

## Advice to decision maker on coal mining project

### Proposed action: Boggabri Coal Mine extension Project (EPBC 2009/5256)

<b>Requesting agency</b>	Department of Sustainability, Environment, Water, Population and Communities
<b>Date of request</b>	29 November 2012
<b>Date request accepted</b>	30 November 2012
<b>Summary of request</b>	<p>The Department of Sustainability, Environment, Water, Population and Communities (the department) is currently assessing the proposed project in accordance with the provisions of the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act).</p> <p>The department advises the Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development (the committee) of an opportunity to comment on the proposed decision. Specifically, the department seeks – taking into account the recent release of the <i>Namoi Catchment Water Study: Independent Expert Final Study Report</i> (July 2012) – the advice of the committee on:</p> <ol style="list-style-type: none"> <li>1. Does the committee consider there will be any significant impacts on matters of national environmental significance that are dependent on water resources, including as a result of cumulative impacts?</li> <li>2. Does the committee believe that the construction of a crossing over the Namoi River will have any impact on matters of national environmental significance?</li> </ol> <p>The department requested advice be provided by 31 January 2013.</p>
<b>Advice</b>	<p>The committee was referred three coal mining projects proposals (Boggabri Coal Mine extension, Maules Creek (Aston 2) Coal Mine, and Tarrawonga Coal Mine extension) in the Namoi region, all affecting the Leard State Forest. This provided the opportunity to consider the cumulative impacts of these three mines. The committee offers the following advice on both the potential cumulative impacts of the three mines and the impacts of the Boggabri Coal Mine Extension project.</p> <p><u>Leard Forest Precinct Mines (Boggabri, Maules Creek and Tarrawonga) Cumulative Impacts</u></p> <ol style="list-style-type: none"> <li>1. The committee considers that water-related impacts of the Boggabri mine should be reviewed, as far as possible, as part of a cumulative assessment process. The Namoi</li> </ol>

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Catchment Water Study (the Study) is an essential scientific study enabling cumulative impact assessment for the Leard Forest Precinct Mines to be considered on a regional scale. A relevant scenario to the three proposals under consideration predicts drawdown in some areas of the alluvial aquifer up to 2 m. This would represent as much as a 10 per cent reduction in the average saturated thickness of the aquifer in Namoi Groundwater Management Area 4. The Study also indicates that the expected cumulative drawdown in the adjacent hard rock aquifer (Gunnedah Basin Management Area) is predicted to be in excess of 10 m, which may exacerbate the impact on the alluvium by altering the direction of groundwater flow away from the alluvium, which may impact on groundwater dependent ecosystems. The committee considers that the drawdowns outlined in the Study may be significant in terms of the ecology of groundwater dependent or influenced ecological communities.

2. In particular, the committee has concerns about the potential cumulative impact of groundwater drawdown as a result of the three mines and the consequent health of the remnant vegetation (the White box- Yellow box- Blakely's Red Gum Woodland community in the Leard State Forest, Leard State Conservation Area and surrounding areas). Insufficient information is presented on the intersection of the current water table, potential drawdown and the depth of the root zone of the protected ecological communities. The regulator should take the uncertainty of the mining impacts on the remnant vegetation around the mine site into consideration.
3. Consideration of the relationship between drawdown and root zone depth on these protected communities has prompted the committee to consider the commissioning of a study to review scientific literature to determine the depth of the root zone for optimal deep rooted native hardwoods.
4. On the basis of information provided to the committee, it is understood that the Leard Forest precinct mines will result in the direct removal of a large area (in excess of 3,000 ha) of the vegetation communities listed under the EPBC Act which may impact on matters of national environmental significance in the region and have implications for dryland salinity. Recognising that the ecological impact of the vegetation removal is a matter for the Regulator to consider, in relation to water matters, the committee suggests that the potential for dryland salinity be taken into consideration in the selection of any biodiversity offset areas.
5. Should more than one mining proposal of the three under consideration be approved, the committee recommends a collaborative approach to ongoing monitoring of quality and quantity of both surface and groundwater to validate the groundwater monitoring and provide an indication of critical impacts on threatened ecological communities. This should provide a better understanding of the cumulative impacts which could aid further regulation of development as needed.
6. The Namoi Water Study showed that there is the potential for the types of impacts seen in the three project proposals to occur. The committee has provided their advice separately. The committee considers the consequential effects highlighted in the Study to be quite real. To be able to properly manage cumulative impacts, the committee recommends that comprehensive baseline information on surface water and groundwater quantity and quality be collected as a priority.

#### Boggabri Coal Mine Impacts

7. The committee supports the requirement for Boggabri Coal to prepare and implement a Surface Water Management Plan and a separate Groundwater Management Plan to the satisfaction of the Director-General, as required by the New South Wales Project Approval for the extension of the Boggabri Coal Mine.

To ensure that significant impact on matters of national environmental significance that are dependent on water resources does not occur, the Committee recommends strengthening the conditions by:

- a. Ensuring that the water management plans are completed and assessed as

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adequate to protect matters of national environmental significance;

- b. Requiring that the water monitoring and management plans are in accordance with the National Water Quality Management Strategy;
  - c. Undertaking a risk-based assessment of the disposal of mine water by irrigation on soils. The assessment should include the risk of metal and salinity accumulation in these soils. The committee recommends that the risk to Murray-Darling Basin Authority's end of valley salinity targets should also be assessed.
8. In relation to the impact of the construction of a crossing over the Namoi River, the committee considers that impacts will be able to be managed effectively through approval conditions. In addition, the New South Wales Project Approval for the Boggabri Coal Mine includes conditions which require Boggabri Coal to design and construct the rail spur line, rail spur support bridges and any upgrade to the haul roads so that they minimise ecological impacts from flooding. The conditions appear appropriate and adequate to protect matters of national environmental significance.
9. The New South Wales Project Approval includes a condition which requires Boggabri Coal to ensure that the long term landform will not generate a pit lake and that the drained water does not adversely affect the downstream environment. The committee considers that backfilling of mining voids is environmental best practice.
10. The ephemeral Nagero Creek appears to run through the centre of the mine pit and the upstream surface water monitoring site will no longer be viable after five years of operation. As there was no discussion of this potential creek diversion within the Environmental Assessment it was not possible to consider the risk of this aspect of the mining operation. The Water Management Plan that is required as part of the New South Wales approval conditions should however address this issue.

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**Date of  
advice**

20 December 2012

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