

Bow River basin

What is the Bow River basin?
A river basin or watershed is high at its edge and low in the centre where the river flows. The Bow River basin or watershed includes all the land that feeds water to the Bow River and its tributaries.

Mountains, foothills, and prairies
Most Bow River water comes from the Rocky Mountains, an area largely protected within parks. East of the mountains, the Bow River flows through foothills and then through rolling prairie. The Bow River also flows through the City of Calgary, home to most of the basin's human residents.

Who lives here? Over a million people...and growing fast!
The Bow River basin is the most densely populated river basin in Alberta. Less water is available per person here than in any other river basin in the province. And yet, in the last ten years, the population of the basin has grown by over a quarter of a million people. So we are facing a challenge!

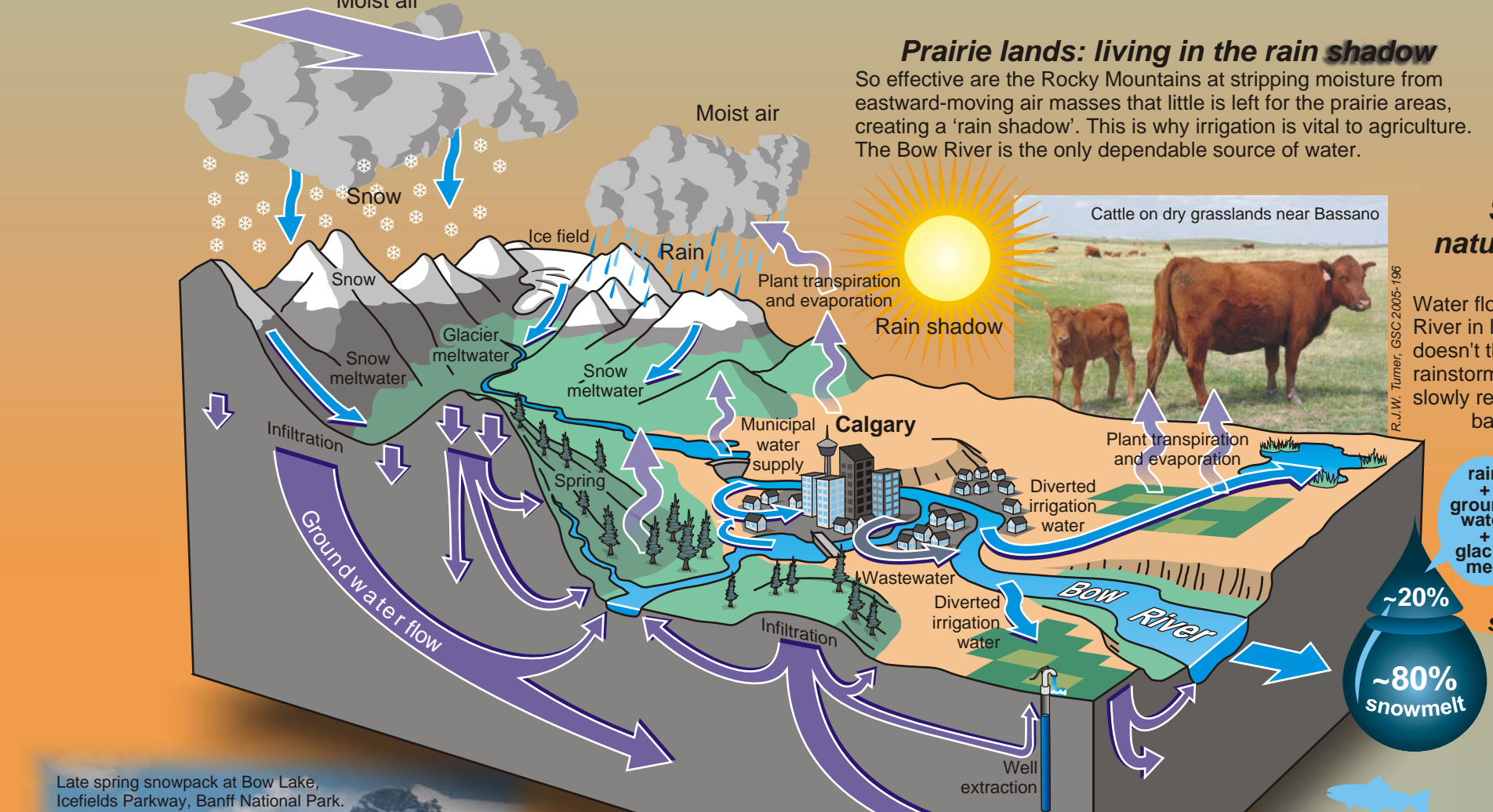
An ancient homeland
The lands of the Bow River basin have been home to First Nations people for thousands of years. Today, the Stoney Nakoda Nation has reserve lands throughout the foothills of the Bow River basin. Tsuu T'ina Nation reserve lands extend west from Calgary to Brazeau Creek, and Siksika Nation reserve lands straddle the Bow River valley near Bassano.

Part of the South Saskatchewan River family
Protecting and conserving the shared waters of our Bow River

Bow River Basin Waterscape

Keeping the river clean
Out on the range
Managing range land for both cows and healthy streams

The water cycle in the Bow River basin



Our family of rivers
The Bow, Red Deer, and Oldman rivers are tributaries of the South Saskatchewan River. This family of rivers carries water from the Rocky Mountains across the dry southern prairies of Alberta and Saskatchewan.

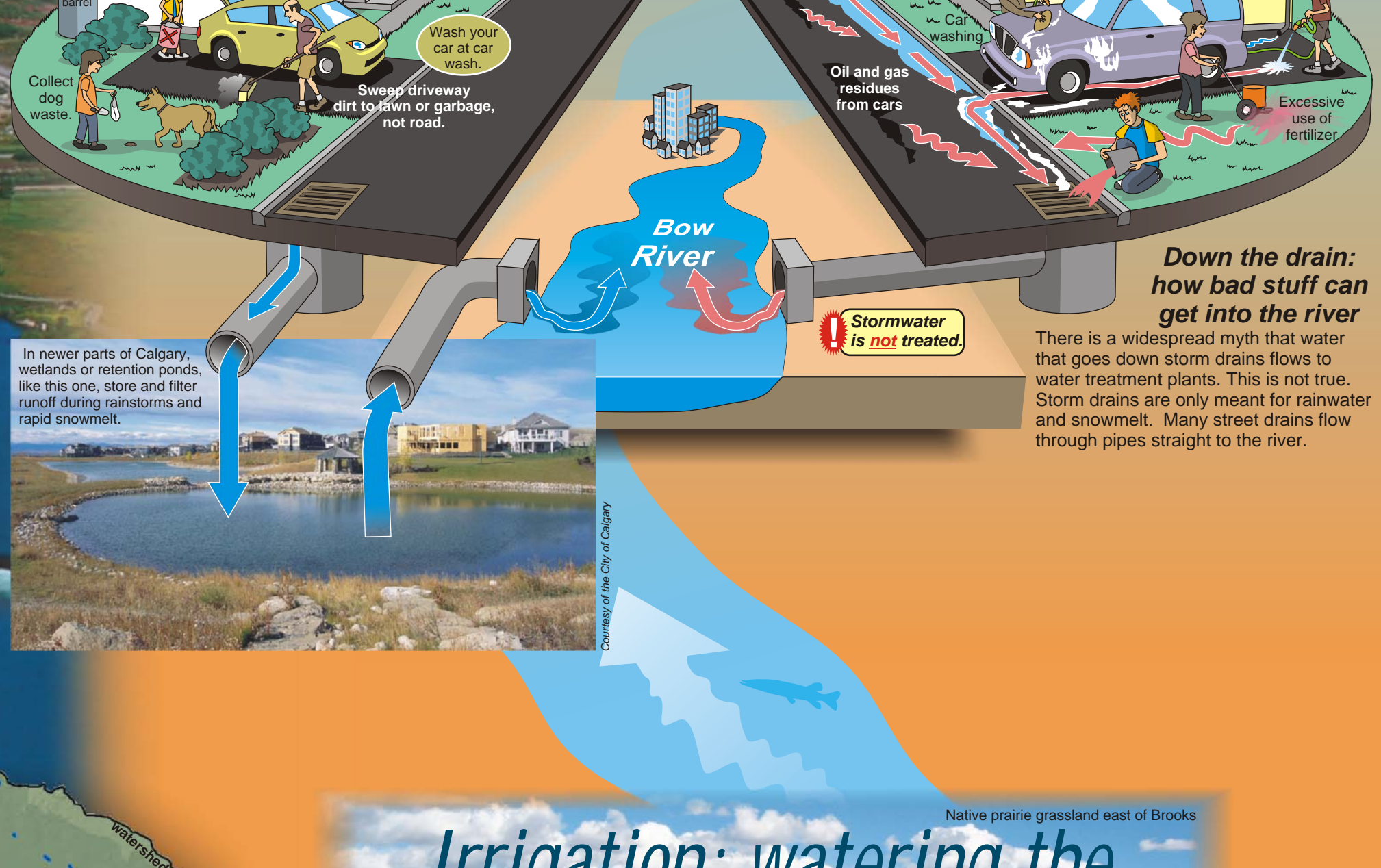
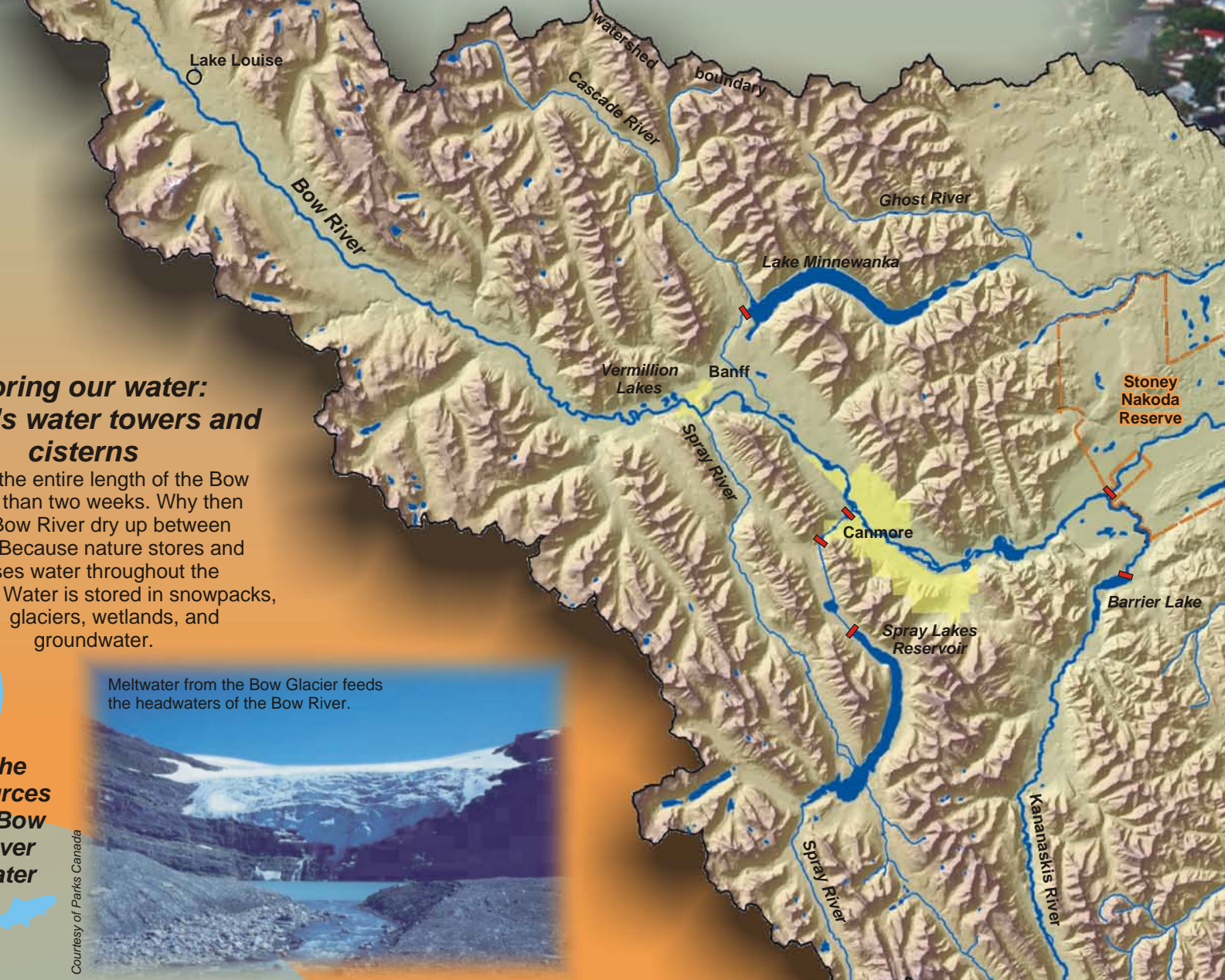
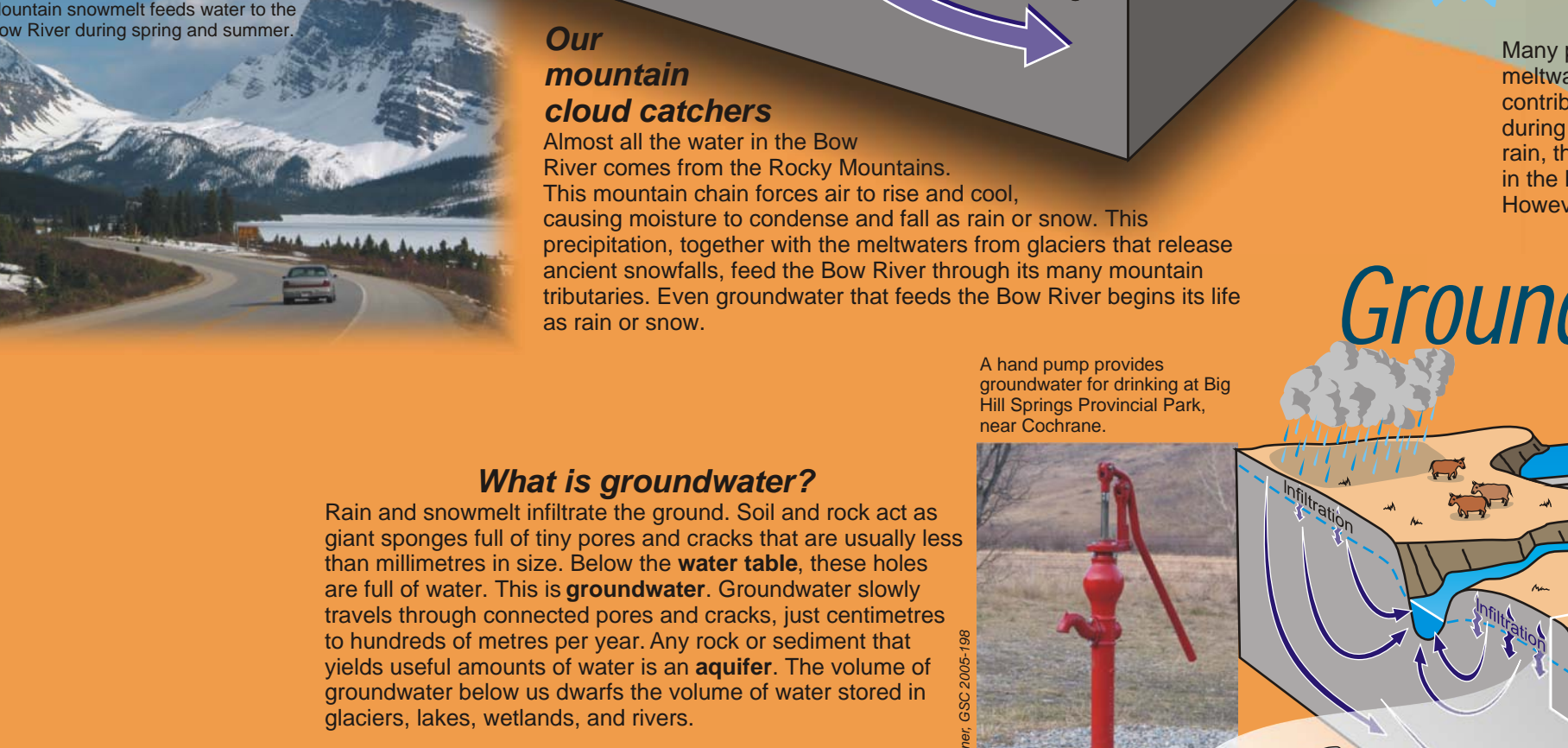
Where does the Bow go?
The Bow River joins the Oldman River near Medicine Hat to form the South Saskatchewan River. Bow River waters flow all the way to Hudson Bay. Downstream communities that use these waters, such as Medicine Hat and Saskatoon, depend on us to care for the quality of the water as it passes through the Bow River basin.

We live in the basin of the Bow River, a remarkable tract of land that extends from the Rocky Mountains, across foothills and the rapidly growing City of Calgary, to the broad prairie. Within this basin, all waters flow into the Bow River. We share this water with plants and animals. Without this water, nothing could live. With this water, a great diversity of life, including humans, can thrive. As residents of the Bow River basin, we must protect the land that produces the life-giving waters. We face many challenges. Our rapidly growing population demands much of the land and water. Our climate is changing and the future of our water supplies is uncertain. To act wisely, we need first to understand our basin. The purpose of this poster is to introduce us to the local water cycle, to how humans use the basin waters, and to how we can live well on the land.

Doing it right
Riparian area

Doing it wrong
Riparian areas occur along streams (and wetlands) where riparian soils and shallow water tables allow water-loving plant communities to establish. These 'green zones' are vital ecosystems in the prairie and foothills that provide habitat for wildlife, stabilize stream banks, and protect water quality. Cattle grazing in riparian areas must be managed carefully so that these delicate landscapes are not degraded.

Down the drain: how bad stuff can get into the river
There is a widespread myth that water that goes down storm drains flows to water treatment plants. This is not true. Storm drains are only meant for rainwater and snowmelt. Many street drains flow through pipes straight to the river.



Climate change: what is the future for our water?

Snowpack
A possible reduction in snowpack could change water supply.

Glacier melt
Reduced water supply from shrinking glaciers.

Forest fires
Warmer, drier summers and hot springs may lead to increased forest fires.

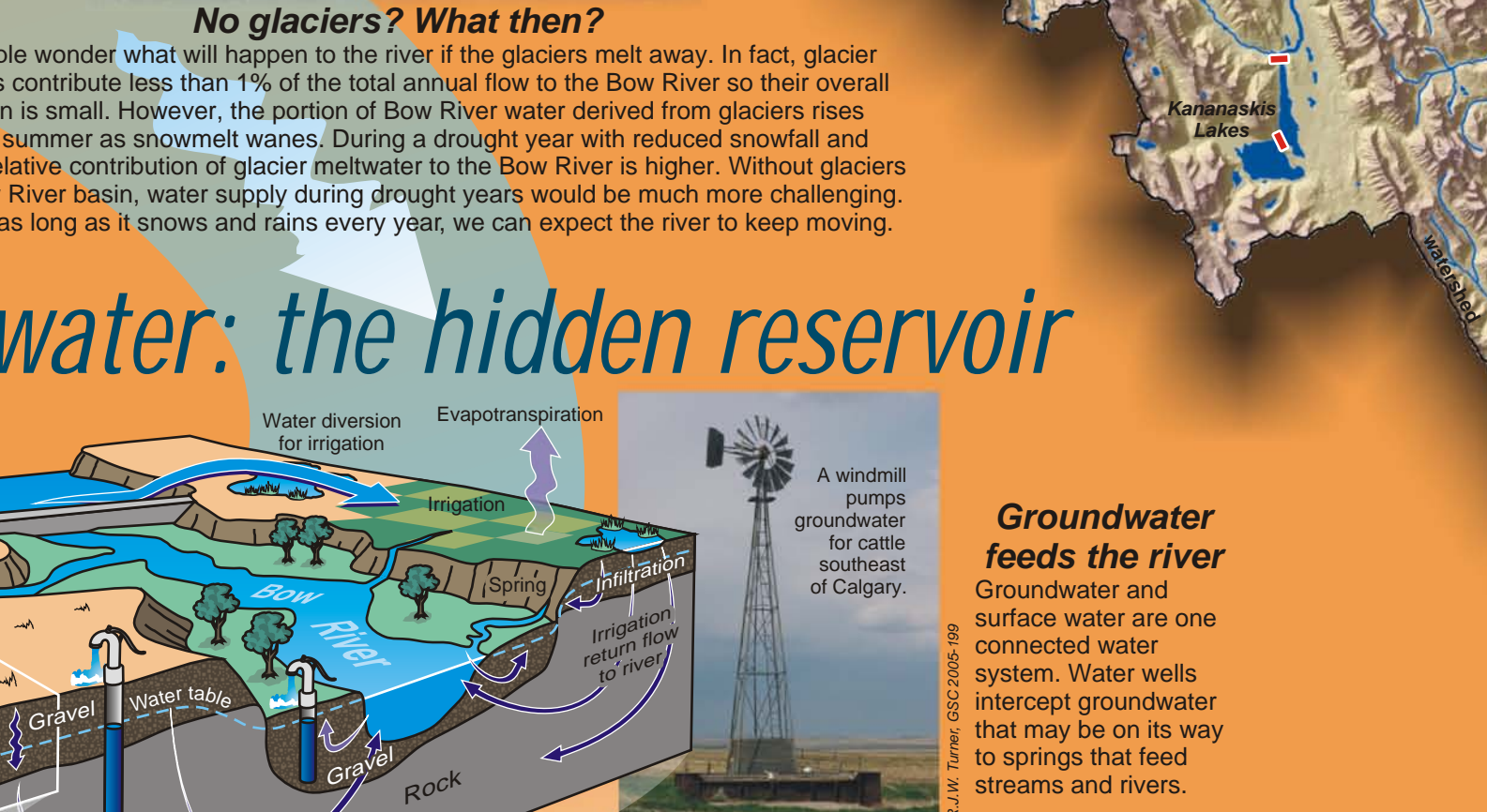
Extreme weather
A possible increase in extreme weather (e.g. tornadoes, hail storms, droughts, dust storms, floods, blizzards).

Agriculture
Increased demand for irrigation and a change in crop types due to a longer growing season.

Hydroelectric power
Lower water tables cause some shallow wells to go dry.

Groundwater
Warmer river temperatures stress cold-water species such as trout.

Habitat
Licenced water use of the Bow River



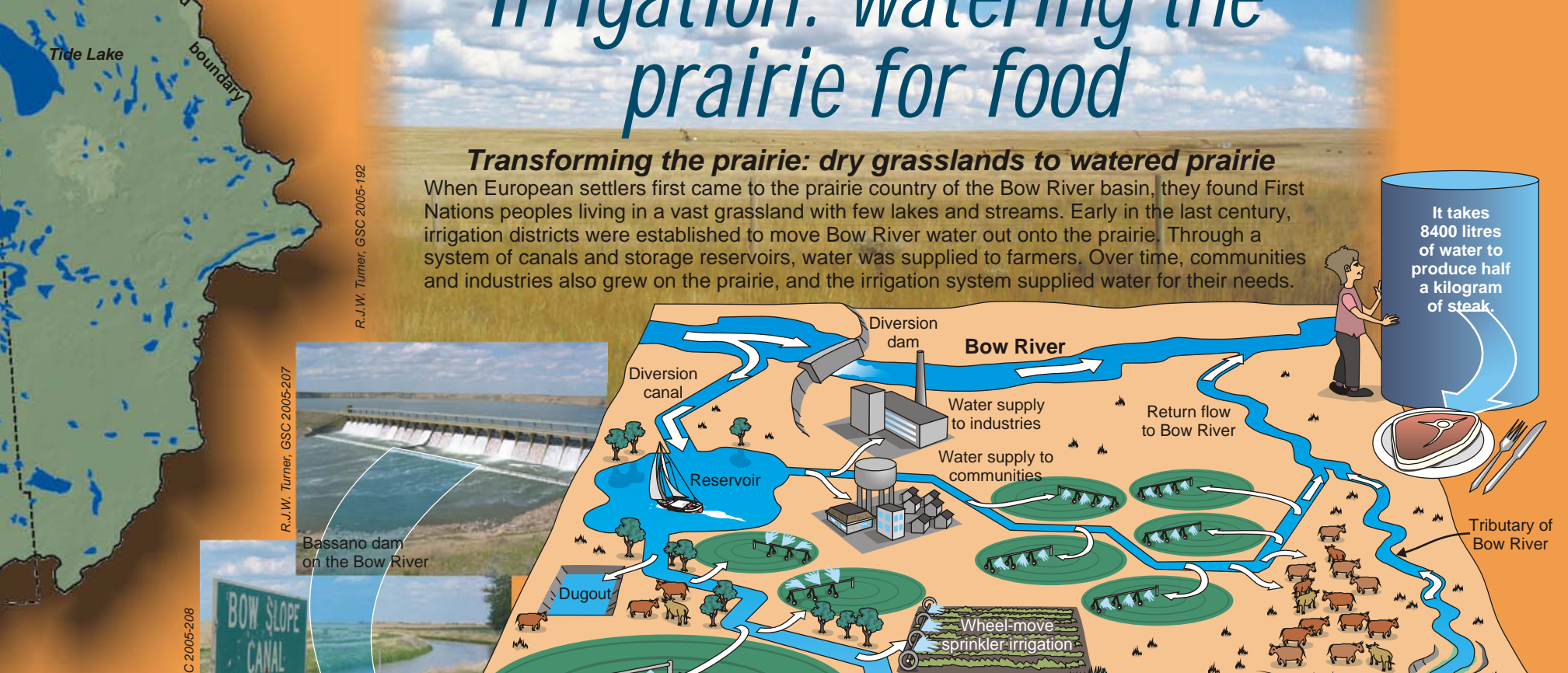
Sharing our waters
Agriculture: Irrigation near Youville
Municipal water supply: Calgary and other communities
Wildlife habitat: Piping plover
Recreation: Ghost Lake marina
Industry: Concrete plant, Calgary
Power generation: Ghost Lake on
Recreation: Ghost Lake marina

Not all water use is the same!
Some water use occurs in the river, such as by wildlife and for fisheries and recreation. Some water is withdrawn from the river, used, and returned (non-consumptive use). Municipalities return over 90% of the water they use as treated sewage. Some water is withdrawn from the river and not returned (consumptive use). In dry years, irrigation returns about 20% of what it withdraws. Most of the rest is used by plants, whereas some evaporates and a small amount sinks into the ground. Withdrawal of water from the river reduces river flow and can have an impact on wildlife habitat in and along the river.

Calgary's municipal water use
Industrial/commercial: 34%
Non-revenue (leakage): 12%
Other communities: 2%
Residential: 52%

How we use our indoor water
Baths: 2%
Toilets: 10%
Water softeners: 9%
Dishwashers: 1%
Faucets: 16%
Shower: 13%

Why should I conserve water? Because...
It saves me money.
It protects life in the Bow River.
It protects the water supplies of downstream communities.
It reduces greenhouse gases that contribute to climate change (treating and pumping water uses electricity from coal-burning power plants).
It helps communities grow without exceeding their Bow River water.



Want to know more?
The Bow River Basin Waterscape poster is on the internet at www.geoscape.nrcan.gc.ca and www.brbc.ab.ca

Bow River Basin Council
The Bow River Basin Council website has links to government agencies, organizations, and corporations with information on water issues in the Bow River basin.

Bow River Basin Waterscape
Geological Survey of Canada, Miscellaneous Report 90, 2005
Production: R.J.W. Turner, R.G. Franklin, S.E. Grady and G.S. Nowlan
Illustration and graphic design: R.G. Franklin and R.J.W. Turner

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