

Migratory Birds at Risk of Mortality if BHP continues use of Evaporation Ponds

Briefing produced for Friends of the Earth Australia by David Noonan – June 2019

Mining giant BHP has made a formal application to expand the Olympic Dam mine in northern South Australia. Olympic Dam was opened in 1988. BHP's current expansion plan follows an earlier decision to defer the transition to a massive open cut operation and is focussed on expanding the current underground operations. The planned mine expansion has significant environmental implications including a likely increase in long-term mortality of protected Bird Species.

This briefing explores the need for federal and state assessment of BHP's expansion plans to actively consider a project configuration that would not construct new Evaporation Ponds and phase out use of existing Evaporation Ponds as soon as practical to help protect Listed Bird Species from mortality.

BHP's existing Olympic Dam operations cause significant mortality in Listed Bird Species through the use of Evaporation Ponds for acidic tailings waste water that is toxic to birds. In 2011 during the assessment of an earlier expansion application the federal Department of Environment recommended BHP phase out use of Evaporation Ponds across the entire Olympic Dam operation and not to construct Evaporation Ponds for the proposed expanded mine.

In February 2019 BHP sought approval from the SA State government for a major expansion of underground mining operations at Olympic Dam. BHP also plans to construct a major new Evaporation Pond (No.6), as part of so called "*enabling activities*" to continue the existing level of underground mining activities, and to also put earlier Evaporation Ponds back into long-term use.

Migratory Birds are at significant risk of mortality due to BHP's continued use of Evaporation Ponds.

The SA government issued an "[Olympic Dam Major Projects Declaration](#)" (SA Government Gazette, 14 Feb 2019, p.461-462) for BHP's proposed mining expansion, with Guidelines to be set for the scope of a required Environmental Impact Statement (EIS) assessment process.

Contrary to the public interest, this state Declaration seeks to prevent environmental assessment and public consultation on fundamental environmental impacts of uranium mining at Olympic Dam.

The SA government Declaration "*Excludes*" existing mining and so called "*enabling activities*" up to a level of copper production of 200,000 tonnes per year and associated products (uranium-silver-gold) and resultant environmental impacts, such as (p.462):

"waste treatment, storage and disposal, including but not limited to, Tailings Storage Facility 6, Evaporation Pond 6, and additional cells for the contaminated waste disposal facility."

The SA State Declaration to exclude a major new Evaporation Pond No.6, with its impacts on mortality to protected birds as an "*enabling activity*" to suit BHP interests, is contrary to federal responsibilities, compromises this EIS Assessment and works against transparency and scrutiny.

The SA government sanction for BHP Evaporation Ponds at Olympic Dam is directly contrary to relevant federal Approval Conditions set by the federal Minister for Environment in Oct 2011 under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) during the course of the most recent federal assessment of an Olympic Dam expansion proposal.

These EPBC Act conditions required BHP to phase out the use of Evaporation Ponds across the entire Olympic Dam operation to protect Listed Bird Species. This clear and prudent protection did not come into effect as BHP's open pit mine expansion project did not proceed.

In order to help protect Listed Bird Species as Matters of National Environmental Significance under the EPBC Act these important federal conditions from 2011 must now be applied as pre-conditions to the June 2019 BHP Olympic Dam EPBC Act Referral (Reference Number [2019/8465](#)) for a major new Tailings Storage Facility No.6. TSF 6 is intended to be larger in area than the CBD of Adelaide.

Federal [Fauna Approval Conditions 18 - 21 \(EPBC 2005/2270, Oct 2011\)](#) were set to protect Listed Bird Species and 21 Listed Migratory Bird Species found in the area from impact and mortality. The most relevant Fauna Conditions 19 and 21 mandated that BHP as the Approval Holder:

"must not construct Evaporation Ponds (for the purpose of the expanded mine); (C.19).

And to: *"phase out the use of Evaporation Ponds as soon as practical":*

Condition 21. The Approval Holder must undertake a review to identify further opportunities to decrease the attractiveness of tailings storage facilities (in place at the date of this approval) and Evaporation Ponds to Listed Species of birds, prevent and deter visits by large flocks of Listed Species of birds, improve monitoring methods, phase out the use of Evaporation Ponds as soon as practical, and ensure continuous improvement in reducing the number of Listed Species of bird mortalities each year."

BHP should honour these federal conditions to prevent and limit mortality to protected Bird Species, such as South Australia's iconic Banded Stilt, in both existing Olympic Dam mining operations and in any proposed expanded operations, including TSF 6, and do so - *"as soon as practical"*.

However BHP has been doing the opposite. The [BHP Annual Environment Protection and Management Program Olympic Dam Report](#) to 30 June 2018 states that 222 dead birds were observed, including 39 of SA's iconic Banded Stilts. This mortality is unacceptable and unnecessary.

BHP report (p.108): *"Overall, there has not been a significant increase or decrease in the number of alive and dead birds observed at the Tailings Storage Facility (TSF) from FY12 to FY18"*. BHP further state: *"It is unclear whether all affected species die as a result of ingesting liquor"* and *"Some fauna species may leave the system and die elsewhere"*.

The actual number of bird mortalities is far higher than the observed reports. Impacted birds that leave the site are dying elsewhere and many birds drown in the acid mine waste waters of BHP's Evaporation Ponds. This will increase with Evaporation Ponds 1-3 to be put back in use and the walls to be raised by 2-5 metres to extend the period of use ([Monitoring Program – Waste, July 2018](#), p.9).

The federal Department of Environment ["Olympic Dam expansion assessment report EPBC 2005/2070"](#) (Sept 2011, p.4) identifies *"Bird deaths associated with exposure to the tailings storage facility"* as one of: *"the principal certain or likely impacts relating to the proposed project"*. The federal Assessment Report *"Impacts of the TSF on fauna and migratory species"* (p.17-18) states:

"The TSF poses the relatively largest threat to fauna (particularly birds) from the project within the SML (Special Mining Lease). The existing tailings facility, which consists of around

400 ha of tailings storage and 133 ha of evaporation ponds, attracts fauna due to its location in the environment. Decant water in the TSF is usually toxic and can result in bird deaths. Since the monitoring of fauna deaths commenced in 1996, the mortalities of individuals from 49 different fauna species have been reported, including six migratory bird species listed under the EPBC Act. The EIS lists the species with the highest mortalities as the Banded Stilt, Red-necked Avocet, Whiskered Tern, Grey Teal, Black Swan, Hoary-headed Grebe, Little Pied Cormorant and the Silver Gull.

BHP has made a number of changes to the proposed TSF design in the proposed expansion to reduce risks of impact on birds. Most notably, evaporation ponds will not handle excess liquor from tailings. As the only open water body in the region, these ponds have been the major source of bird mortalities. The South Australian Assessment Report (SAAR) notes these changes will likely reduce the attractiveness of the area to fauna by removing large open water bodies and exposing a less attractive wet, muddy surface. The new effect of these changes for open water bird species would be beneficial in the longer term.

Given the significant risk posed to flocking migratory wader bird species (such as Banded Stilts) by the TSF and the inability to predict when such large flocking events may occur, the SAAR recommends that BHP investigate the development of a real-time continuous monitoring system... The report recommends that BHP also develop rapid response deterrent techniques to prevent birds from landing on the TSF. The SAAR recommends that BHP be required to prepare and implement a Bird Impact Management and Monitoring Plan relating to listed migratory species and Banded stilts to minimize, record and report actual and extrapolated/modelled bird mortalities as a result of exposure to the TSF.

The department agrees with the SAAR that the expanded TSF may adversely affect birds including listed migratory species. The design of the new TSF cells is likely to reduce this impact as will the eventual closure of the evaporation ponds.

The EIS notes that bird deaths are generally a result of acid in the evaporation ponds contacting the plumage or sensory organs resulting in drowning.”

Recommendations:

BHP must stop the use of Evaporation Ponds in order to reduce mortality in protected Bird Species

The federal government must subject the June 2019 BHP Olympic Dam TSF 6 Referral to a public assessment process and require that BHP: “*must not construct Evaporation Ponds for the purpose of the expanded mine*”; and to: “*phase out the use of Evaporation ponds as soon as practical*”.

This is consistent with the federal EPBC Act Assessment and Decision in [Fauna Approval Conditions 18-21 \(EPBC 2005/2270, Oct 2011\)](#) to protect Matters of National Environmental Significance in Listed Bird Species and the 21 Listed Migratory Bird Species found in the area, from mortality at Olympic Dam. These conditions must now be applied uniformly across the entire Olympic Dam operation.

The federal government must require BHP to prevent and limit impacts and mortality on Listed Bird Species protected under both the EPBC Act and the SA *National Parks and Wildlife Act*.