



Above: Tranquil Lake Rotokino is a Scenic Reserve. However, its waters drain from the severely damaged Rotokino Swamp and the lake is now likely to suffer from nutrient enrichment. Already giant kokopu have disappeared from its waters. For long-term survival, wetland reserves must encompass whole catchments. Photo: G Salmon



The giant Kokopu, largest galaxiid in the world, is threatened by continual drainage of fertile flax swamps. Juvenile kokopu and other galaxiids constitute the delicacy white-bait, but are only common where swamps still remain. Photo: R M McDowall

nearly a billion dollars of farm support subsidies, wetland drainage subsidies escaped unscathed.

\$5.6 Million drainage subsidy since 1981!

At the time of writing, two specific subsidies exist for new wetland drainage projects: a nationwide community drainage subsidy (50%) — this pays for the large drain down the middle of the swamp; and an additional on-farm drainage subsidy (50%) available only on the West Coast. Under these two schemes total government expenditure on wetland drainage over the last four years totalled \$5.56 million. The National Water and Soil Conservation Authority (NWSA) administers the schemes but only those costing over \$20,000 must be referred to them for approval. The regionally approved schemes, while small in economic terms, often have serious environmental consequences by destroying vitally important remnant wetlands.

Some of the subsidised works are located on wet pastureland and do not conflict with natural values. Where conflicts do exist, the schemes should adhere to the Wetland Guidelines adopted by NWSA in 1982. However recent experience has shown that Catchment Boards are often ignoring the guidelines. Drainage schemes are being initiated, promoted and approved for wetlands of indisputably high natural value. This is to be expected since most Catchment Boards are dominated by farmers and are advised by engineers

whose work experience is confined to river control and drainage works. The existence of the drainage subsidies is interpreted as Government support for wetland drainage and the financial inducements overcome environmental constraints.

Estuaries, pakihi, swamps

The problem has been most acute on the West Coast, home of some of the country's finest remaining pristine wetlands. Of the region's three major wetland types — estuarine, infertile (pakihi) and fertile (swampland) wetlands — only estuaries are relatively secure.

Pakihi wetlands are still common in South Westland but are rapidly attaining remnant status elsewhere, through losses to farm development and afforestation.

Swamps have fared even worse as they are specifically targeted by the drainage subsidies. They can be identified by the presence of nutrient-demanding plants such as flax, raupo, *Carex* sedges and cabbage trees. Fertility is maintained by water movement through these frequently flooded wetlands. Swamps are the exclusive habitat of bittern, marsh crake and spotless crake, all of which are secretive wetland birds that are silently vanishing along with their habitat. Fernbirds and waterfowl may be abundant, and the swamp waters provide essential habitat for several native fish.

Because of their high productivity, rich fauna and remnant status, swamps possess conservation values out of all proportion to their size. Wildlife Service surveys

have shown that since 1978, 633 ha (15.6 percent) of swampland, out of a total of 4,043 ha, has been lost in Buller and North Westland, and 360 ha lost in South Westland. The loss has not been balanced by any significant conservation gains. In fact, the reserve system is virtually devoid of swamps. For example, in Buller County there remain only 12 swamps of sufficient value to wildlife to be rated as habitats of note. Only two of the swamps are larger than 100 ha; none are reserved, all are threatened by development in the short to medium term.

Catchment Board empire

The remaining wetlands on the West Coast are the legacy of over 100 years of development. Agriculturally, they represent the bottom of the barrel and the impetus for their drainage is wholly dependent on the availability of subsidies. Apart from the obvious financial incentive, subsidies have unduly accelerated wetland drainage in three ways. First, implicit in the existence of any subsidy is its eventual removal, accentuated in this instance by the recent removal of most other agricultural subsidies and by the continuing focus on wetland protection. Farmers are enticed into drainage schemes by the knowledge that they might miss out on the subsidy if they delay. Second, the central involvement of Catchment Board staff in the design, construction and administration of subsidised drainage schemes ensures they have a vested work interest in the promotion of wetland drainage on private land. For