* *Zantedeschia aethiopica* (L.) Spreng. arum lily

Lake Wainamu – A small freshwater lake at Te Henga

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Following the talk on global wetlands given by our November speaker, 2004, to the society, we visited the Te Henga wetlands and Lake Wainamu. We have compiled a brief report on the sand dune and unique lake system. Maori named the surrounding area Te Henga for the way the sand dunes formed, like the upturned hull of a canoe. Lake Wainamu is a small freshwater lake and wetland complex situated in the Te Henga valley system, on the western side of the Waitakere ranges, just north of Anawhata and south of Muriwai. A significant feature, which helps create the lake, is the large, mainly unvegetated sand-dune system which spans a small valley running north into the main Te Henga valley and wetland ecosystem. The dune probably developed in the mid to late Holocene and was left stranded as sea levels receded slightly to the present day level.

To the west of the dune, coastal manuka scrubland grows on another old dune where emergent pohutukawa/broadleaf forest begins to regenerate. On the eastern side of the valley the landscape is heavily modified for farming and lifestyle blocks.

An interesting feature of this dune system is the small ventifacts of volcanic rock near the summit of the dune. There are more spectacular ventifacts in places like the Antarctic dry valleys, but these shiny little sand-blasted pebbles from Te Henga show early signs of wind sculpture and also demonstrate that the dune is quite stable, otherwise these rocks would not accumulate at the surface. Any guesses as to how long it takes to make a ventifact?

The sand dune acts a dam, maintaining the height of the lake. A healthy photic zone in the lake once supported submergents such as *Chara australis* (formerly *C. corallina*) to a depth of 4.5 m and *Potamogeton ochreatus,* which grew in shallower water (Paul Champion, *pers. comm.*). Found floating on the surface that day was a piece of *Egeria densa*, the exotic oxygen weed. Paul Champion recalled that in 1991 this weed was restricted to the outlet only, and by 1995 it had displaced everything, growing down to 5.5m. In early 2000 the *Egeria* beds collapsed and have so far not re-established, though the plant is still present. What we did not see that day was the exotic bladderwort, *Utricularia gibba* that Paul records as having also invaded this water body. Along with these plant introductions, people have also liberated rudd, perch and catfish into Wainamu.

From our walk around parts of the lake we encountered an obvious band of emergent and marginal wetland plant communities existing between the valley side and the lake edge. There appeared to be two major zonations in the vegetation, which was comprised of both introduced and native species. Free floating islands of the emergent South American native (and very invasive) parrot feather, *Myriophyllum aquaticum* grew close to the lake's vegetated edge, and in open areas *Ludwigia peploides*. Thick mats of *Typha orientalis, Baumea articulata* and *Eleocharis sphacelata* grew as a band of emergent vegetation out approximately 5-7 metres into the lake. Closer to shore, with a soil / water surface other rushes and sedges became more common including *Schoenoplectus tabernemontana, Carex secta, C. virgata, C. geminata, Cyperus ustulatus* and *Bolboschoenus fluviatile* interlaced with the native swamp millet *Isachne globosa*. Kikuyu (*Pennisetum clandestinum*) grew out onto this community in places. At the foot of the hill, the conditions were becoming more terrestrialised with the water tolerant toetoe (*Cortaderia fulvida*) and *Phormium tenax* commonly encountered. Amongst the toetoe and flax were the common woody swamp shrubs, *Leptospermum scoparium, Coprosma robusta, Hebe stricta*, and *Geniostoma ligustrifolium*, which mixed with more kikuyu, tall fescue (*Schedonorus phoenix*) and the odd bit of gorse (*Ulex europaeus*). *B. articulata* grew in places along the stream flowing from the lake with the exotic parrot feather holding to the stream bank in places. Further down-stream we encountered the short, stout *Eleocharis gracilis*, growing with a noticeably shorter *Schoenoplectus*, but was this a short *S. tabernaemontana*?*.* People have been planting flax along the stream edge in parts and some more established native plantings were seen on adjacent properties. A large stand of brush wattle, *Paraserianthes lophantha* was seen growing happily on a private property adjacent to the stream. Freshwater vegetation along the stream edge was noticeably replaced with the coastal club rush, *Ficinia* (*Isolepis*) *nodosa* as we moved into the tidal zone. Certainly this area needs a visit from the society, to investigate in more detail its unique botany.