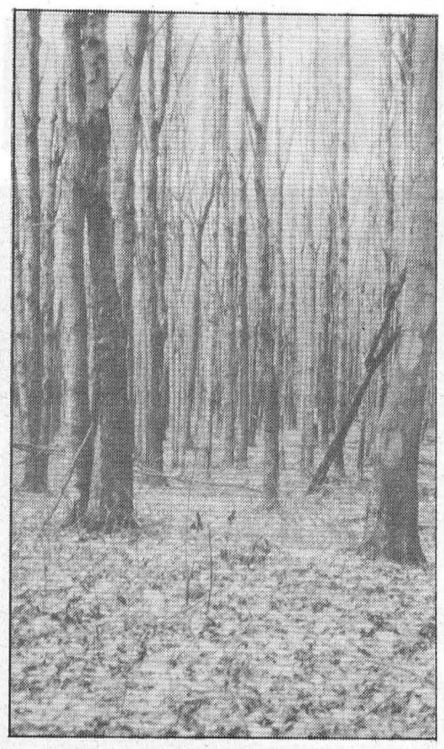
Urban forests important too

Community Forestry is a new initiative of the SNC Forestry Program. It will help communities take action to conserve and enhance their living spaces. Navan and Winchester are the first two villages to take part in the Community Forestry initiative.

In Navan, a new community association is addressing the development of a recreational greenway. A youth forum is also being established to assist in improving the village environment. Various greening activities will be done in the Fall with these groups and other local organizations.

A tree inventory and analysis will be conducted in Winchester to identify the areas of the village needing more vegetation. Plans are underway to plant trees, hedges, shrubs, and flowers as well as installing bird feeders around the village, and the public school is committed to planting trees this Fall.

Two other communities in the South Nation Watershed are needed to participate in the community forestry program in 1997. The success of these four initial projects will determine whether community initiatives can help achieve the forestry objectives of SNC and its member municipalities.



Tree total nears 1.5 million

Despite problems caused by the closing of the Kemptville Nursery, South Nation Conservation was able to supply over 200,000 trees in 1997. This brings the total number planted or distributed by the conservation organization to nearly 1.5 million in the last 11 years.

Thirty landowners took advantage of SNC's planting service. More than 116,000 trees were planted on private land throughout the South Nation and neighboring Raisin River watersheds.

Do-it-yourself was also popular this year. Fifty thousand seedlings were planted by individuals who picked up the trees from SNC. Advice on how to best plant and care for your trees is available. Domtar of Cornwall added 44,000 trees to their forests in Eastern Ontario.

Landowners can benefit from trees on their land three different ways. Idle land can be reforested. Windbreaks shelter soil from drying winds that cause erosion. Streams are shaded and banks are stabilized by planting trees along watercourses.

The SNC Tree Planting program is already preparing for a big demand next year. While trees are available in any quantity, planting service is only available to anyone ordering more than 1,000 trees. If you are interested, please call Josée Brizard.

ECSONG is just nuts about nuts

The Eastern Chapter Society Of Ontario Nut Growers (ECSONG) has established a tree nursery and experimental plots on SNC land near Oak Valley. The Society plants nut-bearing trees such as black walnut, oaks, and some non-native species such as Korean nut pine. The nursery provides seedlings to landowners in Eastern Ontario.

Also at the site is the Pioneer Farmsteads Memorial Park, commemorating families that first settled in the region.

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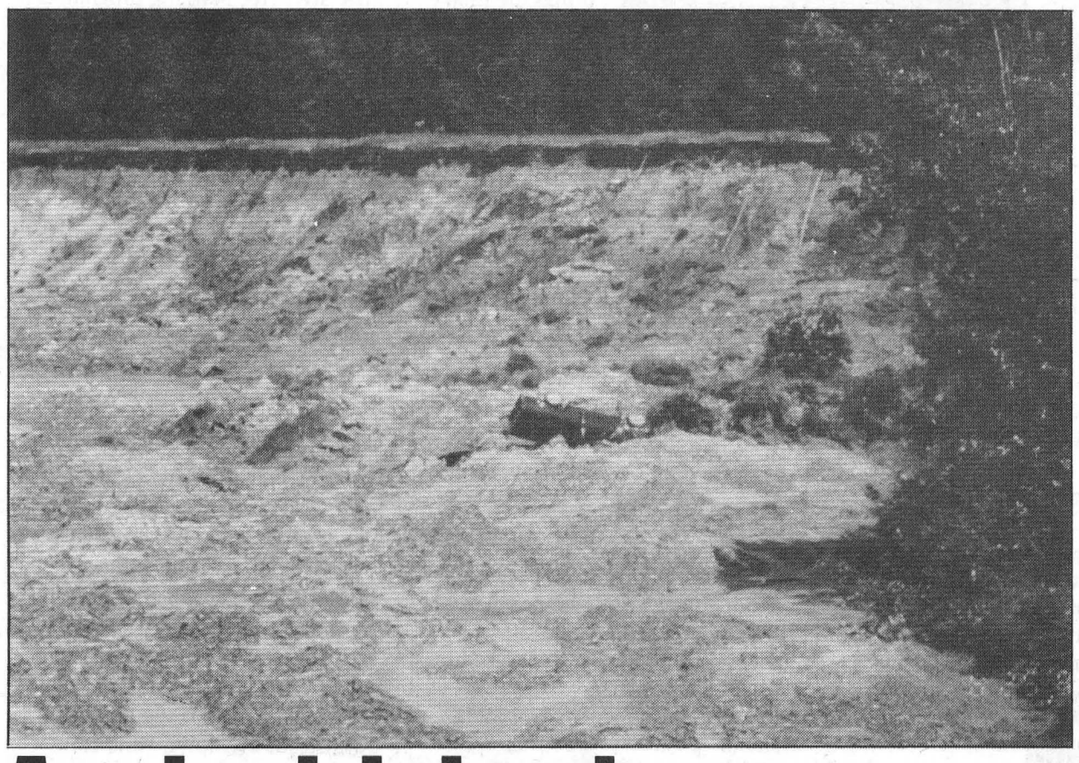
The South Nation:
A river with a mind of its own



Ancient inland sea cause of landslides

About 9,000 years ago, after the glaciers retreated, the South Nation River watershed was part of the huge inland Champlain Sea. The resulting silty clay deposits from the retreating sea form a large part of the subsurface soil in the watershed.

Due to a gradual desalinization and drainage patterns, these silty clay deposits have destabilized (called leda clay) leaving many of the river banks in the watershed in an unstable condition. When combined with high river banks and extensive erosion problems, leda clay can result in retrogressive landslides, or more severe earth flows.

A reach of the South Nation River between the Village of Casselman and the former Hamlet of Lemieux (approximately 17 km) has experienced this phenomenon 17 times over the past century.

In recent history, there were two major landslides. In 1971, 70 acres of land moved, and in June 1993, fifty acres of land slid into the South Nation. No one was killed in either slide.

SNC has been actively involved in addressing this problem since the early 1980's. Between 1987 and 1993, SNC was the key agency for the relocation or demolition of some 28 homes and a church in the Hamlet of Lemieux in South Plantagenet. Some of these homes may have been lost in the 1993 landslide.

Since 1988, SNC has identified risk zones along this part of the river and set priorities for remedial work. SNC has also worked extensively with residents and municipal officials in the Township of Cambridge to prepare fair policies that restrict development in leda clay areas to prevent future disaster.

Watershed management reduces flood risk, damage

Nineteen ninety-seven has brought more than its share of flood news across North America. Ohio, Tennessee, Manitoba, North Dakota have all had their stories of death and destruction caused by catastrophic floods.

But not Ontario!

Why?

Conservation Authorities operate on a model of watershed management. A model that transcends political boundaries, and instead uses watersheds as the geographic basis for looking after natural resources in the province. In the fifties, the management was done by the construction of dams and concrete channels to control and divert our rivers. It was, at the time, the best available technology. And it worked.

For fifty years, SNC has coordinated many flood level prediction and reduction measures. Historically, dams or dikes were built to prevent or control flooding: SNC operates six water control structures.

The Village of Crysler has a dike to protect its residents and businesses during the flood season. However, structural solutions to flooding are not preferred today. Whenever possible, planners set guidelines for activities in the flood plain. This gives the river room to behave naturally, which is best for the health of the river. It also reduces risk to property and lives.

Continued on page 11

Flooding

Continued on page 11

The two major flood-prone locations along the South Nation River are between Lemieux and Plantagenet Springs, and the Brinston area upstream of Chesterville.

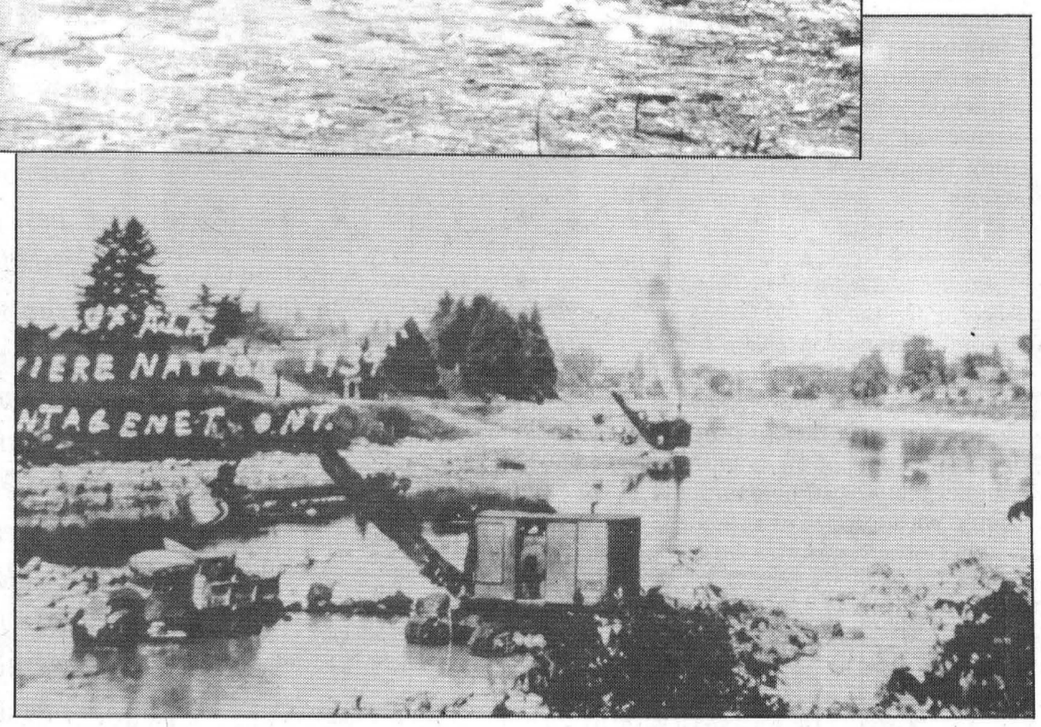
The capacity of the river channel is easily exceeded by meltwater in the spring and rains during the summer. In the early 1950's, record floods covered 14,400 acres of farmland in Plantagenet and 4,250 acres in Brinston alone. However, flooding is not limited to these areas. Every year approximately 20,000 acres of farm land and village property are flooded in the watershed.

Flood damage to crops is of great concern to the people of the South Nation watershed. There are three flood seasons during the typical year: early spring, late spring and summer. The combination of melting snow and ice jams between mid-March and mid-April usually generates the highest water levels of the year. Fortunately, flooding in early spring does not usually threaten crops.

However, rainfall and snowmelt in later April and early May can delay planting. In the summer, flooding is caused by saturated soil and heavy rainfall, ruining nearly 2,500 acres of crops every year.

Flood plain mapping has been done along all of the major rivers and streams in order to regulate development, reducing risk to life and damage to property. By analyzing the precipitation and drainage characteristics of the watershed, a peak flow is predicted and modeled for each river. This peak has a one per cent chance of occurring in any given year, or once in 100 years on average. This is the origin of the term "hundred year flood". This peak level is drawn on a map to determine the expected extent of flooding.





Despite the efforts of South Nation Conservation and other agencies, flooding will always be a fact of life in the South Nation Watershed.

With proper planning and management of watershed activities, risks to life and property can be greatly reduced.



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What does the South Nation mean to you?



The students and staff of North Stormont would like to thank our community partner, South Nation Conservation, for their assistance with our school naturalization project, Science Fair, and various units of study. Your help is greatly appreciated and we look forward to working with you next year.

Terry Gove
Teacher, North Stormont Public School

South Nation Conservation has been a key player in restoring the last remaining mineral spring house in Carlsbad Springs. There is little evidence remaining of the extensive spa complex that existed here until the 1940's. We appreciate that South Nation Conservation was willing to organize and participate in this historically significant project.

Mary O. Boyd
Gloucester Historical Society & Museum
Carlsbad Springs Historical Site



I'm happy to see things fixed up. It makes me feel better knowing that the bank is stable and not eroding away. The grant and technical advice from South Nation was of great assistance. I hope others along the river will do their part.

John Stoodley
Farmer, South Castor River Streambank Stabilization Project

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YES, I want to help South Nation Conservation face the challenges of tomorrow.

❑ Yes, I would like to become a volunteer.

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How can we be of service?

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- *water quality improvement*
- *water quality monitoring*
- *bioengineering for streambank erosion control*
- *environmental awareness for schools, youth groups, and communities*
- *best management of residential, agricultural and industrial wastewater*
- *control of water levels*
- *fish and wildlife habitat assessment and improvement*
- *groundwater protection*
- *protection from landslides and flooding*
- *watershed planning*
- *outdoor recreation*
- *tree planting on windbreaks, streambank, idle land*
- *woodlot management assistance*
- *protection of wetlands*
- *storm water management*
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