WATER RESILIENCE ROADMAP FOR THE SOUTH SASKATCHEWAN RIVER BASIN *(SSRB)*

Watershed management and climate adaptation are complex and require a collaborative approach to ensure that the resultant projects are considered on both a local and regional scale. This study is built on previously completed work to develop a new Roadmap for the SSRB, which incorporates testing of potential adaptations against future climate scenarios.

ALREADY IN PROGRESS - FUNDING SECURED, REGULATORY PROCESS AND ENGINEERING ARE UNDERWAY

- **A** Build Deadhorse Coulee Reservoir.
- **B** Build Chin Reservoir expansion.
- **C** Build Snake Lake Reservoir expansion.
- **D** Complete Springbank Off-stream Reservoir for flood protection.

PROJECTS NOT GEOGRAPHY SPECIFIC

- Develop water sharing agreements among license holders during water shortages.
- Complete flood mitigation projects (e.g., City of Calgary flood protection barriers - Bonnybrook Berm and Sunnyside Barrier, Town of Drumheller flood berms).
- Implement flood protection policies for greenfield areas.

LESS THAN 2 YEARS REQUIRED TO REALIZE IMPACT

- **E** Implement releases for downstream water demands at Dickson Dam.
- **F** Renew TransAlta Agreement for flood and drought management in the Bow River basin.
- **G** Increase diversion rate at Carseland to allow McGregor Reservoir to fill when water is available.
- **H** Increase minimum flow past Lethbridge for additional dilution.

PROJECTS NOT GEOGRAPHY SPECIFIC — Spatial prioritization of natural infrastructure projects.



Implement more natural infrastructure projects (e.g., wetland reclamation and conservation) across the SSRB.

Improve land use best practices across the SSRB.

Promote collaborative water management working groups.

UP TO 10 YEARS REQUIRED TO REALIZE IMPACT

- **I** Restore Spray Lake Reservoir to its full supply level.
- **J** Improve spillway capacities on Kananaskis Dams (Barrier, Pocaterra, Interlakes) to increase available water storage.
- **K** Remove canal bottleneck between Waterton Reservoir and St. Mary Reservoir.
- **L** Build new Western Irrigation District water storage.
- **M** Build off-stream water storage in the Red Deer River basin (to support the Acadia and Special Areas Irrigation Project).
- **N** Construct weir at Medicine Hat to increase water level at intake.

PROJECTS NOT GEOGRAPHY SPECIFIC — Develop clear and comprehensive provincial stormwater and effluent reuse policies and guidelines.

UP TO 20 YEARS REQUIRED TO REALIZE IMPACT

- **O** Build upstream water storage on the Bow River.
- **P** Build new on-stream water storage on the Bow River (Eyremore Reservoir).
- **Q** Build new on-stream water storage on the Red Deer River (Ardley Reservoir).
- **R** Build new on-stream water storage on the upper Belly River (Upper Belly Reservoir).

RECOMMENDED CONTINUOUS IMPLEMENTATION ACROSS THE SSRB

Investigate options to reduce impact to water quality, especially during low flow river conditions.

Promote further water conservation across the SSRB.

SCOPE OF INFLUENCE LEGEND

LOCALIZED INFLUENCE — Projects which impact a local area specific to the location of the project.

SUB-BASIN INFLUENCE — Projects which benefit water users in the local area, but also generate positive impacts to other water users within the sub-basin.

BASIN WIDE INFLUENCE — Projects which benefit water users across the entire SSRB.

Scan to access the full report & learn more about Hazen Canada.

Hazen

This roadmap was developed in collaboration with the South Saskatchewan Working Group members who provided input on several key strategies which can be implemented throughout the SSRB.