

Preserving the Cultural Values of the Mararoa River and Waipuna-Freshwater Springs, Southland New Zealand: An Integration of Traditional and Scientific Knowledge

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Abstract : In Māori culture water is considered to be the foundation of all life and has its own mana (spiritual power) and mauri (life force). Water classification for cultural values therefore includes categories like waitapu (sacred water), waimanawa-whenua (water from under the land), waipuna (freshwater springs), the relationship between water quantity and quality and the relationship between surface and groundwater. Particular rivers and lakes have special significance to iwi and hapu for their rohe (tribal areas). The Mararoa River, including its freshwater springs and wetlands, is an example of such an area. There is currently little information available about the sources, characteristics and behavior of these important water resources and this study on the water quality of the Mararoa River and adjacent freshwater springs will provide valuable information to be used in informed decisions about water management. The regional council of Southland, Environment Southland, is required to make changes under their water quality policy in order to comply with the requirements for the New National Standards for Freshwater to consult with Maori to determine strategies for decision making. This requires an approach that includes traditional knowledge combined with scientific knowledge in the decision-making process. This study provided the scientific data that can be used in future for decision making on fresh water springs combined with traditional values for this particular area. Several parameters have been tested in situ as well as in a laboratory. Parameters such as temperature, salinity, electrical conductivity, Total Dissolved Solids, Total Kjeldahl Nitrogen, Total Phosphorus, Total Suspended Solids, and Escherichia coli among others show that recorded values of all test parameters fall within recommended ANZECC guidelines and Environment Southland standards and do not raise any concerns for the water quality of the springs and the river at the moment. However, the destruction of natural areas, particularly due to changes in farming practices, and the changes to water quality by the introduction of Didymosphenia geminata (Didymo) means Māori have already lost many of their traditional mahinga kai (food sources). There is a major change from land use such as sheep farming to dairying in Southland which puts freshwater resources under pressure. It is, therefore, important to draw on traditional knowledge and spirituality alongside scientific knowledge to protect the waters of the Mararoa River and waipuna. This study hopes to contribute to scientific knowledge to preserve the cultural values of these significant waters.

Keywords : cultural values, freshwater springs, Maori, water quality

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