

Braided rivers are home to a number of our special native birds, and they need some help! Creating islands in the river where birds can nest is one way we can help reverse the decline of birds like the wrybill, black billed gull and black fronted terns

Site selection

Location

- Access to the island is important, first find accessible spots into the river then search for suitable areas of the active channel for the island.
- Choose an area which has some natural separation to the mainland through existing braids. The wider the braid the better.
- An area that is already naturally higher with existing island features is best, as it will save costs and minimise the amount of disturbance needed. Pushing up material to create height will be time consuming and expensive.
- Local knowledge of the behaviour of the bed material at the site is important to determine if the bed material is resistant to erosion or will be readily washed away.
- Aim for a location that birds have tended to use for nesting in the past.
- A location with fewer weeds present will reduce construction costs, however may be lower so consider effects of flooding.
- Aim for a good mixture of substrate sizes, some boulders, some fines and medium to smaller sized cobbles. However if there is very limited habitat options, any bare gravel will be attractive.
- Be aware of existing activities in the river like gravel extraction and irrigation intakes that may impact on the island and vice versa.
- Be mindful of other values in the river such as spawning sites, and take care not to effect those.

Island characteristics

Height - aim to create around 50cm – 1m freeboard above the “normal” flow level. Consider frequency and volume of floods, and factor that into the amount of freeboard needed. Use local knowledge to help determine typical river flow behaviour.

Area – research has found the smaller the island, the fewer predators will be present (both resident and visiting). Optimal island size to account for colony nesters and reducing predator presence is around 1-3.5 hectares (max 2.5ha for smaller rivers). Bigger islands can also work, but the volume of flow in braids separating the island from the mainland (>6m³/sec), distance to the mainland (>20m) and maintaining low levels of weed cover become important factors.

Shape – generally, the island should mimic what naturally occurs in the river. The island should be 2-5 times longer than it is wide.

Separation between islands – if you are creating a number of islands, create them a reasonable distance (e.g. 1km) apart. Having them spread out reduces pressure on feeding habitat surrounding the island.

Weeds – islands need to be completely weed free as possible to have the most success. Any weedy patches can harbour predators. Mechanically scrape away any vegetative cover well before the nesting season, and follow up with spray if needed immediately prior to the nesting season. Do not spray into water, or over nesting birds.

Island maintenance

Once the island has been created, keep an eye out for any maintenance needed to keep it functional.

- Monitor the islands to check for weed invasions, manage regrowth with targeted herbicide spraying or mechanical clearance.
- Reshape of gravel post floods to restore freeboard
- Dredge braids around the island to keep a good depth of flow.



A quick guide to creating bird nesting islands

Island support

Social Attractants

In some rivers where there is relatively high abundance of nesting habitat available, birds may not choose to use the created island. Or they may just need some help to get the ball rolling. Consider the use of social attractants (decoys, audio) to encourage target colonial species to use the islands.



Predator Control

Predator control for the island and surrounding area is key to aiding nesting and fledging success of the island. While the island site selection and the ability to maintain good separation to the mainland will help reduce predator numbers for some guilds, trapping on the island and in the surrounding berm areas should be considered. Also consider management of other prey species, such as rabbits, which may attract predators to the island if they have other prey available in the area.

Black-backed gulls have been found to be a major predator player in island success, and island isolation and trapping is ineffective at their control. Black-back gull control is also recommended where needed.



Useful Links

www.braid.org.nz
www.doc.govt.nz
<http://braid.org.nz/seminar-2017>
<http://braid.org.nz/wp-content/uploads/2016/06/birds.jpg>

Thanks to DOC and presenters at the BRaid 2017 seminar for the information used in this guidance.

Monitoring Success

Once the island has been established, it is recommended that ongoing monitoring is carried out to demonstrate changes in bird use and occupation of the island. Monitoring success can identify the need for extra action such as extra predator or weed control and can support additional island creation in the future.

Contact your local DOC office or Biodiversity Officer for advice.

Planning permissions

The Land and Water Regional Plan sets out rules for activities in river beds. Activities associated with island creation include vegetation clearance (mechanical or chemical), disturbing river bed material, and braid diversions. The relevant rules are 5.163 (vegetation removal), 5.136 (general bed disturbance), 5.22 (agricultural use).

Please also be aware of additional sub-regional plan rules which may apply, including for the Waimakariri River which is covered by a separate plan.

A resource consent is required to create bird islands, if the work area is in a listed Salmon Spawning (Schedule 17) river or a High Naturalness waterway (sections 6-15) or if work in flowing water is needed.

Some existing gravel extraction consents have conditions which enable habitat enhancement work such as nesting islands to be created. Similarly, the River Engineering team can assist with authorising the activity through Environment Canterbury's Code of Practices and existing resource consents.

For more information on these permissions contact us on gravel@ecan.govt.nz