Braided rivers of Canterbury

Canterbury

Braided rivers are a distinctive feature of the eastern South Island, especially in Marlborough and Canterbury. Braided rivers are characterised by wide shingle beds, numerous snaking channels and highly variable water flows.

Similar extensive braided river systems only occur in Alaska, Canada and the Himalayas, and many of these rivers are different types from the New Zealand ones. The special plants and animals found in New Zealand’s

### Formation of braided rivers

During the last major ice age 25,000 to 10,000 years ago, huge glaciers gouged and bulldozed millions of tonnes of rock off the spine of the Southern Alps. As the ice began to retreat, streams and rivers carried this alluvial outwash down the valleys of the east coast and deposited it to form flat basins between the mountains and the coastal plains.

The floor of the Upper Waitaki Basin has been formed from sediments deposited by the Tekapo, Tasman, Ohau, Dobson, Cass, Pukaki, Macaulay and Ahuriri rivers. The processes of geological uplift, erosion and alluvial transport continue today and maintain these braided river systems.

### Plants and animals

New Zealand’s braided rivers are home to a diversity of unique plant and animal species.

Those broad expanses of gravel may look barren, but they harbour a rich tapestry of low-growing plants especially adapted to growing amongst shifting gravels, extreme temperatures and limited nutrients.

Special plants such as the cushion forming ‘forget-me-not’ (*Myosotis uniflora*) and the rare, tiny woodrush (*Luzula celata*) have strongholds in high-country shingle riverbeds.
Others include mat daisy (*Raoulia* sp.), the moss-like *Scleranthus uniflorus*, willowherbs (*Epilobium* sp.) and the native daphne / pinatoro (*Pimelea prostrata*).

During spring and summer, at least 26 species of water birds (some threatened or critically endangered) feed or nest on braided rivers. The kaki/black stilt is perhaps the most well-known as well as the rarest wader in the world! Other species that are highly specialised to this dynamic habitat are the wrybill plover/ngutu parore, black-fronted tern/tara and the endangered robust grasshopper. Native fish such as the alpine, Canterbury and upland longjaw galaxids favour the braided rivers of Canterbury and North Otago.

**Threats**

Braided rivers and the surrounding wetlands are under threat from:

- weeds that stabilise the naturally dynamic water channels;
- predators that prey on native birds, lizards and insects;
- exotic fish that compete with native fish species;
- the filling of lakes behind hydroelectric dams;
- the diversion of water from rivers and wetlands to canals for electricity generation and the abstraction of water for irrigation; and
- recreational users who may crush bird nests and chicks with vehicles or scare birds from their nests, leaving eggs and chicks vulnerable to predation and weather extremes.

**Project River Recovery**

In recognition of the impacts that hydroelectric developments were having on braided rivers in the Upper Waitaki Basin, the Department of Conservation, in conjunction with the Electricity Corporation of NZ (now Meridian Energy) established Project River Recovery in 1991. The goal of Project River Recovery is to maintain and restore the braided river and wetland ecosystems of the Upper Waitaki Basin for indigenous plants and animals, as well as stabilising and where possible increasing populations of threatened species.

Meridian Energy currently provides compensatory funding of $424,000 per annum. This funding has been used to construct new wetlands, control weeds and predators, and to conduct research and monitoring. Around 100 hectares of new wetlands have been created, and water levels are controlled by weirs to maximise bird-feeding habitat during the breeding season. The control of exotic weeds has enabled the restoration and maintenance of over 33,000 hectares of riverbed habitat for feeding and nesting birds.

Predator-proof fences have been erected around some wetlands and research has shown that when combined with trapping, breeding success is higher within fenced sites than at unprotected sites. Monitoring has also shown that predation is the main cause of nest failure for many bird species. The main predators are cats, ferrets and hedgehogs, while stoats, hawks and magpies may also take some chicks.

**How can you help?**

Braided rivers are popular spots for fishing, camping, boating, kayaking and wildlife watching. However, braided rivers are vulnerable to disturbance and must be treated carefully. Your actions can help ensure the survival of the unique and threatened species that live here. Please follow the braided river care code below to help safeguard our rivers and their inhabitants.

- Riverbed birds nest between July and February and need special consideration during this time.
- Keep pets away from riverbeds and keep dogs on a leash at all times.
- Keep clear of nesting colonies and watch out for eggs and chicks. They are hard to see and very fragile.
- If you disturb birds accidentally, move on quickly so that the birds can return to their nests.
- Avoid driving vehicles on riverbeds. Park on the bank and walk to your destination.
- The speed limit for boats is 5 knots within 200 metres of the bank. Jetboats disturb birds and wash away nests.
- Obtain any necessary resource consents from your regional council for riverbed works.
- Above all, respect braided rivers and the plants and animals that need your consideration to survive.

*Sigaus australis*, subalpine grasshopper  
C. Woolmore

*Kakï/black stilt*

*Wrybill*  M. Soper

*Raoulia australis*, mat daisy  
C. Woolmore