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Course: Resources and Environment  
Geography 16.103

Practical Group: 8-10 a.m. Thursday

Essay Topic:

Choose any one natural resource and illustrate the social and environmental problems associated with its development at regional level. Indicate ways in which impacts of its development could be reduced (or were reduced, or are being reduced).

*States natural resource chosen for study. Sets out a map for the reader, echoing keys words from question.*

#### Introduction

This essay discusses the social and environmental problems associated with the Kaituna River with particular reference to its lower reaches and estuary which have been of interest in an ecological, economic, and spiritual sense for hundreds of years. Development of this water resource includes its use for food gathering, transportation, recreation, effluent disposal, and drainage. Impacts resulting from usage and control are pollution, a changed ecosystem, an altered landscape, and increased human habitation in the immediate vicinity.

This essay covers: the historical value of the river; its changing status over the past 150 years; how the impacts listed above have affected the river, wildlife, and people during that period; and how proposed development will help redress some of the misuse it has suffered up to the present time.

*Note sub-headings — appropriate in this type of essay. Sets the scene.*

#### Location

The Kaituna River drains Lake Rotoiti (300 metres above sea level) at the Okere Falls and also Lake Rotorua which flows through the Ohau Channel into Lake Rotoiti. Water is also gained from Lakes Rotoehu and Rotoma through springs. The surrounding high country provides a large catchment area with drainage from the low-lying coastal plains adding volume near the end of the river's journey. The original mouth (in recorded memory) was at Maketu, 27 kilometres south-east of Tauranga in the Bay of Plenty (Fig. 1).

*Gives background to show historical importance of river.*

### History

Maketu is believed to be the final resting place of the Arawa canoe, so is the spiritual base for many Māori throughout the Bay of Plenty, Rotorua, and beyond. The estuary was a rich source of kaimoana; Māori came from far inland to gather shellfish to take back home, as they still do.

Philip Tapsell, a Danish seaman, set up a trading post at Maketu in 1830 to ship out the flax which grew abundantly in the area. Flax trading was suspended in 1836 when hostilities between Ngaiterangi (of Tauranga) and Arawa caused the destruction of the flax stores and trading goods. Later, ships sailed through the estuary up the river to Canaan's Landing near Te Puke to off-load cargo and passengers (Tapsell, 1940).

### Flood Control

As the European population grew and the demand for agricultural land increased, the low-lying coastal lands were cleared. The swampland was prone to flooding, however, so the Te Puke Land Drainage District was formed in 1895 in an attempt to co-ordinate and extend drainage works for 4500 hectares of land west and north of the Kaituna River. Despite this measure, this land was inundated when the river flooded in 1907 and a new mouth emerged at Te Tumu, north of Maketu.

A dual canal called Ford's Twin Cuts was excavated in 1922 and the mouth at Te Tumu was later closed to force the river to flow through the Cuts back into the old estuary. But in 1928 floodwaters burst through the sandspit again at Te Tumu. The mouth shifted on various occasions (Fig. 2) until 1939, where it remained at Maketu until 1958 when the artificial diversion to the ocean was made at Te Tumu (Figs. 3,4) and the Twin Cuts canal was closed off with part of the new stopbank.

After another severe flood in 1951, when 6100 hectares of land were covered and serious stock losses resulted, the Kaituna River Board commissioned a "report on a comprehensive flood protection and drainage scheme for the lower Kaituna area" (Stokes, 1980:400). Many of the