



## Banff, Kootenay and Yoho National Parks of Canada

# Wetlands

**soggy, spongy, boggy, muddy, not quite dry land & not quite open water**

Wetlands are any area of land which is covered by water for part or all of the year. They can be permanent or temporary. In the mountain parks wetlands are rare and small but very important.



Marsh



Wet Meadow



Fen

### what's in a name?

Each wetland type is defined by its soils and the plants most commonly found in it. Wherever you see a wetland area see if you can tell what kind of wetland you are looking at by using the descriptions below.

**Marsh** - Cattails or other plants are emerging from shallow water.

**Fen** - Dry enough for grasses, sedges and shrubs. Peat soils\* lie under these plants.

**Bog** - Drier still. Dry enough for black spruce to become established. Bogs also create peat soil.\*

**Wet Meadow** - Seasonally these meadows are flooded by run off. Look for grasses and shrubs.

**Swamp** - The driest wetland. Look for white spruce, shrubs, spongy floor and mosses.

\* Peat is a wet acidic (sour) soil created in the cold, wet, low oxygen conditions found in fens and bogs. Peat soils form at a rate of only 1 mm per year.



Wetlands are homes for an amazing diversity of insects, wildlife and plants - including most of Canada's rare and endangered species.



Like sponges, wetlands hold and slow the release of runoff, reducing erosion and flooding.



Wetlands improve water quality by filtering out sediments, some pollutants and excess nutrients.



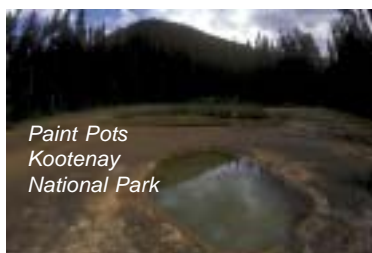
Wetlands recharge the water tables which provide well-water.



Wetlands provide many benefits to people including wildlife viewing, food and medicine.



**Wetlands keep changing. They go from wet to dry, or dry to wet depending on the season and the climate.**



Paint Pots  
Kootenay  
National Park



Volvox  
algae



Tadpoles



Great Blue Heron





## summit to seas

Snow and rain falling in the mountains eventually runs off via wetlands and rivers to either the Atlantic, Pacific or Arctic oceans. More than 2/3 of the rivers in Canada originate in the Rocky Mountains.

## parks and wetlands

Banff, Yoho and Kootenay national parks protect and interpret wetlands and other mountain ecosystems. Parks Canada is committed to maintaining or restoring healthy wetlands. Recent examples of wetland stewardship include water level restoration at Vermillion Lakes and waste water treatment facility improvements in Banff and Yoho Parks.



## wetlands under threat

Wetlands are disappearing world wide. Activities outside the parks can threaten the sustainability of wetlands. Some threats to mountain parks wetlands are:

- Airborne pollutants have far reaching negative effects on wetlands. Far from their place of origin, agricultural and industrial pesticides have been found in mountain park lakes. These pollutants can be absorbed by invertebrates and become concentrated in the food chain as small animals eat the invertebrates, bigger animals eat these animals, and so on.
- Worldwide amphibian populations are declining. Scientists have identified a number of causes including habitat loss, climate change and pollution. Leopard frogs are no longer found in mountain national parks for unknown reasons.
- Road, rail and utility corridors have fragmented some wetlands, affecting water flows and levels and linkages between habitats.
- Non-native plants (e.g. purple loosestrife) and fish (e.g. eastern brook trout) can out compete or even eliminate native species.
- Climate change is altering precipitation patterns, increasing temperatures will likely result in wetland loss.

## did you know?

The average mountain wetland is small, less than 10 hectares.

Forcipate Emerald is an extremely rare dragonfly known only from three sites in BC, all within Yoho and Kootenay National Parks. Dragonfly watching is joining bird watching as a popular activity.

Wetlands are important all year round. In winter marshes provide food for elk and other animals.



Forcipate Emerald

## we all live downstream

Canadians are the trustees of almost 25% of all of the world's wetlands. Here are some suggestions on how we can become better watershed residents by:

- Learning about our watersheds and wetlands
- Reducing water use
- Driving our vehicles less to reduce the creation of greenhouse gases
- Reducing the use of pesticides, herbicides and chemicals and disposing of them properly
- Keeping pets and livestock away from shorelines
- Not digging in streams or changing natural water flows
- Not disturbing the soil on slopes - this increases erosion



Learn more at [www.ec.gc.ca/water](http://www.ec.gc.ca/water)

Canada's Wonder of Water initiative assists Canadians to be more aware of the fragile nature of our freshwater ecosystems. Learn about the initiative at [www.wonderofwater.ca](http://www.wonderofwater.ca)

