



# Marten Beach Flood Study

## Study update notice

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

The study started in fall 2020 and we recognize there is tremendous interest in new flood mapping products.

We are currently seeking public feedback on the draft flood study, including draft flood inundation maps that support local emergency response and draft flood hazard maps that implement our new approach to mapping floodways and updating flood hazard maps. The new approach better balances flood adaptation and resilience priorities and provides expanded flood hazard information to enhance public safety and inform local decision-making.

Participate in the engagement process and submit feedback by **Monday, February 12, 2024 at 4:30 pm**.

- <https://www.alberta.ca/marten-beach-flood-study-engagement>

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](http://www.floodhazard.alberta.ca)

If you have any questions regarding this work, we can be contacted at:

- Email: [epa.flood@gov.ab.ca](mailto:epa.flood@gov.ab.ca)

## Project background and study progress

The Marten Beach Flood Study assesses and identifies 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** – Under public engagement

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

- **Hydrology assessment** – Under public engagement

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** – Under public engagement

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

- **Flood inundation mapping** – Under public engagement

Flood maps for thirteen different sized floods, based on the hydraulic model results and the hydrology assessment, have been 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** – Under public engagement

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.

*Alberta's new approach to mapping floodways and updating flood hazard maps has been implemented, including reflecting the protection provided by flood berms and providing information about a wider range of flood hazards.*