

Student 1-Low Excellence

The context relates to Hydro Electric Power (HEP) development in the Waitaki Basin.

The development of HEP is a huge threat to the braided river habitats in the Waitaki Basin where many native and threatened plant and animal species live. The construction of dams along with drainage and water diversion at...has led to changes in the natural flow of water in the following major braided rivers When the lake levels are raised a lot of the natural habitats of both the river and wetlands are flooded and destroyed, evidence of this occurring is at... [1]

In spring and summer approximately 26 species of water birds e.g... feed and nest in the WB braided river system and one consequence of the flooding is the loss of nesting sites which directly impacts on impact on the population numbers of many species. They are forced to nest in areas more prone to flooding which would be a danger to their young. In 2008 the population of wild adult Kaki was down to 93, but with recent DOC intervention... [2]

Braided rivers also supply vital habitats for many other species of fauna and flora, these species include...

Destruction of habitats disturbs the larger ecosystem through interruption of the food chain.

A flow diagram was incorporated to illustrate this idea with species common to the WB environment.

I think that the actions currently taken by Meridian Energy are mitigating the effects of their HEP scheme on the ecology of the Waitaki Basin [3]. Meridian Energy is currently trying various ways of balancing meeting the demand for electricity with the need to protect the environment...They work to minimise the environmental effects of the generation of HEP, making sure that water that flows through the hydro-scheme is used efficiently and they work with both national and local groups to help identify and manage any environmental issues. Meridian Energy works with the DOC to help protect braided river and wetland ecosystems...Project River Recovery was formed in 1990 and is funded by Meridian Energy. Its activities include monitoring the environment, controlling river bed predators, building new wetlands...this project is extremely successful with positive impacts on the native and threatened species. Meridian Energy funds the release of salmon smolt in the lower Waitaki River to ensure...Meridian Energy has been working with local iwi on a programme to enable elver to travel safely over the dams... [4]

Development of hydroelectric power in the Waitaki Basin has proved to be a huge threat to the braided river ecosystem as outlined in section 2 of my report, but by taking action early and with a many pronged approach it must be considered a sustainable use of this environment. The projects undertaken all focus on the long-term and secure the future for many species e.g. the creation of replacement wetland habitats... [5]

The proposal for future HEP development in the Waitaki basin [6] between Lake Pukaki and the Pukaki-Ohau Canal ... This proposal will include construction of temporary buildings, ...but the water levels will not need to be raised so the braided rivers and wetlands, and the habitats that they contain, will not be flooded. This demonstrates that lessons have been

learned regarding the implications of HEP development for the environment and the commitment to ensure future sustainability of this environment and this use.