Australian Capital Territory

**Nature Conservation (Murray River Crayfish) Conservation Advice 2020**

**Notifiable instrument NI2020–352**

made under the

**Nature Conservation Act 2014, s 90C (Conservation advice)**

1. **Name of instrument**

This instrument is the *Nature Conservation (Murray River Crayfish) Conservation Advice 2020*.

1. **Commencement**

This instrument commences on the day after its notification day.

1. **Conservation advice for Murray River Crayfish**

Schedule 1 sets out the conservation advice for Murray River Crayfish *(Euastacus armatus).*

Arthur Georges

Chair, Scientific Committee

24 June 2020

**Schedule 1**

(see s 3)

Conservation Advice
Murray River Crayfish – *Euastacus armatus*

Conservation Status

The Murray River Crayfish *Euastacus armatus* (von Martens, 1866), is recognised as threatened in the following jurisdictions:

International **Data Deficient**, International Union for Conservation of Nature (IUCN) Redlist

ACT **Vulnerable**, *Nature Conservation Act 2014*

NSW **Vulnerable**, *Fisheries Management Act 1994*

Victoria **Threatened**, *Flora and Fauna Guarantee Act 1988***Near Threatened**, Advisory List of Threatened Invertebrate Fauna in Victoria

ELIGIBILITY

The factors that make the Murray River Crayfish eligible for listing as Vulnerable in the ACT Threatened Native Species List are included in the Listing Background section below.

DESCRIPTION AND ECOLOGY

The Murray River Crayfish is the second largest freshwater crayfish in the world, averaging 200 mm in length, but reportedly growing up to 500 mm (170 mm Occipital Carapace Length (OCL)) and 2.7 kg (Geddes 1990). It has large white claws, the body is generally dark green, brown or black with white spikes on the cephalon, thorax and abdomen.

Murray River Crayfish are long-lived and may live for 30 to 50 years. Females mature at five to nine years of age (60 and 95 mm OCL) and males from four years of age. Mating occurs in May and females carry eggs under their tail from late autumn, releasing juveniles in late spring to early summer. In the ACT, egg carrying (berried) females are typically larger than 75 mm OCL (average 92 mm) (ACT Government unpublished data), though smaller berried females have been collected in sections of the upper Murrumbidgee River Catchment (Starrs et al. 2015). Fecundity appears to be correlated with female size with between 150 and 1500 eggs per female (McCormack 2012).

Murray River Crayfish (Mark Jekabsons – ACT Government)

Distribution and Habitat

The Murray River Crayfish is found in a wide variety of permanent rivers and large streams in the southern Murray–Darling Basin (MDB) to approximately 700 metres above sea level (Gilligan et al 2007). In the local region it is known from the Murrumbidgee River, lower Cotter River below the Cotter Dam, Tumut River, Goobragandra River and the lower Goodradigbee River (Lintermans 2002; ACT Government 2018b).

Abundance is known to decline with altitude (Raadik et al. 2001) and the ACT is at the edge of the upper altitudinal range and currently has a low abundance of the species (Ryan 2005; Gilligan et al. 2007; NSW Fisheries Scientific Committee 2013). In the ACT, region boulder/cobble substrate along with other structure such as snags may provide important cover (Fulton et al. 2010). The species prefers intermediate flow velocities, deeper pools and glides with overhanging vegetation for shading (Noble and Fulton 2016).

Threats

The major threats to the species are hypoxic blackwater events (related to infrequent floodplain inundation) in more lowland habitats (Todd et al. 2018; Whiterod et al. 2018). The main identified threats to the Murray River Crayfish in the ACT Action Plan (ACT Government 2018b) include:

* overfishing
* riparian vegetation removal
* sedimentation
* residential development
* river regulation
* reduction in water quality
* fire
* invasive species and disease
* changing climate.

Major Conservation Objective

The overall objective of the action plan (ACT Government 2018b) is to maintain in the long term, viable, wild populations of Murray River Crayfish as a component of the indigenous aquatic biological resources of the ACT and as a contribution to regional and national conservation of the species. This includes the need to maintain natural evolutionary processes and resilience.

Conservation PRIORITIES

The 2018 Action Plan for Murray River Crayfish (ACT Government 2018b) identifies actions and the following main priorities to:

* protect the species from harvest
* protect sites in the ACT where the species occurs
* manage habitat to conserve populations
* enhance the long-term viability of populations
* improve understanding of the species’ ecology, habitat and threats
* improve community awareness and support for the species and freshwater fish conservation.

Other Relevant Advice, plans or Prescriptions

* [ACT Aquatic and Riparian Conservation Strategy](https://www.legislation.act.gov.au/View/di/2018-240/current/PDF/2018-240.PDF) (ACT Government 2018a)
* [ACT Action Plan – Murray River Crayfish](https://www.legislation.act.gov.au/View/di/2018-240/current/PDF/2018-240.PDF) (ACT Government 2018b)
* [NSW Final Determination – Murray Crayfish](https://www.dpi.nsw.gov.au/__data/assets/pdf_file/0003/636492/Murray-Crayfish-final-determination.pdf) (NSW Fisheries Scientific Committee 2013)

Listing Background

The Murray River Crayfish was initially listed in the ACT as an Endangered species on 6 January 1997 in accordance with section 21 of the *Nature Conservation Act 1980*. At that time, the Flora and Fauna Committee (now the Scientific Committee) concluded that the assessment satisfied the following criteria:

 2.2 species is observed, estimated, inferred or suspected to be at risk of premature extinction in the ACT region in the medium-term future as demonstrated by:

 2.2.1 current serious decline in population or distribution from evidence based on:

 2.2.1.1 direct observation, including comparison of historical and current records

 2.2.1.3 a serious decline in quality and quantity of habitat

 2.2.1.4 high actual or potential levels of exploitation or persecution.

The Murray River Crayfish is on the Commonwealth’s 2017 [Finalised Priority Assessment List](http://www.environment.gov.au/system/files/pages/e0a90020-a411-4508-adac-53758c304de1/files/priority-assessment-list-2017.pdf) for assessment of threatened status at the national level which is due for completion in October 2020. This assessment will endeavour to address specific research gaps that lead to the IUCN status of Data Deficient (Alves et al. 2010).

References

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ACT Government 2018b. *Murray River Crayfish (Euastacus armatus) Action Plan*. Environment, Planning and Sustainable Development Directorate, Canberra. Available from: <https://www.legislation.act.gov.au/View/di/2018-240/current/PDF/2018-240.PDF>

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##### Further Information

Further information on the related Action Plan or other threatened species and ecological communities can be obtained from: Environment, Planning and Sustainable Development Directorate (EPSDD).
Phone: (02) 132281, EPSDD Website: <http://www.environment.act.gov.au/cpr>