

## Stand Off flood study details



This document provides answers to common questions about the Stand Off flood study.

### What area does the flood study cover?

The Stand Off flood study assesses and identifies flood hazards along 19 km of the Belly River and 9 km of an unnamed tributary through Cardston County and Kainai Nation, including Stand Off.

### When was the flood study conducted?

The study started in spring 2021 and technical work was completed in summer 2022.

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

No. This is the first provincial flood study in this area.

### Was the draft study shared with my local authority?

Yes. Draft reports and flood maps were provided to affected municipalities and First Nations in July 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 a main report that documents the collection of survey and base data, summarizes the hydrology assessment, describes the hydraulic model creation and calibration process, presents the flood modelling results used to create flood maps, illustrates the information used to define the floodway and flood fringe, and includes the flood hazard maps. Flood inundation maps are provided in a separate flood inundation map library.

### What is the purpose of this public engagement?

This public engagement focuses on the draft flood inundation maps, which show areas at risk for different sized floods to help with emergency response, and the draft flood hazard maps, which define floodway and flood fringe areas to help with long term planning.

If you are interested in learning more, the “Design Flood Hazard Mapping” section of the main report documents how the draft flood hazard maps were created. Copies of the draft flood inundation and flood hazard maps are also included in reporting, 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 Belly River 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](http://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](mailto: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.