

# Bow River Reservoir Options

## Phase 2: Feasibility Study

### Activity Description Sheet – Drone, Bathymetric and Topographical Surveys

#### Overview

Alberta Environment and Parks (AEP) continues to explore options to build additional reservoir capacity on the Bow River upstream of Calgary to reduce the impacts of flood and drought on Albertans and the economy. The Bow River Reservoir Options (BRRO) initiative is being approached in phases. The Phase 1: Conceptual Assessment was completed in spring 2020 and identified three reservoir options: Morley, Relocated Ghost Dam and Glenbow East. The Phase 2: Feasibility Study is now underway and will further evaluate the three reservoir options. As part of the feasibility study, AEP's consultant, Wood Environment & Infrastructure Solutions, will be completing various Unmanned Aerial Vehicle (UAV or 'drone'), bathymetric and traditional topographical field surveys. Surveys are completed to gather topographic information about the existing site conditions. The various survey data outputs are then used to develop the layout of new potential site features.

Photo: Wood



#### Drone surveys

- Drones can be rotary or fixed wing (image shown is a fixed wing drone).
- Pilots can remotely navigate the drone from the ground or a boat.
- Drones can be used to collect high resolution topographic information such as video, photography, and ground elevation data (for example, LiDAR–Light Detection and Ranging).

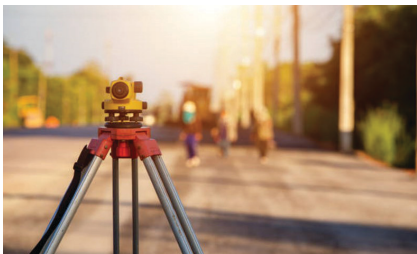
Photo: Wood



#### Bathymetric surveys

- Bathymetric surveys are used to collect underwater topographical data (the ground elevation beneath the water).
- Bathymetric surveys are done from an on-water survey vessel. The vessel may have a captain or be remotely driven (remote style shown in photo).
- Boats are launched from public launches or accessible sites.
- The survey vessel has either a single beam or multibeam sonar system that uses sound waves to collect underwater elevation data.

Photo: istockphoto.com



#### Topographical field surveys

- Field surveys are used to gather topographical data (location and elevation) required to support design, construction or legal surveys.
- Field staff will drive to an appropriate access location and either walk or use an all-terrain vehicle (if required) to access specific survey locations.
- Field surveys are done using various survey equipment such as total stations, survey-grade GPS units and high-precision scanners.

#### Will survey data be shared with landowners?

The final Bow River Reservoir Options – Phase 2: Feasibility Study report will be available to the public following the completion of the feasibility study in spring 2023. The report will include select survey data.

For more information, visit: <https://www.alberta.ca/bow-river-reservoir-options.aspx>  
Questions? Contact us today at [aep.bowbasin@gov.ab.ca](mailto:aep.bowbasin@gov.ab.ca) or call 310-3773.

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