

FLOOD Contingency Plan 2018



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MEMBER MUNICIPALITIES

Municipality of Arran-Elderslie
Township of Chatsworth
Town of Hanover
Township of Huron-Kinloss
Town of Minto
Town of Saugeen Shores
Township of Southgate
Municipality of West Grey

Municipality of Brockton
Municipality of Grey Highlands
Township of Howick
Municipality of Kincardine
Municipality of Morris-Turnberry
Municipality of South Bruce
Township of Wellington North

The Saugeen Valley Conservation Authority is a corporate body established under the Conservation Authorities Act of Ontario to manage watershed resources and related conservation projects in partnership with its 15 member municipalities and the Province of Ontario.

PREPARING FOR FLOOD EMERGENCIES

Introduction

Flooding is the leading cause of public emergency in Ontario. Floods can occur at any time of the year and any time of the day or night. High flow events have always been a natural function within the Saugeen Valley Conservation Authority (SVCA) area of jurisdiction. As the global climate changes, flooding may become more frequent and severe in the future.

Flood magnitudes vary with the extent of snow cover, ambient air temperature, amount and duration of rainfall, direction and velocity of wind, pre-event soil conditions, river ice conditions, etc. The SVCA operates snow measuring courses, precipitation stations and automated river level recording gauges that assist in predicting the probability, height and time of arrival of a flood downstream. This Flood Forecast System attempts to minimize the loss of life, property damage and social disruption through effective communication. Selected agencies and officials are sent flood messages when flooding is anticipated. When notified, municipalities should distribute such messages as quickly as possible to residents, institutions, and businesses that may be at risk.

A fundamental component of any emergency response system is relaying the essential information to all potentially affected parties and initiating an effective and coordinated response to the identified emergency. The primary purpose of this Flood Contingency Plan is to address these important elements of public safety.

Under the SVCA's Water Management program, the SVCA has constructed flood control structures to protect many of the high risk populated areas. However, it must be remembered that such structures provide a limited degree of protection and only for specific locations. As long as watershed residents live and work in flood susceptible areas, an effective flood forecast system must be in operation.

The procedures outlined in this document and the accompanying selected contacts list comprise the information dissemination components of the SVCA's Flood Forecast System. ***Each municipal and public official associated in any way with this system should be fully aware of his/her responsibilities and be prepared to make every possible effort to ensure its effectiveness.***

Flood Forecast System Communication

The system that is used by the SVCA to communicate flood-related messages within its jurisdiction serves two primary purposes:

1. It provides rapid, advance warning and technical support to relevant officials and agencies, and via the media it informs the public.

2. It also enables the Authority to relay routine information concerning watershed river conditions to selected agencies and municipal officials.

The Flood Forecast System – How It Works

The system consists of an extensive network of data collection gauges strategically located throughout the SVCA Watershed, constantly monitoring factors that could potentially affect the amount of water entering the river system and the corresponding water levels. Information concerning the water content of the snow cover, present stream levels, intensity and duration of precipitation, wind speed, temperature and sunlight is recorded either manually or automatically and accessible on demand from the Forecast Centre. In addition, regular field inspections are made of river ice conditions throughout the Watershed during the winter months.

With this data, flood forecast personnel operate a real time computer model that can predict the flood potential within the Watershed. Coupled with analytical comparisons of up-to-date streamflow measurements, long range weather forecasts, and past flood events, forecast staff can estimate potential river levels and peak flow volumes and timing, as well as monitor the progression of a flood as it travels downstream through the river system.

Roles and Responsibilities of Participating Organizations

A number of agencies, municipal departments and individuals bear responsibility, in varying degrees, for the efficiency of the Flood Forecast System. These groups and personnel are identified below. A more detailed outline of the responsibilities and functions of Conservation Authorities and the Ministry of Natural Resources and Forestry (MNRF) are contained within the **Ontario Flood Forecasting and Warning Implementation Guidelines for Conservation Authorities and the Ministry of Natural Resources (2008)**, prepared by the Provincial Flood Forecasting and Warning Committee. Roles and responsibilities for municipalities and for other agencies are described in their own Emergency Response Plans.

SAUGEEN VALLEY CONSERVATION AUTHORITY:

- Monitors Watershed and weather conditions and operates the Flood Forecast System;
- Issues messages to municipalities, other appropriate agencies, and the media to advise of potential, or the occurrence of, flooding;
- Provides advice to municipalities in preventing or reducing the effects of flooding;
- Maintains communications with municipalities and the Ontario Ministry of Natural Resources and Forestry during a flood event.

POLICE:

During a flood emergency, the “police service of jurisdiction” is responsible for carrying out rescue operations, obtaining necessary medical aid and maintaining law and order within affected areas as per that jurisdiction’s municipal emergency plan.

RADIO, TELEVISION AND PRINT NEWS MEDIA SERVICES:

Provides the primary means of relaying flood-related information to the public, for those outlets serving the SVCA Watershed.

MUNICIPAL OFFICIALS:

Are initially responsible for the welfare and protection of their residents from floods. Under the Emergency Management & Civil Protection Act municipalities are required to have an Emergency Management program. Emergency response plans are also the municipality’s responsibility, which may include specific procedures for floods.

LANDOWNERS AND RESIDENTS:

Have an obligation to be prepared prior to a flood emergency, to evacuate safely when so instructed by the municipality or police service, and to safeguard their belongings to the best of their abilities.

MINISTRY OF NATURAL RESOURCES AND FORESTRY:

Operates the provincial Surface Water Monitoring Centre in Peterborough, which advises the SVCA of weather conditions that may adversely affect Watershed streams. Also, through the local Emergency Response Coordinator (Owen Sound Area Supervisor for the Saugeen Watershed), the ministry directs and delivers the provincial response to a municipal request for assistance, when a flood emergency has escalated beyond the capabilities of local resources.

COMMUNICATING FLOOD MESSAGES

Flood Messages – Terminology

There are three types of flood messages: *Watershed Conditions Statement*; *Flood Watch*; and, *Flood Warning*. The preamble for all flood messages will indicate the type of message as described below, and the types follow common terminology approved by the Province for use by all agencies issuing flood-related messages. The numbering of flood messages will be sequential throughout a flood period. Examples of the three types of messages are provided further on in this Flood Contingency Plan.

All flood messages are sent to the primary recipients by email. Flood Warning messages are also followed with a fax being sent to the primary recipients and acknowledgement of receipt required.

Watershed Conditions Statement

A Watershed Conditions Statement is a general notice of potential Watershed conditions that pose a safety risk (high flows, unsafe ice, slippery banks). A Statement may include sub-headings under the categories of “Water Safety Bulletin” and/or “Flood Outlook”.

A Watershed Conditions Statement reports on general Watershed conditions and is primarily directed to Municipal Flood Coordinators throughout the Watershed.

Water Safety Bulletins are issued to media sources and are general public information messages in which awareness is encouraged. These bulletins are usually issued before overbank flow occurs, before spring breakup or any other time of year as conditions warrant, as a general reminder of the potential for high flows and unsafe conditions.

A Flood Outlook message may be issued when a major storm is pending, when above normal snow pack conditions exist or when general conditions suggest high runoff potential.

Flood Watch

A Flood Watch serves to notify Municipal Flood Coordinators and other primary contacts that the potential for flooding exists and is issued to specified affected municipalities, usually following the onset of over bank flow. A Flood Watch message describes current Watershed conditions, potential flooding effects, and a related weather forecast.

This type of message does not require Municipal Flood Coordinators to take specific emergency action, but having been alerted to the potential for flooding they should start precautionary measures. Such measures vary according to local municipal requirements but typically include: checking their Emergency Response Plan, monitoring of potential problem areas, and possibly having staff remain on a stand-by alert.

Recipients of a Flood Watch message do not have to confirm receipt by responding to the SVCA, unless the message specifically states it.

Flood Warning

A Flood Warning is issued after a forecast has been made and will apply to specific flood damage centres where flooding appears inevitable. A Flood Warning message is sent only to those Municipal Flood Coordinators and other primary contacts whose municipality is affected by flooding and they will in turn relay the message to other relevant individuals and departments within their organization. Upon receipt of a Flood Warning message for their area, municipal officials should be prepared to issue warnings and/or evacuation instructions to households, businesses and industry that may be threatened by the flood. Municipal officials should also alert and mobilize necessary labour for sandbagging and other flood combating services.

Flood warning messages will be as specific as available information permits, in order that recipients are not faced with problems of interpretation. Where possible, the Warning message will contain time of flood stages and crests in reference to specific locations and shall include the approximate time of the next flood message.

In addition to disseminating the Flood Warning message by email and fax, SVCA staff follow-up by phoning the appropriate municipal staff of the affected flood damage centre. Recipients of a Flood Warning message must confirm receipt by responding to the SVCA.

Normal

No messages are issued while in the Normal status, but it is indicated on the SVCA website.

“Normal” status generally indicates low flow to base flow stream conditions, and area-wide flooding is not anticipated. Nevertheless, during intense rainfall events that can appear quite suddenly, typically in the summer months, there is the potential for very localized flooding. It should be noted as well that during Normal flow conditions the inherent risk to personal safety associated with flowing water still exists.

Flood Status – SVCA Website

The current flood status in the SVCA Watershed is always indicated on the home page of the SVCA's website (<http://www.svca.on.ca>). The four status levels are also colour-coded as follows: Normal – green; Watershed Conditions Statement – yellow; Flood Watch – orange; and, Flood Warning – red.

The Communication Process

During anticipated or actual flood events, the Saugeen Valley Conservation Authority is responsible for the operation of the Flood Forecast Centre, located within its administrative office in the hamlet of Formosa just west of Walkerton.

When the condition status of a Flood Watch is in effect the Centre is staffed during regular business hours (8:30am to 4:30pm). When a more serious Flood Warning level is reached the Flood Forecast Centre operates on a 24-hour basis, until the emergency has expired. In some situations, the 24-hour status may be enacted even during a Flood Watch.

Based on available information, SVCA flood forecast personnel send out Flood Watch messages to relevant officials regarding the latest flood probability assessment and existing or potential flood conditions. Upon receipt of the first such message Municipal Flood Coordinators should initiate a check of internal emergency response plans. The senior official of each organization receiving a message determines whether further internal notification or action is required.

If requested beforehand, flood messages are also sent to other municipal and emergency staff for their information; however, the SVCA's primary responsibility is to only notify the senior official in the affected municipalities.

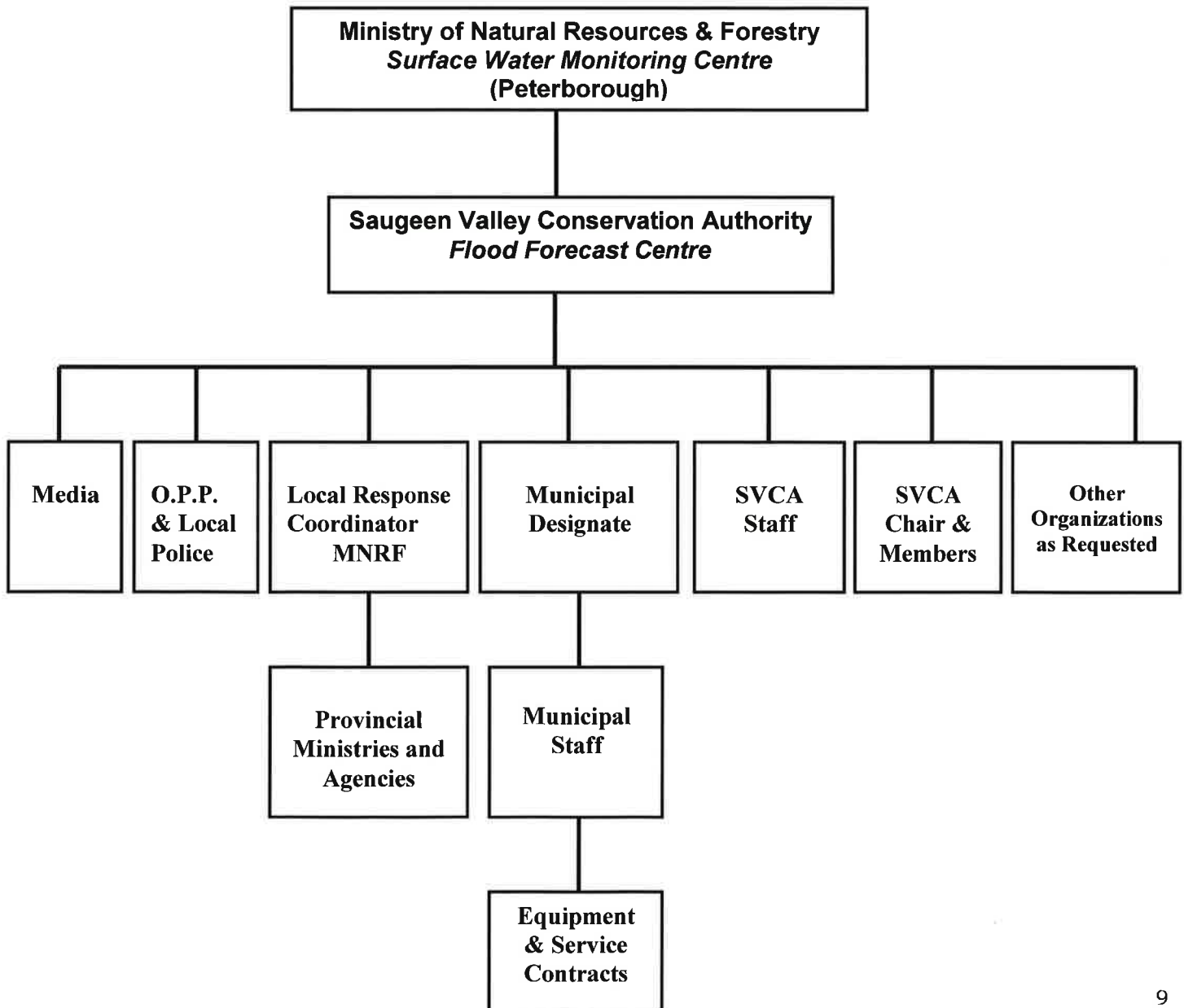
Flood messages are sent from the SVCA by email (also by fax for Flood Warnings). The same messages are also posted on the SVCA's website (<http://www.svca.on.ca>) and distributed via the SVCA's social media outlets (e.g. Facebook).

In the event that primary telephone communications fail, where no alternative exists, the Authority may contact the South Bruce OPP Detachment who will in turn notify the police service of jurisdiction, the affected municipality in the South Bruce Detachment area, or the affected detachment outside of South Bruce, as required.

The SVCA office in Formosa has a stand-by generator sufficient to operate essential Authority functions should the municipal power grid be unavailable during a flood event.



COMMUNICATION FLOWCHART





WATERSHED CONDITIONS STATEMENT FLOOD OUTLOOK / WATER SAFETY BULLETIN

SAUGEEN VALLEY CONSERVATION AUTHORITY

Tel: (519) 367-3040 Fax: (519) 367-3041 Website: www.svca.on.ca

Message Number: 2014.1.1

Issued at: Friday, March 28, 2014, 4:00 pm

Issued by: SVCA Flood Forecast Centre

To: Watershed Media
Watershed Municipalities and Counties
SVCA Board of Directors

MESSAGE:

Temperatures slightly above freezing are forecast for the weekend with no significant amount of rain or snowfall likely to occur. Warmer weather is likely for the first half of next week, with daytime temperatures possibly reaching 10 degrees Celsius. Temperatures are projected to be lower later in the week.

No significant flooding is expected over the weekend and into early next week, although localized flooding might occur where flow in smaller watercourses and ditches are impeded by snow or ice. Some melting of the snowpack will occur but the snow conditions aren't likely to be reduced substantially.

The Saugeen, Pine and Penetangore River watersheds have an above average snowpack. The long range forecast is for the spring snowmelt to be extended through much of the month of April. Although early next week will see warmer weather, the rest of the week and through to the third week of April will generally experience cooler than normal temperatures. The snow melt process will likely be slow during this time. On much of the larger rivers the ice still remains in place. Typical spring like weather conditions may be 3 to 4 weeks later than usual.

Streambanks are unstable and slippery at this time and the water is cold, so residents are advised to use caution near all watercourses. Parents are encouraged to keep their children and pets away from streams and off frozen water bodies.

Saugeen Conservation staff will continue to monitor conditions as they evolve, and further statements will be issued as warranted.

This message is in effect until 11:00 am on Wednesday, April 2, 2014.

Contact: Gary Senior, Shannon Wood

Confirmation of receipt of this message: **not required**

- End of Message -



FLOOD WATCH

SAUGEEN VALLEY CONSERVATION AUTHORITY

Tel: (519) 367-3040 Fax: (519) 367-3041 Website: www.svca.on.ca

Message Number: 2014.2.1

Issued at: Wednesday, April 9, 2014, 10:00 am

Issued by: SVCA Flood Forecast Centre

To: Watershed Media
Watershed Municipalities and Counties
OPP and Municipal Police
SVCA Board of Directors

MESSAGE:

The weather forecast for the next several days calls for temperatures well above freezing with some days above 10 degrees C, and night time temperatures generally above zero. Scattered showers are also possible on Thursday. These factors will result in further melting of the snow pack and produce increased runoff into watercourses. The snow pack has been steadily declining over the last two weeks, but in many areas such as forests there still remains an above-average snow depth for this time of year.

Throughout the SVCA Watershed water levels in watercourses are expected to gradually rise through the rest of the week and into the weekend. Significant flooding is not expected at this time, but flooding in the traditional low-lying flood plain areas can be expected.

Most of the ice has already moved off the watercourses and so large ice jamming is not anticipated at this time. Nevertheless, there may be localized blockages at some watercourses and snow or ice could still impede flow in ditches and drainage channels.

As of the beginning of April the average water content in the snow pack was in the range of 13 cm (5 inches). This amount is well above the long term average for the time of year. As such, there is substantial meltwater that will be moving through the system over the next week or so.

Due to the elevated flows in the rivers and streams and unstable streambanks, the public is advised to stay away from area watercourses.

SVCA staff will be monitoring conditions as they evolve, and further statements will be issued as warranted.

This message is in effect until 11:00 am on Monday, April 14, 2014, unless a further statement is issued.

Contact: Gary Senior, Shannon Wood

Confirmation of receipt of this message: **not required**

- End of Message -



FLOOD WARNING

SAUGEEN VALLEY CONSERVATION AUTHORITY

Tel: (519) 367-3040 Fax: (519) 367-3041 Website: www.svca.on.ca

Message Number: 2003.1.2

Issued at: 10 am, April 6, 2003

Issued by: SVCA Flood Forecast Centre

To: Watershed Media
OPP
Southgate, West Grey
SVCA Board of Directors

MESSAGE:

A rapid rise in temperatures and projected rainfalls of 30 -40 mm, will escalate the melting of the heavy snowpack in the upper watersheds. Latest snow course readings indicated in excess of 150mm water content on the ground. Significant flooding is expected to occur within the headwater areas of the South Saugeen, Beatty Saugeen, and main Saugeen above Durham. Existing flood control works in potentially affected urban centres will contain the peak flows expected, but widespread flooding will occur within the floodplains in rural areas. All municipal flood co-ordinators in the affected municipalities are advised to notify those residents of the pending high water and possible evacuation as needed.

Update: will be issued at 4 PM today

Contact: Gary Senior, Shannon Wood

Confirmation of receipt of this message: **Required**

- End of Message -

CONTINGENCY PLAN DISTRIBUTION LIST

This document is issued to:

Municipal and county governments located within the jurisdictional boundaries of the Saugeen Valley Conservation Authority

Members of the Saugeen Valley Conservation Authority

Saugeen Valley Conservation Authority staff

Police services serving the Watershed

News media services serving the Watershed

Provincial and federal members of Parliament within the jurisdiction of the Saugeen Valley Conservation Authority

Ontario Ministry of Natural Resources and Forestry
- Owen Sound Area Office, Midhurst and Guelph District Offices
- Surface Water Monitoring Centre in Peterborough

Ontario Ministry of Community & Social Services, Owen Sound

Canadian Red Cross (Owen Sound)

Union Gas

Enbridge Gas

Westario Power

Hydro One

Wellington North Power Inc.

Veolia Water Canada