

# Life in Shallow Open Water

From insect-eating bladderworts to dabbling ducks to long-legged avocets, the variety of life that occupies our small ponds, shallow lakes and stream oxbows is truly remarkable.



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**American Avocet** With little or no emergent vegetation and abundant invertebrates, shallow ponds are the American avocet's preferred habitat. This spectacular shorebird nests near water on bare ground or in short grass cover. The young are born ready to patter across the mudflats in search of small animal life forms. The distinctive upturned bill of the adult avocet is used in a scythe-like motion to search out and snap up food in mud and water.

**Food for Thought** You will often see dabbling ducks "tipping up" in shallow water as they submerge their heads and necks in search of invertebrates and other aquatic life that flourishes among the submergent plants. Invertebrates play an essential role in the diets and reproductive cycles of waterfowl and other birds. Females, in particular, require this high protein diet while developing their eggs in early spring, and ducklings will eat nothing but invertebrates during the first few weeks of life.



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## A Green Summer Blanket

A single floating duckweed plant is only about as big as the pupil of your eye, but when conditions are right, as in nutrient-rich, warm, shallow, still waters, these little plants start reproducing by budding, and can cover the entire surface of a pond by late summer. Mats of green algae can look similar at a distance, but closer examination will reveal the individual leaves of the duckweed.

ILLUSTRATION: DONNA FALAT



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## Glasswort

Also known as samphire, this low-growing, fleshy plant is found in the margins of shallow, saline wetlands in the BC Intermountain region. Like its coastal cousins, the inland species is often coated with white salt. In autumn, the plant turns a brilliant red. The sight of a salty white mudflat surrounded by a ring of red samphire against a deep blue fall sky is unforgettable. The succulent stems of young glasswort adds a unique, salty taste to a salad.

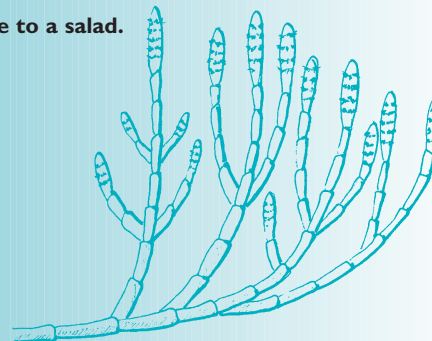


ILLUSTRATION: DONNA FALAT

# Shallow Open Water

S T E W A R D S H I P F A C T S H E E T



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Shallow open water wetlands are common in British Columbia's Intermountain region, appearing in the form of small ponds, shallow lakes and stream oxbows. Characterized by shallow water less than two metres deep, they have little or no emergent vegetation because of soil condition, water chemistry and water flow. Pondweed and other aquatic or submerged plants are common.

### Waterfowl

- pied-billed grebe
- mallard
- northern pintail
- gadwall
- American wigeon
- northern shoveler
- blue-winged teal
- cinnamon teal
- green-winged teal
- American coot

### Other Birds

- great blue heron
- killdeer
- greater yellowlegs
- American avocet
- Wilson's phalarope
- black tern

### Mammals

- beaver
- muskrat
- mink
- otter
- moose

### Amphibians

- long-toed salamander
- tiger salamander
- Great Basin spadefoot toad
- western toad
- Pacific chorus frog
- northern leopard frog
- wood frog

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## Distinguishing Features of Shallow Open Water

Soils are rich, mineral based and/or well-decomposed organics or sedimentary peat.

Shallow open water is usually permanently flooded, up to two metres deep.

pH is neutral to alkaline.

Characteristic vegetation is mostly submerged or floating-leaved aquatic plants with little (<10%) emergent vegetation, such as cattails or bulrush.

# Understanding Shallow Open Water

Often referred to as ponds or potholes, these wetlands are less than two metres deep with water that is fresh to very saline.

A combination of water regime and soil condition inhibits growth of emergent plants. Floating and bottom-rooted aquatic plants, such as white water buttercup, milfoil, pondweed, and pond lily, flourish.



## Ecological Functions

**All wetlands provide similar ecological functions of water storage and release, erosion protection, nutrient exchange, and habitat for fish and wildlife. Two or more wetland types often occur together in a wetland complex.**

**While not readily evident in passing, shallow open water is often teeming with life.**

### Provide Unique Habitats

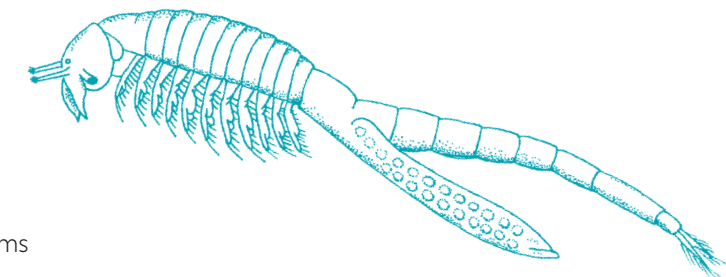
Beneath the water surface of a saline pond is a world of well-adapted creatures. Microscopic algae use the sun's energy to convert atmospheric carbon into carbohydrates. Algae and other organic debris are food for a myriad of aquatic and bottom-dwelling organisms, from water fleas to fairy shrimp. Waterfowl and shorebirds rely on the open water and abundant invertebrate life for resting and feeding during their long northerly migration in early spring.

Saline ponds are first to thaw in the spring because of their high salt content, and stay wet long enough to support a new generation of salamanders, frogs and toads. Most of our amphibians breed in fresh water ponds but some reproduce in relatively saline habitats. Amphibians congregate in shallow open water to mate and lay their eggs.

### Moderate Floods and Droughts

Shallow ponds play an important role during spring runoff and heavy storms when they capture and retain surface and groundwater, protecting against floods. As the summer progresses, the water is slowly released back into the watershed, replenishing streams.

Shallow ponds help stabilize air humidity. Humidity levels are increased as water evaporates from the wetland surface and as plants take up water through their roots and transpire the moisture back into the air through their leaves and stems.



## Aquatic Fairies

**Aptly named, the fairy shrimp is tiny and almost transparent. It thrives in saline water but is absent from lakes and water bodies inhabited by significant numbers of predatory insects or fish. Its survival depends on the ability of the eggs to survive annual cycles of drying and freezing, or even many years of drought in bottom muds. Surprisingly, adult populations do not reappear every year that ponds are reflooded.**

## Bladderwort

The bladderwort's genus name, *Utricularia*, means "little bag," referring to the small air bladders attached to the leaves. These sacs have trigger hairs on trap doors that capture minute aquatic organisms. In mid-summer, patches of yellow, sweet pea-like flowers project above the surface of quiet fertile ponds where this plant flourishes.