

Onepoto Lagoon Co-ordination Committee Report 2013

Dredging of the Pond

The challenge for the next year is that we will have to change to using an alternate sailing venue for several months. This will be for the duration of the pond dredging that we have been requesting from the council for the last several years.

Pond Flushing

In 2007 the Electron group had been maintaining the pond by flushing it on a regular basis to prevent stagnation and to replace the water with salt water from the estuary. This was mainly done by Bill Herald who was going cruising for some months and had decided that he could no longer continue with the (often) late nights necessary to open and close the weir gates and flap valves at the correct times.

My first task was to gather the information that would explain the process and timing required to achieve the best flushing. This resulted in the Lagoon Operation Manual that is available on the OLCC Web Site at <http://Azonic.co.nz/NZRYS/olcc.shtml>.

Onepoto Lagoon Co-Ordination Committee

Carol and I formed the Onepoto Lagoon Co-ordination Committee (OLCC) to represent the views of the various groups that use the pond, or indeed other activities at the domain. We regularly communicated with the Electrons and the Ancient Mariners and also with the Onepoto Resident's Association (ORA) to arrange times for emptying the pond and to ensure that we presented one combined view to the Council.

We joined the Council's Wai-Care group and recorded information about the state of the pond within this on a regular basis as support for the various requirements that we felt were necessary. The pond was also surveyed for water depth around the pond as the Council's Onepoto Management Plan set minimum depths that needed to be maintained.

The OLCC has been consulted on various items by the Council, such as installation of the new fountains and replacing haybales to counter botulism.

We have submitted to the Council, alongside the ORA, over the Korean Gardens, the club rooms and the dredging and maintenance of the ponds.

Weed crises

While we did have to regularly rake out weed, at the end of 2009 it was particularly bad and it was necessary to have working bees to drag chains in order to remove it, or at least break it up.

While growing weed was an on-going problem, it also continued when it had died off. It dropped to the bottom of the pond and became entrapped in the silt. When the summer sun made the water temperature rise the weed rotted and produced methane. This gas was trapped in the matting and silt and floated this in sheets and clumps to the surface. The dredging was required to remove this from the pond bed as it was not only a problem for sailing, but also was unsightly and often quite smelly.

On going activities

We had determined that full flushing of the pond could be replaced by incremental flushing. Because the pond is below tidal high-water, the level is 2.2 metres, the flap valves could be arranged to leak sufficient water to bring the level up approx 100mm

each high tide. This would drain out during low tide back down to the weir gate level. The cumulative effect of 14 tides meant that the equivalent of the complete volume of the pond was exchanged each week.

Keeping the salinity of the pond up around 1.020 (sea water is approx 1.030) reduces the weed growth. The fountains kept the oxygen levels up and this also controlled the weed and helped control the methane generation.

Fountains

Originally there was a fountain near the bridge, the pump being at the weir gate end of the ponds. This failed due to corrosion in the pipes leading to loss of pressure until it was barely producing any water at all.

New pipes, a new pump, and two fountain heads were installed in the sailing pond and this, too, took its water from the weir gate end. This circulated the salty incoming water to the top of the pond and oxygenated the water. There were some problems with the nozzles becoming blocked and the intake ingesting floating weed, but these were sorted out. However, the system failed a year ago and has not been fixed.

While the fountains were working and the water was being exchanged each tide the pond was in the best condition that it had been for some years. The high salt and oxygen content kept the weed growth down and reduced the methane production. Eventually, most of the dead weed in the silt completed its breakdown and now is just a minor nuisance on hot days.

Failure of the Gates

On February 1st I was informed that the pond level was low. It was determined that the weir gates were leaking badly. The Council had installed new boards in 2007 and these had rotted and were crumbling away. Being a weekend, and it was unlikely that the Council would fix them quickly, I bought replacement boards and Ian and I installed these. Other problems were soon discovered. The sill was also rotten and leaking; the weir gate chamber was cracked and was also leaking. It was only because the flap valves let in water at high tide that the pond hadn't completely drained. In fact the flap valves had seized and could not now close.

These problems were reported to the Council but these, along with the fountains, have not been repaired beyond what Ian and I did.

The Council will need to carry out the repairs in the flap valves and weir gates before they can start dredging, otherwise they will not be able to control the water.

Dredging

The total area of the two ponds is approx 1.7 hectares. If they dredge an average of 0.3 metres then there are more than 5,000 cubic metres of silt to remove and dispose of. This will take some months during which the pond will not be usable.

Richard Plinston
OLCC Chairman.