

The intent of the Upper Bow River Hazard Study, and the Flood Hazard Identification Program (FHIP), is to help enhance public safety, reduce potential future flood damages, and mitigate negative individual and community flooding impacts for all Albertans. The Upper Bow River Hazard Study will help build safer communities through a better understanding of flood hazards and risks. The work being conducted under the Flood Hazard Identification Program (FHIP) is independent of any other potential flood mitigation projects being considered by the Province of Alberta.

The main study deliverables (outlined in more detail below) will include a hydrology assessment, new hydraulic river models, updated and new flood inundation and flood hazard mapping, a flood risk inventory, and a channel stability assessment – all of which will be provided to each community within the study reach to support their local emergency response and land-use planning needs.

- **Hydrology Assessment**
  - The hydrology assessment estimates flows for a wide range of possible floods along the Bow River, including the 2, 5, 10, 20, 35, 50, 75, 100, 200, 350, 500, 750 and 1000-year floods. The analysis will include the 2013 flood.
- **Hydraulic River Modelling**
  - A new hydraulic computer model of the entire 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**
  - AEP will create flood maps for 13 different sized floods, based on the hydraulic model results and the hydrology assessment. Flood inundation maps can be used for emergency response planning and to inform local infrastructure design. These maps show areas of isolated flooding or areas that could be flooded if local berms fail.
- **Flood Hazard Mapping**
  - Flood hazard mapping divides the 100-year floodplain into floodway and flood fringe zones, which show where flooding is deepest and most destructive. These maps can be used to help guide long-term development planning.
- **Flood Risk Assessment & Inventory**
  - AEP will create an inventory of structures at risk of flooding for all of the mapped flood scenarios. This flood risk assessment and inventory can support future flood damage assessments.
- **Channel Stability Investigation**
  - The main goal of this study component is to provide insight into general channel stability along the Bow River. We will compare current and historic riverbank locations and channel cross sections, going as far back as 1949 using historic aerial photos.

The Upper Bow River Hazard Study will identify and assess river-related hazards along a 140 km reach of the Bow River, including Canmore, Cochrane, Exshaw, Kananaskis Improvement District, Lac des Arcs, Municipal District of Bighorn, Rocky View County, and Stoney Nakoda First Nation. The study extends from the Banff National Park boundary to Bears paw Dam. Major tributaries at select communities will be included.

As part of the Flood Hazard Identification Program, Alberta Environment and Parks have hired Northwest Hydraulic Consultants (NHC) to undertake the Upper Bow River Hazard Study. Survey crews will be working along the entire reach of the Bow River in your community collecting ground elevation data and river channel information to support the creation of a hydraulic model, flood inundation mapping, and flood hazard mapping. The survey is expected to begin in early October, and carry on through to the end of November 2015.

The study finalization process will include both local authority review and public engagement. The draft report and associated maps and subsidiary products will be provided to the local authorities for review in Spring 2017. Following that, open houses will be held to give the public the opportunity to learn more about the Flood Hazard Identification Program and the products produced by the study.

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 the work, please contact Chris Leptich by email at [Christopher.Leptich@gov.ab.ca](mailto:Christopher.Leptich@gov.ab.ca), or by phone at (403) 355-2491.