

Lake Linlithgow Lake Reserve (*Jenawarra*)

Location: Drive east from Hamilton, along the Chatsworth Rd for 15 km to the main entrance. Just inside the entrance is 'The Point' overlooking the lake. The lake can also be accessed from the Glenelg Hwy near Warrayure, along Lake Linlithgow Rd, which connects with North Lake Rd.

A circuit of the lake can be made, from the Chatsworth Rd entrance, by travelling along a track on the eastern bank (impassable in wet weather) to the block of trees, turn right into a bumpy lane to connect with Mibus La, then left into North Lake Rd further north and completed via West Lake Rd. Boonawah Creek, which drains into the lake from the northeast, can be visited by following and remaining on the eastern bank track.

Landform, geology and history: The older landscape has a crust of basic lava 4–40 m thick, resulting from lava flows about 4.5 million years ago overlying Late Miocene sediments (limestone, sandstone and shales). A second phase of volcanic activity occurred around 2 million years ago, creating little volcanic hills. It is thought that Lake Linlithgow sits on first phase basalts and is surrounded by second phase flows that have created a shallow "dam".

The second phase basalt on the north end of Lake Linlithgow was cut into by wave action during wetter climates and the cliffs display impressive spheroidal weathering of boulders (pictured right, DL). The whitish plotches are feldspar. Quartz pegmatite in some rocks indicate relics of deep bedrock that were ejected during the eruptive phase. Pieces of quartz found on the lake bed may have been imported from the

Grampians by Aborigines, to make scrapers and spear points. A large lunette ridge of clay, silt and sand occurs on the eastern side of the lake, blown off the lake bed during a more arid climate. The sand ridge at Boonawah Creek was an Aboriginal burial ground.



Lake Linlithgow (1,015 ha or 1,477 ha with foreshore and Boonawah Creek) is usually less than 1.5 m deep, with an overflow depth at Chatsworth Rd of 4.9 m. However, it dries up periodically: it was dry in 1841, 1902–3, 1915, many years from 1920–45 and most recently in the summers of 1967, 1983, 2000–3 and 2005–10 inclusively. The water is mildly saline. Water flows into the lake mainly from Boonawah Creek, with a minor contribution from seepage through the second phase basalt. The lake bed has a layer of clay washed in from the creek. The lake overflowed at Chatsworth Rd in 1893, 1894, 1946, 1951, 1952, 1956 (and almost in 1960), ultimately flowing into Muddy Creek.

Since 1840 this and nearby lakes have been severely degraded, the foreshores and banks cleared and grazed and the water used for boating and duck shooting. Cypressess were planted near Chatsworth Rd and Monterey Pine to the west, and

perhaps on the Point, in 1925. The Cypress along the boundary to the east were planted later, possibly in the 1940s. Apart from a few Sugar Gum planted by Wilhelm Habel near Chatsworth Rd in the late 1880s no native trees remained on the banks until 1975–91 when HFNC planted 1,000 trees in a 500-m block on the barren east bank. Parks Victoria took over the management of the Crown land surrounds, cancelled grazing licences in March 2002, and began a new program of tree planting. From 2002–5 HFNC grew, planted and tended 950 trees and shrubs local to the area. In that period Parks Victoria (through the efforts of the late John Harris) planted at least 10,000 trees of local provenance, so that the perimeter is now sparsely treed.

The restoration of drained wetlands, and the banning of motor boats on Lake Linlithgow and duck hunting on the adjacent wetlands, would bolster nature conservation in this area of volcanic plains where over 75% of the shallow freshwater wetlands have been lost to drainage. With global warming, decline in rainfall and on-going drainage, more wetlands will be lost – we must restore other large wetlands, such as Buckley Swamp (see site 21H) to compensate for the loss.

Flora: HFNC has found some 56 native species of shrubs or ground flora in the reserve. Significant species include Common Eutaxia (uncommon in our region, pictured right, RB), Australian Hollyhock, Australian Trefoil, Sharp Club-sedge, Salt Tussock-grass, Scented Groundsel and Coast Saw-sedge (growing bountifully on the saline flats of Boonawah Creek). Remnants of Sweet Bursaria, Tree Violet and other natives occur on the north bank, where they escaped browsing. The shrubs

have been used as a source of seed for re-vegetation.

Fauna: The lake is a major resource for water birds, particularly species that enjoy fresher water and Sea Tassel (a water plant). HFNC has visited the area regularly since 1958. One hundred and ten species of birds have been recorded, including raptors, waterbirds and other species.

Waterbirds number 58 species, including uncommon or unusual species such as Great-crested Grebe, Blue-billed Duck, Freckled Duck, Plumed Whistling Duck, Cape Barren Goose (last seen in 1977), Black-tailed Native Hen, Brolga, Greenshank, Gull-billed Tern, Bar-tailed Godwit, Curlew Sandpiper, Pectoral Sandpiper, Marsh Sandpiper, Wood Sandpiper, Double-banded Plover and Red-kneed Dotterel. The more common species include Australian Pelican, Pacific Black Duck, Pink-eared Duck, Hardhead, Grey Teal, Musk Duck, Australian Shelduck, Wood Duck, Australasian Shoveler, Grebes and Black Swan.



With drier years, this lake and Bullrush Swamp (see below) have dried out in early summer and this has been exploited by thousands of Sharp-tailed Sandpipers. In January 2008 a flock of 5,000 birds was seen and in late December 2009 about 4,000 birds appeared. Large numbers of Black-winged Stilt (pictured right, 2007, RB), Banded Stilt, Red-necked Avocet, Red-necked Stint, Red-capped Plover and Whiskered Tern were also seen.

A full report of bird surveys and water conditions has been provided by HFNC in '*History, fauna and flora of Lake Linlithgow (Jenawarra) and associated wetlands in south-west Victoria*' (August 2008). This is available from HFNC.

