



Hunter Bird Observers Club

Affiliated with BirdLife Australia

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Hunter Bird Observers Club Submission on the Port Waratah Coal Services proposed Terminal 4 Coal Loader (T4) Preferred Project Report

The Hunter Estuary, the most important site for migratory shorebirds in NSW, has a long history of shorebird habitat destruction, a process which continues unabated. The Hunter Bird Observers Club Inc. (HBOC) strongly objects to the proposed destruction of migratory shorebird habitat and Australasian Bittern *Botaurus poiciloptilus* habitat in the Hunter Estuary by the proposed Port Waratah Coal Services (PWCS) Terminal 4 Coal Loader (T4).

This submission primarily concentrates on addressing the destruction of migratory shorebird habitat. Migratory shorebird habitat will be destroyed at Swan Pond (the eastern side of Area E) on Ash Island (the western side of Kooragang Island) and Deep Pond on Kooragang Island. These sites support the following migratory shorebird species:

- 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*
- Pectoral Sandpiper *Calidris melanotos*
- Sharp-tailed Sandpiper *Calidris acuminata*
- Curlew Sandpiper *Calidris ferruginea*
- Ruff *Philomachus pugnax*

HBOC further objects to the decision by the NSW Government to allow industrial development on public, conservation land managed by National Parks Service under Part 11 of the *NSW National Parks and Wildlife Act* with complete disregard for its value as a biodiversity hotspot. Swan and Deep Ponds are unique and we bring to your attention that they meet several criteria for listing under the Ramsar Convention because of their **international** significance in terms of ecology, botany and zoology which indicates their high conservation value:

Criterion 2: Endangered Ecological Communities – Coastal Saltmarsh and Freshwater Wetland

Criterion 2: threatened species – Australasian Bittern, White-fronted Chat *Epthianura albifrons*, Green and Golden Bell Frog *Litoria aurea*;

Criterion 4: migratory shorebird habitat; supports species at critical stage in their life cycle

Criterion 4: drought refuge for waterbirds

Criterion 6: more than 1% of individuals in a population of one species of waterbird – Chestnut Teal *Anas castanea* and Sharp-tailed Sandpiper

Australia is signatory to international agreements with the People's Republic of China for the *Protection of Migratory Birds and their Environment*, the Government of Japan for the *Protection of Migratory Birds and Birds in Danger of Extinction and their Environment*, and the Government of the Republic of Korea on the *Protection of Migratory Birds*; the Bonn Convention for the protection of migratory wild animals and the national *EPBC* and *NSW TSC Acts*. Governments are legally and morally obliged to ensure that migratory shorebirds continue to link Australia with the rest of the world.

Cumulative impacts

The loss of Deep Pond and Swan Pond will exacerbate the detrimental effects of habitat modification and destruction on biodiversity in the Hunter Estuary.

The cumulative impacts on biodiversity, in particular on migratory shorebirds, are reflected by the dramatic decline of these species in the Estuary. This decline is exemplified by the species, Curlew Sandpiper listed as Endangered in December, 2011 under the *NSW Threatened Species Conservation Act (TSC Act)*. The Hunter Estuary is the most important site in NSW for the Curlew Sandpiper which has declined in NSW by between 80% and 94%: “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). Its decline can be linked to the loss of tidal wetlands in the Hunter Estuary such as Big Pond on Kooragang Island.

Although the decline in migratory shorebirds is often attributed to the modification of their habitat in the northern hemisphere, the losses of small habitats such as **Deep Pond and Swan Pond** which will be either substantially or totally destroyed by the T4 project, contribute to this decline. “Nebel *et al.* (2008) emphasise the importance of local threats, observing that non-migratory shorebirds experienced similar declines between 1983 and 2006 to those species that undergo migration” (NSW Scientific Committee).

Deep and Swan Ponds provide unique habitat

The features which make **Deep Pond** unique are twofold. They include the expansive area of sheltered non-tidal fresh water in close proximity to estuarine mudflats and its wetting and drying cycles under the influence of rainfall. When this wetland is full of water it provides a drought refuge for wildfowl and during its drying cycle it provides migratory shorebird habitat. The 80% reduction in the size of Deep Pond will obviously and clearly have a negative impact on both groups of species. The 20% retained area is unlikely to provide the same ecological attributes. HBOC believes that some amelioration may be gained by management of water levels in the retained area, but this measure does not appear to be included. During the construction stage of the Project the whole wetland will be impacted.

The feature which makes **Swan Pond** unique in the Hunter Estuary is that its ecological attributes are governed by the limited tidal transfer which occurs only during the high part of the tidal cycle. (EA, Appendix E, p.39). As a result, mudflats are exposed for longer periods than at most other areas of the Estuary thus providing high-quality roosting and/or tidal foraging habitat. HBOC has contributed 196.5 volunteer hours equating to \$8315 of in-kind rehabilitation work on Swan Pond. It is precisely this area where shorebirds and waterbirds congregate to roost and forage. All the shorter-legged species utilise this area including Red-necked Stint, Red Knot, Sharp-tailed Sandpiper, Curlew Sandpiper, Marsh Sandpiper and Common Greenshank as well as the longer-legged Black-tailed Godwit listed as Vulnerable under the *TSC Act*, and more recently, the Bar-tailed Godwit. HBOC monthly surveys over 14 years show a decline in all of these species.

The importance of **Deep Pond and Swan Pond** has been increased by the progressive destruction and degradation of habitat in other areas of the Hunter Estuary. Non-tidal options such as Deep Pond and tidal foraging areas 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 in the Hunter Estuary during recent decades highlights the extent to which these non-tidal and tidal areas have disappeared. Together Deep Pond and Swan Pond work in tandem with shorebirds moving from one to the other in response to events such as disturbance and the relative suitability of foraging conditions.

Other Species affected by the T4 Project

The Australasian Bittern was listed as Endangered under the *TSC Act* in 2010 and under the *Environment Protection and Biodiversity Conservation Act* in 2011. Numbers of mature individuals range between 660 and 1660 in NSW where most of the population occurs (Scientific Committee). It has been seen on a number of small wetlands on the T4 site some of which will be managed for the Green and Golden Bellfrog. Clearly with such a low population in its prime area, any loss of habitat will be detrimental to this species. It is assumed that habitat managed for frogs will also be suitable for the Australasian Bittern, an assumption without scientific basis.

The White-fronted Chat, a small passerine species which favours habitats with 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 Ash Island. It occurs on the edges of Swan Pond where saltmarsh provides habitat for this species.

Deep Pond is a proven drought refuge for **wildfowl**. At times the numbers of wildfowl and the diversity of species on Deep Pond are unparalleled in the Hunter Estuary and Lower Hunter Valley. One of the factors may be that the effects of drought are felt less in the Hunter Estuary than in western areas of NSW or in western areas of the Hunter Region and, after intermittent episodes of heavy rainfall, which occur more frequently close to the coast, Deep Pond filled rapidly with fresh water thus providing the only available suitable habitat. The impact of the loss of Deep Pond on wildfowl populations moving to the Hunter Valley during periods of inland drought is unclear but would be expected to be significant for some species. Six species of duck which, under non-drought conditions, prefer wetlands in western NSW were observed on Deep Pond during the ten-year inland drought period of the 2000s. They included Grey Teal *Anas gracilis*, Australasian Shoveler *Anas rhynchos*, Hardhead *Aythya australis*, Pink-eared Duck *Malacorhynchus membranaceus*, Blue-billed Duck *Oxyura australis* and Freckled Duck *Stictonetta naevosa*, the latter two listed and Vulnerable under the *TSC Act*. The appearance of the last three species reflected the severity of drought conditions.

Contaminants and Birds

It is well known that birds accumulate contaminants when exposed to pollution. Accumulate may occur either by eating food harvested from a polluted ecosystem or by direct ingestion, although the latter is less common. When the ecosystem becomes contaminated there is also the possibility that components of the food chain are affected and the amount of available food is decreased to the extent that an area can no longer support its bird population.

The impact of the accumulation varies with contaminant type and the species of bird involved. Each exposure will be unique and specific studies may not exist. In extreme cases accumulation can cause death of birds, as exemplified by Black Swans ingesting lead shot. However, sub-chronic impacts are probably a more serious threat because of their insidious nature. In sub-chronic instances biological functions may be impaired to an extent that although a bird survives in an apparently healthy state, key life cycle factors like reproductive success have been diminished to an extent that long-term survival of the species or local populations is threatened. The classic example is the decreased reproductive success of birds of prey as a consequence of egg-shell thinning when they are exposed to pesticides.

The T4 site is contaminated by a cocktail of metallurgical wastes containing heavy metals e.g. jarosite, asbestos, and organic materials including tar, which includes aromatic hydrocarbons. During the construction phase of the T4 project these contaminants will be disturbed, increasing the risk of mobilisation and release to surface water and estuarine aquifers. In addition routine coal loading operations include procedures such as wetting down stockpiles, which may solubilise minerals. The T4 EA recognises this issue and outlines elaborate precautions, which will be taken to prevent their release to the environment. No doubt strict environmental regulations will be attached to the conditions of consent. However, environmental conditions of consent are almost inevitably exceeded on occasions. Indeed in the experience of the Newcastle community they are regularly breached with limited accountability, e.g. the Orica debacle, dust emissions from coal mining activities in the Hunter Valley.

Use of the Hunter Estuary by the Community

The Hunter Estuary remains a drawcard for local, national and international birdwatchers. They come because of the Estuary's fame as the best place to see shorebirds and wildfowl. It is mentioned as the premier site in NSW for these species in bird-finding guide books about Australia. The total list of birds at Swan Pond stands at over 180 species. Very few areas of similar size remain in southern Australia. The Hunter Bird Observers Club undertakes regular bird surveys at both Deep Pond and Swan Pond. The data gathered are submitted to BirdLife Australia's Atlas of Australia's Birds project, the Shorebirds 2020 project as well as being recorded on HBOC's database.

Conclusion

The Updated Impact Mitigation and Biodiversity Offset Strategy with its plethora of desktop calculations and 'comforting' conclusions do not provide any certainty for the future of threatened species in the Hunter Estuary. Migratory shorebirds will be left with one inappropriately located offset, Ellalong Lagoon, and a second area at Tomago which involves an undemonstrated habitat creation experiment.

The Ellalong Lagoon site dries out in times of severe drought whereas Deep Pond is located within the estuary and receives coastal rain even times of severe drought as it did in the early 2000s drought.

The Tomago Offset site may provide habitat for shorebirds when it becomes a functioning wetland. HBOC members have, however, raised concerns about the magnitude of the works planned for the site. These concerns are centred on the restoration design which requires substantial ground works and the removal of 74 ha of the Endangered Ecological Community Swamp Oak Forest. This forest supports the nest site of a pair of White-bellied Sea-Eagles *Haliaeetus leucogaster* with proven success as young birds have been successfully produced over a number of years. HBOC objects to the removal of this nest. The design is not compatible with the National Parks and Wildlife restoration works in the adjacent Hunter Wetlands National Park where less invasive methods of restoration are being implemented involving the managed introduction of tidal flow.

In any complex commercial industrial process there will always be one point that acts as a speed regulator for that process. Why not let current coal loading infrastructure be that regulator in the Hunter coal chain? Such a regulator will have positive social and economic benefits for the community and industry as a whole. There is absolutely no benefit to mining communities' long term futures in mining a resource to exhaustion as quickly as possible. There can be little benefit in getting bigger volumes into the world market if the law of supply and demand and its effect on prices are not taken into account. Why not ensure that the community gets maximum long term long term value from this resource and not just allow short term thinking to harm the industry overall as well as the community and the environment.

In view of global warming and its implications for this planet, the current downturn in global coal demand may well be permanent. PWCS itself is well aware of this and is not committing to implementing the project. HBOC believes that there is no justification for government approval of this project and considers it a national disgrace that these wetlands may be sacrificed to make way for an industry with, at best, a limited future. Swan and Deep Ponds should be permanently protected, unconditionally added to the national park estate and listed as wetlands of international significance under the Ramsar Convention for the wise use of wetlands.

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Submission compiled by Ann Lindsey for the Hunter Bird Observers Club in November 2013