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Prioritisation of Wetlands of the Rangitikei Catchment

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Usharani Amaranathan

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Abstract

This study aimed to prioritise wetlands of the Rangitikei Catchment. The prioritisation will enable the Manawatu-Wanganui Regional Council to apply its limited resources in an effective way to preserve the biodiversity of the wetlands of the catchment.

A process was designed to achieve the project aim. The first step in the process was the establishment of two conservation goals: 1) Maintain species diversity, 2) Eliminate threats within wetlands.

Secondly, the wetlands of the Rangitikei Catchment were surveyed to collect state and pressure information. 25 wetland sites were surveyed using the REWA survey method.

Data collected was then analysed, first using the complementarity programme Sites V1.0. However, complementarity analysis did not achieve a clarified prioritisation of wetland sites because extreme variability was found among sites. In particular, complementarity analysis did not respond well to having two very different conservation goals of pressure and state.

Therefore, 13 prioritisation criteria were employed based on elements of pressure and state. A method was devised to overcome problems of weighting criteria. True scores were converted to adjusted scores of 1 to 4 using the box and whisker division method. This method also allowed for easier replication and manipulation of data as well as clear visual representation, unlike other methods.

A unique prioritisation framework was then devised which allowed multiple criteria (in this study pressure and state) to be assessed simultaneously. The framework also allowed the large amounts of data involved in the prioritisation process to be presented as a single priority ranking. The prioritisation framework is a relatively simple, repeatable and highly adaptable method. The framework does not compromise the contribution of each criterion to the overall value of the wetland.

This resulted in prioritisation of the surveyed wetland sites of the Rangitikei Catchment and allowed achievement of the study's conservation goals. The box and whisker division method and prioritisation framework presented in the study are two unique methods that may be applied in future prioritisation programmes. Both methods provide simple and visual representations of the complex processes involved in the prioritisation of wetland sites and respond to multiple and opposing conservation goals. The nature of the prioritisation framework allows information to be added as it becomes available as well as accommodating the addition and expansion of conservation goals.

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Most of all I would like to thank my family for their support, patience and inspiration. In recognition of their contribution I would like to name the prioritisation process devised in this study TAPS (The Amaranathan Prioritisation System).

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