



**Transport**  
Roads & Traffic  
Authority

Hunter Expressway

## **Proposed modification of Condition 60**

April 2011

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# Summary

On behalf of the Australian and NSW governments, the Roads and Traffic Authority of NSW (RTA) is constructing a freeway between the F3 Freeway at Seahampton and the New England Highway at Branxton (the Hunter Expressway or expressway). Construction started in July 2010 and the expressway is scheduled to open in 2013.

In Condition 60, the use of a numerical limit on the clearing of native vegetation—without reference to the vegetation mapping used to determine the limit—creates practical difficulties in managing the detailed design and construction stages of the Hunter Expressway.

The RTA proposes that Condition 60 be modified to include four elements:

- i. Clearing of native vegetation must be generally consistent with the documents referred to in Condition 1iii of this approval.
- ii. One native vegetation condition survey must be completed after March 2011 to determine the quantity and condition of native vegetation that remains to be cleared.
- iii. Where the total amount of native vegetation to be cleared exceeds the amount identified in the documents referred to in Condition 1iii, additional mitigation and/or offsets must be provided and take into account the quantity and condition of that native vegetation.
- iv. Additional mitigation and/or offsets required by Condition 60(iii) must be approved in writing by the Director-General and the DECCW before opening the Hunter Expressway.

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# I

## Introduction

### 1.1 Hunter Expressway

On behalf of the Australian and NSW governments, the Roads and Traffic Authority of NSW (RTA) is constructing a freeway between the F3 Freeway at Seahampton and the New England Highway at Branxton (the Hunter Expressway or expressway). Construction started in July 2010 and the expressway is scheduled to open in 2013.

The Hunter Expressway is being constructed in three stages:

- Stage 1 — Early Works by the RTA.
- Stage 2 — Construction from the Newcastle Link Road at Cameron Park Drive to the southern approach to the Kurri Kurri interchange. Stage 2 is being constructed by the Hunter Expressway Alliance.
- Stage 3 — Construction from the southern approach to the Kurri Kurri interchange to the New England Highway west of Black Creek. Stage 3 is being constructed by Abigroup contractors.

### 1.2 Project approval

The Hunter Expressway (or F3 to Branxton Link as it known before 2009) was originally assessed and determined under Part 5 of the *Environmental Planning and Assessment Act 1979* (the EP&A Act). It is within the Cessnock, Lake Macquarie, Maitland and Singleton local government areas.

The Director-General of the then National Parks and Wildlife Service granted concurrence subject to 15 conditions on 3 October 2001 (the NPWS concurrence). The then NSW Minister for Urban Affairs and Planning approved the Hunter Expressway on 7 November 2001, subject to 129 conditions. On 1 August 2005, the Minister's approval became a project approval under Part 3A of the EP&A Act in accordance with the transitional provisions (the project approval).

At the request of the RTA, the Minister modified the approval on 31 July 2006 to permit staged construction (but not opening). The Minister modified the approval on 19 August 2007 to reflect changes to the alignment of the project and the inclusion of road-related ancillary infrastructure. On 28 June 2010, the Minister modified the approval to adopt contemporary management practices.

### 1.3 Condition 60

Condition 60 of the project approval limits the amount of native vegetation that can be cleared to construct the Hunter Expressway:

*Unless otherwise approved in writing by the DECC and the Director-General, the Proponent shall not clear any more than 182 hectares of native vegetation as part of the proposal. Clearing of native vegetation shall be undertaken generally consistent with the documents referred to under condition 1iii of this approval.*

## 1.4 Purpose of this report

This report shows why the use of a numerical limit on the clearing of native vegetation—without reference to the vegetation mapping used to determine the limit—creates practical difficulties in managing the detailed design and construction stages of the Hunter Expressway.

This report proposes a modification to Condition 60 that would allow the practical verification of native vegetation that is cleared. It also proposes that the composition and condition of native vegetation be considered in deciding, with the agreement of the NSW Department of Planning and the DECCW, whether its loss is able to be mitigated or should be offset by the provision of compensatory habitat.

## 2

# Background to proposed modification

## 2.1 Background to vegetation clearing limits nominated in Condition 60

Condition 60 imposes a prescriptive limit on the amount of native vegetation that can be cleared to construct the Hunter Expressway. The limit may be varied with the agreement of the Director-Generals of the NSW Department of Planning (DoP) and the NSW Department of the Environment, Climate Change and Water (DECCW). However, DoP advised the RTA in February 2011 that its discretion to increase the amount of native vegetation is limited.

The limit in Condition 60 was nominated by the RTA when it predicted the loss of native vegetation. The figure was based on vegetation mapping and the construction footprint of the RTA's 2007 concept design. They are part of the documentation listed in Condition 1iii of the project approval.

The vegetation mapping was based on broad-scale mapping prepared for the Lower Hunter Central Coast Regional Environmental Management Strategy in 2000. It was refined within the Hunter Expressway corridor by the RTA's ecological consultant using ground-truthing and then current aerial imagery (the 2005 vegetation mapping). When actual clearing is overlaid onto the 2005 vegetation mapping, about 20 hectares of native vegetation had been cleared by the end of February 2011.

The DECCW commissioned higher resolution vegetation mapping that was released in 2008 and 2009, in part to more accurately identify the presence and extent of endangered ecological communities, in the Cessnock and Kurri Kurri localities. This vegetation mapping was refined within the corridor by the RTA's ecological consultant to define edges to sub one-metre accuracy (the 2010 vegetation mapping) and to make explicit the criteria that defined the presence of native vegetation:

- The presence of canopy trees with a predominately native understory.
- The presence of regenerating trees (saplings) with a predominately native understory in areas where vegetation has sprouted since the cessation of grazing or other disturbance pressures (i.e. where some level of soil stored seed bank or resilience was inferred from the variety of regenerating native plant species).
- The presence of woodlands/forests including, in some locations, highly disturbed areas with evidence of logging, rubbish dumping, grazing, sometimes with a depleted or non-native shrub and ground layer.
- Monocultures of known native colonising plants such as *Acacia falcata* or *Pteridium esculentum* were excluded, particularly if native grasses/understory or trees did not accompany them.
- Clearings and easements such as railroads, roads and tracks were excluded. Typically, an easement was not considered to include native vegetation when the soil profile had been significantly disturbed or if current management practices (such as regular slashing/mowing) persisted (e.g. the electricity easements to the north of Kurri Kurri) despite the presence of a predominantly native groundcover.

- Some easements within the expressway corridor that had previously been identified as cleared lands showed significant regeneration during the current [2009] assessment, extending the previous vegetation boundary in that area.
- Occasionally used vehicle tracks or narrow (less than one metre wide) motorbike tracks were not typically excluded from the vegetation mapping.

Under the 2010 vegetation mapping, the predicted amount of native vegetation that would be cleared within the construction footprint of the RTA's 2007 concept design would substantially exceed the limit in Condition 60. This is due not to a material change to the construction footprint of the Hunter Expressway: it is caused to a large extent by the regrowth of native vegetation following the cessation of agricultural activities on properties acquired by the RTA and to a lesser extent by the use of more conservative criteria for determining what constitutes native vegetation.

Due to favourable growing conditions since 2009, native vegetation continues to regrow and its extent continues to expand.

## 2.2 Assessment of additional native vegetation

Due to favourable growing conditions encouraging regrowth and possible minor design changes, the precise amount of native vegetation impacts of the project will not be known until all native vegetation clearing activities and construction of the project is completed. As outlined in section 3, further native vegetation survey and assessment will be required immediately prior to clearing activities to accurately identify final native vegetation clearing impacts.

Notwithstanding, Niche Environment and Heritage was commissioned to conduct an assessment of the condition of the native vegetation located within the Hunter Expressway construction footprint that is not already detailed in the project approval. The native vegetation in question has either regrown or been mapped additionally, due to a more conservative definition of vegetation, since the 2005 vegetation mapping was finalised in 2005.

The total amount of additional regrowth and previously unmapped remnant vegetation currently within the Hunter Expressway construction footprint is composed of 18.62 hectares of regrowth and 11.96 hectares of unmapped remnant. A more detailed breakdown of this additional native vegetation is outlined in Table 1 below.

**Table I Native vegetation and condition identified within the construction project footprint additional to that previously identified in the Hunter Expressway project approval**

Native vegetation community	Vegetation condition	Unmapped remnant	Regrowth 2003-2009
<i>Cabbage Gum Floodplain Woodland</i>	Good	0.00	0.05
	Moderate	0.05	0.02
	No resilience	0.04	0.00
	Poor	0.16	0.00
	<b>Total</b>	<b>0.25</b>	<b>0.08</b>
<i>Central Hunter Grey Box Forest</i>	Good	0.00	0.18
	Moderate	0.03	0.00
	<b>Total</b>	<b>0.03</b>	<b>0.18</b>
<i>Central Hunter Swamp Oak Forest-Swamp Oak variant</i>	Moderate	0.03	0.00
	No resilience	0.14	0.21
	Poor	0.00	0.08
	Very Poor	0.11	0.02
	<b>Total</b>	<b>0.27</b>	<b>0.31</b>
<i>Ellalong Grey Gum - Stringybark - Apple Forest</i>	Moderate	0.23	0.04
	Poor	0.33	0.03
	<b>Total</b>	<b>0.56</b>	<b>0.07</b>
<i>Grey Gum - Red Gum - Paperbark Forest</i>	Poor	0.00	0.10
	<b>Total</b>	<b>0.00</b>	<b>0.10</b>
<i>Hinterland Spotted Gum – Red Ironbark Forest</i>	Good	0.00	0.13
	No resilience	0.77	2.64
	Poor	0.00	0.02
	<b>Total</b>	<b>0.77</b>	<b>2.78</b>
<i>Hunter Narrow-leaf Ironbark - Spotted Gum Forest</i>	Moderate	0.03	0.26
	Poor	0.09	0.00
	<b>Total</b>	<b>0.12</b>	<b>0.26</b>
<i>Hunter Red Ironbark - Spotted Gum Forest</i>	Good	0.46	4.12
	Moderate	2.56	2.47
	No resilience	0.06	0.00
	Poor	1.25	0.35
	Very Poor	0.01	0.14
	<b>Total</b>	<b>4.34</b>	<b>7.08</b>
<i>Hunter Redgum - Ironbark Forest</i>	Good	0.06	0.13
	Moderate	0.42	6.09
	Poor	0.04	0.00
	Very Poor	0.00	0.00
	<b>Total</b>	<b>0.53</b>	<b>6.22</b>

Native vegetation community	Vegetation condition	Unmapped remnant	Regrowth 2003-2009
<i>Hunter Valley Moist Spotted Gum-Ferguson's Ironbark</i>	No resilience	0.00	0.01
	<b>Total</b>	<b>0.00</b>	<b>0.01</b>
<i>Kurri Sands Heath Woodland</i>	Good	0.66	0.00
	Moderate	1.09	0.18
	No resilience	0.00	0.20
	Poor	0.29	0.20
	<b>Total</b>	<b>2.03</b>	<b>0.58</b>
<i>Kurri Sands Shrub Forest (main variant)</i>	Good	0.03	0.00
	Poor	0.03	0.00
	<b>Total</b>	<b>0.05</b>	<b>0.00</b>
<i>Lower Hunter Grey Box Grassy Forest</i>	Moderate	0.48	0.06
	Poor	0.08	0.00
	<b>Total</b>	<b>0.56</b>	<b>0.06</b>
Lower Hunter Spotted Gum - Red Ironbark Forest	Good	0.11	0.63
	Moderate	0.51	0.35
	No resilience	1.27	0.00
	<b>Total</b>	<b>1.88</b>	<b>0.97</b>
Paperbark Depression Forest	Poor	0.29	0.00
	<b>Total</b>	<b>0.29</b>	<b>0.00</b>
Sugarloaf Uplands Bloodwood-Apple Forest	No resilience	0.15	0.00
	<b>Total</b>	<b>0.15</b>	<b>0.00</b>
Sugarloaf Uplands Dry Spotted Gum-Ironbark Forest	No resilience	0.13	0.00
	<b>Total</b>	<b>0.13</b>	<b>0.00</b>
<b>Grand Total</b>		<b>11.96</b>	<b>18.72</b>

Due to favourable growing conditions, it is likely that there is additional regrowth of native vegetation within the Hunter Expressway project footprint prior to clearing operations are complete. The process outlined in s.3.1 is intended to capture any further regrowth within the Hunter Expressway construction footprint prior to clearing activities.

## 2.3 Current mitigation measures to reduce and mitigate native vegetation clearing

Mitigation measures to reduce and mitigate native vegetation clearing are outlined within the approved construction environmental management plans for each stage of the project. These can be categorised as measures adopted during the detailed design or construction phase of the project.

### Detailed Design phase

The Detailed Design phase of the Hunter Expressway has implemented several important measures to reduce or mitigate the extent of native vegetation clearing associated with the project. These include:

- Establishment of native vegetation clearing limits for each stage of the project. These native vegetation clearing limits are based on the predicted disturbance footprint of the approved project and are not permitted to be exceeded by the construction contractor.
- Establishment of a substantial financial incentive for the construction contractor for reducing the disturbance footprint of the approved project to below the approved project. Similarly, the RTA has established a financial disincentive for any exceedance of the disturbance footprint of the approved project.
- Establishment of extensive native vegetation rehabilitation requirements for the project. In addition to rehabilitation of areas disturbed as part of construction activities, the RTA is requiring each of its construction contractors to develop and implement landscape rehabilitation activities within the road corridor to return large areas of previously cleared land to native bushland. These rehabilitation activities include the following:
  - Specific topsoil stripping requirements to ensure good quality topsoil is not mixed with poor quality topsoil.
  - Direct return of stripped topsoil from bushland areas to identified rehabilitation areas to ensure preservation of seed stock.
  - Stockpiling of stripped topsoil from bushland areas to minimum heights to ensure preservation of seed stock.
  - Segregation and identification of stockpiles of stripped topsoil from bushland areas to prevent mixing of topsoil of different vegetation community types.
  - Augmentation of topsoil management requirements by hydroseeding and planting of native vegetation species.

### Construction phase

The following measures have been adopted as standard requirements for all stages of the Hunter Expressway project to restrict native vegetation clearing to only that required for approved temporary and permanent construction activities:

- Clearing limits are surveyed in the field to survey accuracy according to the approved design of temporary and permanent construction works.
- Limits of clearing are marked with survey pegs and temporary exclusion fencing (eg reflective flagging tape) prior to the commencement of clearing activities. Specific environmentally sensitive areas such as Endangered Ecological Communities must also be identified in the field with "Environmentally Sensitive Area" signage.
- Prior to commencement of clearing activities, a pre-clearing checklist is completed inclusive of a check of accurate survey of marked out design and installation of temporary exclusion fencing.
- Upon completion of clearing activities, temporary exclusion fencing must remain in place for the duration of construction and no construction access within non-clearing areas is permitted.
- Survey confirmation at the completion of each clearing lot to confirm clearing occurred as per the approved design.

- All construction personnel are subject to specific induction and training requirements that outline the importance of native vegetation clearing limits and the mitigation measures that must be implemented on the project to reduce native vegetation clearing.
- Regular inspection and auditing of required mitigation measures to ensure mitigations are implemented and maintained.
- Monthly monitoring of the amount of native vegetation clearing undertaken by each construction contractor.

# 3

## Proposed management approach to native vegetation clearing limits

### 3.1 Identification of additional native vegetation

The RTA proposes to use the most current vegetation mapping available, supplemented by pre-construction ecological assessment, to accurately identify the final extent and condition of native vegetation impacted upon by the project.

### 3.2 Clearing to be undertaken consistent with the design of the approved project

Condition 60 currently requires that “*Clearing of native vegetation shall be undertaken generally consistent with the documents referred to under condition 1 iii of this approval*”. As previously outlined, the detailed design and construction of the Hunter Expressway project is anticipated to be generally consistent with the design of the project identified in the documents referred to in Condition 1 iii.

Where resurveying of native vegetation regrowth or minor detailed design changes identifies native vegetation clearing additional to that identified in Condition 1 iii, the RTA proposes that additional mitigation and/or offsets would be provided commensurate with the condition of that vegetation. The RTA proposes that this mitigation and/or offsets would be agreed to with DoP and DECCW.

### 3.3 Measurement and reporting

The RTA currently requires its construction partners to measure and report monthly on the planned and actual extent of native vegetation clearing for the project. The RTA proposes to use this data, in conjunction with the most recent pre-construction native vegetation surveys, to accurately record the extent and condition of native vegetation clearing required for the project.

As part of construction compliance reporting, the RTA would provide cumulative data showing the amount of clearing for all three stages of the project.

### 3.4 Mitigation of regrowth native vegetation

As outlined above, the RTA proposes to mitigate and/or offset any additional native vegetation clearing with the agreement of DoP and DECCW.

The RTA has required its construction contractors to develop extensive landscape rehabilitation activities within the road corridor to improve the ecological attributes of the Hunter Expressway corridor and reduce ecological impacts of the project on adjacent areas of native vegetation. In summary, this includes the return of extensive previously cleared areas within the road corridor to bushland.

Where any increase to native vegetation clearing cannot be mitigated by landscape rehabilitation works, the RTA would need to negotiate additional compensatory habitat for the project in accordance with Condition 49 and Condition of Concurrence 13. As outlined above, the RTA proposes to seek the agreement of DoP and DECCW for any mitigation and/or offset required.

### **3.5 Finalisation of compensatory habitat package**

Under Condition 49 and Concurrence Condition 13, the RTA needed to negotiate a compensatory habitat package before construction could begin. This approved package was therefore based on a predicted loss of native vegetation. If more native vegetation is cleared than predicted, additional compensatory habitat must be provided. As the RTA may only acquire compensatory habitat by negotiation, the RTA seeks the flexibility to finalise any requirement to provide additional compensatory habitat by the time that the expressway is opened. This would allow sufficient time to determine the compensatory habitat package that accurately reflects the quantity and condition of native vegetation cleared to construct the expressway and prevent substantial delays to the project.

The RTA is currently well positioned to provide additional compensatory habitat if it is deemed necessary with negotiations for property acquisitions well advanced.

# 4

## Proposed modification

### 4.1 Proposed modification to Condition 60

The RTA proposes that Condition 60 be modified to include four elements:

- i. Clearing of native vegetation must be generally consistent with the documents referred to in Condition 1iii of this approval.
- ii. Completion of a native vegetation condition survey to determine the quantity and condition of native vegetation that remains to be cleared.
- iii. Where the total amount of native vegetation to be cleared exceeds the amount identified in the documents referred to in Condition 1iii, additional mitigation and/or offsets must be provided and take into account the quantity and condition of that native vegetation.
- iv. Additional mitigation and/or offsets required by Condition 60(iii) must be approved in writing by the Director-General and the DECCW before opening the Hunter Expressway.