



Marten Beach Flood Study

Study update notice

We would like to provide an update on the status of the Marten Beach Flood Study.

Steady progress has been made since the study started in fall 2020. Survey and base data collection, hydrology assessment, and hydraulic modelling work are complete. The focus of our consultant over the next months will shift to flood mapping. Technical work is expected to be complete by spring 2022.

A new approach to mapping floodways and updating flood hazard maps is being implemented. The new approach will better balance flood adaptation and resilience priorities and provide expanded flood hazard information to enhance public safety and inform local decision-making.

We recognize there will be tremendous interest in any new flood mapping. Our study finalization process includes municipal review and public engagement for major components, as appropriate. Our goal is to provide useful tools to communities and the public as soon as possible.

The Marten Beach Flood Study is being completed under the provincial Flood Hazard Identification Program, the goals of which include enhancement of public safety and reduction of future flood damages through the identification of river and flood hazards. The provincial study is being co-funded through the federal National Disaster Mitigation Program.

More information about the Alberta Flood Hazard Identification Program can be found at:

- www.floodhazard.alberta.ca

If you have any questions regarding this work, the project engagement and education specialist, Alyssa Robb, can be contacted at:

- Email: alyssa.robb@gov.ab.ca
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Project background and study progress

The Marten Beach Flood Study will assess and identify flood hazards along 2 km of Marten Creek through Municipal District of Lesser Slave River, including Marten Beach.

The main study components outlined below include new hydraulic modelling and flood mapping, but all deliverables support local emergency response and land-use planning needs.

- **Survey and base data collection** – Complete

Hydraulic models and flood maps require high-accuracy base data. Field surveys and LiDAR remote sensing are used to collect river and floodplain elevations, channel cross section data, bridge and culvert information, and dedicated flood control structure details.

- **Hydrology assessment** – Complete

The hydrology assessment estimates flows for a wide range of possible floods along Marten Creek, including the 1:2, 1:5, 1:10, 1:20, 1:35, 1:50, 1:75, 1:100, 1:200, 1:350, 1:500, 1:750, and 1:1000 floods.

- **Hydraulic river modelling** – Complete

A new hydraulic computer model of the river system will be created using new survey data and modern tools. The model will be calibrated using surveyed highwater marks from past floods to ensure that results for different floods are reasonable.

- **Flood inundation mapping** – Early stages

Flood maps for thirteen different sized floods, based on the hydraulic model results and the hydrology assessment, will be produced. Flood inundation maps can be used for emergency response planning and to inform local infrastructure design. These maps identify areas of direct flooding and areas that could be flooded if local berms fail.

- **Flood hazard mapping** – Early stages

Flood hazard mapping divides the 1:100 floodplain into floodway and flood fringe zones, to identify where flooding is deepest and most destructive. These maps can be used to help guide long-term development planning.

A new approach to mapping floodways and updating flood hazard maps is being implemented, including reflecting the protection provided by flood berms and providing information about a wider range of flood hazards.