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Submission from the Hunter Bird Observers Club Inc. (HBOC) against Newcastle Coal Infrastructure Group Coal Export Terminal Rail Flyover Modification Stage 2F (MP 06_0009 MOD 2) June 2012

In this submission HBOC will establish that Swan Pond is a unique brackish wetland of international importance which supports international migratory shorebirds, other threatened species and a species of waterfowl in nationally significant numbers. Swan Pond lies within the Hunter Estuary, widely recognised as the most important destination in NSW for international migratory shorebirds using the East Asian-Australasian Flyway. HBOC will further establish that the Environmental Assessment is inadequate with regard to bird populations using Swan Pond.

Historical Context and Nomenclature

The name "Kooragang Island" no longer refers to the whole Kooragang Island complex as it did in the 1980s. Current common usage relates the name "Ash Island" to the area west and north of the Kooragang Island Main Line. To facilitate discussions around the future development of Kooragang Island, the Kooragang Island Advisory Committee (KIAC) (1979) divided Kooragang Island into five areas, A to E (Moss 1983, p.5). Areas B, C, D and E are included in the Hunter Wetlands National Park (HWNP) gazetted in 2006; Swan Pond and Wader Pond make up Area E; Swan Pond is the eastern side of Area E; Area A is the current industrial area.

The artificial creation of the Kooragang Island complex for industrial development began in the 1950s but by the 1970s its natural values were also being taken into consideration. Infilling to create the industrial area has destroyed valuable estuarine habitat including 508 ha of Coastal Saltmarsh, currently listed as an Endangered Ecological Community under the *NSW Threatened Species Conservation Act 1995 (TSC Act)* (Williams *et al.* 2000, p. xii).

The first KIAC report discusses: "the significance of the wetlands of Kooragang Island to New South Wales ecology and to **international migratory birds**" (Moss 1983, p. 5). A study, "Kooragang Island: Investigation of Natural Areas" (Moss 1983) (the Moss Report) did not include Area E. However, since very few brackish wetlands existed in the areas studied in the Moss Report, their conservation value was particularly noted (Moss 1983, p. 38):

> "brackish swamps on Kooragang Island appear to be of most critical significance ….and form valuable habitat areas" and "the smaller swamps south-west of Area C have been gaining in importance in the past five years. This area is currently designated for reclamation. Some of the species are very particular in the parts of the swamp they use and any change in the swamps in Area B due to either natural factors or disturbance in industrial development would leave **no swamps within the proposed reserve as refuges for these species**".

Swan Pond, a Unique Wetland

Twenty-nine years later, "the swamps in Area B", referred to in the Moss Report, have been choked by vegetation and no longer provide habitat for most wetland bird species. The "smaller swamps south-west of Area C" are the wetlands of Area E (Swan and Wader Ponds) which fortunately were not reclaimed. With the loss of the brackish swamps in Area B and the loss of Big Pond on Cormorant Road, Kooragang Island (in Area A), now the coal dump site for NCIG, Swan Pond is **the only brackish wetland of its type remaining on the Ash Island/Kooragang Island complex** and indeed in the lower Hunter Estuary. Swan Pond has been managed for its wetland ecology by the Kooragang Wetland Rehabilitation Project since 1993 and HBOC has contributed 196.5 volunteer hours equating to $8315 of in-kind rehabilitation work on Swan Pond.

The brackish attributes of Swan Pond stem from a mixture of collected rain water and sea water from the South Arm of the Hunter River. The water body is impounded behind a north/south power infrastructure track, known as Wagtail Way, so that tidal sea water exchange is limited.

"Swan pond has a maximum tidal range of approximately 0.3m and water levels within these locations are driven more by rainfall and evaporation than tidal influence. Swan pond is permanently inundated by water approximately 0.3m deep and forms an important habitat for waterbirds and shorebirds" (Laegdsgaard 2011, p.23).

The average salinity level in Swan Pond and two adjacent wetlands within a six-month period is 20ppt (Laegdsgaard 2012, p. 23) which is less than sea water at 33ppt.

"Water quality is highly variable across the site with large ranges in values observed across a year of tidal cycles. On average the water quality is reasonable in Area E. The area contains typical estuarine areas dominated by higher salinity, neutral pH and phosphorous and dissolved oxygen within levels suitable for ecological function. Also present are areas of lower salinity in areas where tidal influence is limited (e.g. Bittern Corner). However, within a year individual readings can be highly variable highlighting that the area can endure extremes of salinity, pH and dissolved oxygen according to prevailing environmental and climactic conditions" (Laegdsgaard 2011, p. 22).

Coastal Saltmarsh, which provides roosting habitat for shorebirds (Expert Panel 2002, p. 20) is present on Swan Pond. Mudflats are exposed for longer periods than at most other areas of the Estuary thus providing high-quality foraging and roosting habitat for migratory shorebirds and other wetland species. The avian value of these attributes is borne out by the fact that up to three thousand birds can regularly be seen on Swan Pond and **are the attributes which make Swan Pond unique.** The attributes of other tidal wetlands in the Hunter Estuary e.g. Tomago, Fullerton Cove, Stockton Sandspit and Hexham sites of the HWNP, are quite different from Swan Pond as these wetlands receive tidal inundation twice a day.

The Avian Species

HBOC has monitored the avian population of Swan Pond monthly since 1999. The total number of species observed on Swan Pond from 1999 to 2012 stands at 85 (Herbert 2007; HBOC unpublished data) including 22 species of international migratory shorebirds, nine of which are recorded regularly:

- Latham's Snipe *Gallinago hardwickii*
- Black-tailed Godwit *Limosa limosa*
- Bar-tailed Godwit *Limosa lapponica*
- Common Greenshank *Tringa nebularia*
- Marsh Sandpiper *Tringa stagnatilis*
- Red Knot *Calidris canutus*
- Red-necked Stint *Calidris ruficollis*
- Sharp-tailed Sandpiper *Calidris acuminata*

- Curlew Sandpiper *Calidris ferruginea*

Other migratory shorebird species occur less regularly:

- Little Curlew *Numenius minutus*
- Whimbrel *Numenius phaeopus*
- Common Sandpiper *Actitis hypoleucos*
- Ruddy Turnstone *Arenaria interpres*
- Pacific Golden Plover *Pluvialis fulva*
- Double-banded Plover *Charadrius bicinctus*
- Grey-tailed Tattler *Tringa brevipes*
- Lesser Yellowlegs *Tringa flavipes*
- Long-toed Stint *Calidris subminuta*
- Pectoral Sandpiper *Calidris melanotos*
- Buff-breasted Sandpiper *Tryngites subruficollis*
- Broad-billed Sandpiper *Limicola falcinellus*
- Ruff *Philomachus pugnax*

Migratory shorebirds are listed under the *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)* and are a matter of 'national environmental significance'. Three species, Black-tailed Godwit, Curlew Sandpiper and Broad-billed Sandpiper are listed under the *TSC Act* as Vulnerable, Endangered and Endangered respectively.

The cumulative impact of the destruction of small brackish wetlands of a similar nature to Swan Pond is reflected by the alarming decline in both species diversity and population numbers of migratory shorebirds in the Hunter Estuary. The following are a few examples of decline:

- The Black-tailed Godwit is listed as Vulnerable under the *TSC Act* "…visiting numbers now less than 25% of the counts in the 1970s and 1980s and the decline seemingly continuing" (Roderick & Stuart 2010).

- Data for the Bar-tailed Godwit show a 50% decline in the maximum numbers over the past 13 years (Herbert 2007; Stuart 2000 - 2011; HBOC data unpublished).

- Data for the Eastern Curlew show a 50% decline in the maximum numbers over the past 13 years (Herbert 2007; Stuart 2000 - 2011; HBOC data unpublished).

- Data for the Common Greenshank show a 50% decline in the maximum numbers over the past 13 years (Herbert 2007; Stuart 2000 - 2011; HBOC data unpublished).

- In December 2011, the Curlew Sandpiper was listed as Endangered under the *TSC Act.* "Fitting a linear regression to the 29 years' data collected by the Australian Wader Study Group indicates that there has been a 94% decline in maximum annual counts of the New South Wales population between 1982 and 2010. This is equivalent to a decline of 89% over three generations, the period recommended by IUCN (2010) for calculating population reduction" (NSW Scientific Committee website accessed 28 July 2012).

- Broad-billed Sandpiper is listed as Endangered under the *TSC Act.* Numbers have fallen from 180 birds in 1972 to the point where this species is approaching extinction in the Hunter Estuary (Roderick & Stuart 2010).

The above examples of decline in the Hunter Estuary, the most important shorebird site in NSW, reflect the gravity of the situation yet the NSW Government and the NSW Department of Planning and Infrastructure are ignoring this decline.

Swan Pond is significant habitat for the Sharp-tailed Sandpiper defined by the regular presence of more than 1% of the staging population (400) of the East Asian-Australasian Flyway population (Bamford *et al.*2008, p. 102). Numbers exceeding 400 are 529, 463 and 1711 in 2005, 1600 in 2011 (HBOC data unpublished).

Brackish wetlands such as Swan Pond are and always will be particularly important immediately prior to migration when shorebirds must rapidly accumulate fat reserves to fuel long-distance flight. If they do not accumulate this fat, they cannot undertake the thousands of kilometres journey to their breeding grounds in the northern hemisphere. The decline of the smaller short-legged shorebird species such as Curlew Sandpiper, Common Greenshank, Marsh Sandpiper and Red-necked Stint in the Hunter Estuary during recent decades highlights the extent to which these brackish wetlands have disappeared.

No studies have been conducted on benthic fauna. The multiple activities of relocating the shore line and power lines as a direct consequence of this project will cumulatively disturb the sediments of the wetland. No consideration has been given to the impact of this disturbance on the food chain e.g. benthic fauna, of the various avian species using the Swan Pond wetland and the time required for it to return to a state where it can support the current large bird populations.

HBOC also raises the possibility that there may be contaminants which are liberated during the disturbance caused by the project and that these contaminants may enter the ecological system with implications for its productivity even if there are no overt implications for the health of species at the upper level of the food chain.

Swan Pond Supports other Threatened or Significant Species

Swan Pond is a wetland of international importance as it meets Criterion 6 of the intergovernmental treaty, *The Convention on Wetlands of International Importance (Ramsar Convention)*: "A wetland should be considered internationally important if it regularly supports 1% of the individuals in a population of one species or subspecies of a waterbird". Two species of international migratory shorebirds, Sharp-tailed Sandpiper and Red Knot *Calidris canutus* and one species of waterfowl, Chestnut Teal *Anas castanea*, have been observed in significant numbers representing > 1% of the total population (Stuart 2003). On the same basis, Swan Pond fulfils the requirements for listing in the Directory of Important Wetlands Australia and Birdlife International's **Important Bird Area** initiative.

Black-necked Stork *Ephippiorhynchus asiaticus*, a rare resident in the Hunter Region (Stuart 2011) is listed as Endangered under the *TSC Act.*

Australasian Bittern *Botaurus poiciloptilus*, a rare resident in the Hunter Region (Stuart 2011) is listed under the *EPBC* and *TSC Acts* as Endangered.

White-fronted Chat *Epthianura albifrons*, a small passerine species which favours habitats with Coastal Saltmarsh is listed as Vulnerable under the *TSC Act*. "Comparison of Atlas reporting rates in New South Wales indicate that there has been a 52% decline between 1977-81 and 1998-2002 (Barrett *et al.* 2007), equivalent to a 35% decline in reporting rate over 10 years" (NSW Scientific Committee). It occurs in small numbers at four locations in the Hunter Region (Jenner 2011; Stuart 2011) including the Coastal Saltmarsh edges of Swan Pond where it is present throughout the year and where breeding is suspected.

The NCIG RFM Environmental Assessment (EA)

The EA is deliberately misleading in that it omits substantial facts relating to the high conservation value of Swan Pond.

It does not individualise Swan Pond by referring to it by its name, but deceitfully refers to it as "Rail Flyover Modification area on the western side of the existing rail embankment" (p. 39) or "additional lands" (p. 29) or "1.4 ha of land adjacent to the existing Kooragang Island Main Line Embankment" (p. 14). HBOC finds this deception unworthy; Swan Pond was recognised for its high conservation value in the 1970s, was identified as important shorebird foraging habitat in the 1980s and was named in the early 1990s by HBOC and the Kooragang Wetland Rehabilitation Project. The name appears on local maps of the area, in the HBOC annual bird reports, and in relevant scientific literature.

The EA diminishes the impact of the realignment of the Kooragang Island Main Line on Swan Pond by referring to the alignment as a "minor realignment". Three hundred and sixty thousand (360,000) tonnes of clean fill will be required for the total project (p. 25). The EA does not appear to specify the location for the fill, but HBOC assumes that the majority of this fill will be required for the construction of rail infrastructure on Swan Pond.

The realignment destroys approximately 50 metres by 790 metres (p. 25) of Swan Pond.

The construction stage will inevitably cause further destruction of Swan Pond and widespread disturbance of its bird populations which will be alienated from the vicinity of the works.

The failure of all authorities involved in this development to consider the **cumulative impact of disturbance** to Swan Pond is manifest in the proposed realignment and double relocation of Ausgrid's power lines 33032 and 3377 by NCIG and again by Port Waratah Coal Services (PWCS) proposed Terminal 4 coal loader (T4) if it is approved.

The above actions will result in the total destruction Swan Pond at its southern end and compromise the northern area.

The EA says that the "habitats impacted by the RFM extend further to the Hunter Wetlands National Park and occur more extensively across Kooragang Island" (p. 39). This statement does not make sense. Does it mean that habitats impacted are located in the Hunter Wetlands National Park (HWNP) and that these habitats are present on Kooragang Island? Swan Pond does indeed lie within HWNP and HBOC has demonstrated that the brackish habitat of Swan Pond does not occur elsewhere on the Ash Island/Kooragang Island complex.

The Environmental Risk Review (p.29) claims in reference to Flora and Fauna that there will be "minor disturbance of additional lands (less than 2.6 ha) resulting in a potential effect on threatened species or Endangered Ecological Communities (EECs)" and "minor disturbance of additional lands (less than 2.6 ha) (i.e. potential habitat) resulting in a potential effect on threatened or migratory fauna species."

HBOC disagrees with this assessment of "potential" effects. It has been demonstrated that threatened species regularly occur on Swan Pond: nine species of migratory shorebirds, two species of water birds, one passerine species, one species of waterfowl in internationally significant numbers and one EEC. The risk is **real**, not potential as claimed. The area of land/wetland threatened with destruction is rectangular with long sides (790 metres) and takes in the shallow shore which under the right tidal conditions provides mudflats. Shallow shores with Coastal Saltmarsh and mudflats are particularly favoured by shorebirds and water birds for both foraging and roosting.

NCIG has not carried out its own field surveys of the avian population of Swan Pond. The RFM relies on inadequate desktop studies and a survey in January 2012 carried out for Port Waratah Coal Services Terminal 4 coal loader studies. The RFM EA includes a general table of species called "Threatened Flora and Fauna Species

from Kooragang Island" which are desktop studies of the Office of Environment and Heritage (2012) BioNet/Atlas of NSW Wildlife Records, the Australian Museum (2012) Database Records for the Search Area, Birds Australia (2012) Database Records for the Search Area and Umwelt (Australia) Pty Ltd (2012) Ecological Assessment for PWCS Proposed Terminal 4 (T4) Project, Port of Newcastle NSW. This survey was carried out in January 2012. The Table lists species 'threatened in NSW' and includes species which would not normally be found on Kooragang Island such as Diamond Firetail and Glossy Black-Cockatoo and omits migratory shorebird species listed under the *EPBC Act* such as Eastern Curlew, Common Greenshank, Marsh Sandpiper, Sharp-tailed Sandpiper, Red Knot and Red-necked Stint all of which are found on Swan Pond (Attachment A). These inappropriate and unqualified inclusions and omissions undermine the balance of the RFM. The evaluation is superficial and does not provide an adequate basis for assessment of the environmental implications of this project. There has been no investigation of which species forage and roost in the area to be destroyed as opposed to their use of the total area of Swan Pond. Such studies are imperative in order to judge the true impact of habitat destruction i.e. the destruction and disturbance of a small area of Swan Pond could render the entire area unsuitable for many species.

The EA claims that the RFM does not trigger the *EPBC Act* because it is consistent with previous approvals (p.14). However, the RFM includes additional land, Swan Pond, which was not included in the previous approvals. Since Swan Pond is habitat for migratory shorebirds and triggers the *EPBC Act* in accordance with one of the Ramsar Convention's criteria for Chestnut Teal, Sharp-tailed Sandpiper and Red Knot (see above) and since Port Waratah Coal Services Terminal 4 Coal Loader Project (T4) was declared a 'controlled action' for impacting on migratory shorebird habitat, consistency requires that the RFM is also deemed a 'controlled action'.

The EA does not mention the question of off-sets for Swan Pond. So far as HBOC is aware NCIG has not fulfilled its commitments with regard to the site for the railway embankment across Deep Pond as stated in the Final Approval. Under Condition 2.20 - Compensatory Habitat and Ecological Monitoring Program (p. 8) it is stated that:

> "for migratory shore bird habitat lost as a result of the filling in of parts of Deep Pond and the construction of the optional rail spur, establishment of compensatory habitat in a location agreed by the Director-General, in consultation with the DECC, equivalent to no less than twice the area of habitat identified under a), with commencement of compensatory habitat works prior to the commencement of construction of the optional rail spur."

The Particular Manner Requirements, Attachment A number 10, (EPBC 2006/2987) indicate that:

> "The Department will be notified a minimum of 24 months prior to construction of the northern rail spur, if it proceeds. Assessment of potential impact on listed shorebird habitat in Deep Pond will be provided at that time, together with a description of any design or other mitigation measures required to avoid significant impact on listed birds. Such measures may include enhancement of existing habitat and creation of new habitat alongside the northern rail spur embankment. Design and construction of any new habitat, or habitat enhancement measures, will be undertaken in consultation with shorebird specialist."

The difficulties associated with locating suitable land in the Hunter Estuary with like-for-like attributes are well known. In avoiding the question of off-sets, NCIG is failing in its obligations to meet the Off-set Principles of the Office of Environment and Heritage.

The question of access to the site is of utmost importance as Swan Pond is nationally and internationally famous as a destination for birdwatchers and for scientists studying the Green and Golden Bell Frog and wetland ecology. HBOC members monitor the site monthly and will require continuing access. This issue is not discussed in the EA and the assumption that people can be locked out of a national park is not acceptable.

It appears that the Rail Flyover Modification is not required for the operation of the NCIG coal export terminal: "*the Proponent shall undertake, in consultation with ARTC and the owner/operator of the existing Kooragang Coal Loader, a review of the need for that infrastructure.*" "The purpose of this review shall be to confirm the need for the infrastructure in light of the circumstances and operational requirements existing at the time of implementing this component of the project." NCIG was notified of the outcomes of the review. Specifically, the review concluded that a flyover (i.e. grade separation) would be necessary "to meet the requirements of the ARTC" i.e. Australian Rail Track Corporation (EA, ES-1 and Project Approval 2007 p. 12), not NCIG's coal export terminal.

HBOC assumes that ARTC's needs actually relate to the proposed T4 rail infrastructure. The T4 project is undergoing further investigations, has not been approved and may in fact not be required.

Summary

- The RFM will have **real**, not potential, effects on Swan Pond;
- The Hunter Estuary is the most important destination for migratory shorebirds in NSW;
- Data show that many migratory shorebird species are declining in the Hunter Estuary;
- Actions on Swan Pond trigger the *EPBC Act* as Swan Pond supports migratory shorebirds, two species of which meet a Ramsar Convention criterion;
- Actions on Swan Pond trigger the *EPBC Act* as one species of waterfowl meets a Ramsar Convention criterion;
- Two species of international migratory shorebirds that occur on Swan Pond are listed under the *TSC Act*;
- Three additional listed species under the *TSC Act* occur on Swan Pond;
- The RFM will destroy the eastern shore of Swan Pond which is of particular importance to shorebirds and waterfowl and, in the construction stage, additional wetland to the west;
- No studies have been made on the benthic fauna in the sediments of Swan Pond;
- Field surveys of bird populations for the EA are inadequate;
- The relocation site of power infrastructure will further impact on Swan Pond especially in view of the fact that this power infrastructure will be moved again if T4 is approved;
- No offsets for shorebird habitat have been provided;
- No provisions for access are discussed;
- NCIG does not require rail infrastructure modifications in the RFM to operate its terminal.

In view of the lack of need for the RFM at this point in time, the ostensible ignorance of NCIG with regard to the unique wetland attributes of Swan Pond and its omission of basic facts in its RFM EA, HBOC requests that the NSW Department of Planning and Infrastructure reject this RFM. As a minimum the Department of Planning and Infrastructure must suspend the assessment process until further investigations are undertaken.

Submission compiled by A. Lindsey for the Hunter Bird Observers Club Inc. July, 2012

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