

Linking science with mātauranga Māori and citizen science for improved ecosystem management

Te Waihora (Lake Ellesmere) is a taonga to Ngāi Tahu. It is New Zealand's single most diverse bird habitat and has considerable botanical diversity. It is also valued for fishing and duck shooting. As New Zealand's largest single commercial eel (tuna) fishery, it is also important economically. Yet the lake is also a sink for a large area of agricultural land and has become hypertrophic – rich in nutrients (especially nitrogen and phosphorus).

Environment Canterbury, Ngāi Tahu, Department of Conservation, and others are involved in improving the management of the lake, informed by scientific information and mātauranga. Ngāi Tahu is using the Cultural Health Index, the Waihora Ellesmere Trust is coordinating an annual citizen science bird census of the lake (alongside Birds New Zealand and others), and universities and the regional council are undertaking extensive research into aspects of the lake and its catchment.

All of this information is integrated within decision forums (the Selwyn-Waihora Zone Committee and the Joint Officials Group comprising Ngāi Tahu, Environment Canterbury, Selwyn District Council, and Christchurch City Council), which treat the evidence as valid within the constraints and limitations of the collection of data and its interpretation. The information is then used to inform management interventions.

This approach is all about science – it works by treating all sources of information and knowledge with respect, and by testing it against the same criteria of validity and reliability.



Photo courtesy of Peter Langlands, Department of Conservation

Key question

How can mātauranga Māori be recognised, developed and utilised in new ways, both alongside and integrated with other science approaches, to improve environmental outcomes and to support Māori to exercise traditional roles such as kaitiakitanga and rangatiratanga?