

Planning and Development (Environmental Significance Opinion - Tharwa Fish Habitat Project - Blocks 1613 and 1667 Tuggeranong - Block 3 Section 20 and Block 1 Section 26 Tharwa) Notice 2012

Notifiable Instrument NI2012–595

Made under the

Planning and Development Act 2007 s 138AD (Requirements in relation to environmental significance opinions)

1 Name of instrument

This instrument is the *Planning and Development (Environmental Significance Opinion - Tharwa Fish Habitat Project - Blocks 1613 and 1667 Tuggeranong - Block 3 Section 20 and Block 1 Section 26 Tharwa) Notice 2012*

2 Commencement

This instrument commences on the day after notification.

3 Environmental Significance Opinion

An Environmental Significance Opinion has been prepared by the Conservator of Flora and Fauna.

The text of the opinion is shown at Annexure A.

A copy of the opinion may be obtained from ESDD's website:

http://www.actpla.act.gov.au/topics/design_build/da_assessment/environmental_significance_opinions

4 Completion

The environmental significance opinion expires 18 months after the day the notice is notified.

David Papps
Environment and Sustainable Development Directorate
19 November 2012



ACT
Government

Environment and
Sustainable Development

Mr David Papps
Chief Planning Executive
ACT Planning and Land Authority
Dame Pattie Menzies Building
DICKSON ACT 2602

Dear Mr Papps

This is to advise of my decision, under s.138AB(4) of the *Planning and Development Act 2007*, on the request for an environmental significance opinion for the construction of engineered log jams, and associated works, within the Murrumbidgee River approximately 600 metres downstream of Tharwa.

The proposal is not likely to have a significant adverse environmental impact on a species or ecological community that is endangered.

Please find attached the Environmental Significance Opinion and a Statement of Reasons for the decision.

Yours sincerely

Penny Farnsworth
Conservator of Flora and Fauna

1 October 2012
November



ACT
Government

Environment and
Sustainable Development

ENVIRONMENTAL SIGNIFICANCE OPINION

In accordance with section 138AB(4) of the *Planning and Development Act 2007*, I provide the following environmental significance opinion:

PROPONENT

Ms Lisa Evans, Senior Aquatic Ecologist, Conservation Planning and Research, Environment and Sustainable Development Directorate.

LOCATION

On the Murrumbidgee River approximately 600 metres downstream of Tharwa Bridge on Blocks 1613 and 1667 Tuggeranong and Block 3 Section 20 and Block 1 Section 26 Tharwa.

DEVELOPMENT PROPOSAL

The project is part of the Upper Murrumbidgee Demonstration Reach scheme to reduce the impact of sedimentation and improve fish habitat in the Murrumbidgee River.

It is proposed to construct two Engineered Log Jams (ELJs), augment two existing rock groynes and associated activities for river channel management and the improvement of fish habitat on the Murrumbidgee River near Tharwa ACT.

Activities will include the construction of the ELJs using logs, rock and cabling, rock and timber revetment works, and augmentation of rock groynes using rock and timber to create scour and channel deepening of the Tharwa sandslug.

OPINION

The proposal is not likely to have a significant adverse environmental impact provided that works are undertaken in accordance with the conditions listed below.

MANNER IN WHICH DEVELOPMENT PROPOSAL MUST BE UNDERTAKEN:

- Rehabilitation and revegetation of all bank areas disturbed by construction to be undertaken as soon as possible after disturbance;

- Additional revegetation of the banks for a minimum of 10 metres upstream and downstream of the structures;
- Ongoing weed control on the bar surfaces around the structures for a minimum of 24 months;
- All works to be in accordance with a Waterway Works Licence approved by the Environment Protection Authority;
- Instream works are to be undertaken outside of the September –November breeding period for threatened fish species; and
- In-stream habitat management is to be in accordance with the NSW snag management guidelines.

Attached is a Statement of Reasons for the decision.



Penny Farnsworth
Conservator of Flora and Fauna

1 October 2012
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**STATEMENT OF REASONS
REASONS FOR THE DECISION**

The proposed development is a proposal mentioned in Schedule 4 of the *Planning and Development Act 2007* – Development proposal for an activity requiring an EIS Schedule 4,

The development proposal is mentioned in Schedule 4, part 4.3, item 3, being development on land reserved under s. 315 for the purpose of a wilderness area, national park, nature reserve or special purpose reserve.

The area of works is within an area reserved as public land special purpose reserve within the Murrumbidgee River Corridor.

The proponent wants the application for the development approval assessed in the merit track on the grounds that the proposal is not likely to have a significant adverse environmental impact and has applied to the Conservator of Flora and Fauna for an environmental significance opinion (ESO) to that effect.

Meaning of *significant* adverse environmental impact

An adverse environmental impact is *significant* if—

- (a) the environmental function, system, value or entity that might be adversely impacted by a proposed development is significant; or
- (b) the cumulative or incremental effect of a proposed development might contribute to a substantial adverse impact on an environmental function, system, value or entity.

In deciding whether an adverse environmental impact is *significant*, the following matters must be taken into account:

- (a) the kind, size, frequency, intensity, scope and length of time of the impact;
- (b) the sensitivity, resilience and rarity of the environmental function, system, value or entity likely to be affected.

In deciding whether a development proposal is likely to have a significant adverse environmental impact it does not matter whether the adverse environmental impact is likely to occur on the site of the development or elsewhere.

It has been determined that the proposal is unlikely to have a significant environmental impact, based on the documentation submitted and known values of the sites.

Project description

The project is part of the Upper Murrumbidgee Demonstration Reach project that aims to improve fish habitat and river health for native fish in the Upper Murrumbidgee River. This project is designed to scour the sand, creating a series of connected pools that will allow fish passage and refuge, as well as incorporating complex woody habitat that will provide habitat and refuge for threatened fish species.

It is proposed to construct two Engineered Log Jams (ELJs), augment two existing rock groynes, and associated activities. Works will include the construction of ELJs using logs, rock and cabling; rock and timber revetment works; and augmentation of the existing rock groynes using rock and timber.

Documentation Submitted

- Parks and Conservation Service Works Plan;
- Project Site Map;
- Project Statement
- Report Concept Plan to Improve Fish Habitat at Tharwa (GHD 2011)
- Significance Assessment on EPBC species

Natural conservation values present

In the location of the proposed works the river is a shallow broad channel infilled with sand as a result of land clearing in the 1850's to 1900's. The sedimentation in the channel, or sand slug, results in no natural structural habitat in the river for native aquatic fauna and a very shallow river channel which prevents fish from moving up and down stream. The previous sedimentation mitigation attempt with the construction of rock groynes has provided restricted isolated habitat.

The riparian vegetation on the eastern bank is degraded from clearing and pastoral use. There are sparse remnant eucalypts and scattered revegetation of native trees between the bank and the adjoining agricultural lease. The understory is predominantly exotic grasses and weeds. Some scattered patches of common emergent macrophytes (*Phragmites australis* and *Juncus sp.*) occur along the bank. Beyond the bank the surrounding area is cleared agricultural land on river flats.

The western bank is dominated by weeds such as willows and poplars with an understorey of exotic and native grasses and weeds. The riparian vegetation in the

area provides some habitat for native birds and common mammals such as wombats as well as vertebrate pests such as foxes and rabbits.

Aquatic Species

The ACT Government has recent recorded data (last 15 years) of 3 ACT listed aquatic species (Macquarie Perch, Trout Cod and Murray River Crayfish) and 1 nationally listed (Murray Cod) within close proximity to the proposed works site. While the habitat quality, with the exception of some of the existing groynes, is poor at the works site there is a probability that these species may occur in the area.

Previous installation of rock 'groyne' deflectors in the reach aimed to create a series of connected scour pools to allow passage and refuge to threatened species within the Murrumbidgee. Whilst scour was achieved at low flow, and some occupancy of the newly created pools by threatened species was documented, several major issues with the design of the deflectors were noted. These were:

- the spacing between the deflectors along the riverbank is too great to create continuous scour, therefore they were not effective in creating linear connectivity and have limited benefit in increasing the ability of threatened fish species to move through the affected reach between better quality habitats;
- the design was such that the deflectors were easily overtopped with even moderate increase in flow volume, essentially dissipating flow over the deflectors and reducing their capacity to induce scour at their tips as desired;
- as they were emplaced singly along the riverbank (not in opposite pairs) they have the effect of moving the low flow thalweg (deepest point of the channel, with the most scour force) away from them toward the opposite riverbank, again reducing their capacity to effectively induce scour generated pools.

Impact of development on these values (including offsite impacts)

It has been determined that the proposed works are unlikely to have any detrimental significant impact on the fish species, and the channel deepening is designed to improve fish passage and improve aquatic habitat.

The proposed projects addresses key management priorities for the ACT Government Parks and Conservation Service as outlined within the Murrumbidgee River Corridor Plan of Management (1998), specifically to:

- Protect the ecological processes of the Murrumbidgee river
- Conserve native fish and other native aquatic animal species

- Minimise barriers to the migration of aquatic fauna
- Maintain recreational fishing activities
- Minimise bank erosion and stream sedimentation
- Revegetation of disturbed areas with stabilising vegetation

The proposed works are also consistent with the Action Plan No 29, Aquatic Species and Riparian Zone Conservation Strategy. Habitat improvements and mitigation of sedimentation is considered important actions for the recovery of the threatened aquatic species.

The following issues have been identified as having potential to affect these threatened species during construction and operation of the ELJs. The potential for impact will be mitigated through planning or environment protection measures and the overall result of the works is considered to be positive for the threatened species.

Turbidity and Water quality

The project will consist of instream construction and is likely to cause localised turbidity and a risk to water quality from spills. These risks will be managed under the contractor's environmental management plan and potential mitigation measures could include bunding of work areas, off stream refuelling and fuel storage, sediment fencing and sediment booms. The works will be undertaken outside the critical breeding period for the threatened species.

Damage to habitat

The area of investigation is a sand slug with little habitat value. It is likely that there will be some temporary loss of habitat in the associated groyne works as the existing groynes will be disturbed to augment the structures. There may be some loss of emergent riparian vegetation within the footprint during construction. However, this will be augmented in the site rehabilitation phase by replanting the banks and bar around the works.

Direct impact on threatened species

All of the threatened species that occur in the vicinity of the project are mobile and once plant and equipment start work are likely to move to other locations to avoid disturbance.

Increase in predation and fishing.

It is likely that the ELJ's will become a target for fishing. Installation of advisory signs and local enforcement will manage the threat to threatened species. There is the potential for an increased predation by avian predators such as cormorants due to the provision of a near river roosting site. This is offset by the higher protection offered by the structure itself and the increased depth in the channel.

Increased sediment transport and sedimentation.

Although the ELJ is designed to scour sand and sediment from the river channel it is not expected that this scouring will cause any increased risk to populations downstream. The Murrumbidgee at Tharwa has an annual sediment transport budget of approximately 50,000m³/annum. The proposed works will not significantly increase this amount and may decrease the amount in the short term by trapping sediment between the structures.

Erosion and bank instability

The banks around the ELJ will be armoured with rock to provide bank protection. The area will be reformed back to initial slope and extensively revegetated.

Macquarie Perch is highly susceptible to impacts from sedimentation, and the following measures should be implemented to ensure mitigation:

- Rehabilitation and revegetation of all bank areas disturbed by construction.
- Additional revegetation of the banks for a minimum of 10 metres upstream and downstream of the structures.
- Undertake instream construction outside of September to end of November breeding season.
- Ongoing weed control on the bar surfaces around the structures
- All works to be in accordance with a Water Works Licence approved by the Environment Protection Authority;
- In-stream habitat management should follow the NSW snag management guidelines;

Revegetation

The ESO application identifies that revegetation of the riparian zone will occur as part of the completion of the works. It is agreed that significant revegetation of the riparian zone and other areas impacted by the works must be undertaken. The exact scope of works must be determined in conjunction with Parks and Conservation staff, to ensure that appropriate species are used in the revegetation works. Where possible, plants from local provenance are to be used.

Potentially Significant Environmental Impacts

A significance assessment of the impacts has identified no issues with potential to be considered significant given the mitigation measure included in the project. In addition the majority of the ELJ deflector will be buried within the stream bed with the piles and basal key logs to be keyed into the underlying gravel/cobble layer. This

is to ensure the structure foundations are deep enough so they are not undercut during a high magnitude flow event and fail.

The potential for a significant environmental impact is low provided works are in accordance with the conditions as imposed. Implementation of the mitigation measures and the conditions imposed, as well as the rehabilitation works, will reduce the likelihood of off-site impacts.