NEWCASTLE COAL INFRASTRUCTURE GROUP RAIL FLYOVER MODIFICATION ENVIRONMENTAL ASSESSMENT

RESPONSES TO SUBMISSIONS – PART D

NEWCASTLE COAL INFRASTRUCTURE GROUP
COAL EXPORT TERMINAL RAIL FLYOVER MODIFICATION

SUPPLEMENTARY INDIVIDUAL THREATENED SPECIES ASSESSMENTS

(In Response to a Request from the NSW Department of Planning and Infrastructure and NSW Office of Environment and Heritage)

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Rail Flyover Modification
Supplementary Individual Threatened Species Assessments

Introduction

The potential impacts of the Rail Flyover Modification on threatened fauna species listed under the New South Wales (NSW) *Threatened Species Conservation Act, 1995* were assessed in the *Rail Flyover Modification Environmental Assessment* (Newcastle Coal Infrastructure Group [NCIG], 2012a) in consideration of the *Draft Guidelines for Threatened Species Assessment* (NSW Department of Environment and Conservation [DEC] and NSW Department of Primary Industries [DPI], 2005). It is noted that the NSW Office of Environment and Heritage (OEH) acknowledge that the threatened species assessments in the Environmental Assessment (NCIG, 2012a) *generally adequately addresses the impacts on likely and/or known threatened species, concluding that the proposal will not have a significant impact on habitat…* (OEH letter dated 6 November 2012). The assessment was conservative, in that it assumed each threatened bird species could use all habitat types (freshwater wetlands and saltmarsh) in the Rail Flyover Modification area.

In October 2012, separate assessments for threatened birds recorded in the area during monthly monitoring over the past 14 years at Swan Pond (Hunter Bird Observers Club [HBOC], 1999 – 2012) were provided in the *Responses to Submissions Part C - Additional Detail In Relation to Biodiversity Impacts* (NCIG, 2012b).

This document provides supplementary separate assessments for threatened birds (in the format of the threatened species assessments in the *Rail Flyover Modification Environmental Assessment* [NCIG, 2012a]) as requested by the NSW Department of Planning and Infrastructure (letter dated 21 November 2012) and OEH (letter dated 6 November 2012). The assessments draw on information presented in the *Rail Flyover Modification Environmental Assessment* (NCIG, 2012a) and the *Responses to Submissions Part C - Additional Detail In Relation to Biodiversity Impacts* (NCIG, 2012b).

This document provides separate assessments for five threatened bird species that have been recorded in the area during monthly monitoring (HBOC, 1999 – 2012) (Tables 1 to 5). A sixth bird, the Broad-billed Sandpiper (*Limicola falcinellus*), has been included in the assessments (Table 6), as requested in the letter from the OEH, despite not having been recorded in the area during the extensive monitoring period (i.e. monthly since 1999).

The outcomes of the assessments presented in this document are consistent with the previous assessments (i.e. no significant impacts on threatened birds under the TSC Act).

Table 1
Evaluation of Potential Impacts on the Black-necked Stork

Factor[1]	Assessment
How is the proposal likely to affect the lifecycle of a threatened species and/or population?	The Black-necked Stork (*Ephippiorhynchus asiaticus*) inhabits shallow, permanent, freshwater terrestrial wetlands and the surrounding vegetation (OEH, 2012a). Black-necked Stork habitat within the Rail Flyover Modification area is limited to 0.13 hectares (ha) of Freshwater Wetland located in a narrow man-made drainage channel that is intermittently inundated with water from Deep Pond. Limited foraging habitat is present on saltmarsh. A single bird was recorded at Swan Pond once in May 2001 and has not been recorded in the monthly monitoring over the past 11 years at Swan Pond (HBOC, 1999 – 2012). Based on the small amount of habitat disturbance (0.13 ha) and the availability of proximal habitat external to the Rail Flyover Modification disturbance areas, it is considered that the Rail Flyover Modification would not have a significant impact on the lifecycle the Black-necked Stork species and/or population.
How is the proposal likely to affect the habitat of a threatened species, population or ecological community?	The habitat for the Black-necked Stork is described above. The Rail Flyover Modification would avoid Deep Pond and would involve limited wetland habitat disturbance (0.13 ha). Another mitigation measure includes the installation of lighting screens to minimise lighting impacts. Other potential habitat for this species is located outside the Rail Flyover Modification area on Kooragang Island including within the Hunter Wetlands National Park. Based on the above, the Rail Flyover Modification is unlikely to significantly affect the habitat of this species.
Does the proposal affect any threatened species that are at the limit of its known distribution?	The Black-necked Stork is widespread in coastal and subcoastal northern and eastern Australia, south to central-eastern NSW (OEH, 2012a). Therefore, the Rail Flyover Modification area is located within the known distribution of the Black-tailed Stork and does not represent a distributional limit for this species.
How is the proposal likely to affect current disturbance regimes?	As the Rail Flyover Modification would be constructed adjacent to the existing rail line there would be minimal alteration of the natural flow regime in the area. A culvert would be installed under the rail embankment crossing the wetland habitat. Culverts would allow surface waters to continue to flow from Deep Pond in a similar manner to the existing conditions.
How is the proposal likely to affect habitat connectivity?	The Rail Flyover Modification is unlikely to affect the habitat connectivity for this species given the nature of proposed works (see above) and the mobility of this species.

[1] DEC and DPI (2005).

Table 2
Evaluation of Potential Impacts on the Australasian Bittern

Factor[1]	Assessment
How is the proposal likely to affect the lifecycle of a threatened species and/or population?	The Australasian Bittern (*Botaurus poiciloptilus*) inhabits temperate freshwater wetlands and occasionally estuarine reedbeds (NSW Scientific Committee, 2009). Australasian Bittern habitat within the Rail Flyover Modification is associated with 0.13 ha of Freshwater Wetland located in a narrow man-made drainage channel that is intermittently inundated with water from Deep Pond. A single bird was recorded at Swan Pond once in October 2002 (HBOC, 1999 - 2012). The bird has not been recorded in the monthly monitoring over the past 10 years at Swan Pond (HBOC, 1999 - 2012). Targeted surveys in the vicinity of the Rail Flyover Modification area and its surrounds and observations across Kooragang Island have previously recorded the Australasian Bittern proximal to areas of permanent water (Umwelt [Australia] Pty Ltd, 2012; Connell Hatch, 2006; HBOC, 2006 and 2010; Regional Land Management Corporation, 2003). The OEH BioNet/Atlas of NSW Wildlife (2012b) and Birds Australia (2012) database records for Kooragang Island also indicate that the species inhabits locations predominantly near permanent water. Suitable Australasian Bittern habitat was mapped by Connell Hatch (2006) in the vicinity of the Rail Flyover Modification area which included the south-western margin of Deep Pond and a small strip on the eastern side of the existing Kooragang Island Main Line. Notwithstanding, bird monitoring results from Deep Pond have not recently recorded the Australasian Bittern. Given the Rail Flyover Modification would avoid Deep Pond, involve limited wetland habitat disturbance, and potential habitat is available external to the Rail Flyover Modification disturbance areas, it is considered that the Rail Flyover Modification would not have a significant impact on the locally available habitat for the species. Considering the absence of recent records for the species at Deep Pond (monitoring results since 2008) and the limited disturbance to potential wetland habitat for the species, the Rail Flyover Modification is considered very unlikely to disrupt the lifecycle of the species or a local viable population.
How is the proposal likely to affect the habitat of a threatened species, population or ecological community?	Australasian Bittern habitat within the Rail Flyover Modification area is described above. The Rail Flyover Modification would avoid Deep Pond and would involve limited wetland habitat disturbance. Lighting screens would be installed to minimise lighting impacts on shorebird habitat on the southern shores of Deep Pond (e.g. where beams of light from the trains would sweep across the surface of Deep Pond). Other available potential habitat for the species is located outside the Rail Flyover Modification area on Kooragang Island including within the Hunter Wetlands National Park. Based on the above (i.e. small amount of habitat disturbance and availability of proximal habitat external to the Rail Flyover Modification area), it is considered that the Rail Flyover Modification would not have a significant impact on the locally available habitat for the Australasian Bittern.
Does the proposal affect any threatened species that are at the limit of its known distribution?	The national distribution of the Australasian Bittern is from southern Queensland to Tasmania and south eastern South Australia (including most of NSW and Victoria) and the south-western corner of Western Australia (Marchant and Higgins, 1990). Therefore, the Rail Flyover Modification area is located within the known distribution of the Australasian Bittern and does not represent a distributional limit for this species.
How is the proposal likely to affect current disturbance regimes?	As the Rail Flyover Modification would be constructed adjacent to the existing rail line there would be minimal alteration of the natural flow regime in the area. A culvert would be installed under the rail embankment crossing the wetland habitat. Culverts would allow surface waters to continue to flow from Deep Pond in a similar manner to the existing conditions.
How is the proposal likely to affect habitat connectivity?	The Rail Flyover Modification is unlikely to affect the habitat connectivity for the Australasian Bittern given the nature of the proposed works and the mobility of the species.

[1] DEC and DPI (2005).

Table 3
Evaluation of Potential Impacts on the Black-tailed Godwit

Factor[1]	Assessment
How is the proposal likely to affect the lifecycle of a threatened species and/or population?	The Black-tailed Godwit (*Limosa limosa*) inhabits sheltered bays, estuaries and lagoons (OEH, 2012a). Limited foraging habitat is available within the Rail Flyover Modification (1.45 ha). Habitat for the Black-tailed Godwit within the Rail Flyover Modification is associated with: • 0.13 ha of Freshwater Wetland located in a narrow man-made drainage channel that is intermittently inundated with water from Deep Pond; and • a linear strip of Saltmarsh (1.32 ha) on the west of the existing rail embankment. Up to six Black-tailed Godwits have been recorded at Swan Pond and/or Wader Pond in any one monitoring event (HBOC, 1999 - 2012). Based on the small amount of habitat disturbance (1.45 ha) and the availability of proximal habitat external to the Rail Flyover Modification disturbance areas, it is considered that the Rail Flyover Modification is unlikely to affect the lifecycle of the Black-tailed Godwit.
How is the proposal likely to affect the habitat of a threatened species, population or ecological community?	The habitat for the Black-tailed Godwit is described above. The Rail Flyover Modification would avoid Deep Pond and would involve limited wetland habitat disturbance. Another mitigation measure includes the installation of lighting screens to minimise lighting impacts. Other potential habitat for this species is located outside the Rail Flyover Modification area on Kooragang Island including within the Hunter Wetlands National Park. Based on the above, the Rail Flyover Modification is unlikely to significantly affect the habitat of this species.
Does the proposal affect any threatened species that are at the limit of its known distribution?	The Black-tailed Godwit flies to Australia for the southern summer and occurs all along coastal NSW, and most of inland NSW (OEH, 2012a). Therefore, the Rail Flyover Modification area is located within the known distribution of the Black-tailed Godwit and does not represent a distributional limit for this species.
How is the proposal likely to affect current disturbance regimes?	As the Rail Flyover Modification would be constructed adjacent to the existing rail line there would be minimal alteration of the natural flow regime in the area. A culvert would be installed under the rail embankment crossing the wetland habitat. Culverts would allow surface waters to continue to flow from Deep Pond in a similar manner to the existing conditions.
How is the proposal likely to affect habitat connectivity?	The Rail Flyover Modification is unlikely to affect the habitat connectivity for this species given the nature of proposed works (see above) and the mobility of this species.

[1] DEC and DPI (2005).

Table 4
Evaluation of Potential Impacts on the Curlew Sandpiper

Factor[1]	Assessment
How is the proposal likely to affect the lifecycle of a threatened species and/or population?	The Curlew Sandpiper (*Calidris ferruginea*) inhabits littoral and estuarine habitats, mainly intertidal mudflats of sheltered coasts (OEH, 2012a). *Curlew Sandpipers are found throughout the Hunter Estuary mostly in saline habitats, and often in large numbers (up to 1,500 birds)* (Herbert, 2007). Habitat for the Curlew Sandpiper within the Rail Flyover Modification is associated with: • 0.13 ha of Freshwater Wetland located in a narrow man-made drainage channel that is intermittently inundated with water from Deep Pond; and • a linear strip of Saltmarsh (1.32 ha) on the west of the existing rail embankment. Limited foraging habitat would be removed by the Rail Flyover Modification (1.45 ha). Based on the small amount of habitat disturbance and the availability of proximal habitat external to the Rail Flyover Modification disturbance areas, it is considered that the Rail Flyover Modification is unlikely to affect the lifecycle of the Curlew Sandpiper.
How is the proposal likely to affect the habitat of a threatened species, population or ecological community?	The habitat for the Curlew Sandpiper is described above. The Rail Flyover Modification would avoid Deep Pond and would involve limited wetland habitat disturbance. Another mitigation measure includes the installation of lighting screens to minimise lighting impacts. Other potential habitat for this species is located outside the Rail Flyover Modification area on Kooragang Island including within the Hunter Wetlands National Park. Based on the above, the Rail Flyover Modification is unlikely to significantly affect the habitat of this species.
Does the proposal affect any threatened species that are at the limit of its known distribution?	The Curlew Sandpiper is distributed around most of the coastline of Australia (OEH, 2012a). Therefore, the Rail Flyover Modification area is located within the known distribution of the Curlew Sandpiper and does not represent a distributional limit for this species.
How is the proposal likely to affect current disturbance regimes?	As the Rail Flyover Modification would be constructed adjacent to the existing rail line there would be minimal alteration of the natural flow regime in the area. A culvert would be installed under the rail embankment crossing the wetland habitat. Culverts would allow surface waters to continue to flow from Deep Pond in a similar manner to the existing conditions.
How is the proposal likely to affect habitat connectivity?	The Rail Flyover Modification is unlikely to affect the habitat connectivity for this species given the nature of proposed works (see above) and the mobility of this species.

[1] DEC and DPI (2005).

Table 5
Evaluation of Potential Impacts on the White-fronted Chat

Factor[1]	Assessment
How is the proposal likely to affect the lifecycle of a threatened species and/or population?	The White-fronted Chat (*Epthianura albifrons*) occurs in wetland areas, foraging on bare or grassy ground (OEH, 2012a). *White-fronted Chats inhabit coastal wetlands in the Hunter Region and are often seen in small flocks throughout the Hunter Estuary* (Herbert, 2007). Up to 58 Curlew Sandpipers have been recorded at Swan Pond and/or Wader Pond (HBOC, 1999 - 2012). Habitat for the White-fronted Chat within the Rail Flyover Modification is associated with: • 0.13 ha of Freshwater Wetland located in a narrow man-made drainage channel that is intermittently inundated with water from Deep Pond; and • a linear strip of Saltmarsh (1.32 ha) on the west of the existing rail embankment. Limited habitat would be removed by the Rail Flyover Modification (1.45 ha). Based on the small amount of habitat disturbance and the availability of proximal habitat external to the Rail Flyover Modification disturbance areas, it is considered that the Rail Flyover Modification is unlikely to affect the lifecycle of the White-fronted Chat.
How is the proposal likely to affect the habitat of a threatened species, population or ecological community?	The habitat for the White-fronted Chat is described above. The Rail Flyover Modification would avoid Deep Pond and would involve limited wetland habitat disturbance. Another mitigation measure includes the installation of lighting screens to minimise lighting impacts. Other potential habitat for this species is located outside the Rail Flyover Modification area on Kooragang Island including within the Hunter Wetlands National Park. Based on the above, the Rail Flyover Modification is unlikely to significantly affect the habitat of this species.
Does the proposal affect any threatened species that are at the limit of its known distribution?	The White-fronted Chat occurs across the southern half of Australia, from southernmost Queensland to southern Tasmania and across to Western Australia (OEH, 2012a). Therefore, the Rail Flyover Modification area is located within the known distribution of the White-fronted Chat and does not represent a distributional limit for this species.
How is the proposal likely to affect current disturbance regimes?	As the Rail Flyover Modification would be constructed adjacent to the existing rail line there would be minimal alteration of the natural flow regime in the area. A culvert would be installed under the rail embankment crossing the wetland habitat. Culverts would allow surface waters to continue to flow from Deep Pond in a similar manner to the existing conditions.
How is the proposal likely to affect habitat connectivity?	The Rail Flyover Modification is unlikely to affect the habitat connectivity for this species given the nature of proposed works (see above) and the mobility of this species.

[1] DEC and DPI (2005).

Table 6
Evaluation of Potential Impacts on the Broad-billed Sandpiper

Factor[1]	Assessment
How is the proposal likely to affect the lifecycle of a threatened species and/or population?	Broad-billed Sandpipers (*Limicola falcinellus*) uses estuarine sandflats and mudflats, harbours, embayments, lagoons, saltmarshes and reefs as feeding and roosting habitat (OEH, 2012a). Potential habitat for the Broad-billed Sandpiper within the Rail Flyover Modification is associated with: • 0.13 ha of Freshwater Wetland located in a narrow man-made drainage channel that is intermittently inundated with water from Deep Pond; and • a linear strip of Saltmarsh (1.32 ha) on the west of the existing rail embankment. The Broad-billed Sandpiper has not been recorded at Swan Pond and/or Wader Pond during monthly monitoring over the past 14 years (HBOC, 1999 - 2012). Given the absence of records, it is considered that the Rail Flyover Modification is unlikely to affect the lifecycle of the Broad-billed Sandpiper.
How is the proposal likely to affect the habitat of a threatened species, population or ecological community?	The habitat for the Broad-billed Sandpiper is described above. Other potential habitat for this species is located outside the Rail Flyover Modification area on Kooragang Island including within the Hunter Wetlands National Park. Based on the above, the Rail Flyover Modification would not significantly affect the habitat of this species.
Does the proposal affect any threatened species that are at the limit of its known distribution?	The Broad-billed Sandpiper occurs on the northern coast of NSW (OEH, 2012a). Therefore, the Rail Flyover Modification area is located within the known distribution of the Broad-billed Sandpiper and does not represent a distributional limit for this species.
How is the proposal likely to affect current disturbance regimes?	As the Rail Flyover Modification would be constructed adjacent to the existing rail line there would be minimal alteration of the natural flow regime in the area. A culvert would be installed under the rail embankment crossing the wetland habitat. Culverts would allow surface waters to continue to flow from Deep Pond in a similar manner to the existing conditions.
How is the proposal likely to affect habitat connectivity?	The Rail Flyover Modification is unlikely to affect the habitat connectivity for this species given the nature of proposed works (see above) and the mobility of this species.

[1] DEC and DPI (2005).

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