

Plants of Kushiro Marsh

Kushiro Marsh is home to sedges, reeds, peat moss bogs, forests of Japanese alder trees, and many species of flowering plants that bloom from spring to autumn, which thrive in its soils. The ground below the marsh consists of three layers. The top layer is made of peat deposits, sediment composed of partially decomposed vegetation. Next is a layer of mud or sand, while the lowest layer is pebbles and fossilized seashells.

Until approximately 4,000 years ago, the marshland was part of a large bay. As the climate became colder sea levels fell, and this led to the formation of sand dunes at the mouth of the bay that eventually completely separated the area from the ocean. By about 3,000 years ago the former bay had turned into a brackish swamp, creating the basis of the present-day marshland. The marsh receives and purifies a large quantity of fresh water from sea fog, rain, and rivers, which supports large numbers of plant life.

Sedge-Reed Bogs

Kushiro Marsh is primarily covered in sedges and reeds. The sedges grow to 60–80 cm in height, while the reeds grow to over 2 m. These two plants typically do not grow in the same areas, since their habitat requirements differ in terms of the depth and transparency of the water as well as the underlying soil. Reeds are expansive, gaining nutrients from the rivers that flood the marshland, while sedges usually cover old ponds and rivers where water levels are higher and they are exposed to plenty of sunlight.

Peat Moss Bogs

Under the reeds and sedges are bogs composed of peat moss. Due to a process called the capillary phenomenon, dense bunches of highly absorbent peat moss raise the water table. This moss, which retains water like a sponge, provides ideal conditions for the growth of high-altitude and cold-resistant flora such as Labrador tea and Bog-rosemary.

Japanese Alder Forests

The Japanese alder is one of only a few tree species that can sustain forest growth in wetlands. Alder forests form in areas where sand layers have accumulated, either through deposition from the surrounding hills or carried by rivers. Japanese alders are able to grow in peat bogs despite the lack of nutrients because of their symbiotic relationship with a nitrogen-fixing bacterium. This organism generates nitrogen at the roots of the trees, thereby enriching the peat. The alders can survive in

wetlands for only 20–30 years before their roots eventually die. From the decayed stumps, new buds sprout and continue the natural growth cycle.