Types of Wetlands

Marshes

Marshes are the most common wetlands in Alberta. They are more commonly known as sloughs. Marshes are formed in low-lying areas that collect runoff in the spring and are often bordered by grassy meadows, and groups of trees and shrubs. The most common emergent plants that grow along the edge of sloughs are cattails, reeds, rushes, sedges, and grasses. The brown dead remains of these plants, particularly cattails, can be seen standing along the shallow edges of sloughs in the fall and winter. Each year they fall into the water and decompose adding to the organic matter that accumulates and fills up the slough.

Marsh ecosystems support a wide variety of wildlife. Fish can live in marshes because the water stays all year. Underwater plant stems provide a safe place for fish, amphibians, and insects to lay eggs. The plants help hide the eggs from predators. Above the water, the tall, grassy plants also offer protection for birds, mammals, and reptiles that are nesting, raising young, or hiding from predators.

The largest marshland in the world is the Everglades, located in southern Florida. The Everglades are 80 km wide and more than 161 km long. This area is famous for its alligators and snapping turtles.

Ponds

Ponds are wide flat basins of open standing water. The water generally measures 2 m or less in depth, although it can be deeper. They receive runoff in the spring and are replenished during the summer by rain.

Some ponds are rich with life while others are not. Some have thick cattails around a chunky broth of lily pads and straggling weeds. There are often birds flying, frogs croaking and fish splashing everywhere. Other ponds are clear and beautiful, but almost empty. They have a few reeds, the occasional duck and some fish. Well the answer to this lies partly in geology and partly in understanding food chains.

The empty ones aren’t polluted, they are just short of nutrients. Clear but fairly empty ponds, usually found in mountain areas, have few mineral plant nutrients, particularly phosphate and nitrate, in their waters. Clear ponds receive drainage from shallow soils and are often found on granite or other bedrock types that contain few nutrients. There isn’t a source of mineral to be dissolved into the waters that feed the pond, and thus there
is little nutrition for plants in the pond. With few plants, there can only be a few animals. In contrast, ponds that are downstream soils, that are in lowland areas of deep soils, or are near nutrient rich bedrock, contain water that have higher concentrations of many nutrients. Therefore, there can be many plants and plankton and also many animals.

Swamps

Swamps are not common in Alberta and are generally referred to as forested wetlands. A swamp is a wetland where trees grow. It usually develops as soil builds up in a marsh and the water becomes shallow. In the shallowest parts of a swamp, the ground may dry up during warm seasons. The deepest parts of a swamp are covered by water year round. Only some trees, such as aspen, asp, maple, elm, and cypress, can survive in the deepest areas of a swamp, where their roots are covered by water. Swamps are usually named after the type of trees that grow in them.

Tree seeds cannot begin to grow when the soil is covered with water. In swamps, the water level drops when there is little rainfall. Some seeds fall on soil that is above the water level during these drier periods. They then take root in the soil among emergent plants and existing tree roots and begin to grow. Once the young trees are rooted, they can survive underwater for short periods of time, such as when runoff or heavy rains flood the ground. When the water dries up, the trees continue to grow.

A swamp offers a unique habitat for plants and animals because it is a combination of a wetland and a forest. The tall trees offer shelter, and the pools provide fresh water for the plants and animals. A wide variety of birds are found in swamps. Birds build nests among tree branches and find food in the water below. Large animals such as moose, beavers, and crocodiles find homes in various swamps throughout North America. Herons, egrets, wood ducks, and sandhill cranes all make their homes in swamps.

Some of the largest swamplands in the world are found near the Pripyat River in the former Soviet Union. It is known as the Pinsk Marshes and they cover 46 980 square km from northwest Ukraine into southern Belarus.

Fens

Fens are shallow wetlands that are not always covered with water. They have waterlogged soil with little water showing on top. The surfaces of
Fens are usually flat or slightly depressed, with dips that trap water. They collect water mainly from runoff and groundwater springs.

Fens have less water than marshes or swamps and most of it stays below the soil's surface. During dry seasons, so much water evaporates from the fen's soil that there is room for air. As a result, hydrophytes as well as other types of plants are able to grow there. The word hydrophytes comes from the Greek words for water and lover. Hydrophytes have special features that help them get enough air to survive. Some have air pockets in their leaves that allow them to float on the water's surface and take in air. Many plants have hollow tubes that connect their parts above the water to their parts below it. Air travels down these tubes. Grasses and sedges often cover fens, making good places for animals such as deer, which graze on grass. The plants also attract many small rodents, which are a source of food for owls and other birds of prey.

Bogs

Bogs get water only from precipitation. They form in areas with a lot of rain or snow and cool temperatures that slow down evaporation. Most bogs do not have water sitting on their surfaces, but the water beneath is often very deep. Bogs are so acidic that not many types of plants and animals survive in them. Very few decomposers can live in the acidic conditions. Without them, dead plants and animals break down slowly and layers of dead matter pile up. As the layers pile up, those on the bottom become tightly squeezed and form a material called peat. This material stores large amounts of water and oxygen, so some people buy peat and spread it in their gardens to help their plants grow. Since peat takes a long time to develop, bogs and other areas with peat deposits are destroyed because people harvest it faster than it forms.

Bogs are home to some unusual plants. Only plants that can tolerate acid conditions can survive. Examples include cranberries and cotton sedges and carnivorous plants. Bladderworts, pitcher plants, sundews, and other carnivorous plants need more nutrients than the bog's soil provides. They have special features that allow them to trap and eat insects. Once an insect is caught, the plants release digestive juices, which turn the insect's soft parts into a liquid that the plants then absorb.

Sphagnum moss is a plant found in bogs and some fens. This moss can absorb a great deal of liquid and people use it in many ways. Recently, it has been used to clean up oil spills. Sphagnum moss also fights bacteria, which makes it ideal for covering cuts, scrapes, and other wounds.