

Kushiro Marsh Was Once Underwater

20,000 years ago

During the last glacial period around 20,000 years ago, the sea level was approximately 100 m lower than it is today. Many areas that are now under the ocean were above sea level during this time.

10,000–6,000 years ago

After the Ice Age, as temperatures gradually increased, sea levels rose in a geological process known as transgression. About 6,000 years ago, the coastline moved inland, and the land where present-day Kushiro Marsh is located was below sea level. The area was part of a great bay called Old Kushiro Bay.

6,000–4,000 years ago

Around 4,000 years ago temperatures again fell, resulting in a marine regression. The sea retreated and a sand dune developed at the mouth of the old bay. Cut off from the ocean, the marshlands slowly filled with sediment deposited by in-flowing rivers.

Present-Day Marshland

In the process of regression, the land that made up the western part of the old bay rose, while the eastern side became a large depression. These topographical changes led to the formation of inland lagoons, such as Lake Toro, and a network of waterways, including the Kushiro River. A thick deposit of peat gradually built up on the surface, creating the base of the present-day marsh.

Over the past 3,000 years, the area has become home to a wide variety of plant life. The majority of the marsh is covered in bogs of sedges and reeds. These plants tend to grow separately depending on the depth and transparency of the water in which they are submerged, as well as the type of underlying soil. Sedges spread across the middle of old ponds and rivers, thriving in the higher water levels and greater exposure to sunlight. Colorful flowers can often be seen among the sedges, such as white-fringed bog-beans and pale purple cuckoo flowers. Reeds have been an important plant for both animals and humans since ancient times. The people of the Satsumon period (700–1200) used reeds for thatching roofs, and red-crowned cranes continue to make their nests using dead reeds.

Forests of Japanese alders dot the marshland. Japanese alder is one of only a few tree species that can sustain forest-level growth in wetlands. Alders are able to grow in nutrient-deficient peat bogs

because of their symbiotic relationship with a nitrogen-fixing bacterium. The trees survive in wetlands for 20–30 years before their roots eventually die; from the decayed stumps, new buds sprout and begin the natural process of self-regeneration.