Department of Primary Industries

OUT17/14759

Ms Heather Nelson
Social and Other Infrastructure Assessments
NSW Department of Planning and Environment
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Dear Ms Nelson

Koondrook Perricoota (MP 09_0098 MOD 1)
Comment on the Environmental Assessment (EA)

I refer to the letter dated 10 March 2017 to the Department of Primary Industries (DPI) in respect to the above matter. Comment has been sought from relevant divisions of DPI. Views were also sought from NSW Department of Industry - Lands that are now a division of the broader Department and no longer within NSW DPI.
Any further referrals to DPI can be sent by email to landuse.enquiries@dpi.nsw.gov.au.

DPI has reviewed the EA and provides the following comments and recommendations with further detailed comments at **Attachment A**:

Recommendations

1. The proponent should detail potential impacts to the Wakool River if poor water quality develops in the forest, including how increased flows may impact on the dilution capacity of water delivered down the Wakool River system.
2. The following should be incorporated into the conditions of consent:
    - The Operating Plan should be updated in consultation with DPI Water and DPI Fisheries including the following:
        - The Fish Management Plan should be updated to the satisfaction of DPI Fisheries and should include:
            - A water quality monitoring program to assist in future adaptive management decisions. The program should include details on the location, frequency and duration of monitoring and should include appropriate sites both within and outside the forest.
            - A program to monitor and manage triggers to fish movement and potential impacts to fish passage as a result of the project. Monitoring is to include measurement of bulk and point location water velocity, water depth and differential head across the proposed hydrograph/flow range at each regulator site for both managed and natural flow conditions. The program should include a protocol for consultation with DPI Fisheries to determine management requirements and to develop and implement appropriate management strategies, such as construction of a fishway at the Barbers Creek Regulator.
            - A Trigger Action Response Plan that includes operational strategies and mitigation measures to be implemented for the management of hypoxic water events.

- Works on waterfront land should be undertaken in accordance with the DPI Water Guidelines for Controlled Activities on Waterfront Land.
- The proponent should prepare a Construction Environmental Management Plan for the Sandy Bridge replacement in consultation with DPI Water.

3. The proponent may wish to consult with DPI Fisheries in finalising these project plans to ensure that impacts to fisheries are appropriately managed.

Comments

- DPI supports the proposal to vary the discharge rate to reduce the potential for erosion of creek banks and resultant watercourse and floodplain degradation. This would require active management during discharge events and to be addressed within the Operating Plan for the project.
- DPI supports the mitigation measures proposed to address water quality impacts. These include management of construction impacts through standard sediment management procedures, varied flow rates and increased discharge rates with reduced ponding times. Monitoring during events will be required to ensure the effectiveness of these measures.
- The proposed modification is relying on monitoring of a series of discharge events to confirm inundation extents and bankfull discharge rates to inform release strategies. The maximum inundation extent and proposed works in terms of levees and other mitigating measures is therefore yet to be confirmed.
- Section 6.5.2 of the EA makes the assumption that if the stop logs are not being used to regulate outflows than there would be no impediment to fish passage; however, no evidence is provided to support this assertion. Hydrologic parameters (including bulk and point location water velocity, water depth, and differential head) should be measured across the proposed hydrograph / ADFO flow range at each regulator site to ascertain the frequency and duration of conditions that may permit or block native fish passage through the regulators. This assessment needs to occur for both the managed and natural flow events to accurately determine the frequency and duration of fish passage within the wider Forest system.
- Section 6.5.3 outlines that “monitoring results would determine whether the ADFO is providing flows that trigger fish movement, and if so, what flow rates trigger fish movement” but the EA does not provide details on the scope or duration of monitoring.
- The EA indicates that projected flows down Barbers Creek are dependent upon the condition of four block banks and a debris barrier. Section 4.1.2 states that the block banks constructed on Barbers Creek “have not been rebuilt since the flood events, and there are no plans to apply for licences to rebuild the block banks.” As these block banks pose significant impediments to fish passage under the flows presented in the ADFO the EA should assess the impact of their presence, and any works proposed, unless there is certainty can be provided that the block banks have not and will not be reinstated.

Yours sincerely

Mitchell Isaacs
Director, Planning Policy & Assessment Advice
13 April 2017

DPI appreciates your help to improve our advice to you. Please complete this three minute survey about the advice we have provided to you, here:
https://goo.gl/o8TXWz

Attachment A

Koondrook Perricoota (MP 09_0098 MOD 1)
Request for Input into Secretary's Environment Assessment Requirements
Detailed comments – DPI Fisheries

There are several significant potential risks to fish and the aquatic ecosystem associated with this proposal that will require an adaptive management approach that is underpinned by operational monitoring. The requirement for operational monitoring and what that monitoring will entail needs to be ensured by the inclusion of appropriate conditions of approval.

The key issues that require specific conditions of approval include:

1. Potentially significant adverse impacts upon water quality.

Water quality, particularly dissolved oxygen (DO) and dissolved organic carbon (DOC), are key aspects that may potentially have a significant adverse impact upon aquatic biota including threatened fish species and populations and an endangered ecological community. Whilst the EA clearly identifies this as a key risk of the proposal and that the alternative downstream flow option (ADFO) proposed may potentially reduce the likelihood of hypoxic events, it is imperative that an independent, well-funded, targeted water quality monitoring program is undertaken to quantify water quality throughout the ADFO trial to assist in future adaptive management decisions for how the Koondrook-Perricoota Forest is managed.

DPI Fisheries request that the Operating Plan and Fish Management Plan be updated to incorporate a monitoring program which includes details on the location, frequency and duration of monitoring for sites both within and outside the forest. DPI Fisheries requests as a condition of approval the opportunity to formally review the proposed monitoring program, and suggests that the program be developed and implemented by an independent third party researcher (e.g. University) to ensure robustness of the data collected.

The EA states that the Forest Operating Plan outlines procedures to be implemented to optimise the overall environmental outcomes of the project, including consideration of blackwater issues. DPI Fisheries suggest that this Operating Plan also includes mitigation measures and operational strategies that will be implemented if a hypoxic water event develops. The Operating Plan should list key stakeholder contacts, ensuring that a DPI Fisheries representative is included.

The EA fails to discuss how the increased outflow from the Forest may impact upon the Wakool system if poor water quality (e.g. hypoxic water) develops in the Forest. Given the proposed increased outflows from the Forest, comment is requested concerning firstly the potential environmental impacts on the lower Wakool River, and secondly how these increased flows may impact on the dilution capacity of water delivered down the Wakool River.

2. Potentially significant adverse impacts upon fish passage

DPI Fisheries consider that potential fish passage issues and fish stranding are Key Risks associated with the proposal and request to have this included in the Section 1.2 Key risks associated with the approved project.

The EA identifies that the increase in flows to downstream waterways has the potential to trigger an upstream migration response in native fish and thereby require fish passage to be provided at the respective Forest outflow regulators. Section 6.5.3 outlines that "monitoring results would determine whether the ADFO is providing flows that trigger fish movement, and if so, what flow rates trigger fish movement" however the EA provides no details regarding the scope or duration of such monitoring and no details concerning what metrics will be used to determine whether the requirement for fish passage is enacted. Further, Section 6.5.2 makes the assumption that if the stop logs are not being used to regulate outflows than there would be no impediment to fish passage however, no evidence is provided to support this assertion.

The final decision as to whether fish passage is required at Forest regulators will be dependent upon the outcomes of a robust monitoring program. DPI Fisheries requires bulk and point location water velocity, water depth, and differential head to be measured across the proposed hydrograph / ADFO flow range at each regulator site to ascertain the frequency and duration of conditions that may permit or block native fish passage through the regulators, in addition to fish monitoring. This assessment needs to occur for both the managed and natural flow events to accurately determine the frequency and duration of fish passage within the wider Forest system.

The monitoring program needs to adequately assess the movement of fish both within the outflow creeks (e.g. Barbers, Thule), and within the Forest to determine firstly whether a fish migration response is being provided by the ADFO, secondly whether fish are able to ascend up to and through the regulators, and thirdly where fish move when in the Forest relative to Forest flows, water heights and water quality measurements. This monitoring needs to include Barbers Creek and associated block banks. DPI Fisheries requests the opportunity to formally review the proposed monitoring program.

3. Barbers Creek Block Banks and Debris Barrier

The EA indicates that projected flows down Barbers Creek are dependent upon the condition of four block banks and a debris barrier. Section 4.1.2 states that the block banks constructed on Barbers Creek "have not been rebuilt since the flood events, and there are no plans to apply for licences to rebuild the block banks." As these block banks pose significant impediments to fish passage under the flows presented in the ADFO the EA should assess the impact of their presence, and any works proposed, unless there is certainty can be provided that the block banks have not and will not be reinstated.

DPI Fisheries also requests clarification in the EA concerning the current and future status of the debris barrier (e.g. potential for removal), which itself was listed as a key constraint to in-channel flows.

4. Potentially significant adverse impacts on fish due to stranding

Due to the increased outflows proposed as part of the ADFO there is potential for fish to be attracted into the forest and the effluent creeks. These fish may reside within the residual pools and channels, or may leave the forest. However given the changes to the operating regime there is an increased risk that fish may become stranded. Surveillance monitoring of the forest and creeks during the recession of each watering event is required to ensure that any incidences of fish strandings or fish kills are detected so appropriate responses can be initiated.

End Attachment A