

PERSONAL FLOOD EMERGENCY PLANS

Every individual flooding problem is different and therefore every person's response to a flood situation will be different. One thing is certain; the most effective method of reducing flood damages is to prepare a plan and carry it out if necessary. Some of the things one may plan to do or do in the event of a flood emergency are:

BEFORE THE FLOOD

- 1. Install a battery powered sump pump which can continue to work after the hydro goes out.
- 2. Keep emergency lighting, sandbags, and gasoline powered pumps ready.
- 3. Have boots or hip waders on hand.
- 4. Start now to put valuable papers and other objects in a safe place.
- 5. Secure or remove lawn furniture.
- 6. Obtain a method of evacuation if necessary.
- 7. Pack an emergency kit that can be carried quickly in case of evacuation. Include any necessary medication, blankets, extra clothing, and flashlights.
- 8. Learn about your municipality's emergency plan and preparations for evacuation centres.
- 9. Listen to a local radio station that will carry flood bulletins.

WHEN THE FLOOD WARNING COMES

- 1. Move pets, livestock, or grain to higher ground.
- 2. Disconnect and move electric motors.
- 3. Turn off gas and hydro.
- 4. Roll up rugs and move furniture to higher levels.
- 5. Find temporary storage for freezer contents.
- 6. Store drinking water in closed containers.

BACKGROUND

Flooding is a common and natural occurrence to almost every watercourse. If all flood waters were contained in the watercourse there would be very minimal damage. However, in the Lower Thames watershed, there are very large areas of floodplain adjacent to the river. These areas have historically been developed during periods of infrequent flooding and subsequently protected by dyking during times of more frequent flooding. As upstream agricultural landuse has gradually changed from general farming to a more cash crop intensive system, the speed of runoff water has increased. As a result, the frequency of all degrees of flooding has increased. However, due to the topography of the Lower Thames Valley the flooding is relatively shallow and of a low velocity.

There are also lands within the LTVCA adjacent to Lake Erie and Lake St. Clair which have been developed during periods of low lake levels and subsequently dyked and drained during periods of higher lake levels. These areas are most prone to flooding during periods of high lake levels when winds generate high waves. These waves also quickly erode and breach the protective dyking.

One of the prime initiatives behind the formation of the Lower Thames Valley Conservation Authority was to solve the flooding problem. Major flood events along the Thames River occurred in 1937 and 1947. These two almost identical flooding events occurred as a result of heavy springtime rainfalls. These two floods were equivalent to floods which should occur once every one hundred years, or the one hundred year return period flood.

Since the Authority was formed in 1961 most of the major flood events have been associated with relatively high river flows and ice jams. The major floods of 1968, 1979, and 1985 are examples of these.

The high lakelevel periods of 1973-1974 as well as 1985-1986 also produced flooding in lake abutting lands. The rapid rates of dyke erosion as well as wave attack on homes during severe onshore winds are the main problems faced at these times.

FLOOD PRONE AREAS

The flood prone areas of the LTVCA can be classified as to the primary nature of their flooding problem, their location and landuse. There are five main areas of flooding concern.

- 1. Approximately 9000 hectares of low lying dyke protected agriculture lands and auxiliary homes in the Townships of Dover, Tilbury North, Tilbury East and Raleigh occupy the bulk of the land in the Lower Thames which is prone to ice jam flooding.

DURING A FLOOD

- 1. Do not touch electrical appliances or outlets and do not go into the basement as gas build-ups or electrified water may be present.
- 2. If advised to evacuate, move quickly to safety before the route is cut off.
- 3. Allow flood water into basements if necessary. Excessive external water pressure on basement walls and floors may cause structural damage.

AFTER A FLOOD

- 1. Read or listen to local media for emergency instructions on seeking aid, medical care, and ways in which to help yourself and the community recover.
- 2. Do not eat food that has come in contact with flood water.
- 3. Use flashlights to enter dark, flooded buildings - lanterns and candles could ignite combustibles.



The south Chatham area is one of the most flood prone in the Authority. Personal flood planning can help you better cope with a flood emergency.

For more information contact:
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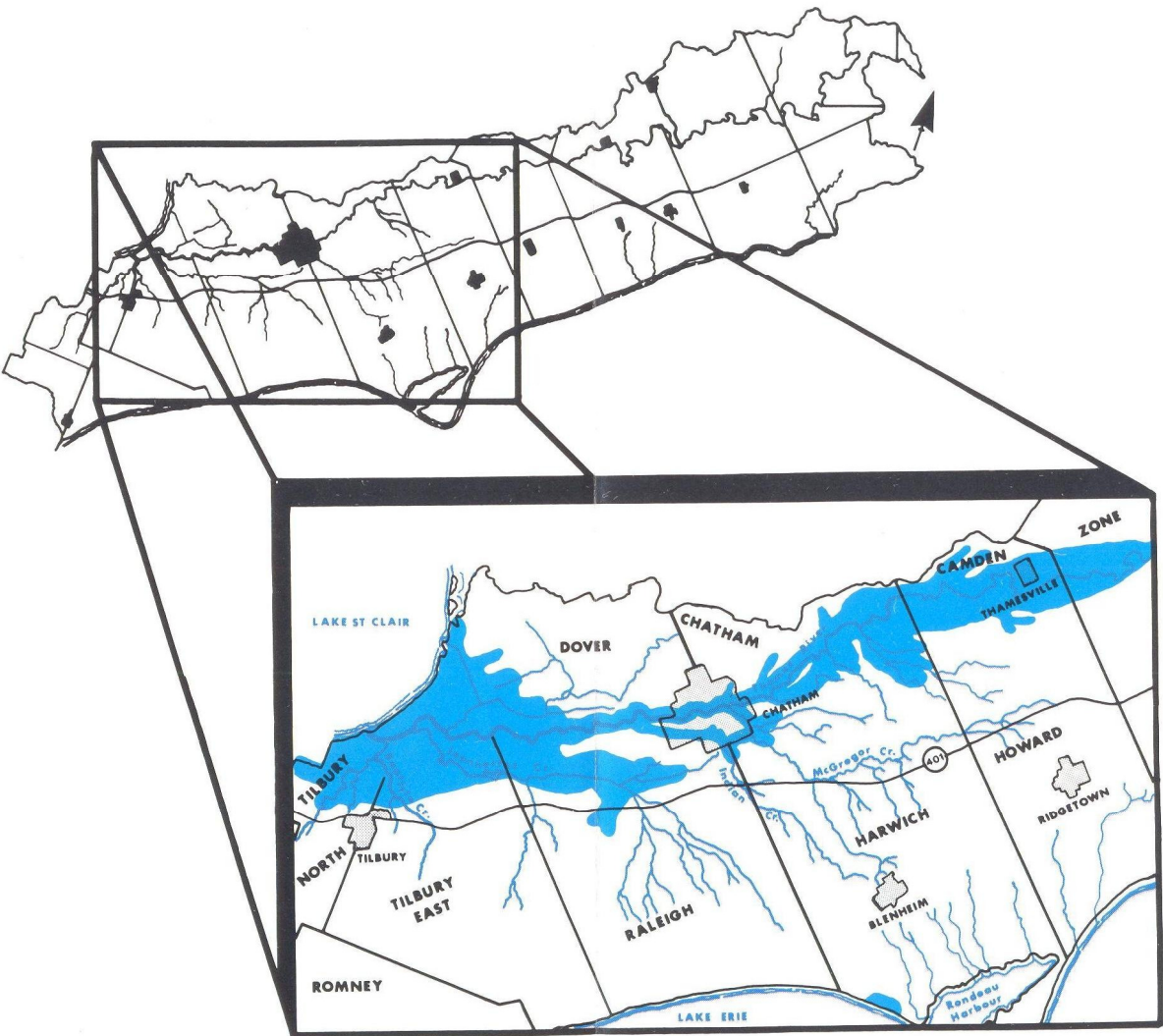
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FLOODING ... Everyone's Concern



LOWER THAMES VALLEY CONSERVATION AUTHORITY



FLOOD PRONE AREAS



Lakeshore flooding affects many residential homes in the L.T.V.C.A., particularly during periods of high lake levels and wind generated storms.

- Both urban and rural areas in the South Chatham area are prone to flooding from the Indian/McGregor Creek watershed as well as back-up flooding from high flows on the Thames River.
- The entire village of Thamesville, the low lying areas along the Thames River in the City of Chatham, as well as about 9000 hectares of agricultural land abutting the Thames River from Chatham to the Kent/Elgin boundary are all subject to flooding from high Thames River flows.
- Approximately 650 hectares of agricultural land in South Harwich as well as lakeshore abutting homes in South Harwich, Erie Beach and Eriean are prone to high lake level flooding.
- The Lighthouse Cove area is an undyked residential area at the mouth of the Thames River which is prone to flooding from ice jams in the Thames River as well as flooding from high lake levels.

FLOOD CONTROL

Flood control includes all measures whose aim is to reduce the harmful effects of flooding. These measures can be classified into two groups; structural and non-structural.

STRUCTURAL

Structural methods of flood control involve the construction projects which are designed to alter the natural flow of water during a flood. To a large extent these projects are corrective measures intended to reduce flooding in existing flood susceptible areas. Examples of structural measures of flood control are channel improvements, dykes, diversion channels, as well as dams and storage reservoirs.

CHANNEL IMPROVEMENTS – The existing channel of a watercourse may be widened and deepened in order to increase its size. The channel could also be straightened or lined with a smooth material to increase the velocity of the flow. Channel improvements, which increase the capacity of an existing watercourse, generally provide localized protection from flooding.

DYKING – Dykes are designed to confine river flows to only the river channel and prevent them from entering floodplain lands. Dykes also offer a localized protection but when overtopped they are quickly eroded and offer little protection.

DIVERSION CHANNELS – Many developed floodplains are located near the mouths of rivers or creeks. Diversion channels are used to provide an alternative course for river or creek flows away from these low areas. They are normally constructed in areas of higher upstream topography where the river's flood flows will be able to be contained within the constructed channel.

DAMS AND STORAGE RESERVOIRS – Dams are constructed in order to reduce the peak flood flow in downstream areas. Storage reservoirs, which are located immediately upstream of dams, are used to store water during the peak flood flow period. This stored water is then released through the dam soon after the peak has passed.



Floodplain regulations identify areas that are flood-prone and require that proposed new buildings be modified in design in order to prevent occurrences such as this.

The method of structural flood control used depends on the existing topography of the area and the flood problem. Channel improvements were undertaken on the Indian and McGregor Creeks in the South Chatham area in order to improve their capacity. Dyking has been used to protect low lying farmland downstream of Chatham from both river and lakeshore flooding. A dam and reservoir system is used in the Upper Thames River Conservation Authority where the existing river valleys are of adequate size to store large amounts of water.

NON-STRUCTURAL

Non-structural methods of flood control are intended to reduce the effects of flooding without the necessity of construction projects. These methods are essentially preventative measures which have evolved as important alternatives for reducing flood damages. Two examples of non-structural flood control are; floodplain regulation and flood forecasting and warning.

FLOODPLAIN REGULATION – The regulation of floodplain land is frequently the most effective method of reducing future flood damages. These regulations can be used to preserve the capacity of selected waterways. The regulation of the large floodplain areas of the Lower Thames Valley Conservation Authority also requires that all new development be built at an elevation where flood damages to the structure will not occur.



The Authority has several stream gauges throughout the watershed. These gauges, which are accessible by telephones, aid the Authority in issuing flood advisories.

FLOOD FORECASTING AND WARNING – The preparation of flood contingency plans is a very good exercise for all organizations and individuals in floodprone areas. Good planning will lead to a proper response if a flood emergency does occur. The response will of course vary with the organization involved. Municipal officials may watch dykes for failure, gas utilities may decide to shut off gas, while individuals may lift household articles to higher levels to prevent flood damage to them. The Lower Thames Valley Conservation Authority has an automated weather and streamflow monitoring system in place which enables the Authority to issue flood warnings in advance of a flood emergency.

CONCLUSION

People become quickly accustomed to normal water levels and are hopeful that disasters will not happen again. Unfortunately, flooding will happen again, with probably equal frequency to past events and with possibly more disastrous results. Therefore, all citizens who reside in floodprone areas must bear in mind that the initial responsibility for protection of personal property and possessions against flooding rests with YOU!



Approximately 58 kilometres of dyking were constructed in the L.T.V.C.A. in the mid 1970's. This \$12 million Federal/Provincial Program protects low-lying agricultural land from flooding.



Ice jam flooding affects large areas of agricultural land downstream of Chatham. The ice jam flood of 1985 inundated approximately 5600 hectares in four townships.

