

The fresh water Lake Pupuke, formed in an explosion crater, is located in the heavily populated Takapuna area of North Shore, Auckland. It is approximately 57m deep and has a shore line of about 4.3km. Today the lake is a very important geological, cultural, ecological, and recreational reserve. In the early twentieth century it was used to supply water to the Devonport Borough. As the region grew it quickly became inadequate and the pump house ceased operation in the mid 1940s. It is now a popular theatre. The western edge of the lake was quarried for basalt. A section of this quarry has been flooded to form a lagoon known as Quarry Lake.



Lake Pupuke satellite image  
Source: Wikipedia



Lake Pupuke and Quarry Lake

As a lake, Pupuke seems to be unusual as it has no inlet or outlet streams. Its name, Pupuke, is a shortened form of Pupukemoana meaning overflowing lake. It is fed by rain water and underground seepage and drained through holes in the volcanic rock bed rock (fissures). This drains into Thorne Bay and then into the Hauraki Gulf. As the drainage is slow (it takes about 30-40 years for a parcel of water to pass through the lake and out to sea) the lake responds to heavy rainfall causing significant rises in lake water over a short period of time. The catchment area is bounded by the lake's volcanic tuff ring (14-34 m above mean sea level to the lake edge<sup>1</sup>) and is surrounded by many roads including, Shakespeare Road, Hurstmere Road, Killarney Street and Taharoto Road. Much of the shoreline is in private ownership, associated with schools and North Shore Hospital. It is unique among the other lakes of the Auckland region.

The lake was important for early Māori, however today it is a major recreational reserve. Several clubs and organisations are located on the lake, for example North Shore Rowing Club, WaterWise and Pupuke Boating Club, and the lake is stocked with brown and rainbow trout paid for by fishing licences. The activities that take place here include trout and course fishing, rowing, outrigger, canoeing, waka ama, board sailing, laser sailing, dragon boating, scuba diving and swimming. There is radio yachting on the Quarry Lake section. Power boats are not allowed except as rescue boats for paddle craft, sailing training and competitions. The council maintains a balance of formal competitive events with informal recreational activity.



<sup>1</sup> Lake Pupuke Management Plan, July 2005 p3

Even though the water in places is very deep there are five lake edge wetland areas which are important ecological reserves. An artificial stormwater wetland has been proposed for the area. The shallow lake edges and the thematically (22-12<sup>0</sup>C) stratified water for most of the year are ideal for water weed growth, especially oxygen weed and eel grass. This has been a problem in the past and Park Department staff hand cull floating weed when necessary. The weed can be thick under the water's surface. There are areas where the lake weed impacts detrimentally on recreational activity and traps litter. However, the weed is important for 'nutrient cycling and stabilising of nutrients; reducing re-suspension of sediment when there is high wave action; and providing habitat for a range of biota, fish and micro invertebrates' (Lake Pupuke Management Plan p 18). The lake water tends to be green and murky as it is full of nutrients and algae.

## Water safety in Lake Pupuke

(See also Teacher Guide 'Key Water Safety Messages')

The water can be reasonably busy with many different craft displaying differing competencies and motives for being on the water. Competitive rowers, outriggers, kayakers can be training, school groups may be having a beginners WaterWise lesson while recreational anglers are fishing. When on the water; *be aware of everyone and their space, wear a life jacket, take a buddy and tell someone where you are going and give a return time. Reflection and wind chop could give sailors difficulty in sighting swimmers in the water.*



Water weeds in Lake Pupuke

The beaches on the lake edge are not like those at the coast. There are no tides on the lake and depth to the shore line depends on recent rainfall totals. The shore line can be non existent, rocky or covered by weed and is very slippery. There are several boat ramps that give easy and clear access to the water. The water depth tends to increase rapidly away from the shore. There have been several drownings and incidence of spinal injury in the lake, especially after jumping into Quarry Lake.

When swimming *take a buddy, tell someone where you are going and a return time. Have a safe entry and exit point away from weeds. Wear appropriate swim gear, keep a point of reference at some place on the beach so you do not drift away from your gear as the water can be rough and choppy from the wind. Actively supervise children, avoid swimming after drinking alcohol and do not swim at night.*

## Water quality

Auckland Council tests the water quality at Lake Pupuke during the summer months. All results are available on the council's website or on call 0800 SAFESWIM (0800 723 379). If there has been very heavy rain in the last 24hours then temporary signs may be instated.



To show temporary beach closed signage

## Other guides exploring local environments include

Oakley Creek  
Hunua Falls  
Kaipara Harbour  
Manukau Harbour  
Tamaki River  
Waitemata Harbour  
Water Safety Signage

## Other lakes in the Auckland region include

**Urban lakes**  
Western Springs Lake  
**Rural lakes**  
Lake Karaka  
Lake Ototoa  
Lake Wainamu