

SOUTH NATION
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Flood Contingency Plan

2020



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Executive Summary

The South Nation Conservation (SNC) 2020 Flood Contingency Plan was prepared following the provincial standards established in the *Ontario Flood Forecasting and Warning: Implementation Guidelines for Conservation Authorities and Ministry of Natural Resources and Forestry's* document. The Flood Forecasting and Warning Program is part of the Ministry of Natural Resources and Forestry's Emergency Response Plan that describes how to respond in the event of flood conditions. To reduce the risk of loss of life, injury and property damage, SNC strives to provide flood warning messages with enough lead time for municipalities and the public to take action.

Messaging

Three types of flood messages may be issued by SNC depending upon the situation. From least to most urgent, they are:

WATERSHED CONDITIONS STATEMENT	Water Safety Statement	General notice of high flows, melting ice or other factors which could be dangerous for users such as boaters, anglers and swimmers, but flooding is not expected.
	Flood Outlook Statement	General notice of the potential for flooding based on weather forecasts calling for heavy rain, snow melt, high winds or other conditions.
FLOOD WATCH		There is the potential for flooding within specific watercourses and municipalities.
FLOOD WARNING		Flooding is imminent or occurring within specific watercourses and municipalities.

Roles and Responsibilities

- **Ministry of Natural Resources and Forestry (MNRF):** Will maintain a provincial flood warning system to alert Conservation Authorities.
- **South Nation Conservation (SNC):** Will maintain a flood warning system throughout its jurisdiction for alerting municipal representatives, the media, local police, the Ontario Provincial Police and the MNRF.
- **Municipalities:** Municipalities are responsible for responding to a flood. When a flood event occurs, it is the responsibility of the municipality to implement their Emergency Response Plan, or similar.



Communication

- SNC shall maintain lines of communication between municipalities and appropriate agencies during a flood event.
- Any questions or feedback regarding this plan or other aspects of dealing with flood emergencies may be directed to SNC. SNC's Flood Forecasting and Warning team may be reached by phone: 1-877-984-2948 or email: waterwatch@nation.on.ca. See **Appendix A** for additional contact details.

1.0 Background

Flood Forecasting and Warning is part of the Ministry of Natural Resources and Forestry (MNRF) Emergency Response Plan, which was developed in accordance with Ontario's *Emergency Management & Civil Protection Act*. The Emergency Response Plan describes the services provided by the MNRF and its partners in response to flood conditions and how to respond in the event of flood conditions. To reduce the risk of loss of life, injury and property damage, South Nation Conservation (SNC) strives to provide flood warning messages with enough lead time for municipalities and the public to take action.

As the leading agency, the MNRF delegates to Conservation Authorities, such as SNC, the responsibility for monitoring water levels and conducting flood forecasting and warning at a local level. The goal of the Conservation Authorities is to provide the greatest lead time possible for municipalities to react in order to reduce the risk of loss of life, injury and property damage as a result of flooding.

The SNC 2020 Flood Contingency Plan was prepared following the provincial standards established in the *Ontario Flood Forecasting and Warning: Implementation Guidelines for Conservation Authorities and Ministry of Natural Resources and Forestry* document prepared by the Provincial Flood Forecasting and Warning Committee (2008).

2.0 Purpose of the Plan

The purpose of this plan is to summarize the course of action that will be taken by SNC if a flood event threatens to occur, or does occur, in SNC's jurisdiction (see **Figure 1**).

One of the responsibilities of SNC is to maintain a flood warning system throughout the jurisdiction to alert municipalities, counties, media, local police, Ontario Provincial Police, MNRF and other stakeholders of flood threats.

The purpose of SNC's flood warning system is two-fold:

1. To provide advance notice of flood conditions to member municipalities and the public so that municipal officials and citizens can respond in a timely manner to avoid or minimize the loss of property.

2. To provide on-going updates of flood forecasts and watershed conditions during a flood event.

Flood forecasting is a provincially mandated service provided to municipalities by Conservation Authorities. SNC maintains a network of flood forecasting stations and monitors weather and flood information in order to notify municipalities of potential or imminent flood conditions.

In this role, SNC acts in an advisory capacity only, providing continuous monitoring of flood conditions. SNC is not responsible for flood response other than in the operation of its own water control structures. During a flood situation, SNC's office will be available to monitor water levels and weather conditions on a 24-hour basis, as required. See Appendix A for SNC staff contact details.

Municipalities are responsible for responding to an impending flood. If a municipality declares a state of emergency, the MNRF becomes the lead ministry responsible for flooding emergencies.

This plan will be revised, updated and sent to the emergency contacts distribution list by SNC, on an annually basis. The list includes emergency contacts from:

- Member Municipalities and Counties;
- MNRF Surface Water Monitoring Centre;
- MNRF Kemptville;
- MNRF Provincial Response Centre;
- Emergency Management Ontario;
- Ontario Provincial Police (OPP);
- Other stakeholders: Ontario Power Generation, Hydro Quebec, Laplante Hydro Station, etc.
- Neighboring Conservation Authorities; and
- SNC Staff and Board Members.

3.0 Roles and Responsibilities

As per the MNRF's Flood Forecasting and Warning Guidelines, the following describes the roles and responsibilities of the MNRF, SNC and municipalities:

3.1 Ministry of Natural Resources and Forestry

The MNRF will maintain a provincial flood warning system to alert Conservation Authorities.

To implement its responsibilities, the MNRF will:

- Design approval and maintenance of the basic data collection system and archiving;
- Provide early alerts of major precipitation events;
- Issue Provincial Advisories;
- Provide interpretation of precipitation and runoff forecasting;
- Coordinate programs;
- Respond to a request by a municipality for provincial assistance should the total resources of the municipality be committed or inadequate or the municipality has declared an emergency situation; and
- Coordinate delivery of the provincial response in a declared emergency.

3.2 South Nation Conservation

SNC will maintain a flood warning system throughout its jurisdiction for alerting municipal representatives, the media, local police, the OPP, the MNRF, etc.

To implement its responsibilities, SNC will:

- Operate and maintain a data collection and monitoring network;
- Interpret area conditions affecting flooding, including weather patterns, ice jams, etc.;
- Forecast stream flows and water levels; and
- Prepare flood messages outlined in **Section 6.0** of this document and send to the emergency contacts distribution list.

3.3 Municipalities

Municipalities are encouraged to have their own flood contingency plan. While SNC

will provide continuous monitoring of water levels and weather conditions, it is a municipal responsibility to respond to a flood by implementing their own plan. The Flood Coordinator, appointed by the Mayor/Clerk, will be responsible for:

- Developing and maintaining an emergency plan to deal with a flood or other emergencies;
- Liaising with SNC;
- Assessing the flood situation;
- Recommending to the Mayor/Clerk the declaration of a municipal emergency;
- In case of municipal emergency, implementing the municipal Emergency Response Plan, or similar, and coordinating the municipal response; and
- Recommending to the Mayor/Clerk to request provincial assistance if additional resources are needed.

4.0 Flood Prone Areas

Flood prone areas are low-lying areas that are susceptible to flooding.

Within SNC's jurisdiction, there are six flood prone areas, including (see **Figure 1**):

- Brinston - Oak Valley area (North & South Dundas)
- Plantagenet - Fournier Area (Nation & Alfred-Plantagenet)
- Bear Brook Area (Cumberland & Clarence-Rockland)
- South Castor Area near Vernon (Osgoode)
- Middle Castor Area upstream of Metcalfe (Osgoode)
- Lords Mills (Augusta & Edwardsburgh)

With the expansion of SNC's jurisdiction, additional flood prone areas may exist but are not currently mapped. SNC conducts additional surveillance in these unmapped areas to collect the necessary data for future mapping.

Flooding problems normally occur during the spring runoff from a combination of snowmelt and rainfall. However, flooding can also occur any time of the year with the onset of excessive rainfall or snowmelt.

5.0 SNC Flood Forecasting and Warning System

The goals of flood forecasting and warning are:

- To reduce the risk of loss of life and property damage due to flooding through the issuance of flood messages; and
- To provide information for the safe operation of water control structures.

To accomplish these goals, SNC maintains a Flood Forecasting and Warning System as follows:

A) Monitoring Network and Data Collection System

SNC, in partnership with the MNRF and Environment and Climate Change Canada, maintains a network of stream gauges, rain gauges, as well as ice and snow survey sites within SNC's jurisdiction. The data collected can be used to quantify the components of a hydrologic cycle. Monitoring can also include visual inspections of watercourses.

B) Daily Planning Cycle

The Daily Planning Cycle is a series of scheduled tasks, performed daily to ensure that the flood potential can be identified in a timely manner. The Daily Planning Cycle includes the analysis of the following parameters:

- I. Daily water levels and flows collection at 6:00 a.m.;
- II. Daily check of forecasts for weather conditions, precipitation and temperatures; and
- III. Snow and ice survey data.

After the Daily Planning Cycle parameters are analyzed, SNC predicts the flood potential (i.e. Low, Moderate or High).

C) Flood Duty Officer

The Flood Duty Officer is a designated SNC staff member responsible for carrying out the Daily Planning Cycle. This individual will be available on a 24-hr basis, seven days a week during potential flood periods. To contact SNC's Flood Duty Officer, see the contact list in **Appendix A**, beginning with the first entry.

D) Messaging

SNC will make every effort to send out flood warning messages with enough lead time to allow member municipalities and the public to respond to a flood. See **Section 6.0** for the types of messages that may be issued by SNC.

6.0 Messaging

Three types of flood messages may be issued by SNC depending upon the situation, (see **Figure 2** for an example). They will be issued by e-mail and made available at SNC's website: <http://nation.on.ca/>. Updates about road closures can also be found on SNC's website. SNC's contact list for Flood Forecasting and Warning can be found in **Appendix A**.

The Provincial Icon will be included on the statements. The statements will be organized by region as follows; South Nation Watershed; Ottawa River; St. Lawrence River.

6.1 Watershed Conditions Statement

A Watershed Conditions Statement is a general notice of potential flooding or other conditions that pose a risk to personal safety, such as high flows, and unsafe ice. There are two types of Statements:

- **Water Safety Statement:** Indicates that high flows, melting ice or other factors could be dangerous for users such as boaters, anglers and swimmers, but flooding is not expected.
- **Flood Outlook Statement:** Gives early notice of the potential for flooding based on weather forecasts calling for heavy rain, snow melt, high winds or other conditions.

A Watershed Conditions Statement is usually issued before overbank flow occurs, before Spring break-up or any other time of year, as conditions warrant, or as a general reminder of the potential for high flows and unsafe conditions. The Watershed Conditions Statement will be emailed to the emergency contacts distribution list.

Represented as yellow in the Provincial Icon.

Copies of all transmissions shall be maintained at the SNC office in Finch, Ontario.

6.2 Flood Watch

A Flood Watch is issued to notify Municipalities and other primary contacts that the potential for flooding exists within specific watercourses and municipalities. The Flood Watch will include the watershed conditions, the potential impact and a hydro-meteorological forecast. Municipalities receiving a Flood Watch should initiate a

check on their municipal emergency plans. The Flood Watch will be emailed to the emergency contacts distribution list.

Represented as orange in the Provincial Icon.

6.3 Flood Warning

A Flood Warning with the title “ACTION” will be issued as a notice that flooding is imminent or occurring within specific watercourses and municipalities. Municipalities receiving a Flood Warning should commence the issuing of warnings to households, businesses and industries, which may be threatened. Municipalities should be referring to their municipal emergency plans.

Flood Warnings shall be emailed to the emergency contacts distribution list and reception confirmed by telephone. When a Flood Warning message has been prepared and the prime method of communication is inoperable, every alternate means of transmission must be considered, whether it is by radio, vehicle or on foot. The back-up communication system shall be the Ontario Provincial Police Communications Unit (1-888-310-1122) or alternatively, a Flood Warning message shall be passed to the local police detachments or municipal police. The officer-in-charge will then be responsible for alerting the proper municipal officials.

Represented as red in the Provincial Icon.

7.0 Lines of Communication

SNC shall maintain lines of communication between municipalities and appropriate agencies during a flood event (see **Figure 3**).

Any questions or feedback regarding this plan or other aspects of dealing with flood emergencies should be directed to SNC (see SNC contacts in **Appendix A**, beginning with the first entry). For more information, visit <http://nation.on.ca/> or email waterwatch@nation.on.ca.

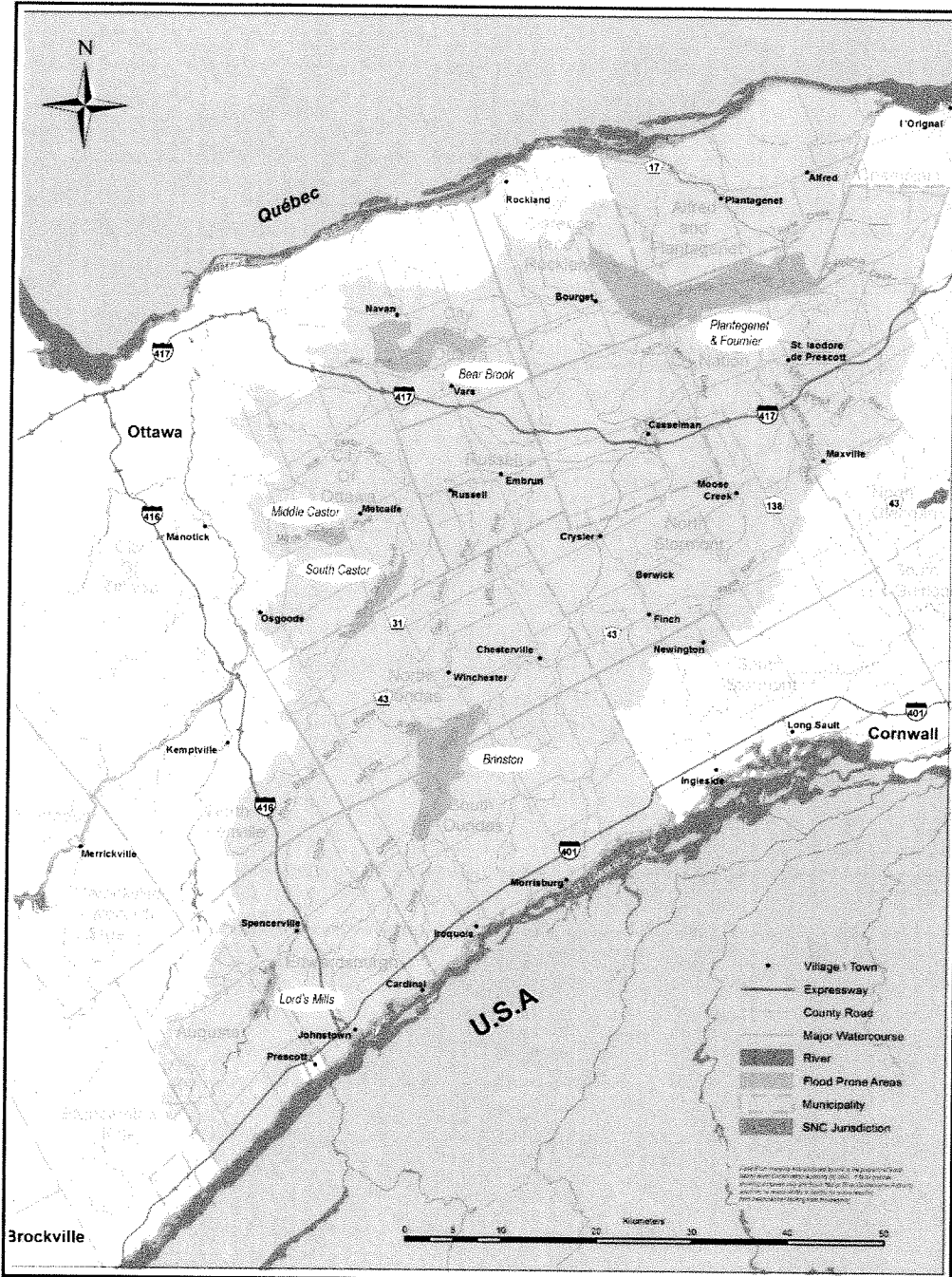


Figure 1: Map of South Nation Conservation's jurisdiction, flood prone areas, and the location of office.

[WATERSHED CONDITIONS/FLOOD WATCH/FLOOD WARNING] STATEMENT:
REGION [Ottawa River, St. Lawrence River or South Nation Watershed]

[mm/dd/yyyy]

Flood Warning

Weather Forecast:

The weather conditions forecasted by Environment Canada and/or Ministry of Natural Resources and Forestry. Includes information such as approximate precipitation if available and temperature changes.

Environmental Conditions:

Current conditions of the jurisdiction which include water levels, snow conditions, soil conditions, soil moisture and/or current flooding issues or concerns.

Risks:

The potential impacts from the weather forecast, and the environmental conditions pose on public and property safety.

ACTION:

CAUTION TO RESIDENTS ON WHAT TO DO IN THE TIME PERIOD OF THIS STATEMENT.

Duration:

The period which this statement will be in effect for.

SNC monitors the water levels and weather forecasts as part of the Flood Forecasting and Warning Program. Updates are provided as conditions change.

Please visit www.nation.on.ca and to also provide feedback with respect to changes in water related conditions in their local areas. All feedback can be sent to waterwatch@nation.on.ca; posted on our Facebook (/SouthNationConservation), or Twitter (@SouthNationCA).

For more information, please contact Duty Officer's Name at 1-877-984-2948 ext. XXXX.

Figure 2: Example of a flood message distributed to the Flood Forecasting and Warning contact list, which are distributed in both French and English

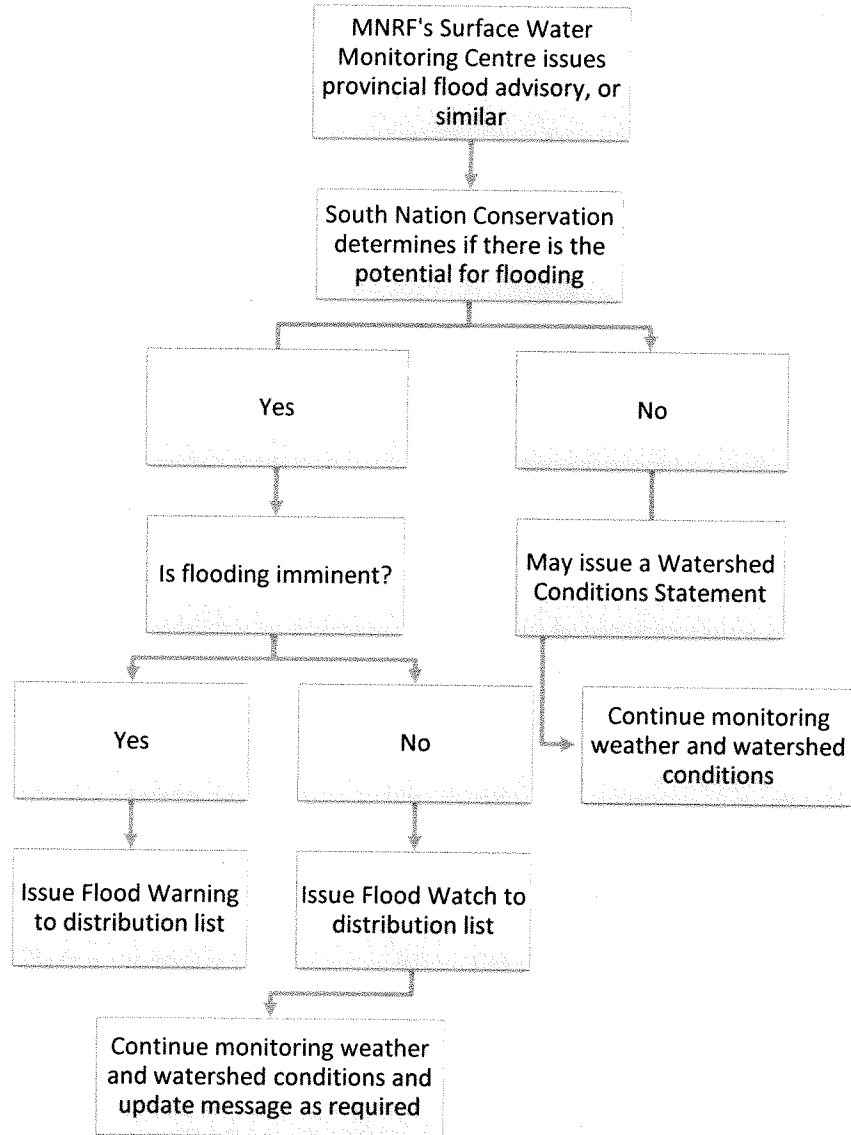


Figure 3: Diagram illustrating how South Nation Conservation will maintain lines of communication between municipalities and appropriate agencies during a flood event.



Appendix A

SOUTH NATION CONSERVATION DIRECTORY

	BUSINESS	CELLULAR	E-MAIL
Sandra Mancini <i>Team Lead, Engineering</i>	(613) 984-2948	(613) 551-3242	smancini@nation.on.ca
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Omar Kana'n, <i>Water Resources Specialist</i>	(613) 984-2948	(613) 577-3356	okanan@nation.on.ca