

# Blue Duck (*Whio*)

## What are Blue Ducks?



Blue Duck. Photo by Grabam Dainty of Photo Art Fiordland

The blue duck (or whio; *Hymenolanius malacorhynchos*) is a unique threatened species of waterfowl endemic to New Zealand. It is the only member of its genus and has no close relative anywhere in the world. The blue duck is believed to have appeared at a very early stage in evolutionary history and the species' isolation in New Zealand has resulted in it acquiring a number of unique anatomical and behavioural features. The blue duck is a river species, mostly confined to unmodified headwater catchments with high water quality, stable stream banks and a wide diversity and abundance of aquatic insects. Blue ducks are in the top trophic level of riverine systems and are a key indicator of river system health. Historic fossil records suggest that blue ducks were far more widespread prior to human arrival.

Those people who have been lucky enough to encounter blue ducks will remember them for their characteristic slate-blue colour, which hides them amongst the wet stream rocks, and the distinctive "whio" whistle of the male which can be heard above the noise of cascading water. They have an extraordinary ability to maneuver and swim amongst fast-moving currents, and are most active in early morning and on dusk.

## Fight for Survival



Blue Duck. family Photo by Grabam Dainty of Photo Art Fiordland

The blue duck is classified as a nationally endangered species, with current populations declining, and unless the causes for its decline are remedied (or reduced), the species faces a very real risk of becoming extinct. A recent estimate, based on surveys and site records, provided a national figure of approximately 2500 individuals and declining. Blue ducks have been adversely affected by many human-induced changes. In particular:

- The direct loss of suitable riverine habitats due to the clearance of vegetation from stream and river banks, water diversions, poor water quality and damming for hydro-electric and irrigation schemes;
- Increased mortality caused by introduced predators and human disturbance. More recently, research has found that stoats are a major predator of blue ducks, and probable cause of population declines through decreased recruitment of juveniles. Possums, cats and dogs are also threats to blue duck.

Unlike some endangered bird species, blue ducks cannot simply be transferred to off-shore islands to ensure their viability, because they rely on large areas of quality, fast flowing riverine habitat that is unavailable on islands. The continued survival of this species is therefore largely dependent on the protection of secure source populations throughout mainland New Zealand.



## ***Blue Duck Features & Ecology***



*Blue Duck. Close up Photo by Graham Dainty of Photo Art Fiordland*

- Blue ducks have unique features such as streamlined head and large webbed feet to enable them to feed in fast moving water.
- The upper bill has a thick semicircular, fleshy ‘lip’ that overlaps the lower bill allowing them to scrape off insect larvae that cling to rocks, without wear and tear.
- It is one of only three species amongst the world’s other 159 waterfowl that live year round on fast-flowing rivers. The others are found in South America and New Guinea.
- The male makes a distinctive high-pitched aspirate sound – “whio”, contrasting with the guttural and rattle-like call of the female.
- In contrast to other waterfowl, blue ducks obtain all their food (consisting almost exclusively of aquatic insect larvae) and even rear their young, in the fast moving rapids and riffles of their home territories.
- Blue ducks vigorously defend their river territories all the year round. The size of each pair’s territory can vary (average is about 1.5km) depending on the quality of the habitat and food available.
- Blue ducks nest between August and October, laying 4-9 creamy white eggs. The female incubates the eggs for 35 days and chicks can fly when about 70 days old.
- Blue ducks moult between December and May.
- Adult length: 530mm; males 1000g; females 800g
- They are mainly active during early morning and late evening periods, hiding during the day in log-jams, caves and other such places – some populations have adopted an almost nocturnal existence.
- Recent research has found that where blue ducks still reside in middle-river habitats, population densities and productivity are much higher than in typical headwaters. It is likely therefore that the upper-river habitats where blue duck are mostly found today are not preferred but sub-optimal habitats.



## ***Recovery Plan Action***

An approved Recovery Plan for the blue duck is in operation. Emphasis over the ten year period 1997-2007 is to be placed on clarifying their status nationally, protecting existing populations, developing techniques to establish new populations and undertaking research that will assist the long-term goal, which is:

**To maintain blue ducks in the wild in sufficient numbers and in sufficient secure catchments so that the species shifts from IUCN category of “endangered” to “vulnerable”.**

Current work being undertaken by the Department of Conservation on blue ducks includes:

- annual monitoring of five key populations (two in the North Island and three in the South Island);
- completing survey work in a number of more remote areas;
- continuing to collect sightings from back-country users;
- advocating protection of existing blue duck habitat;
- investigating juvenile dispersal ability and patterns;
- investigating the impact of introduced predators on populations;
- carrying out trials on re-establishing populations using captive and wild-bred juvenile blue ducks.

## ***How you can help***

The general public can assist the Department of Conservation with the recovery of the blue duck by reporting all sightings. Essential information is date, location and number seen. Any additional information about their sex, age (juvenile or adult, size of juveniles), or what they were doing would also be useful. Sighting cards are available from all Department of Conservation offices.

## ***Further Information***

For further information you can access the Department of Conservation web site at [www.doc.govt.nz](http://www.doc.govt.nz) or contact your nearest Department of Conservation office.



**Department of Conservation**  
*Te Papa Atawhai*