Upper Red Deer River flood study details

This document provides answers to common questions about the Upper Red Deer River flood study.

What area does the flood study cover?

The Upper Red Deer River flood study assesses and identifies river-related hazards along 85 km of the Red Deer River and 17 km of Bearberry Creek, through Mountain View County, Sundre, Clearwater County, and Red Deer County.

When was the flood study conducted?

The study started in fall 2017 and technical work was completed in summer 2022.

Will flood maps from this study replace any older flood maps?

Yes. When the draft flood study is finalized, it will replace two older flood studies and expand coverage. It will replace the Sundre flood study (which was completed in 1997) and the McDougal Flats flood study (which was completed in 2015). The new study will replace 29 km of older mapping and add 73 km of new mapping through areas never mapped before.

Was the draft study shared with my local authority?

Yes. Draft reports and flood maps were provided to affected municipalities between May 2018 and June 2022, for information and to obtain feedback as the first step of the study finalization process.

What reports and flood maps are included in the study?

The study includes multiple reports that document the collection of survey and base data, summarize the hydrology assessment, describe the hydraulic model creation and calibration process, present the flood modelling results used to create flood maps, illustrate the information used to define the floodway and flood fringe, include the flood hazard maps, assess and inventory flood risks, and investigate channel stability. Flood inundation maps are provided in a separate flood inundation map library.

Is this the first public engagement for the study?

No. Public engagement on draft flood inundation maps, which show areas at risk for different sized floods to help with emergency response, and related reports was completed in January 2021.

Were any changes made since the last round of public engagement?

Yes. In response to feedback we received, revisions were made to hydraulic modelling and flood inundation mapping to incorporate additional flood highwater marks and reflect the impact of previously unidentified culverts.

Alberta

What is the purpose of this round of public engagement?

This round of public engagement focuses on draft flood hazard maps, which define floodway and flood fringe areas to help with long term planning.

Most of the draft reports were shared with the public in our first phase of engagement, and some have been revised to address feedback or correct factual errors or omissions. Reports being shared for the first time include the flood hazard mapping and risk assessment reports. Copies of the draft flood hazard maps are also included in the "Governing Design Flood Hazard Mapping Report", but they are easier to explore using our online flood map viewer.

What causes flooding along the rivers covered by the study?

Flooding typically occurs because of high river flows. We are aware that there may be other sources of flooding in the area, including groundwater flooding or flooding caused by local drainage issues, but the focus of this study is on riverine flooding caused by high river flows.

What type of flooding is shown in the draft flood hazard maps?

Open water flooding is the design condition used for flood hazard mapping.

Why don't the maps match the flooding we experienced in past years?

It would be unusual for a flood map to perfectly match a past flood, due to different river flows, variations in local conditions, and assumptions made for the study. Flood maps are based on theoretical floods with different chances of occurring, including the 1:100 design flood used for flood hazard mapping. Draft flood maps from the new study do not represent any specific recent or historic flood.

Will flood maps be updated if flood berms are built or upgraded in the future?

Flood studies are based on river conditions, floodplain topography, and flood mitigation infrastructure present at the time a study is conducted. If new community-level flood berms are constructed in the future, or existing flood berms are upgraded, we will assess the potential impact on calculated flood levels and flood maps. If impacts are significant, revisions to the flood maps will be considered.

How has climate change been considered?

The potential effects of climate change were assessed as part of the hydrology assessment. In general, the effect of climate change on Red Deer River and Bearberry Creek flood flows is uncertain. Given this uncertainty, various climate change scenarios were not explicitly modelled. However, the potential impact on flood levels from increased 1:100 flood flows was assessed, and this information can be considered by communities if desired.

Where can I learn more about provincial flood studies?

Review our "General information about flood studies" fact sheet to learn more about provincial flood studies, including how flood maps are developed and how flood inundation and flood hazard maps are used.

Visit www.floodhazard.alberta.ca for more information about the Flood Hazard Identification Program.

The website includes more details on different types of flood maps and how to view them using our online flood map viewer, as well as individual web pages for listing our draft and final flood studies.

Contact

Email us at epa.flood@gov.ab.ca for more information about our public engagement for draft flood studies, or if you have questions about the Flood Hazard Identification Program.