

Example 1 The concentration of dissolved salts in freshwater is less than 500 ppm. Show that the equivalent of 500 ppm in m/V % is 0.05% salt.

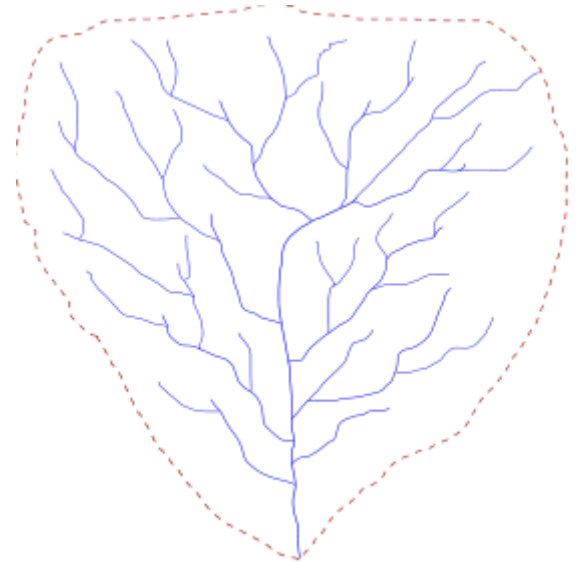
Example 2 Convert 1% m/V salt to ppm.

1. **Inland Waters:**

a) **Definition:** What do they include? All bodies of freshwater found on land. They include _____, _____ and _____.

b) **Watersheds** = catchment areas = drainage basins

- A catchment area or drainage basin or watershed is an area of land where all inland waters from rain and melted snow drain into the same lake, river or sea.



Example 1: Explain how the following factors can affect how water flows within a watershed:

a) **Topography:**

How steep the terrain is will determine how fast water flows from its source to a river or bay.

b) **Geology:**

If the rocks, soil or minerals are porous(sand, pumice),water will take more time to flow away than if it's not(granite, clay).

c) **Climate:**

In warm dry climates less water will be delivered to a river or bay. Heavy rains can cause flooding of rivers.

d) **Vegetation:** Forests help act as a sponge, preventing runoff and controlling the amount of water delivered to main body.

e) **Development:**

Dams can hold large volumes of water. Heavy urban use (cities) can lower amount of water available locally.

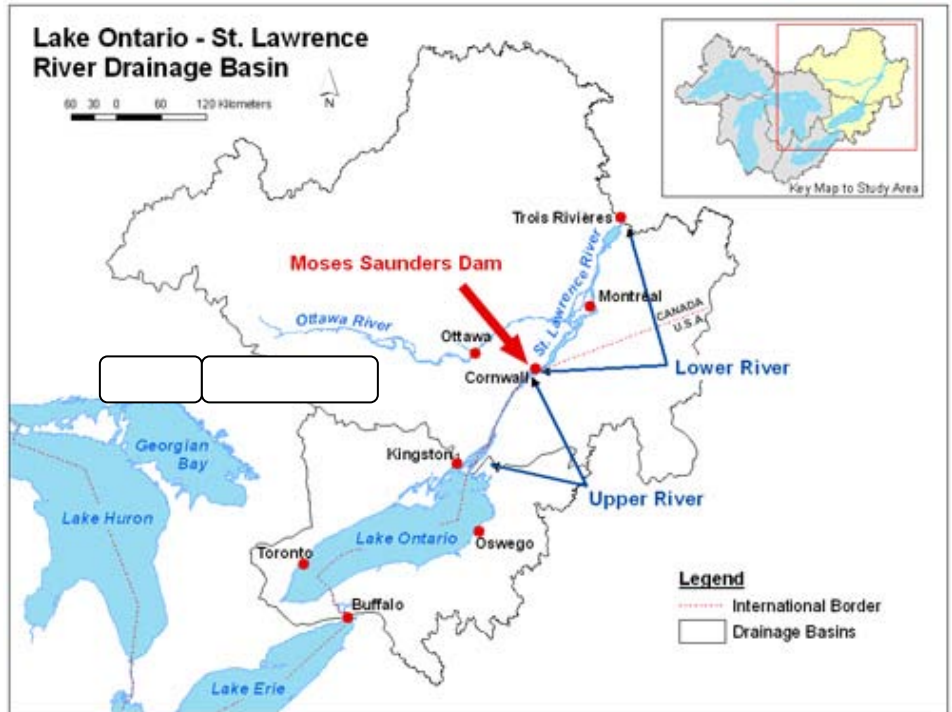
Example 2 How does catchment (the amount of water actually absorbed by land) affect towns, cities and the economy?

Water is needed for drinking, washing, irrigation and power generation. Shortages force cities to invest in bringing water from distant areas.

Example 3 Name each of the 3 following watersheds, all of which are at least partly in Quebec

1. Ungava Bay basin
2. Hudson Bay basin
3. St-Lawrence River basin





Exercises

1. Classify as freshwater or sea water
 - a) Water with 700 ppm of salt.

Sea water: Anything greater than 500 ppm is considered salt-water, although it usually has a lot more as much as 30 000ppm

- b) Water with a m/V concentration of 0.03%. Convert to ppm first.

= 300 ppm freshwater

- c) The water in Lake Superior

Freshwater

- d) The St-Lawrence River between Quebec city and Montreal

Freshwater

e) The St-Lawrence River near Gaspé

Sea water:

f) The Southern Ocean

Sea water:

2. What three types of freshwater do inland bodies include?

Lakes, rivers, groundwater

3. Where is most our freshwater tied up?

In ice

4. How do topography and geology each affect the way water flows within a watershed?

They can speed up (steep slope; non-porous rock) or slow down (gentle slope; porous rock) the rate at which water is delivered to a bay or river.

5. Which watershed extends from northern Quebec to the northeast into Ontario and Manitoba?

The Hudson Bay Basin