



# Hunter Bird Observers Club

*Affiliated with Bird Observation and Conservation Australia*

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## **Hunter Bird Observers Club Submission on the Port Waratah Coal Services proposed Terminal 4 Coal Loader (T4)**

The Hunter Bird Observers Club Inc. (HBOC) strongly objects to the proposed destruction of migratory shorebird habitat and Australasian Bittern *Botaurus poiciloptilus* habitat by the proposed Port Waratah Coal Services Terminal 4 Coal Loader (T4). This submission primarily concentrates on addressing the destruction of migratory shorebird habitat which is of greatest concern to HBOC. 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*

In addition HBOC objects to the inappropriate decision by the NSW Government to rezone land on Ash Island earmarked for protection under the NSW National Parks Act in order to facilitate this development with complete disregard for its high conservation value to biodiversity, particularly migratory shorebirds.

HBOC further objects to the fact that it is required to write a submission pertaining to a project of the magnitude and complexity of T4 when the details of the offset site for migratory shorebirds are not available for examination before the closing date for submissions. A letter stating our objections was sent to the Department of Planning in April.

The need for and the timing of construction of the T4 project is driven by the fact that PWCS has entered into long-term contracts with coal producers under Capacity Framework Arrangements developed by the NSW State Government. PWCS's future contracted capacity exceeds its approved capacity (EA, Part A, p.1). However, the Australian Government must meet its obligations to protect migratory shorebirds and their habitat under international agreements with the People's Republic of China for the Protection of Migratory Birds and their Environment (CAMBA), the Government of Japan for the Protection of Migratory Birds and Birds in Danger of Extinction and their Environment (JAMBA), and the Government of the Republic of Korea on the Protection of Migratory Birds (ROKAMBA); the Bonn Convention for the protection of migratory wild animals and the national *Environment Protection and Biodiversity Conservation Act 1999* (EPBC). These contractual imperatives conflict in that the T4 project will destroy migratory shorebird habitat which the Australian Government is committed to protect. Past and present decisions have failed to protect migratory shorebird populations in the Hunter Estuary.

Swan Pond and Deep Pond are more than wetlands utilised by migratory shorebirds. Many other species of shorebirds breeding in Australia, water birds and wildfowl congregate on these sites; for instance they support more than 1% of the eastern Australian population of the congregatory species, Chestnut Teal *Anas castanea*. This is one of the criteria set out by BirdLife International for the Hunter Estuary being designated an Important Bird Area.

Countless numbers of reports and studies commissioned by NSW government agencies have documented the degradation of the Hunter Estuary particularly its Kooragang Island component.

As long ago as 1973 the Coffey Report (Coffey 1973) on an inquiry into pollution from Kooragang Island was very critical of the lack of planning into the strategy for development on the island, stating that “the present development of Kooragang Island reflects not only the absence of a comprehensive regional plan, but also a total plan for the island itself.” (Maddock 2008).

Ignoring the plethora of these reports and studies, it appears that the NSW Government has enabled the T4 Project to have the legal right to destroy Swan Pond by manipulating the boundaries of the Ash Island site of the Hunter Wetlands National Park so that Swan Pond and other areas were not gazetted as part of the National Park. The implications for those areas not gazetted, evidenced by the destruction of Swan Pond, are clear. They do not have genuine environmental protection and can be destroyed.

The Hunter Estuary, the most important site for migratory shorebirds in NSW, has a long history of shorebird habitat being destroyed with no replacement habitat established as offsets.

**Big Pond** on Cormorant Road, Kooragang Island was a tidal wetland which supported 17 species of migratory shorebirds including the Curlew Sandpiper. Tidal flow was cut off in 1996 and by the mid 2000s the habitat was so degraded that the shorebirds ceased to come. HBOC wrote repeatedly to government agencies about this degradation with no satisfactory response. Over a million dollars was allocated as compensation for the loss of this wetland yet **this habitat has not been replaced**. Big Pond was eventually filled in to provide a coal dump site for the Newcastle Coal and Infrastructure Group (NCIG) coal export terminal in 2009/2010.

It appears that NCIG has not met its final approval (06\_0009) conditions, to provide no less than twice the area of migratory shorebird habitat lost as a result of the construction of the optional rail spur across Deep Pond. The compensatory habitat works were to be started before the commencement of the construction of the rail spur which was not expected before 2020. The pre-load pads have been in place for several months and in April 2012 HBOC noticed that infilling for the rail spur has commenced. HBOC is not aware of any migratory shorebird habitat creation by NCIG.

The creation of migratory shorebird habitat, or any other habitat, is expensive and the offset system can fail through unforeseen events. For example, efforts to replace migratory shorebird habitat foundered when the Eastern Grass Owl *Tyto longimembris*, a locally rare species listed as Vulnerable under the *NSW Threatened Species Conservation Act 1995* (TSC Act) was discovered on the site on Ash Island chosen for shorebird pond creation. The migratory shorebird project was cancelled.

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 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.

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).

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 which will be destroyed and replaced by rail infrastructure. 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 13 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.

## Offsets

The Ecology Assessment by Umwelt (Australia) shows that the T4 Project has met the Principles for the Use of Biodiversity Offsets as defined by the Office of Environment and Heritage (OEH), which were updated in June 2010. The Kooragang Island Compensatory Habitat Framework 2008 is not relevant to T4 as offset opportunities on Ash Island are no longer available. The Offset Principles of the Environment Protection and Biodiversity Conservation Act (DEWR 2007) are not discussed in this submission as HBOC is making a separate submission in this regard.

HBOC believes that although a number of the OEH Principles with regard to migratory shorebird habitat may be met by the T4 Project serious issues remain to be addressed. As mentioned above, the location and size of the targeted Hunter Estuary offset site, have not been revealed. It is not therefore possible for HBOC to make an assessment of the site against the Principles with any degree of certainty. Nevertheless, HBOC has attempted to put forward its views on the grounds that the purchase of the Hunter Estuary Wetland site will be successful and at its anticipated location. HBOC’s submission does not discuss all Principles.

## OEH Principles for Biodiversity Offsetting

### Principle 2. Impacts must be avoided first by using prevention and mitigation measures.

1. Migratory shorebird habitat has not been avoided. Deep Pond and Swan Pond will be destroyed. Swan Pond is favoured by shorebirds and waterbirds which congregate there to roost and forage. As noted above, 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 long-legged Black-tailed Godwit listed as Vulnerable under the TSC Act, and more recently, the Bar-tailed Godwit. HBOC monthly surveys over 13 years show a decline in all of these species.

2. Although 20% of migratory shorebird habitat on Deep Pond has been avoided the modification of 80% of this wetland puts at risk the ecological value to shorebirds of the entire area. The long-legged Black-tailed Godwit, for instance, uses the central area of Deep Pond to feed and roost.
3. It is the excessive size of the rail infrastructure (eight receival tracks) and the coal storage pads, which necessitates the need to destroy environmental land of exceptionally high biodiversity value.

**Principle 4. Offsets will complement other government programs.**

1. It is acknowledged in the EA (p.7.43) that Ellalong Lagoon is not a significant site for migratory shorebirds and will therefore not complement other government programs for these species.
2. The Hunter Estuary Wetlands site has not been purchased. However, should the site as described in the EA be purchased the proposed restoration of migratory shorebird habitat and Coastal Saltmarsh EEC at the site would complement other work in the Hunter Wetlands National Park (HWNP).

**Principle 5. Offsets must be underpinned by sound ecological principles.**

1. The Ellalong Lagoon offset site is not underpinned by sound ecological principles for migratory shorebirds as it is acknowledged that it is not a significant site for migratory shorebirds. The claim that ‘the use of Ellalong Lagoon as a drought refuge by water birds is similar to one of the key functions provided by Deep Pond within the T4 project area’ relies on a sighting of the normally inland species, Freckled Duck *Stictonetta naevosa*, during the 1983 drought (EA, p. 7.43). HBOC has an incomplete series of records of bird sightings on Ellalong Lagoon dating from 1993 to 2009 which show only one record of the Pink-eared Duck *Malacorhynchus membranaceus*, another species normally found inland. This record involved just two Pink-eared Ducks in August 2004. On Deep Pond numbers of this species peaked at 143 in April 2005, and at 214 in May 2007 after episodes of heavy rainfall. It is also likely that Ellalong Lagoon was periodically dry during the drought years of the 2000s and therefore cannot be considered a drought refuge for wetland species. A local resident noted that the Lagoon was dry in early December 1991 and in November 2002 (J. Meynell pers.comm.).
2. It appears at face value that the Hunter Estuary Wetlands site as described in the EA may be underpinned by sound ecological principles if shorebird habitat is successfully created and monitored to provide a basis for ongoing habitat management to deliver outcomes specified in the conditions of consent. However there is risk, particularly with respect to the timing of implementation. The viability of the offset should be demonstrated before the habitat it is compensating is destroyed.

**Principle 6. Offsets should aim to result in a net improvement in biodiversity over time.**

1. Ellalong Lagoon is not a significant site for migratory shorebirds and, whereas the Lagoon may contribute to biodiversity in general, it will not provide a net improvement for migratory shorebirds, many species of which do not utilize freshwater wetlands.
2. The Hunter Estuary Wetlands site as described in the EA has the potential to contribute to an improvement for migratory shorebirds if restoration works are implemented and managed in the long term. This assumes that the net area of foraging habitat is increased and has similar ecological function to the destroyed areas being offset. If this was achieved it is possible that it could reverse the trend in the decline of migratory shorebirds, particularly short-legged species like the Curlew Sandpiper.

**Principle 7. Offsets must be enduring and they must offset the impact of the development for the period that the impact occurs.**

The target capacity of 70 Mtpa in Stage 1 of the T4 Project allows for construction to commence in mid 2013 and for the first coal to be shipped in late 2015. The construction phase would by necessity include rail infrastructure. One of the sites for rail infrastructure is Swan Pond where it is planned to put eight arrival rail tracks. Since the Hunter Wetlands Estuary site has not as yet been purchased, it is not possible for the proposed creation of migratory shorebird habitat to be functioning satisfactorily, including demonstration, by mid 2013 to replace the shorebird habitat at Swan Pond.

**Principle 8. Offsets should be agreed prior to the impact occurring.**

1. Purchase of the Hunter Estuary Wetlands offset site has not been secured nor has habitat been created and demonstrated to provide viable migratory shorebird habitat.
2. The Ellalong Lagoon site has been purchased and will be added to the National Park estate.

**Principle 11. Offsets must be located appropriately.**

1. HBOC does not consider Ellalong Lagoon is an appropriately located offset for Deep Pond. Ellalong Lagoon is approximately 40 km from the T4 site and is unlikely to attract species of shorebirds favouring an estuarine environment.
2. The Hunter Estuary Wetlands offset site as described in the EA is “proximate” to the T4 Project and the Hunter Wetlands National Park. Assuming that this site is in fact in the Hunter Estuary and east of the New England Highway, it may be located appropriately.

**Principle 12. Offsets must be supplementary.**

Ellalong Lagoon and the Hunter Wetlands Estuary as described in the EA are supplementary.

**Other Species affected by the T4 Project**

The Australasian Bittern was listed as Endangered under the TSC Act in 2010 and under the EPBC 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. It is assumed that habitat managed for frogs will also be suitable for the Australasian Bittern. PWCS will supplement the Caring for Country grant of \$125,000 received by the Hunter Wetlands Centre Australia (HWCA) for its Australasian Bittern Habitat Restoration Project for a period of three years for the development of a management plan. No indication of the value of the funding is mentioned. According to HBOC records, the last Australasian Bitterns reported from HWCA were in September 1997, August 1998 and September 2005 when single birds were reported. The few reported sightings of this species reflect the rarity of this species at HWCA as this site is constantly monitored. Australasian Bitterns have been reported over a number of years from the Hunter Wetlands National Park Hexham Swamp site which is adjacent to HWCA and whilst there are no guarantees of a successful outcome for this Project, it is possible that with the correct habitat in place, Australasian Bitterns may return to the HWCA. However, HBOC would prefer funding were allocated to direct habitat creation rather than a contribution to yet another desk-top study.

The White-fronted Chat *Epthianura albifrons*, 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 rhynchosotis*, Hardhead *Aythya australis*, Pink-eared Duck, Blue-billed Duck *Oxyura australis* and Freckled Duck. The appearance of the last three species reflected the severity of the 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.

### **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. As of April 2012, HBOC is no longer permitted to access the Deep Pond site. Authorities will need to consider our future access to Deep Pond so that monitoring can continue over the long term. The refusal of access raises the question of access to Area E when works commence on the rail infrastructure at Swan Pond. HBOC will object most strongly if surveys cannot continue in this area and its members, along with the general public, are locked out.

## Conclusion

Migratory shorebirds will be left with one inappropriately located offset, Ellalong Lagoon, and a second area which involves an undemonstrated habitat creation experiment on a site which has yet to be acquired at a location which has yet to be revealed. This situation is not in accordance with the intent of international agreements or the EPBC and TSC Acts and governments are legally and morally obliged to ensure that migratory shorebirds continue to link Australia with the rest of the world. The findings of the T4 EA endorse the fact that there is a lack of available, suitable land within the lower Estuary for compensatory habitat. This being the case, it is necessary for the T4 Project to reconsider the size of its footprint so that wetlands of high conservation value are not destroyed.

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