

Wetlands:

More than 90 per cent of New Zealand's freshwater wetlands have been lost. Invasive weeds modify all those remaining, including wetlands that are internationally important.



About 14 000 hectares are affected by willows, grasses, broom, gorse, rushes, and other weeds. Crack and grey willows have major impacts in freshwater wetlands by choking water bodies, lowering water levels and shading out other species.

Along the coast, spartina is invading mangrove forest and open mudflats in harbours and estuaries. It threatens more than 11 000 hectares in about 20 important, high ranking places. Its dense stands destroy habitat required by flatfish and many estuarine invertebrates, and the feeding and roosting areas used by wading seabirds.



Top: Spartina has covered or threatened some 145 hectares (or about three-quarters) of the Manawatu Estuary's mudflats, an important wading bird habitat on the North Island's west coast.

Graeme LaCock, 1998

Water poppy covers a pond near Te Aroha, since cleared.

Jeff Jeffery

A solid blanket of crack willow (foreground) has invaded the silty margins of the Kōpuatai wetland near Thames and surrounds remnant kahikatea

Tony Lilleby

Rivers and lakes:

Introduced plants have spread throughout most of New Zealand's rivers and lakes. Oxygen weeds (*Elodea*, *Egeria*, *Lagarosiphon*), hydrilla and hornwort can form dense monocultures, often over five metres tall, that smother, exclude and replace the native aquatic plants to which many native invertebrates are adapted. These weeds then reduce oxygen levels when they rot. Large free-floating weeds, such as salvinia and water poppy, form thick floating masses that block all light; while tall, densely growing weeds, such as Manchurian wild rice, reed sweetgrass and the bamboo-like phragmites, out-compete native plants along the edges of water bodies.



For instance, at various times dense stands of egeria have dominated the shallow Omapere, Waahi and Waikare Lakes in the northern North Island. These stands have since collapsed, and the lakes now have no underwater vegetation, are turbid and dominated by algae, and many native invertebrates have disappeared. Hydrilla is so far confined to four sites in Hawkes Bay; if it escaped into the Waikaremoana or Rotorua Lake systems there is little chance of preventing it from spreading widely through these waterways.