

Floating wetlands may help sink algae

New Zealand's first lake-side deployment of floating wetlands took place at Otautu Bay, Lake Rotoehu, in March. Lake Rotoehu, which is nutrient enriched and has abundant algal growths, has been prioritized for remedial action in the Rotorua Lakes Protection and Restoration Action Program. NIWA worked with Environment Bay of Plenty, Kauri Park Nurseries, and the local community to plant out two floating wetlands. Despite a wet and windy day, the floating mats were successfully planted with a range of native wetland sedges. The planted islands will be left to establish on the shoreline before they are towed out and moored in the bay.

The floating wetlands are an innovative approach that makes use of the well-known water purifying effects of natural wetlands. They can be used to improve water quality in lake embayments and in small water bodies such as ponds and dams. Floating wetlands consist of emergent wetland plants growing in a buoyant mat on the surface of the water; they are not restricted to shallow water. The plant roots hang down beneath the floating wetland and provide a large surface area for the growth of beneficial micro-organisms that can enhance nitrogen removal. Because the plants are floating, they are forced to take their nutrients from the water rather than from the sediments. Floating wetlands can also inhibit algal growth through shading, reduce wave erosion of the lake banks, and provide additional habitat for fish and bird life.

This is just one of a range of potential tools Environment Bay of Plenty is exploring for enhancing lake water quality and mitigating existing problems in the Rotorua lakes. NIWA is also looking at other applications of floating wetlands, such as for removing fine sediment and metal from urban storm waters.

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On the banks of Lake Rotoehu, Local volunteers help Environment Bay of Plenty staff plant out a floating wetland.