

GEOGRAPHY BULLETIN

Edition 52, No 2, 2020

Stage 4: Water in the World

Bow River: Independent Inquiry task

In this task you will ...

Undertake your own investigation of water resources and management in the Bow River Catchment, Canada to answer a focus inquiry question.

You will need

- This PPT presentation

OR

- The Independent Inquiry Task Description (Bulletin supplement)

PLUS

- A copy of the Geography Bulletin article on the Bow River provided by your teacher



Focus Inquiry Question

Why do the water resources of the Bow River catchment need careful management to reduce water scarcity in the future?



Learning Intention

You will

- Explain why water resources need careful management
- Demonstrate Geographical Inquiry skills in
 - processing geographical information
 - communicating geographical information orally or visually

Syllabus Outcomes GE4-3, GE4-5, GE4-7, GE 4-8

Success Criteria

At the end of this activity you have :

- Explained why the water resources of the Bow River Catchment need careful management for future water security, using evidence.
- Demonstrated knowledge and understanding about catchments, water resources, water use and water management
- Demonstrated Geographical Inquiry skills
 - processing geographical information about the Bow River Catchment
 - communicating geographical information visually or orally

STEPS in your inquiry

STEP 1. Create a set of six "*I need to know*" questions to learn about water resources, their use and management in the Bow River Catchment such as: What is the location of the catchment? What are the main sources of water?

STEP 2. Interpret and analyse Sources A – M AND use to the weblinks provided help you answer your questions.

STEP 3. Develop a response to the Focus Inquiry Question and use evidence to support your view.

STEP 4. Communicate your response to the inquiry focus question, including evidence to support your answer, in a visual or oral presentation.

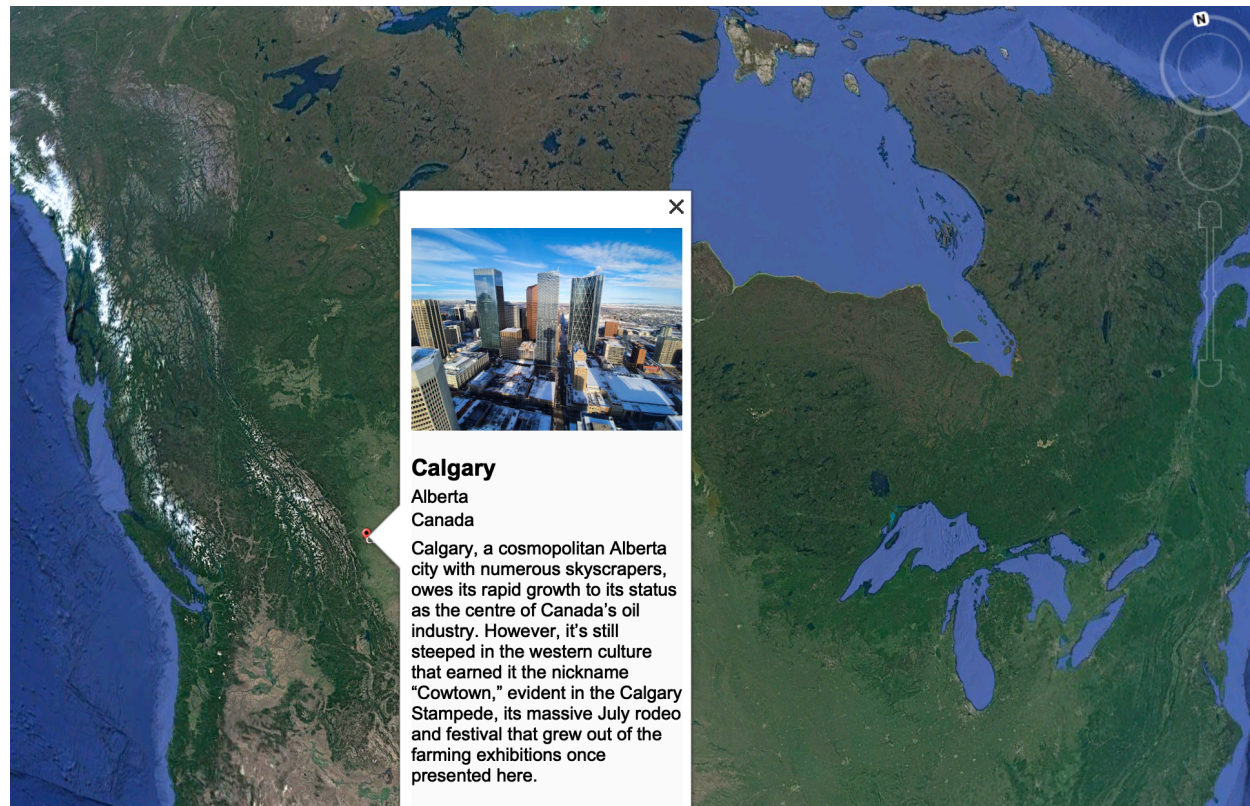
Communicating your response.

Examples

- Infographic
- Audio file e.g. podcast
- 5-minute documentary
- A presentation using a digital or spatial technology tool such as Google Tour Creator and Storymap

Location of the Bow River

Use Google Earth to explore the Bow River Catchment region beginning at the city of Calgary. Follow the Bow River from Calgary upstream to Lake Louise and downstream to the junction with the South Saskatchewan River.



The Bow River: A closer look

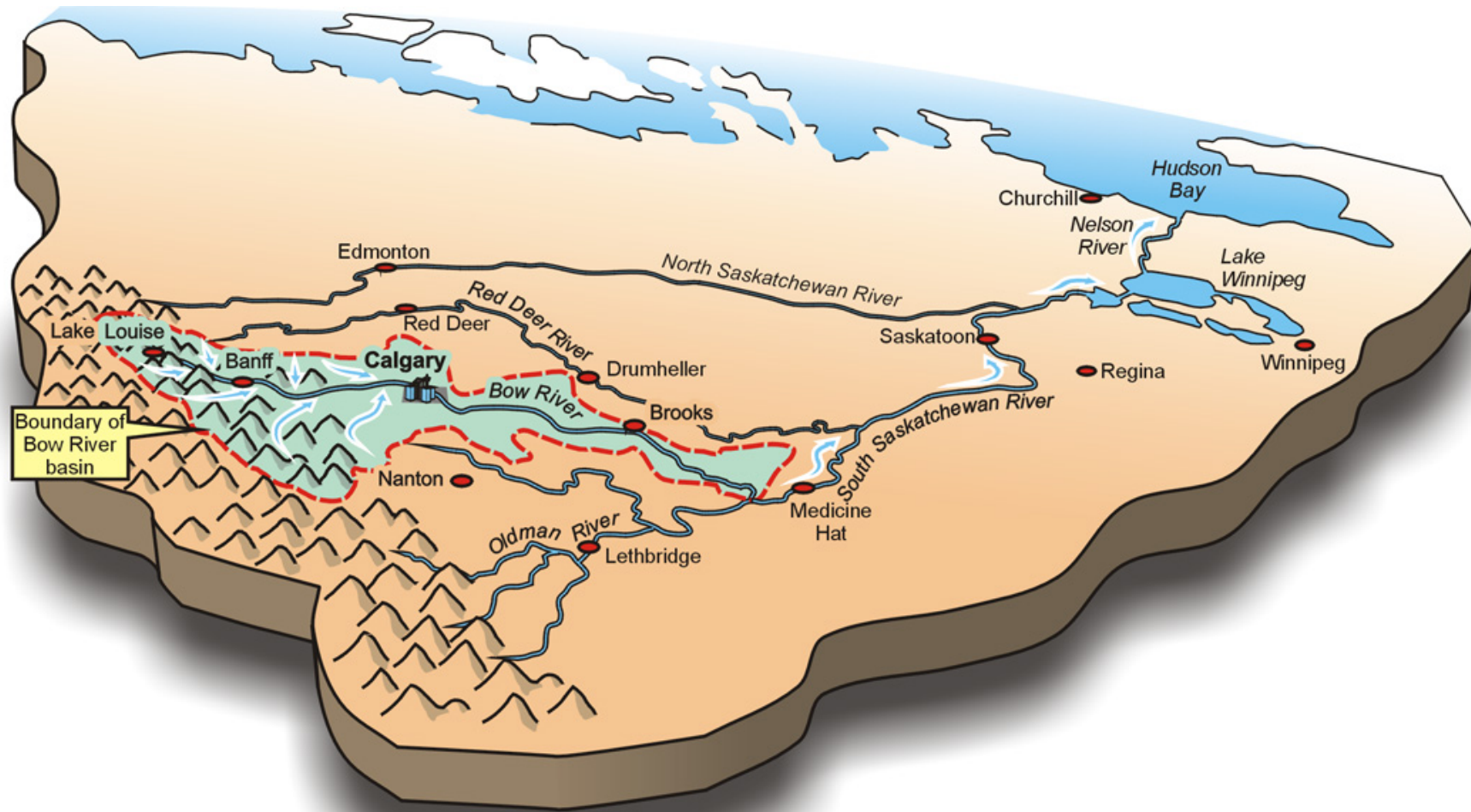
a. Basic facts

Feature	Facts
Country	Canada
Province	Alberta
Source	Bow Glacier (Altitude 1,960 metres)
Mouth	South Saskatchewan River (Altitude 700 metres)
Length	587 kilometres
Catchment	26, 200 square kilometres
Discharge	129 cubic metres per second (Average)
	1,640 m ³ /s maximum discharge
	3 m ³ /s minimum discharge

<http://geogratis.gc.ca/api/en/nrcan-rncan/ess-sst/d8fb41f0-8893-11e0-92bb-6cf049291510#distribution>



Journey of the Bow River





The Bow River flows through the city of Calgary from its source at the Bow River Glacier



The Bow River begins its journey in the mountains west of Calgary



Lake Louise



The Bow River



The Bow River flows through the city of Banff



The Bow River recreational use at Banff



The Bow River at Banff



The Bow River at Banff

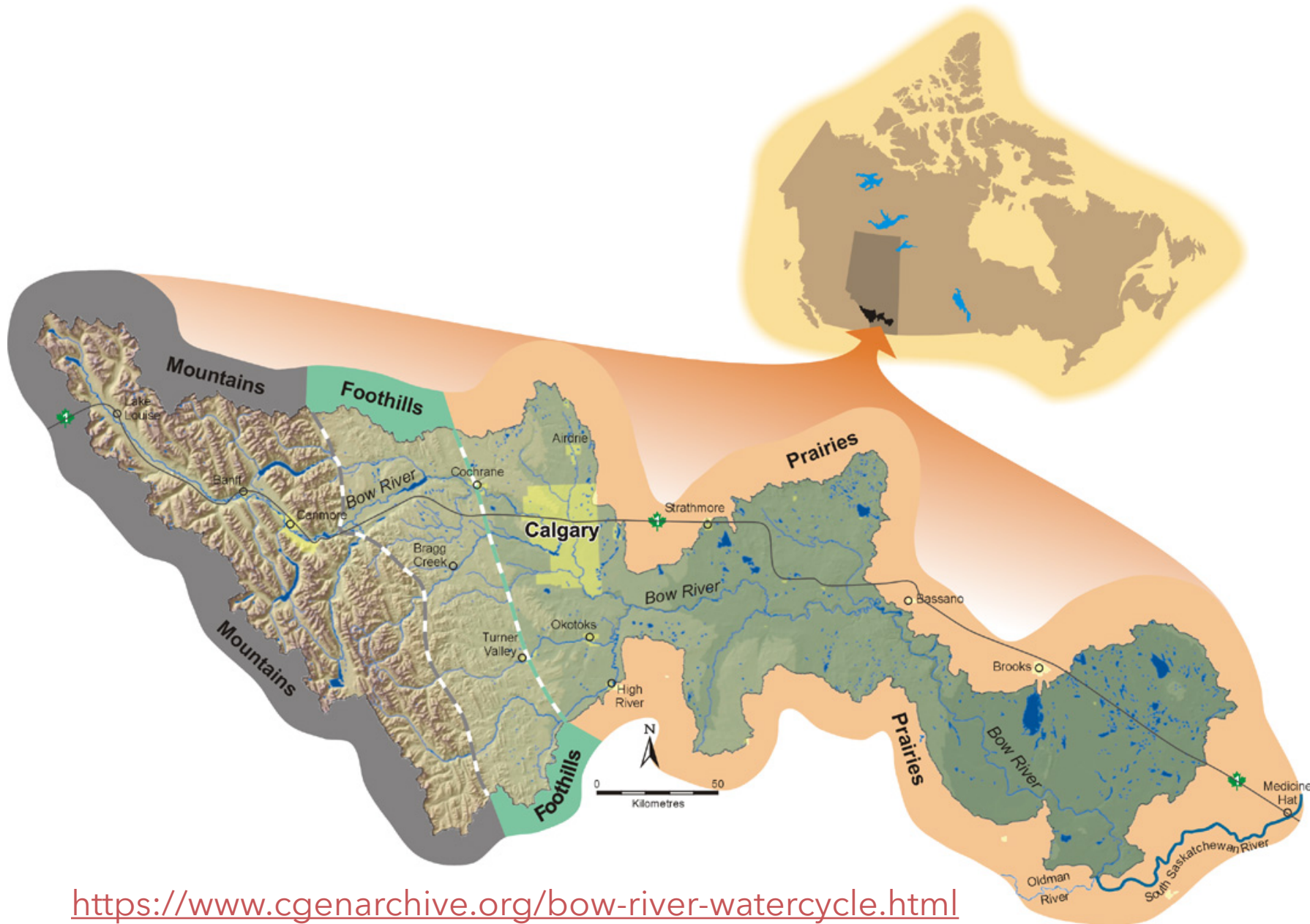


The Bow River downstream from Banff



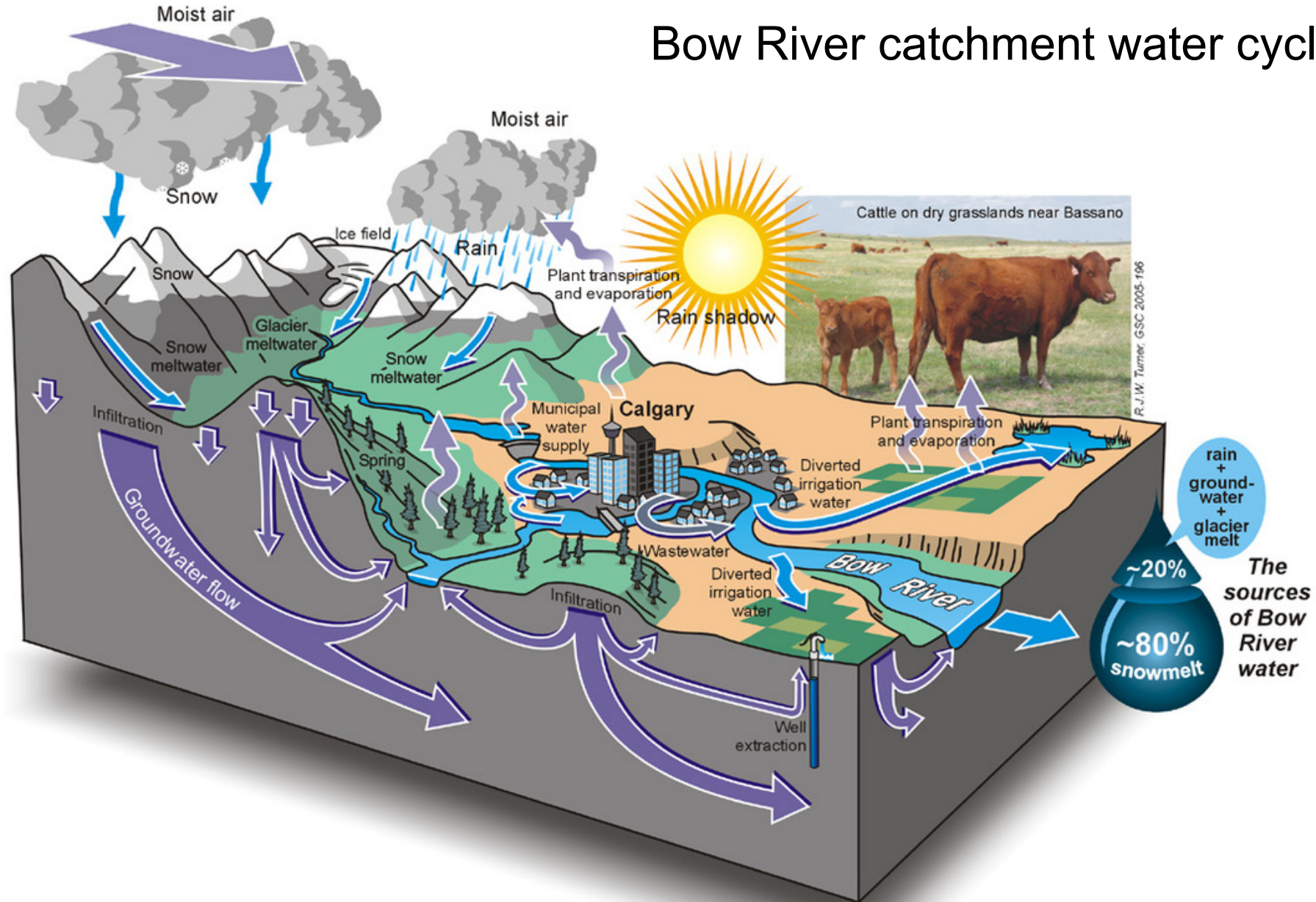
The Bow River below the waterfall at Banff – recreational use

Topography of the Bow River Catchment



<https://www.cgenarchive.org/bow-river-watercycle.html>

Bow River catchment water cycle



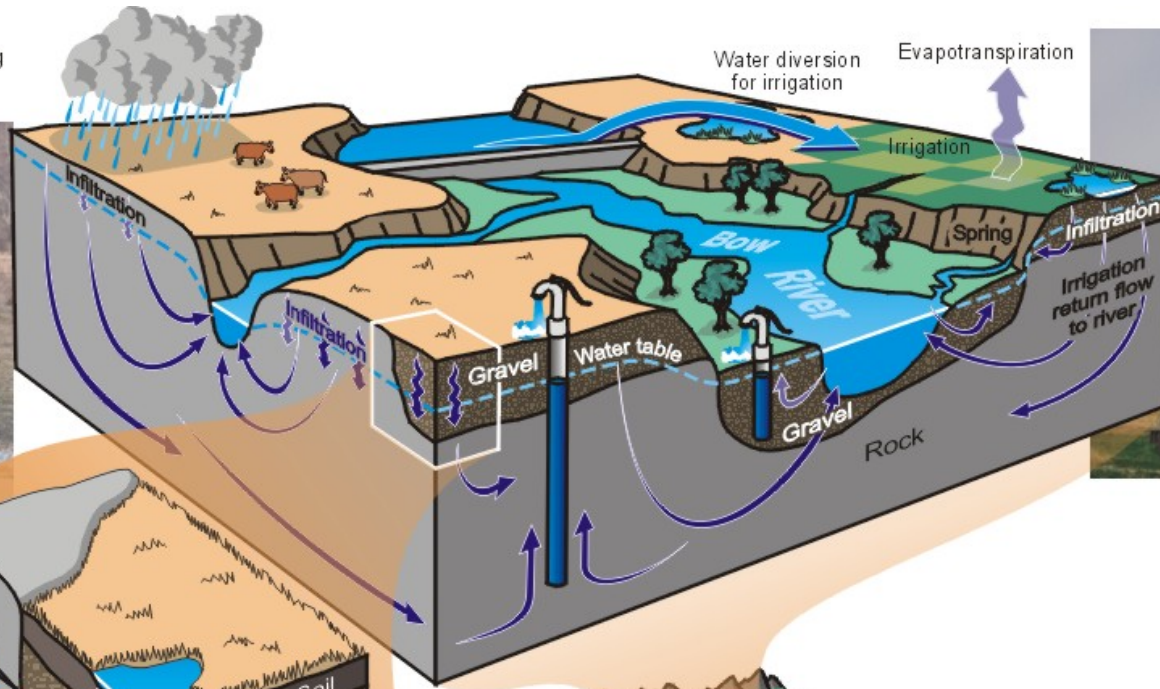
A hand pump provides groundwater for drinking at Big Hill Springs Provincial Park, near Cochrane.



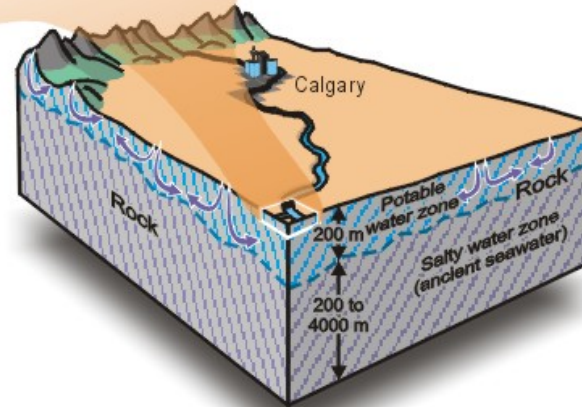
Water-filled fractures and pores in rock



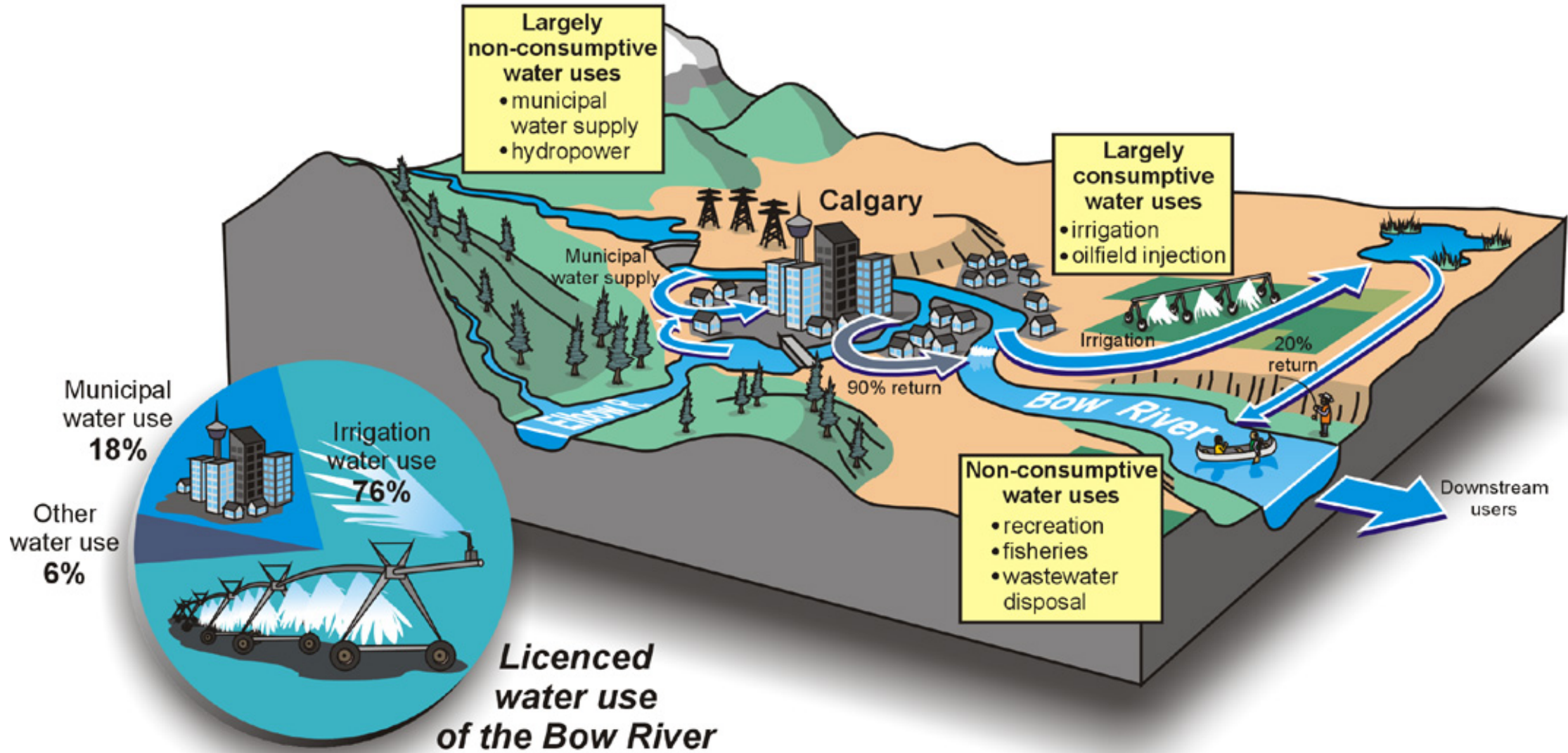
Water-filled pores in gravel



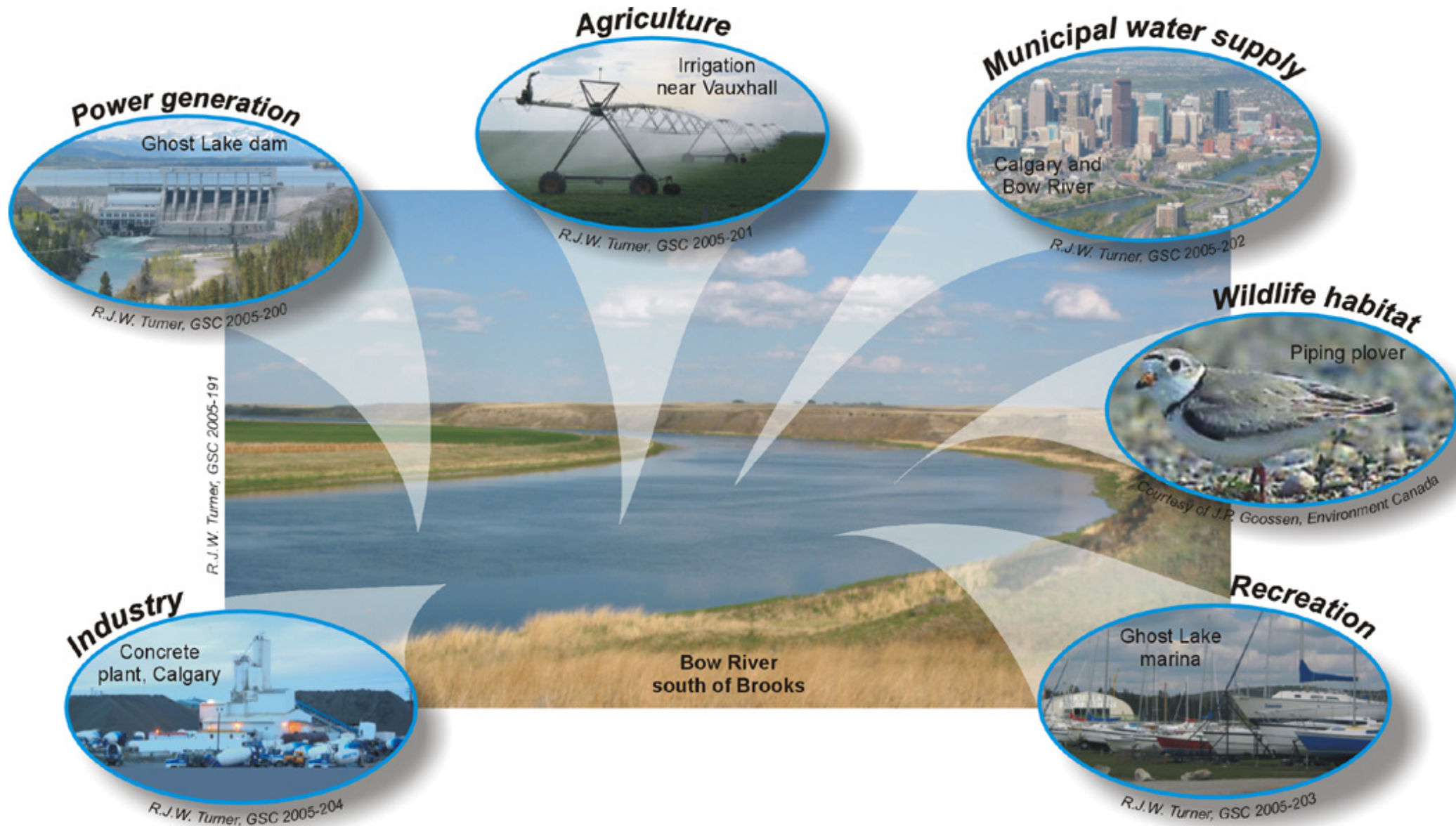
A windmill pumps groundwater for cattle southeast of Calgary.



Bow River catchment groundwater resources



Bow River water uses



Irrigation

Watch the following videos to learn more about diverting Bow River water for irrigation

Eastern Irrigation District

<https://www.youtube.com/watch?v=GcR2xJlhPik>

Bow River Irrigation District

<https://www.youtube.com/watch?v=4vKWXAiNNdU>

Western irrigation district

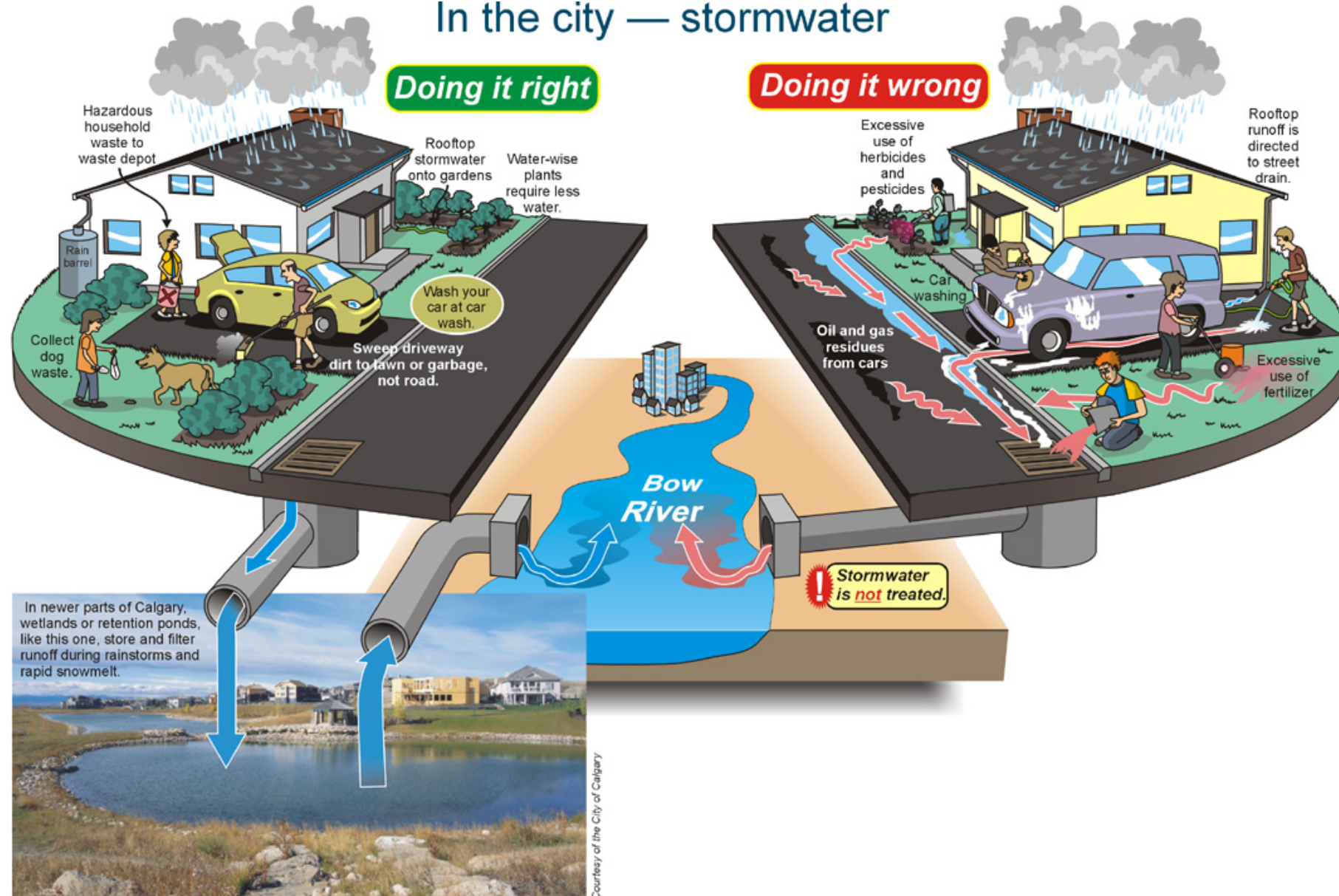
<https://www.youtube.com/watch?v=lr7p-XM-2Uk>

Out on the range



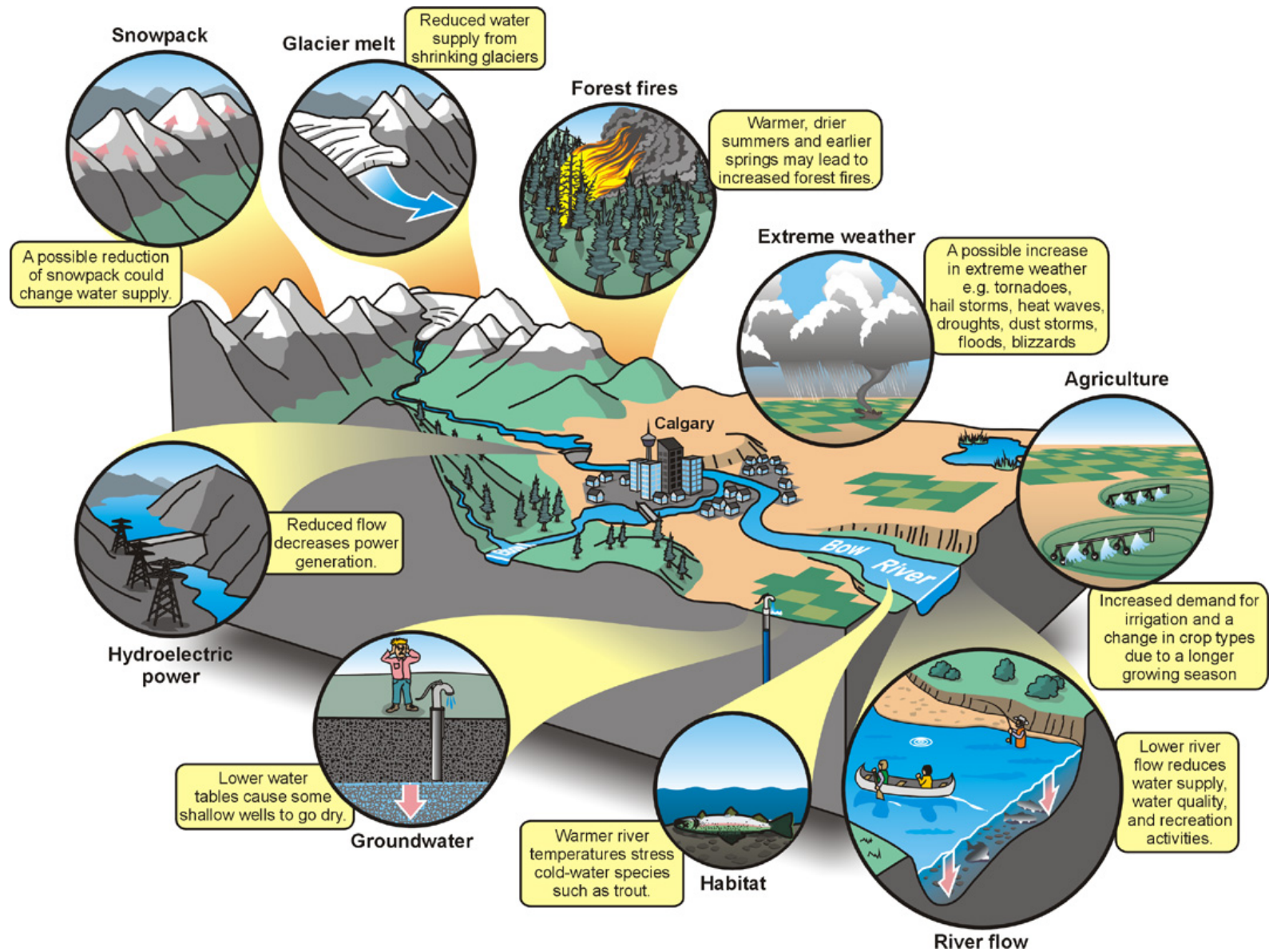
R. J. W. Turner, GSC 2005-2009

In the city — stormwater



Urban water management

<https://www.cgenarchive.org/bow-river-watercycle.html>



Impact of climate change

<https://www.cgenarchive.org/bow-river-watercycle.html>

Water management

- Watch the Bow River animation
- <https://www.youtube.com/watch?v=cpL11ROPoPE>

Weblinks

POSTER: A compilation of all images and information

http://www.cgenarchive.org/uploads/2/5/2/6/25269392/bow_river-posterl_e.jpg

The Bow River Basin

<https://www.cgenarchive.org/bow-river-watercycle.html>