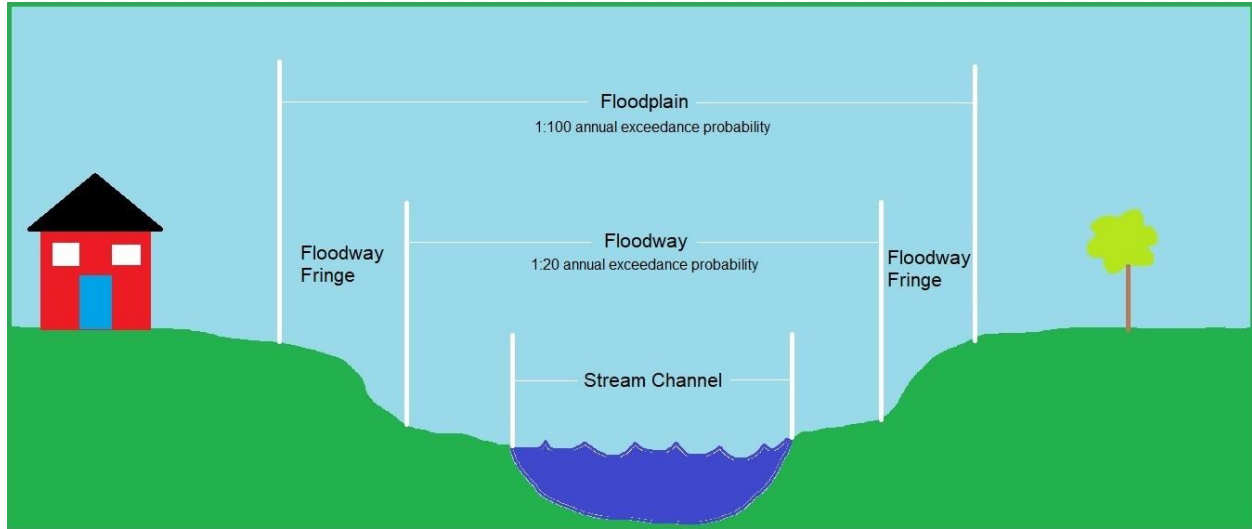


Should Our Community Have Floodplain Mapping?

1. What is a floodplain?

A floodplain is an area of land adjacent to a lake, river, seashore or other body of water that has a 1% probability of being inundated or covered with water in any given year. A floodplain is considered to be an integral part of a body of water because it includes land occupied by that body of water for a period of time, whether that land usually contains water or not.



2. Why should our community have flood mapping?

If your city, town or LSD has a history of flooding, either from a river overflowing its banks or coastal storm surge flooding, your town should have flood mapping developed. Flood mapping can help to:

- Identify areas at greatest risk of flooding, both from river and coastal flooding
- Understand the risks associated with flooding in the floodplain such as flood depth and velocity, erosion potential or other environmental impacts
- Allow for better land use planning and development in your community
- Identify infrastructure that may need to be upgraded
- Identify residents who may need to be evacuated during an emergency due to flooding
- Reduce the cost of damages to the province, city, town, and LSD from a flood
- Reduce personal hardship, property damage, and economic losses from floods
- Determine flood depths to help residents with the selection of floodproofing measures
- Establish flood alert levels for your community
- Determine the impacts of climate change on flooding in your community

The implementation of proper floodplain management policies in identified flood extent areas will help to minimize the flood risk.

3. What other towns in Newfoundland and Labrador have floodplain mapping?

There are over 40 communities in the province who now have designated floodplains and mapping developed including:

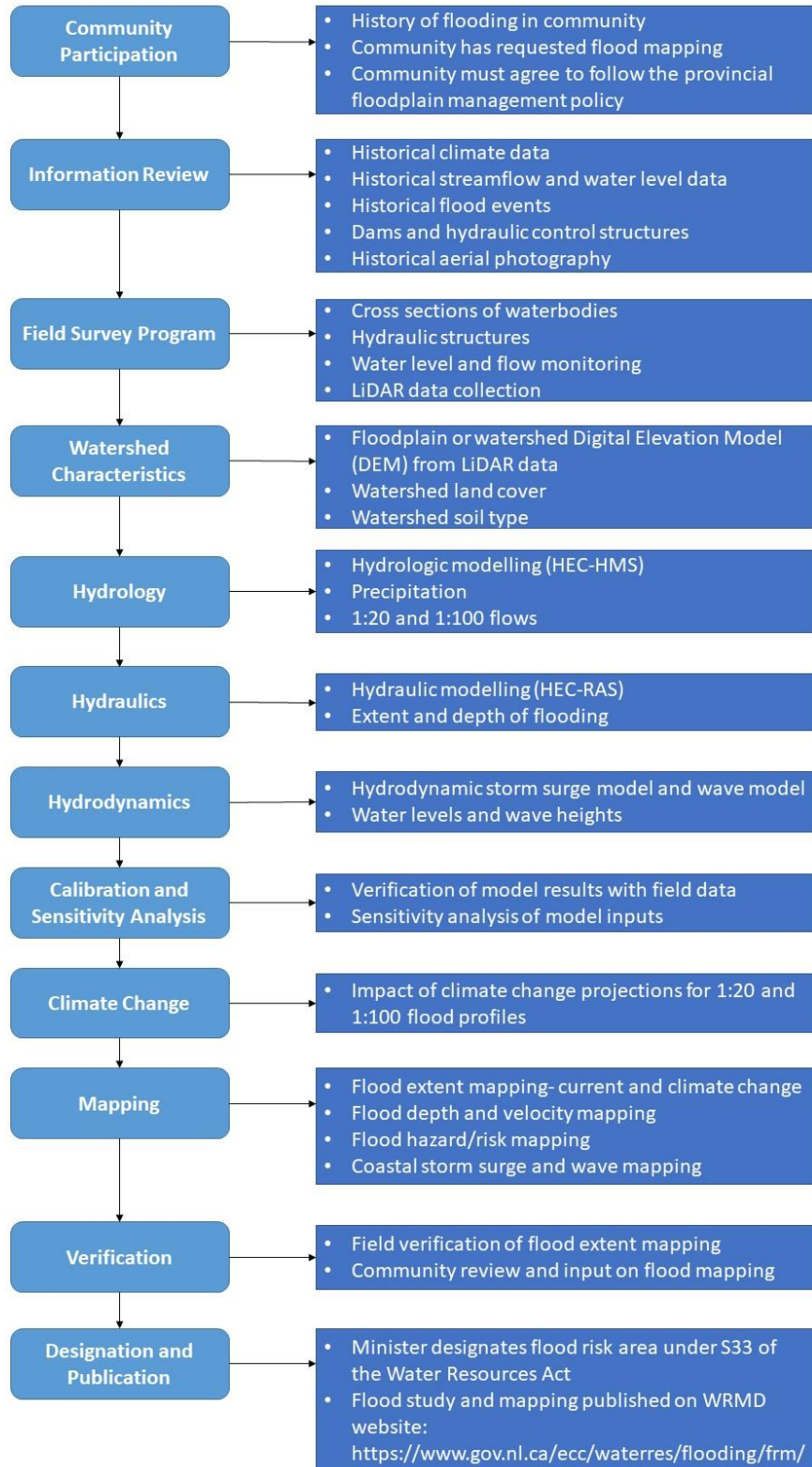
- Badger
- Bishop's Falls
- Great Codroy
- Coal Brook
- South Branch
- Upper Ferry
- O'Regans
- Carbonear
- Victoria
- Salmon Cove
- Whitbourne
- Heart's Delight
- Winterton
- Hant's Harbour
- Brigus
- Placentia
- Cox's Cove
- Corner Brook
- Deer Lake
- Pasadena
- Little Rapids
- Rushy Pond
- Grand Falls – Windsor
- Glenwood
- Appleton
- Glovertown
- Ferryland
- St. John's
- Mount Pearl
- Paradise
- Petty Harbour
- Happy Valley-Goose Bay
- Mud Lake
- Logy Bay
- Middle Cove
- Outer Cove
- Parson's Pond
- Portugal Cove-St. Philip's
- Shearstown
- Bay Roberts
- Steady Brook
- Stephenville
- Kippens
- Cold Brook
- Stephenville Crossing
- Black Duck Siding
- Rushoon
- Clarenville
- Hickman's Harbour
- Hodge's Cove
- Trout River

4. How is floodplain mapping developed?

The process to create flood mapping is very technical and involves a number of steps as outlined in the following flowchart. The development of provincially approved flood mapping in Newfoundland and Labrador must follow:

- Technical Document for flood Hazard Mapping Studies in Newfoundland and Labrador (provincial guidance)
- Hydrologic and Hydraulic Procedures for Flood Hazard Delineation (federal guidance)

Flood Extent Mapping Process



5. Will a floodplain mapping study cost our community anything?

The development of floodplain mapping will not cost the city, town or LSD anything. The cost of the study will be covered by the province, the federal government, or both depending on what funding programs are available.

6. Are there different types of flooding?

Yes. River (or fluvial) flooding occurs when dry land is covered by water that has escaped the normal confines of a river, stream or lake. Urban (or pluvial) flooding occurs when surface and underground stormwater infrastructure is unable to drain water generated by a combination of rain, snow-melt and stormwater runoff fast enough and flooding of property results. Coastal (or storm surge) flooding occurs when seawater generated by the combined actions of wind, waves and high tides along the coast of the ocean covers dry land.

7. Does floodplain mapping identify all types of flooding?

There are different types of flood events including:

- Rainfall
- Ice Jam
- Storm Surge
- Snowmelt
- Combination of causes
- Tidal Wave
- Sewer System Backups
- Other- Log Jams, Dam Failures

Floodplain mapping developed by the province only considers flooding from rivers and streams due to rainfall and icejams, and coastal flooding due to storm surge. Floodplain mapping in urban areas may also incorporate stormwater. Flooding caused by tidal waves, storm sewer system backups, sanitary sewer system backup, or other means is not looked at.

8. What is the city, town or LSDs involvement with the floodplain mapping study?

We ask that the town be involved in the floodplain mapping study and provide input on historical flooding in the community, review and comment on the floodplain mapping developed, and agree to abide by the province's policy for floodplain management once mapping is finalized:

<https://www.gov.nl.ca/ecc/waterres/regulations/policies/flood-plain/>

The province keeps a prioritization list for flood risk mapping that can be found in the Newfoundland and Labrador Flood Management Strategy: <https://www.gov.nl.ca/ecc/files/Newfoundland-and-Labrador-Flood-Management-Strategy.pdf>

Factors that affect a community's priority for flood risk mapping include:

- Current floodplain mapping is older than 10 years
- Current floodplain mapping does not include a climate change assessment
- Current floodplain mapping is not available in digital format
- New areas need to be added to the current floodplain mapping
- The community has requested the province undertake floodplain mapping in their community in writing
- There have been two or more flood events in the community according to the provincial flood events inventory
- The number of homes in the community at an elevation of less than 4 meters
- There is existing LiDAR coverage for the community

Once provincial funding is secured the town will receive a letter informing them that their community has been selected for inclusion in a flood mapping study. Once an experienced engineering consultant has been selected to undertake the study, the town will be notified that the study has commenced.

9. What is the risk that property in our town might flood?

If property is located in a 1:20 flood zone, there is a 5% probability that it may experience flooding in any given year, or alternatively, if you own your home for 25 years there is a 72% probability of experiencing a 1:20 flood during this timeframe. If the property is located in a 1:100 flood zone, there is a 1% probability that it may experience flooding in any given year, or alternatively, if you own your home for 25 years, there is a 22% probability of experiencing a 1:100 flood during this timeframe.

10. Once our community has floodplain mapping, what is the city, town or LSD responsible for?

Once a community has floodplain mapping, it is expected to follow the province's policy for floodplain management. This policy lays out what types of development are permitted or not-permitted in a floodplain. The city or town can adopt the flood extent areas into their municipal plan and establish development regulations as strict as or stricter than those laid out in the provincial policy for floodplain management. The community should refer any development in a floodplain to the province so that the development can be assessed and permits issued if appropriate. Regular operation and maintenance of town infrastructure will not require a permit.

11. What if the town adopts development regulations stricter than the province's policy for floodplain management?

A town may decide to adopt a different flood zone than has been provincially designated as part of its municipal plan or adopt stricter development regulations than in the provincial policy for floodplain management. In this case, the onus is on the town to oversee regulatory approval for anything outside of the scope of the provincially designated floodplain area or stricter than the provincial policy for floodplain management. In order to avoid confusion, the town should not refer development applications in the floodplain to the province, which would have less strict requirements than the town does.

12. Does it matter if our town does not have a municipal plan and development regulations?

If your town does not have a municipal plan and development regulations, the province will administer the policy for floodplain management through the application of permits under Section 48 of the Water Resources Act for alterations to a waterbody. In this case, the province will rely on the town to refer any municipal building permit applications it may receive that are in a floodplain to the Water Resources Management Division to review and issue permits as appropriate.

13. What if my community is a Local Service District or an unincorporated community?

The province has developed floodplain mapping for a number of LSDs and unincorporated communities in the past. Such community governance structures are not enabled to have municipal plans and development regulations and so do not issue either development permits or building permits. In this case, onus is on the developer to ensure they have obtained the appropriate approvals from the province for any work in a designated floodplain. The developer can check the WRMD Flood Mapping Application or the Land Use Atlas to see if the land they want to develop is in a floodplain. Once an application for a permit under Section 48 of the Water Resources Act is made, WRMD will review and issue a permit as appropriate. Undertaking work in a floodplain without the required approvals may trigger enforcement action by the province.

14. Will residents that are located in a flood risk area have to move?

No, residents will not have to move. Existing homes identified as being located in a floodplain as part of a flood study are considered grandfathered as they pre-date the flood study.

15. What impacts would being located in a designated floodplain have on a resident of our town?

A resident with property located in a designated floodplain would now have a better understanding of their risk of flooding. This would allow them to make decisions on floodproofing their property. Homeowners located in a designated flood zone may not be eligible for overland flood insurance or may have their premium reassessed as a result. It is possible that having a home located in a floodplain may reduce its value or make it harder to sell.

16. What has been the cost of flooding to communities in Newfoundland and Labrador in the past?

The cost of flooding in Newfoundland and Labrador has been increasing over time. More than 267 communities in the province have been affected by flooding, causing hundreds of millions in damages over the past 75 years. Hurricane Igor, which occurred in 2010 resulted in over \$100 million in damages. Hurricane Leslie, which occurred in 2012, resulted in damages of approximately \$10 million. Flooding of Mud Lake in 2017 has resulted in \$3 million in damages to date. Hurricane Fiona, which struck in 2022, may result in damages in the several hundreds of millions once fully accounted.

Flood damage to municipal infrastructure that the town usually owns and operates can include, but is not limited to, damage to roads, culverts, bridges, wastewater outfalls, shoreline protection, breakwaters, drinking water and wastewater mains, sewage lift stations, pumphouses, municipal

buildings, wastewater treatment systems, and water storage tanks. Understanding the risk to municipal assets from flooding can help communities better plan and design infrastructure.

17. Our community wants flood mapping. What should we do next?

Send an email (waterinvestigations@gov.nl.ca) or letter to the Water Resources Management Division stating that your community wants floodplain mapping and agrees to comply with the Department's Floodplain Management Policy regulating development in designated floodplain areas. You can also include information on any history of flooding in your community, particular streams or rivers of concern for flooding, and whether coastal flooding is a concern.

Once the request is received your community will go on a priority list for flood mapping. When funding becomes available, priority communities will be the first to have climate change floodplain mapping studies undertaken.

18. Does being in a designated floodplain affect property assessments?

Once a municipality has adopted the designated floodplain in their municipal plan and the associated development regulations for these zones, the assessed property value may be affected. A change in land use zone from residential to floodplain would be more significant than a change from rural to floodplain on assessed property values, depending on the market conditions in the area affected. Other factors that may affect the assessment include how much land is affected by the floodplain designation and what type of development is allowed.

Municipalities can engage the Municipal Assessment Agency (MAA) to reassess homes located in the designated floodplain or individual property owners can request that their municipality initiate a reassessment by MAA. A change in assessed property values may have an impact on property taxes paid by the property owner and collected by the municipality.

19. Does the town have a duty to notify persons that their property is located in a floodplain?

As part of the floodplain mapping process, municipalities have to follow the provincial Floodplain Management Policy. As part of this, municipalities must adopt the floodplain area into their municipal plan. To make an amendment to a plan, or establish a new plan, requires a public consultation process through which the public can receive notification that their property is in a designated floodplain.

Floodplains that have been designated by the province are also made publically available at:

Water Resources Management Division website at: <https://www.gov.nl.ca/ecc/waterres/flooding/frm/>

Provincial Land Use Atlas: <https://www.gov.nl.ca/landuseatlas/details/>

20. If I have further questions relating to flooding, who can I contact?

For any further questions relating to flooding, or if your community wants to request floodplain mapping be undertaken, please email: waterinvestigations@gov.nl.ca

