

Ecology

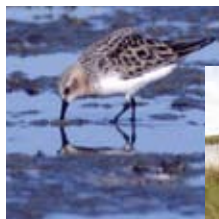
The Waihora is fed by over 40 streams and rivers, some rising as springs only a few kilometres from the Lake and others in the foothills 100 km away.

The Lake's food web is based on phytoplankton (microscopic floating green plants) and submerged and semi-submerged plants. These provide food for invertebrates, which are in turn eaten by birds and fish. Large eels are the top predator in the food chain. The lake midges, which emerge as adults in early spring, and cover the surrounding area in their millions in dark columns, are pivotal in the food web.

The Lake has diverse plant communities influenced by variations in salinity, elevation, sediment, soil type and lake level. The vegetation can be classified into three major groups: submergent species that spend long periods underwater e.g. native musk, freshwater wetland species e.g. raupo, and salt tolerant species found on the sandy salt marshes e.g. saltmarsh ribbonwood.

Lake Ellesmere is the most diverse site in New Zealand for birdlife, providing habitat for 167 species of bird. It is the ultimate roadside café for migratory wading birds (such as Sharptail Sandpipers and the tiny Red-necked Stint), who fly in from as far away as Russia, China and Canada. The freshwater wetlands are inhabited by rare swamp birds such as the Australasian Bittern and the Spotless Crake. Waterfowl are valued for their role in customary harvest and commercial hunting.

The Lake is home to 47 species of fish; 27 freshwater and 20 marine. Eel, flounder and mullet are fished commercially using a quota system. Recreational species include flounder, whitebait and trout. Lake Ellesmere was once the most productive brown trout fishery in New Zealand and one of the finest in the world, before numbers declined significantly in the late 1970's and early 1980's. Areas closed to commercial fishing, are the mouths of the rivers and the Kaituna Lagoon at the eastern end of the Lake.



Recreation

Lake Ellesmere is largely an unknown and underused recreational resource. It does, however have excellent possibilities for bird watching, recreational fishing, biking and watersports.

Bird watching is best undertaken on the Greenpark Sands from Embankment Rd where rare international migratory species can be seen. A pleasant 20 minute walk to the bird hide on Harts Creek is a good place to spot elusive swamp birds. The Kaituna Lagoon, accessed from SH75 is the best viewpoint for waterfowl.

Lakeside Domain at the western end of the Lake has an Aquatic Club and lanes for jet skis and water skiing. Windsurfers, sailing boats, and kite-boards can also be launched here taking advantage of the Lake's windswept nature and shallow depth. Kayaks can also be launched from here.

Kayaks can be launched from the following points: from Wolfes Rd on the LII River, from the Selwyn Huts on the Selwyn River and from above SH 75 on the Kaituna River. **Warning - wind conditions on the Lake can change very rapidly.**

Recreational fishing is possible on many lower river reaches including: the lower Selwyn, the lower LII (Wolfes Rd), the Irwell River and the Lake itself. Recreational game bird shooting occurs at many areas around the Lake. Contact North Canterbury Fish and Game for more information.

The Little River Rail Trail now provides an excellent way to access the Lake by bike. Starting at Motukarara the trail provides great panoramas of the Lake and Kaituna Lagoon during its 13 km journey to Birdlings Flat via the old railway embankment.



Lake Issues and Management

Issues affecting the health of the Lake include: water quality and quantity, wetland habitat loss, commercial and customary fisheries, recreational access and lake level management.

The submerged macrophyte beds which regulated the Lake ecosystem were lost in the Wahine Storm of 1968 and have never recovered. The Lake is now classified as 'highly eutrophic'- saturated with nutrients, especially nitrogen and phosphorus. However the Lake does not suffer from regular algal blooms and de-oxygenation of the water. It is saved from this fate by its shallowness and exposure to the wind, keeping the water oxygenated and sediment suspended through wave action. This does make the water look 'murky' however.

The Lake is being subjected to lower inflows from its tributaries. Over the past ten years, flows have been falling due to lower land surface recharge across the plains and increased groundwater extractions. The once extensive wetlands have now been lost and willow has invaded those that remain. These wetlands provided a buffer zone, filtering nutrients from water entering the Lake.

Today the Lake averages 1.2 metres deep. Its level has been managed artificially from the times of Maori settlement. Changes in lake level are major influences on the habitat and biodiversity of the Lake and on the viability of farming in the lower Selwyn.

Various parties contribute to the management of the Lake. Ngai Tahu and DOC operate a Joint Management Plan, while Selwyn District Council, Christchurch City Council and ECan also have resource management responsibilities. WET undertakes activities in conjunction with those parties and private land owners. Opening the Lake is governed by a Water Conservation Order which recognises the outstanding wildlife habitat of the lake and sets the minimum levels at which the Lake can be opened.

