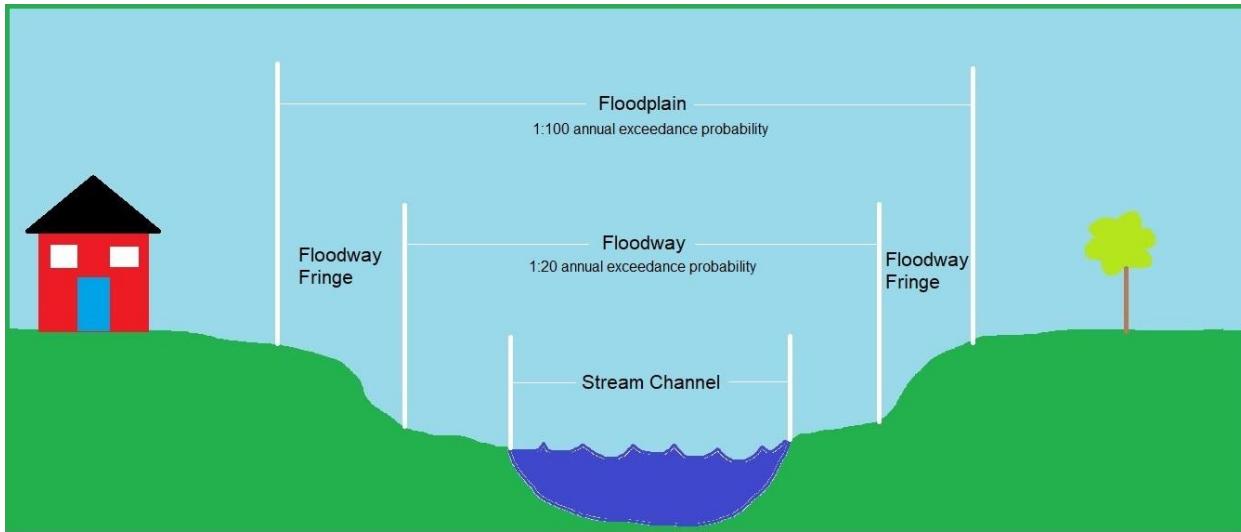


Our Community Has Floodplain Mapping: Now What?

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. Where can I find floodplain mapping for our community?

The province has an open data policy so all materials relating to floodplain mapping (e.g., flood maps, flood mapping study reports, flood models) are available on the Water Resources Management Division website at: <https://www.gov.nl.ca/ecc/waterres/flooding/frm/>

Flood risk mapping layers can also be found on the provincial Land Use Atlas:
<https://www.gov.nl.ca/landuseatlas/details/>

3. What is the difference between the different types of flood mapping produced?

Floodplain mapping shows the extent of the land area expected to be covered with water during a flood event of a certain return period (e.g., 1:20 year, 1:100 year). The floodplain area is based on historical streamflow and water level data. The area identified as a floodplain is designated a flood risk area by the Minister responsible for the Water Resources Act, under Section 33 of that Act. This type of mapping is often referred to as flood risk mapping by the province and flood hazard mapping by the federal government.

Climate change floodplain mapping shows the extent of the land area expected to be covered with water during a flood event using future climate change projections. The floodplain is based on future projections of what the climate will be like.

Flood depth and velocity mapping shows the depth and velocity of water over the land area expected to be covered during a flood event of a certain return period. This mapping is used by emergency response during a flood event to determine the risk to populations affected, whether residents need to be evacuated, if roads need to be closed, etc. Homeowners can also use this mapping to help make decisions with respect to floodproofing their property.

Flood hazard mapping classifies the flood extent area into categories of low, moderate, significant and extreme danger for both the general public and emergency response personnel during a flood event of a certain return period. This mapping is used by emergency response during a flood event to determine the risk to populations affected, whether residents need to be evacuated, if roads need to be closed, etc. This type of mapping is often referred to as flood risk mapping by the federal government.

4. What are the policy implications of our community now having floodplain mapping?

If the town agreed to participate in a provincial flood mapping study, it means the town agreed to follow the province's policy for floodplain management:

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

Land use within floodplains involves a tradeoff between flood risk and development. If development in the floodplain is regulated according to the province's policy for floodplain management, problems of damage to property and infrastructure, threats to human life, and the cost of emergency assistance, clean-up and remediation from flooding will be significantly reduced or hopefully not materialize.

5. What should our community do with the new floodplain mapping?

Now that your community has floodplain mapping you may want to consider taking the following actions:

- Hold a public information session concerning the newly developed floodplain mapping.
- Send a mail-out to residents informing them that the town now has floodplain mapping.
- Send a specialized mail-out to residents with property in the floodplain.
- Share floodplain mapping with the town's municipal planner to assist in developing appropriate land use policies.
- Update the town's existing municipal plan by adopting the new flood zones and development regulations for these flood zones.
- If the town does not currently have a municipal plan, develop a plan and associated development regulations incorporating the new flood zones.
- Upgrade infrastructure such as culverts and bridges that have been identified as not having sufficient capacity from the infrastructure assessment included in the flood study.
- Refer any development applications or building permits within the designated floodplain to the Water Resources Management Division.
- Adopt a net zero runoff policy to ensure that any developments do not result in net increases of stormwater to rivers and streams in the community.
- Incorporate floodplain maps, water depth and velocity maps, and flood hazard maps into the municipal Emergency Management Plan.

- Designate “special” flood inundated area as a special policy area which will allow the town to enact specific policies, guidelines or regulations regarding development while recognizing the local expectation of “special” flooding (e.g., exceptional ice jam flooding that has resulted in higher water levels than those of the 1:100 year floodplain based on historical occurrence could be designated as a “special” flood area).
- Investigate the effectiveness of existing and new municipal flood mitigation and protection measures.
- Consider construction of flood mitigation measures to protect the community and structures from flooding (e.g., dykes or berms to confine extreme flood flows to the river channel).
- Integrate climate change into municipal planning particularly in those areas where increasing flood risk is relevant such as infrastructure and emergency planning.
- Assess the buildings and infrastructure that will be affected by the 20 and 100 year floods.
- Establish a floodproofing fund for residents with property in a designated floodplain.
- Develop a municipal stormwater drainage system for the town and complete flood risk mapping of the municipal drainage system.
- Reduce infiltration and inflow into sanitary sewers.
- Ensure stormwater sewer systems have sufficient capacity.

6. How will having floodplain mapping affect development in our community?

Once floodplain mapping has been developed for your town, better decisions on land use planning can be made. The floodplain can be left undeveloped or only low consequence development allowed, such as parks and walking trails. Areas for future community development such as new subdivisions can be identified that are outside of the floodplain.

7. Why is further development in the floodplain not a good idea?

Further development in the floodplain may lead to flood damage to additional property and infrastructure, increased risk to human life, environmental degradation, and increased costs for flood recovery. Increased floodplain development may also result in higher water levels and flows or displacement of water such that it creates a worse flooding situation for other properties. Further development that makes a significant contribution to the peak runoff of a river and increases flood damages, or puts more lives in peril due to flooding, should be avoided.

8. Is there funding available to the community and for what?

Cities, towns and LSDs can apply for capital works funding to upgrade infrastructure that has been identified as at risk as part of a flood study. Other funding programs, federal and provincial, may be available to communities for climate adaptation projects such as construction of flood mitigation and protection measures. Some examples of current funding programs (as of 2023) include:

- Disaster Mitigation and Adaptation Fund
 - <https://www.infrastructure.gc.ca/dmaf-faac/index-eng.html>
- Investing in Canada Infrastructure Program
 - <https://www.gov.nl.ca/ti/mi/funding-programs/#icip>
- Green Municipal Fund

- <https://greenmunicipalfund.ca/>
- Municipalities for Climate Innovation Program
 - <https://fcm.ca/en/programs/municipalities-climate-innovation-program>
- Municipal Capital Works
 - <https://www.gov.nl.ca/ti/mi/funding-programs/#mcw>

9. How often should floodplain mapping be updated?

It is recommended that floodplain mapping should be revisited approximately every ten (10) years.

10. What is involved if the city or town wants to officially adopt the new flood zones?

Most towns that have floodplain mapping undertaken adopt the identified flood zones in their municipal plan and adopt development regulations for these zones. This is a process that the town can initiate with the assistance of the Department of Municipal and Provincial Affairs (MAPA), Local Governance and Land Use Planning Division. If your city or town already has a municipal plan, amendments can be passed to adopt the revised flood zones. The following are steps your city or town might have to take to adopt a new or amend an existing municipal plan:

- The town council must agree to adopt or amend the municipal plan and development regulations.
- The municipal plan and development regulations must go through public consultation and MAPA review.
- The town must give notice of adoption of the municipal plan or amendments and hold public hearings for any objections or other representations to be made.
- A report on the public hearings must be submitted to the town council to approve.
- The municipal plan and development regulations must be registered with MAPA.
- The municipal plan and development regulations should be reviewed at least every five years.

The city or town should consider the assistance of a professional planner to assist with the development of or amendments to a municipal plan and development regulations.

11. What if my town does not have a municipal plan and development regulations?

If your town does not have a municipal plan and development regulations, and has no plans to adopt a plan, 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 building permits in a floodplain to the Water Resources Management Division to review and issue permits as appropriate.

12. What if my community is a Local Service District (LSD) 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. In this case, the province recommends the LSD refer any developments in a floodplain to the Water Resources Management Division to review and issue permits as appropriate. Private property owners in LSDs or unincorporated communities have an obligation to ensure they have

obtained the appropriate approvals from the province for any work in a designated floodplain. Undertaking work in a floodplain without the required approvals may trigger enforcement action by the province.

13. How can we let residents know about the floodplain mapping for our community?

You can inform residents of the town about floodplain mapping and how to access it through:

- A special communications campaign including brochures delivered in the mail, and information posted on the town website and social media accounts linked to the province's flood mapping portal: <https://www.gov.nl.ca/ecc/waterres/flooding/frm/>
- Public information sessions on floodplain mapping
- As part of required public consultations for adopting flood zones into the municipal plan
- Training on the use of floodplain mapping including emergency management training exercises for a flood event
- Videos and links to flood awareness and risk management materials:
<https://www.youtube.com/@NLWaterResources/videos>
<https://www.canada.ca/en/campaign/flood-ready.html>
<https://uwaterloo.ca/partners-for-action/what-partners-action-p4a>
<https://natural-resources.canada.ca/science-and-data/science-and-research/natural-hazards/flood-mapping/24223>
- Special webinars, workshops or engagement sessions

14. Why should our town restrict development in the floodplain?

Reasons for restricting development in the floodplain can include:

- Preventing loss of life, injury and other personal hardship
- Minimizing damage to property, infrastructure and the environment
- Preventing the degradation of water resources
- Maintaining a river or stream's flow capacity
- Minimizing the disruption of day-to-day activity caused by flood damage
- Minimizing the cost to taxpayers

15. Are community costs and infrastructure damage covered by disaster assistance in the case of a flood?

Assistance may be provided to cities, towns and LSDs through the provincial Disaster Financial Assistance Program (DFAP) when authorized by the province in response to a specific emergency or adverse weather event. Federal disaster assistance is only authorized when the cost of damages from an event exceeds an established initial threshold (\$1.7 million for NL as of 2022). Information on DFAP is available from the Department of Justice and Public Safety: <https://www.gov.nl.ca/jps/>

Community expenses that may be eligible include:

- Evacuation, transportation
- Emergency provision of essential community services
- Repairs to public buildings and related equipment
- Repairs to public infrastructure such as roads and bridges
- Removal of damaged structures constituting a threat to public safety
- Costs of damage inspection, appraisal and clean up

16. What about Crown Land in a floodplain?

In general, the province will not allow the transfer of Crown Land within a floodplain to a private person, developer, city, town or LSD.

17. What is the Water Resources Management Division's (WRMD) role in floodplain management?

WRMDs role in floodplain management includes, but is not limited to:

- Evaluating applications to develop in floodplains made under Section 48 of the Water Resources Act;
- Carrying out hydrotechnical studies, flood risk analyses, and flood risk mapping, to the extent possible within the envelope of the WRMD's budget;
- Monitoring areas known to be at high risk of flooding in order to provide flood warning and flood status reports;
- Providing the public with material to help reduce flood damage such as flood data, flood risk maps, guidelines for floodproofing, and other public awareness raising materials;
- Providing technical expertise and assisting Emergency Services in the event of a flood emergency;
- Flood forecasting using computer models and real-time data.

18. What is allowable in a floodplain?

The 1:20 year floodplain area (called the floodway) is the most vulnerable part of the floodplain. The province does not allow residential or institutional types of developments in this area. With respect to the 1:100 year floodplain area (called the floodway fringe), developments such as minor structural projects (e.g., walking trails, transmission lines, roads), structures where there is a change in the grade of land but no buildings constructed (e.g., flood protection), some industrial and commercial developments (e.g., marine shipping or fishing), and residential and other institutional development (e.g. residential homes and institutions other than hospitals, senior citizens homes, homes for special care or schools) may be permitted with special conditions. Permitted developments can include temporary alterations, non-structural uses such as parks or pastures, and structures related to water resources such as wharves, boathouses or stormwater outfalls. Hydraulic structures such as dams, bridges, culverts and canals are also allowable if they are approved by the Department.

In general, it is the policy of the WRMD that flood plains and a 15 m buffer zone around the floodplain be preserved and left in its natural state.

19. What if there was unapproved development in the floodplain after flood risk mapping was designated?

Undertaking work in a floodplain without the required approvals may trigger enforcement action by the province. If a residential property is constructed without approval after floodplain mapping is designated, and a flood event damages or destroys the residence, the homeowner will not be eligible for disaster assistance.

20. How much did the floodplain mapping study cost the community?

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

21. 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.

22. 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 must agree 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/>

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

For any further questions relating to flooding, please email: waterinvestigations@gov.nl.ca