



AUSTRALIAN LUNGFISH (*Neoceratodus forsteri*)

The Australian Lungfish has been listed as a vulnerable species under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act).

What is the Australian Lungfish?

The Australian Lungfish is a long, heavy bodied freshwater fish with five pairs of gills and fins which resemble flippers. They are called lungfish from their ability to breath air via a 'lung'. Adult lungfish can grow to more than 1.5 metres and weight up to 40 kilograms.

The Australian Lungfish is the sole Australian survivor of a family of fishes that have been around since the dinosaurs. Fossil remains of this species have been found in New South Wales dating from more than 100 million years ago.

Where does the Australian Lungfish live?

The Australian Lungfish is restricted to south-eastern Queensland, with its natural distribution being the Mary, Burnett and possibly Brisbane and North Pine Rivers. Lungfish have also been introduced to other rivers and dams including the Condamine and Coomera Rivers and the Enoggera Reservoir.

Why is the Australian Lungfish threatened?

Evidence suggests that in recent years only small numbers of young lungfish are growing-up into adult fish. In addition, changes to the quality and extent of breeding habitat appear to be reducing the likelihood of successful spawning.

Two of the key problems affecting the lungfish are the flooding of suitable spawning sites and physical barriers that block the movement of adult lungfish to the remaining breeding sites.

While the waters of dams and weirs provide feeding habitat for the species, they rarely provide the shallow water and dense cover of water plants like ribbonweed which the lungfish need for successful spawning. In addition, dams and weirs do not provide suitable nursery habitat for the species as the young also require a cover of water plants.

Because of the long life span of the lungfish (with some research suggesting that the fish may live up to 100 years) the lack of breeding success may not become evident in the adult population for many years.

It is estimated that there has been a 26 per cent loss or reduction in the amount of breeding and nursery habitat for the Australian Lungfish (the main channels of the Burnett and Mary Rivers). As a result, the adult breeding population is likely to undergo a substantial decline within the next three generations.

In addition, exotic and translocated native fishes, such as the exotic Tilapia (*Oreochromis mossambica*) are believed to prey on lungfish eggs and young and compete with adults for breeding habitat.

How is the Australian Lungfish protected?

In addition to the listing of the Australian Lungfish as a nationally threatened species under the EPBC Act, the species is protected from fishing under the Queensland *Fisheries Act 1994*. Under the Queensland Act, a permit is required to collect this species for eligible purposes such as educational display, aquaculture and research.

The Australian Lungfish is also listed on Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and strict conditions apply to its export under the EPBC Act.

Nationally threatened species and ecological communities



What are the implications of listing the Australian Lungfish as a nationally threatened species under the EPBC Act?

Listing of the Australian Lungfish as a nationally threatened species under the EPBC Act means that any action that is likely to have a significant impact on the species will need to be referred to the Commonwealth Environment Minister for a decision as to whether assessment and approval is required.

It is an offence for any person to undertake an action that is likely to have a significant impact on a matter of national environmental significance without approval.

Guidelines have been produced to assist people to identify whether their activity is likely to have a significant impact on a nationally listed species. These guidelines "EPBC Act Administrative Guidelines on Significance July 2000" can be obtained from the Environment Australia website or by contacting Environment Australia.

Examples of activities that are likely to trigger a significant impact referral under the EPBC Act include:

- activities that flood, degrade or involve significant disturbance to Lungfish spawning or nursery habitat areas;
- activities that disrupt the breeding cycle of important populations of Lungfish; and
- activities that restrict access of adult Lungfish to suitable spawning sites.

How does this decision affect current activities?

Actions do not require approval under Part 9 of the EPBC Act if:

- the action required specific authorisations such as a permit or approval under a Commonwealth, State or Territory law; and
- immediately before 16 July 2000, all necessary environmental authorisations were obtained; and
- the action did or does not require specific authorisations; and
- the action is a lawful continuation of a use of land, sea or seabed; and
- the action was occurring immediately before 16 July 2000; and
- the use has not been enlarged, expanded or intensified.

Please note that an EPBC Act approval does not remove the need to obtain the necessary State or Territory government authorisations or other Commonwealth authorisations, including permits under the EPBC Act, for an activity.

Where can I get further information?

Administrative Guidelines regarding what constitutes a 'significant impact', referral forms and a guide for submitting a referral can be obtained from the Environment Australia website at <http://www.ea.gov.au/epbc> or by contacting Environment Australia's Community Information Unit on **1800 803 772**.

A copy of the criteria used to list the Australian Lungfish under the EPBC Act as well as the listing advice can also be obtained from the Environment Australia website at <http://www.ea.gov.au/biodiversity/threatened/nominations/index.html>.

Further information on the Australian Lungfish may also be obtained from the following organisations/websites:

- The Queensland Department of Primary Industries;
- The Queensland Fisheries Service;
- The Australian Museum; and
- The Queensland Museum.

Photography credits

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