

Dr David Kemp  
Chair  
Australian Heritage Council  
Canberra ACT 2600

23 November 2016

Dear Dr Kemp,

**Re: Threats to the values of the Dampier Archipelago (including Burrup Peninsula)**

I write to draw your attention to the current and impending threats to the values of the National Heritage Listed property, the Dampier Archipelago and the globally renowned petroglyphs for which it was listed. I know you are aware of the importance to the nation and the world of this magnificent Aboriginal rock art because when you were Minister, you wrote to the Government of Western Australia (letter attached) seeking its view on the World Heritage Listing of the area. Unfortunately, the Government of Western Australia did not pursue the matter as it was required to do under the section 12.1 of the BMIEA deed.

“Within three (3) months of the date that the Commonwealth Government formally requests the views of the State to some or all of the Dampier Archipelago and the Burrup Non-Industrial Land being nominated to the World Heritage List, the State will establish a committee (“Burrup Heritage Committee”) to consider and report to the State (including making recommendations) as to whether a recommendation should be made to the Commonwealth Government for some or all of the Dampier Archipelago and the Burrup Non-Industrial Land to be nominated to the World Heritage List.”

National Heritage Listing has provided a degree of protection but it is not sufficient to prevent ongoing degradation of the petroglyphs which give the property its outstanding heritage value. The rock engravings are critical to Australia’s cultural history and contribute to an understanding of that cultural history by recording human habitation from at least 30,000 years ago and do so with a high degree of creative achievement. They tell the story of Aboriginal life and culture over thousands of years and contain archaic faces, the earliest known image of a human face anywhere in the world. The engravings also yield information about Australia’s natural history since they record species now extinct as the documentation supporting the listing notes:

“...the different degrees of weathering of particular types of faunal engravings... provide an outstanding visual record of the course of Australia’s cultural history through the Aboriginal responses to the rise of sea levels at the end of the last Ice Age.”

Australia has proposed a number of sites for World Heritage Listing but Indigenous cultural sites are critically underrepresented. With that in mind, I was pleased to see in the Strategic Plan of the Australian Heritage Council that a high priority is the protection of Indigenous Cultural Heritage and an undertaking 'to work with the Department, and others, to improve the identification, assessment, conservation and monitoring of Indigenous cultural heritage and cultural heritage values across the work of the Department.'

Unfortunately, that has not been the case to date. The Dampier Archipelago site is subjected to vandalism and degradation from ongoing industrial activity which is inadequately monitored by the Commonwealth.

I visited the area on 12-13 November 2016 and now report vandalism. To the north of the industrial sites and inside the Murujuga National Park and National Heritage listed area, there is a steep almost impassable track known as the jump up. It has protected the Northern Burrup because it has restricted vehicular access. Now heavy earthmoving equipment has been used to remove rocks to permit access. The claw marks of D9 type machine are still evident as are the drill holes in one large rock opposite the clawed area. It is now open slather for four-wheel drive vehicles into an Aboriginal Protected Area, rich in rock engravings but only superficially surveyed by archaeologists.



When I was there accompanied by archaeologist Ken Mulvaney, two four-wheel drive vehicles went up, spinning wheels and rocks. Included below are photos of the number plates of vehicles towing the trailers on which these four-wheel drive vehicles were transported to the area. As there are a limited number of places from which you can hire or borrow heavy machinery in Dampier/Karratha, an investigation is urgent and warranted. The rocks need to be replaced to prevent open access to the Northern Burrup.





Furthermore, other examples of new graffiti were identified by archaeologist Ken Mulvaney. At Deep Gorge, someone had carved MAX into one of the rocks and near the Climbing Man panel, a date had been scratched onto a rock.



But the greatest threat to values for which the site was listed, the rock art, is from the emissions from the YARA ammonium nitrate plant that is constructed and awaiting a license to operate. Emeritus Adjunct Professor John Black has studied the proposed emission levels and I quote from him.

"There is sufficient evidence to suggest strongly that the emissions proposed from the new ammonium nitrate plant will destroy the rock art. The desert varnish outer layer of the Burrup rocks is extremely thin and grows at the rate of <1-10  $\mu\text{m}$  per 1000 years only when rock surface pH is greater than 7. This rate of patina growth is

less than half a hair width in 1000 years. There are a few specialised bacteria and micro-fungi that concentrate, 50-300 times, manganese and iron compounds from dust in their outer sheath to protect them from the harsh arid environment. They are thought to live for hundreds of years, lying dormant most of the time and only growing when conditions are right. Only five of these organisms in 1000 years are thought to be needed to form the desert varnish when they are chemically bound to clays in the dust.

The acid load proposed from the plant is cumulative, excessive at the highest for the most buffered ecosystems in the world. The ammonium nitrate particles (25.2 t/y) will accumulate on the rocks and stimulate adventitious fungal and microbial growth that have hyphae and break open the engravings.

The acid load proposed is known to solubilise the manganese and iron compounds in the desert varnish, dissolve this outer patina and leave the softer clays of the weathering rind exposed to the elements and the rock art will disappear.

The two CSIRO studies which underpin the emission levels are either flawed because of lacking statistical analyses or misinterpret a paper on critical acid load which refers to ecosystems (not of the Burrup type) and not to rocks or rock art. I have no doubt that their conclusions are wrong and not scientifically credible. The PhD student and co-author of the paper used to justify the 200 meq/m<sup>2</sup>/yr acid load wrote to me with the following statement: 'The sensitivity map with proposed critical loads was created to look at ecosystem impacts. It is not suitable for corrosion of art carvings.'

The second CSIRO study to which John Black refers is the monitoring of the changes in colour of the rock art between 2004-2014. This was to ascertain the impacts of the existing pollution in considering the existing standards for industry and the ability of the art to withstand additional loads. In this case, CSIRO reports concluded there was no consistent change in colour of background rock or engravings over time from first measurement in 2004. However, the reports on which the decisions were made by government contained no statistical analyses of data to support the claims.

Given these concerns about the likely impact of the emissions, the Department should have been more rigorous in analysing the documents which form the basis of the conditions which have been set. The EPBC Act provisions will be triggered unless the Department now intervenes to review the operating conditions currently under consideration by the Western Australian Government.

Furthermore, the Minister for the Environment initially only permitted the construction of the plant with a condition that there had to be a survey of all of the rock art within a two-kilometre radius of the plant and a written report on the state of the rock art before construction could begin. This baseline study was not done and construction began. The Department then permitted a variation of this condition but even then the corporation still has not done the required survey. In its compliance report of October 2016, YARA indicates it will seek a further variation. Given that protection of the rock art is the responsibility and

first priority of the Government in considering whether or not to permit industry to operate in the middle of this cultural heritage site and given the Company began construction in contempt of the condition that was set, I strongly request that no variation is agreed. The Department must enforce the existing condition that a complete survey of the rock art within a two-kilometre radius and not just a representative sample is completed prior to operation.

In a further complete failure of regulation, there is no regulatory condition relating to ammonia leaks from the existing YARA Fertiliser Plant. There have been several serious leaks this year requiring hospitalisation of workers but still no attempt to regulate the release of ammonia to the environment.

As to air quality monitoring YARA recognises the sensitivity of rock art to additional emissions from the ammonium nitrate plant, but wrongly states 'Several locations have been identified across the Burrup Peninsula at which air quality monitoring is carried out by CSIRO to assess the potential impacts of air pollutants from industry on petroglyphs.' But no air-quality monitoring has been published by CSIRO since 2008 (Gillett, 2008). Although the Yara Pilbara Compliance Assessment Report (MS 870) identifies five sites where air-monitoring equipment has been located, no results have been obtained for NH<sub>3</sub> NO<sub>x</sub> or SO<sub>x</sub> concentrations in the air. These background measurements are required for compliance with the Commonwealth EPBC conditions for construction and operation of the ammonium nitrate plant.

I went to see one of these sites on 13 November 2016 and the equipment was not operating.

As it is also the responsibility of the Australian Heritage Council to advise the Minister on

(iv) the monitoring of the condition of places included in the National Heritage List or Commonwealth Heritage List;

I ask that you inform the Minister that the current conditions and monitoring of those conditions is inadequate to protect the rock art.

The Dampier Archipelago, with its outstanding Aboriginal rock art, is a critical part of Australia and the world's cultural heritage. It is time it was added to the Tentative List of World Heritage sites so that it can be nominated for World Heritage Listing and properly protected for its outstanding universal value to human kind. Having survived 30,000 years, it cannot be allowed to be destroyed by industrial pollution and vandalism in a generation.

Yours sincerely,

Christine Milne  
Friends of Australian Rock Art  
Former Australian Greens Leader