FOI 170103
Document 1

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The Hon. Mr G Hunt, MHR
Federal Minister for the Environment
GPO Box 787
Canberra ACT 2601

12th August 2014

RE: Iron Road Limited/Mining/Eyre Peninsula/SA/Central Eyre Iron Project, Eyre Peninsula, SA
Date Received: 29 Jul 2014 Reference Number: 2014/7285

Dear Minister,

Please find attached the Associations response to the call for public comment on the aforementioned EPBC Referral.

Should there be any questions related to the submission, please contact:

The Secretary,
Tumby Bay Residents and Ratepayers Association Inc
PO Box 95, Tumby Bay, South Australia, 5605

Yours sincerely,

s47F

Chairperson

NB: This page is NOT for publication

TO: The Hon Greg Hunt MHR
Federal Minister for the Environment

RE: Response to the call for Public Submissions to EPBC Referral 2014/7285
Iron Road Central Iron Ore Project Infrastructure Corridor and Port Facility

This submission has been prepared by the Tumby Bay Residents and Ratepayers Association Inc (TBRARA), its sub-committee, Eyre Peninsula Community Mine to Port Consultative Committee (EPCMPCC) and in consultation with the Port Lincoln Residents & Ratepayers Association Inc. (PLRARA)

The submission raises concerns about the claimed consultation processes undertaken by the Company; the paucity of scientific data as a consequence of 'rapid' environmental survey of the corridor and port site; the almost complete reliance upon literature surveys; the lack of site specific meteorological studies and the non disclosure of the chemical composition of fugitive dust associated with the mine, the transport corridor and the port facility and thence the impact upon the environment and listed and endangered species within that environment, both terrestrial and marine.

BACKGROUND
Claimed credibility of the Consultation process:

> *"Iron Road has been implementing a comprehensive and ongoing community and stakeholder engagement program since 2011 in the CEIP Mine area."*

Iron Road publicly announced Cape Hardy to be its preferred locality for a deep sea water port in December 2012 and commenced comprehensive engagement with stakeholders and communities in March 2013.

Engagement with these parties has taken many forms including:

- one on one meetings with affected landowners along the proposed infrastructure corridor
- meetings with all relevant local Councils
- meetings with groups of stakeholders with a common interest on issues, such as access arrangements in the infrastructure corridor, to encourage an exchange of ideas
- attendance at community group meetings
  involvement with both the Port Neill Community Reference Group and the Tumby Bay and District Community Consultative Group, combining stakeholder and community representatives
- drop in sessions/open 'houses'
- public meetings
- attendance at regional events (e.g. local agricultural shows)
- information and frequently asked questions sheets.

Issues raised during public consultation have included loss of rural land and impacts on amenity and land values, additional services required for an increased population, maximising economic and employment benefits from the project, dust from mining and loading operations and stockpiles, operational noise from land and sea based facilities, traffic management, groundwater impacts to agricultural land and regional water supply, impacts to limited mains water supply and cumulative impacts from the various port proposals in the Spencer Gulf."

The reality
Apart from a concerted Company advertising programme in the press announcing progress on the Definitive Feasibility Study, to which no detail was forthcoming, stakeholder consultation comprised of Company spin.

The comprehensive engagement with stakeholders in 2014 comprised of a concerted market campaign in April to sell the virtues of the recently released Definitive Feasibility Study. A series of public meetings and drop in sessions was organized across the affected communities, with public meetings held in Warramboo and Rudall and drop in sessions at Wudinna, Port Neill and Tumby Bay.

An approach was made by the EPCMPCC, a sub-committee of the Tumby Bay Residents and Ratepayers Association Inc, seeking to have the drop in one on one session at Tumby Bay changed to a public meeting whereby the Public had the opportunity to ask questions of the Company and the Public to hear the answers accordingly.

To assist the Company in this approach a series of questions on notice relating specifically the Definitive Feasibility Study (DFS) were provided with the request letter.

The Company's response to the request, under the hand of the General Manager was to decline and state:

> *"Finally, I note the numerous questions and comments you included with your letter. You appear to have misinterpreted and/or misunderstood the bulk of the information outlined in the company's ASX announcement dated 26th February 2014 in relation to the DFS.*
>
> *Misinterpretation may cause unnecessary anxiety and fear in the community and I therefore encourage you to attend one of our planned sessions. You will be able to receive the facts directly from Iron Road which in turn will assist you in providing correct information to your members".*

No attempt was made to respond to the questions asked, or to hold a public meeting in Tumby Bay, noting that a significant portion of the proposal lies within the District Council of Tumby Bay.

The Association made a submission to the Federal Governments White Paper on Competitiveness in Agriculture. The submission focussed upon the impact of mining on agriculture with reference to a number of mining proposals on Eyre Peninsula, including Iron Road.

The Company responded to this submission:

> *"I note that the White Paper has been commissioned by the Australian Government to boost agriculture's productivity and profitability. The Paper's intention is to identify pathways and approaches for growing farm profitability and boosting agriculture's contribution to economic growth, trade, innovation and productivity.*
>
> *The EPCMPCC's submission however appears to concentrate on scare mongering based on ill informed opinion or possibly deliberate misinformation. Moreover, your submission contains numerous errors of fact. (General Manager: E-F-LTR-0018_0)."*

Unfortunately, the Company failed again to take the opportunity to address the issues raised either through a public meeting or through a detailed explanation as to where the Committee or Associations were ill informed.

The Association's response to this included

> *“It is our contention that this is a major deficiency in the Company's quest for a social licence for the project, one which could be overcome through the formation of a Tumby Bay and District CCC specifically to address the issues of the CEIP project, especially in light of the forth coming public consultation processes surrounding the approval processes, thereby affording this community the same opportunity as has been the case for Wudinna and Warramboo.*
>
> *It is noted that a copy of your letter has been forwarded to the Agricultural Competitiveness Taskforce. In line with the Government's offer to get involved with matters that influence the competitiveness of Australian Agriculture, the Associations responded accordingly, highlighting the issues of mining in agricultural areas as being a confounder to growth and sustainability of the industry.*
>
> *We note that the Company, through an article in the Granite (May 2014) has made an attempt to respond to some of the issues raised. Unfortunately our concerns remain and we have taken the opportunity to raise them again through the CEIP CCC as per the attached copy of a letter to Ms Lamont and the Committee."*

In the June edition of the Wudinna Community Newsletter, the Granite, the Company provided an article supposedly to dispel what it perceived as misinformation in the community. Apart from the disparaging remarks that certain sections of the community were ill-informed and scaremongering, the information was factually incorrect. Your attention is drawn specifically to the information pertaining to iron ore dust.

> *"The mineral and geochemical composition of the magnetite deposit and surrounding rock is benign"*

"The dust (CEIP iron ore dust) is non toxic and the potential for this to occur is not credible".

The Association provided a response to this article to the Central Eyre Iron Project Community Consultative Committee (CEIP CCC). The response pointed out the misleading and inaccurate information provided by the Company supported by a number of references attesting to the health hazards of iron ore dust and its impact upon pastures.

> *"The question posed, on the basis that heavy metals are synonymous with the geology of the Gawler Craton, was simply what are the concentrations of the metals so identified.*
>
> *The rationale behind asking the question was based upon the knowledge that Arsenic and Chromium (VI) are known carcinogens; "some studies of environmental exposure to manganese have suggested possible links to neurodegenerative disease"(Lazenby D: Literature Review and Report on Potential Health Impacts of Exposure to Crustal Material in Port Headland, pp52, 2007); the known toxicity of copper in concentrations above trace levels in cereal production land and its significant toxicity in the marine environment. It is noteworthy that no reference to the presence or otherwise of Cadmium was reported in the aforementioned document.*
>
> *The identification of Lead and Strontium leads to the question of what isotopic form of Lead and Strontium were identified as both Lead and Strontium have radiogenic properties arising from various radioactive decay sequences indicative of the presence of Uranium and other radioactive materials.*
>
> *It is reasonable to seek a scientific response to these questions given that the Gawler Craton has known occurrences of Uranium and other similar materials within its geological makeup. It is also known that Uranium exists in a nearby paleochannels thereby strengthening the argument for full disclosure with respect to the presence of radioactive materials in addition to the Radon and daughters of Radon known to be released in mining activities within the Gawler Craton.*
>
> *The significance of these questions lie in the fact there is the real possibility of these materials being deposited on the waste rock dumps thereby exposing these chemicals to leeching following rain or dust suppression with (hyper-saline) water and or windblown onto neighbouring properties. The potential contamination pathways need to be identified and mitigated against."*

Whilst the response focussed on dust at the mine site, the broader issue also remains unanswered, that is the impact of fugitive dust on the environment outside the mine, the transport corridor and the port facility with the environment being defined as inclusive of the habitats of listed and endangered species.

The correspondence has been tabled at the CEIP CCC July meeting. It is understood no response has been forthcoming from the Company.

Further, the 'questions on notice' provided to the Company in April were also provided to the CEIP CCC for their information and action. Again, no answers to the questions have been received.

The Association forwarded through the EPCMPCC, a detailed letter raising issues associated with mining in the Tumby Bay District to the July Annual General Meeting of the Tumby Bay District Community Consultative Group (TBDCCG). This correspondence included the 'questions on notice' provided to Iron Road for the TBDCCG's consideration. To date, no response to this correspondence has been received. It should be noted that the TBDCCG has been identified by Iron Road as one of the community stakeholder groups.

The Association and its sister Association, the Port Lincoln Residents & Ratepayer Association publish regular articles concerning mining on Eyre Peninsula, inclusive of articles relating to the proposed Iron Road project with specific reference to the identification of potential environmental impacts, especially in relation to ground water and fugitive dust.

In recent correspondence to the EPCMPCC, the Company criticized a couple of website articles on ground water and dust and provided the Company's view of groundwater and dust. The correspondence accused the article of inaccuracies and claimed:

"These are basic principles which high school geography students would be aware of and understand. The incorrect and misleading nature of the Drainage Graphic accordingly suggests that the creator of that image has an extremely poor and naive understanding of groundwater, or, alternatively, a deliberate intent on the part of the creator of the graphic to manipulate the data and create misinformation.

As such, the Drainage Graphic is nothing more than a colourful cartoon, and of no utility or relevance in reflecting actual scientific data, or informing readers of the same".

The correspondence also made reference to errors in relation to dust:

"The publishing or distribution of misleading statements presented as fact, including the depiction of data and figures with no scientific basis, or in a manner which misrepresents the data, is misleading and deceptive. It has the real potential to cause confusion and alarm in the community, to without foundation misrepresent the intent and integrity of Iron Road Limited, and to cause significant reputational and commercial damage to the Company.

As you will appreciate, Iron Road Limited must reserve all of its rights to take such action as it sees fit to prevent the publication and dissemination of material that is misleading and deceptive, is included for the completeness of the record." (General Manager, ref E-F-32-LTR-0023_0)

In all of this, the Company has not responded to the questions on notice submitted in April.

The 'questions on notice' that have specific relation to the EPBC referral include:

Salt
Calculated groundwater seepage rates to the open pit and dewatering bores range from 12 to 23 megalitres/day, dependent on the depth and size of the open pits at each stage of operation. Some of this water will be lost to evaporation within the open pits; the remainder will be recycled for use in dust suppression and the process plant.

It has been reported that in the order of 400+ million tonnes of salt will be brought to the surface as a consequence of this activity (CEIPCCC meeting notes).

Water
During the course of the study, there has been significant reduction in the volume of water required for the mine operations (from 45 gigalitres per annum to 14 gigalitres per annum).

Question: What is the regional hydrological impact of (a) dewatering the Warramboo pits to the extent of 12-23 million litres per day and (b) the proposed extraction of water from the proposed Kielpa bore field? What is the impact of dewatering at Warramboo and Kielpa in terms of water required to sustain the environment? Notwithstanding the fact that the proposed Kielpa bore field is extracting saline water, what is the long term economic impact of reducing the water reserves that may become available for agricultural or human use due to advances in solar distillation technologies that could be applied to this water reserve? This is the future generational impact of what is being proposed to quote 'benefit the short term aspirations of the mining company'.

The Port
The inner harbour may be used for the import and export of low-volume high-value cargoes, including the import of machinery, cement and fertiliser and the export of copper concentrates, grain and other containerised cargoes.

Question: Nowhere in the DFS is reference drawn to the mining of copper at Warramboo. Furthermore, no reference has been made to the toxicity of copper in sea water, especially in light of the fact that Cape Hardy is on the migratory path of the Southern Wright Whale, a totally protected species. Are we to assume one of the undisclosed outputs from the mine is copper?

Question: Given the quantities of fuel likely to be consumed, does the proposed port have the capacity to receive and store fuel?

Question: It is noted that the ore will be transported from the mine in covered bottom dump wagons. Are the wagons sealed to prevent the escape of fugitive dust? Are the wagons decontaminated (cleaned) before leaving the port facility on the return to the mine?

Question: Fugitive dust is of significant concern. The DFS is very short on information relating to the potential risks associated with fugitive dust contamination, indeed, the JORC statement on the environment failed to mention the potential risks due to contaminated pastures, cereal grain, wool, meat and rain water, not to mention potential health risks to humans. Is it a matter of convenience to overlook the accumulative impact of the 4% free silica contained in the final ore concentrate and the health effect of continued exposure over a significant period of time? Is it a matter of convenience to not make scientifically supported (including independent peer review) of all chemical analytical results pertaining to the presence or otherwise of heavy metals (Chromium (VI); Cadmium; Arsenic; Uranium and other radioactive substances (Thorium, Strontium [87], Radon) that are known to occur in deposits of this nature in the Gawler Craton and or the Paleochannels known also to exist within the region?

Question: It is noted that the proposed port is listed as an export port for copper concentrate. This is the first occasion that **the export of copper** has been raised; therefore what are the environmental impacts of copper in the proposed project? Firstly what risk assessment has been undertaken to determine the impact of copper (at levels greater than those considered to be trace levels for the purpose of agriculture) on the farming community both in and around the proposed mine, the corridor and at Cape Hardy, especially in the context of copper toxicity in sea water and the very probable environmental damage arising? Where does the copper come from?

Environment and Community
Environmental and social impact studies, including baseline technical surveys and meetings with community groups and government agencies have ensured that Iron Road understands the potential benefits and impacts of the CEIP.

Note: It should be recognised that no environmental or social impact statement have been released therefore the content of these studies HAS NOT BEEN SUBJECTED to any PUBLIC or third-party scrutiny.

No clearly defined statement as to the impacts, social or economic, have been released to the public, hence the veracity of these reports remain subject to review.

'JORC Code 2012 Table 1' Section 2 Reporting of Exploration Results
Sampling Techniques
Samples were also analysed for As, Sn, Ba, Sr, Cl, Ni, V, Co, Zn, Cr, Pb, Zr and Cu

It is noted that uranium, thorium and other radioactive elements were not included in the analytical work; therefore the following questions remain unanswered:

Given the known presence of uranium, thorium and other radioactive materials in the Gawler Craton bedrock and associated Paleochannels in the district, why are these substances precluded from any analytical results?

Given the inclusion of Lead [Pb] in the analytical data, which isotope of lead was reported on, given that lead is the end product of various decay sequences for radioactive elements? Was it Pb 214; Pb 211; Pb 210; Pb 209; Pb 207 or Pb 206?

Was lead therefore used as a marker for the presence of uranium?

What was the concentration of the lead in ppm?

Given that strontium was reported in the analytical result, what isotopic form of strontium was identified?
If it were Sr87 (the radioactive isotope) was this used to determine the geologic age of the deposit using the Sr87/Rb87 dating procedures? If not, what was the concentration of the strontium sample in ppm?

It is noted that the analytical work sought to determine the presence of arsenic and chromium. That being the case, what was the concentration of arsenic in ppm?

With respect to the chromium, was the sample tested for hexavalent chromium (Cr (VI))? If so, what were the concentrations in ppm?

It is noted that no mention in the analytical work was made of the presence or otherwise of cadmium.

Given that Boron is an issue for the agricultural industry, why wasn't an analysis for the determination of existence and concentration of boron in the samples undertaken? The issue being, if boron rich soil/overburden is brought to the surface as a consequence of mining and this material drifts onto neighbouring properties, agricultural yields could well be affected.

It is noted that samples were analysed for the presence of copper. What concentrations of copper occurred in the samples in ppm?

Environmental factors or assumptions

- Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation.

  While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.

- No environmental assumptions have been considered in the estimation

Comment: As alluded to earlier in this response, the issue of the presence of radioactive material is of considerable concern, given that the MLP is proposed for the mining of iron ore and does not include the mining of radioactive material. It is therefore assumed that if said materials are present then the disposal plan is for this material to be deposited on the waste rock heap. That being the case (and clearly in the lack of evidence to the contrary) the material will be exposed to wind and water migration. Wind will result in the transportation of the material into neighbouring farming properties potentially contaminating pastures, grain, and through the food chain meat. Rain will potentially leach the material from the waste dumps into the underlying and surrounding environment.

The issue of radon gas which is a characteristic of mining deposits such as that proposed is not dealt with.

The environmental impact of significant quantities of diesel fumes and particulates emanating from the mine is not dealt with.

The real issue of fugitive dust which contains not only iron ore dust but potentially significant quantities of free silica as a consequence of the mining process is of a major concern. Added to this is the issue of fugitive dust arising from the transportation of the refined ore from the mine to the proposed port some 145 kilometres through prime agricultural land. The processed ore is reported to contain up to 4% silica and a non disclosed amount of other material, some of which may well be heavy metals.

The inference is that there are no environmental impacts from dust.

Environmental

- The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.
- Iron Road will require approval under the Mining Act (1971) which includes the approval of a Mining Lease Proposal (MLP) and a comprehensive Program for Environment Protection and Rehabilitation (PEPR).
- All baseline environmental surveys have been completed. The preliminary impact assessment did not categorise any potential Project impacts as 'High'. Detailed impact assessments are on-going in areas including air quality, groundwater, surface water, flora, fauna, noise, social, visual, and heritage.
- It is expected that all predicted impacts may be adequately mitigated and/or managed and that the MLP and PEPR will be subsequently approved by the State Government.

Note: In addition to the previous comments, the report fails to acknowledge the presence of protected species in the proposed project area (the Mallee Fowl and the Southern Right Whale).

The report fails to acknowledge the health impact of the proposal.

The report indicates the need to prepare a PEPR, but in the absence of evidence to the contrary, this document to date is not for public knowledge. In short, the environmental performance criterion for which compliance is required is contained in a non disclosed document.

The environmental and economic impact of the transport corridor appears not to have been included in any risk assessment pertaining to this disclosure document.

The rehabilitation of the mine footprint and hole at the end of life, given the quantity of salt deposited on the footprint, is a significant undeclared environmental risk, given the expectation that the land will be returned to current use, i.e. agricultural land.

DISCUSSION

Without full disclosure the 'assumptions' alluded to in the Referral with respect to impacts upon listed species et al, are somewhat meaningless.

The environment requires appropriate levels of ground water to survive. Clearly there is an ecological balance in existence in the areas under question, i.e. the Warramboo area and the proposed Kielpa bore field.

The referral does not provide any consideration of the impact of dewatering of the proposed Warramboo Mine at the rates suggested in the DFS and it certainly does not make any reference to the impact on the environment of the potential for 400+ million tonnes of salt (over the life of the mine) to be spread over the footprint of the mine (as claimed by a company employee at a CEIP CCC meeting earlier in 2014). This salt in now mobile to both wind and rain and free to impact upon the environment.

Furthermore, there has not been full disclosure as to the nature of fugitive dust from the mine, the transport corridor or the port facility.

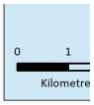
The statement made by the Company that iron ore dust is non toxic is not only without scientific foundation, but totally misrepresenting the real hazards to the environment that fugitive iron ore dust brings.

Depending upon the actual composition of the ore body, in this case a banded iron formation within the Gawler Craton, an ore body with a high probability of containing heavy metals (arsenic, cadmium and hexavalent chromium) together with manganese and uranium and thorium (or daughters thereof) given that these substances are known to exist in Craton deposits as well as evidence of uranium within paleochannels in the area, the composition of fugitive dust could contain various concentrations of these substances. Whilst they may be claimed to be low concentrations, the problem is that the environment containing not only the listed species under consideration, but all species of plants and animal, including humans could be exposed to cumulative doses of these contaminants over the proposed 25 year life of the mine.

It is well documented as to the health implications of heavy metals and uranium on the human species, but what is the case for exposure to these contaminants with listed species (plant of animal)?

If the debate puts aside the immediate location of the mine and focuses on the transport route and the port facility, the position is clearly that of a contamination pathway of some 130 kilometres with what distribution pattern having regard to local meteorological conditions along the transport corridor and the contamination pattern associated with the activities of the port and its storage and loading facilities, again having regard to the actual meteorological conditions of this location, not some assumed conditions relevant to Cleve some 60 kilometres away?

Clearly the referral is deficient in addressing the impact of fugitive iron ore dust of undisclosed composition upon the environment under consideration, the same environment in which the flora and fauna reside.



The proposed Port Spencer site

The debate needs to extend from the terrestrial environment to the marine environment.

By design, the concentrate stockpile provides for storage of approximately 660,000 tonnes of concentrate. The stockpile will be around one kilometre long, 44 m wide and 30 m high.

Whilst it is stated the stacker will have dust suppression capabilities, the issue goes beyond the actual dumping cycle to the impact of wind on the stockpile. What is not disclosed in the referral is the impact of the prevailing winds on the stockpile and the impact of fugitive dust rising from the stockpile and being transported into the marine environment (which from a starting point of view could be the proposed 'declared port operating limit' outlined above)

What is the dust dispersion profile from the stockpile (approximately 1,000 metres long and 30 metres high) with winds from the south-west, west, north-west and north? To answer this question, meteorological studies need to be site specific, not a hypothetical model based upon weather observations at Cleve, some 60 km away or Kyancutta some 140 - 150 km to the north.

There is no disclosure in the referral as to the composition of the fugitive dust being deposited neither along the transport corridor nor at the port facility.

Given that iron ore dust potentially contains heavy metals, manganese and uranium et al products as well as the identified copper, the referral is deficient in its discussion of the impact of this dust on both the terrestrial environment, especially that hosting listed species, as well as the marine environment.

Based upon the information contained within the Definitive Feasibility Study which clearly suggests the possibility of exporting copper from the facility, clearly the referral is deficient in its discussion of the impact of copper in the marine environment and its significant toxic impact upon seagrasses.
The desktop analysis of a multitude of databases provided a view of what possible listed or endangered species may be at the proposed site. What appears to be deficient in the referral is the actual evidence/research that has been undertaken to confirm the presence or other wise of the species identified in the literature.

What surveys were undertaken over a twelve month period of the marine habitat enclosed by the proposed 'operating limit of the port'?

Having confirmed the presence of listed or endangered species and their location within the marine environment relative to the proposed infrastructure and operating zones, the question remains, what is the impact of the proposed action on these species and the environment that sustains them?

The specific questions take the form of:-

- What impact has copper on the marine environment in which the listed species, southern right whale resides for a period of time?

- What impact has copper on the marine environment and the feeding habits of the white bellied sea eagle which is known to habit this area?

- What impact has copper on the marine environment and the survival of leafy sea dragons which are known to exist in the region, although not recognised within this report?

A similar set of questions can be asked with respect to the other undisclosed components of fugitive iron ore dust, given that the contamination pathway will operate for the life of the proposed mine (25-30 years) and beyond, if the action were to include mining of the remaining identified prospects in the tenement EL4898?

The Company claimed, in the Definitive Feasibility Study, "The preliminary impact assessment did not categorise any potential Project impacts as 'High'."

Public credibility of this statement is very low.

The methodology employed
Upon reading the referral, one important observation is the extensive use of desktop analyses or literature searches from which assumptions are made as evidenced by the following:-

> *"The species is known to be present in Rudall Conservation Park, Darke Range Conservation Park and Carapee Hill Conservation Park, however, there are no records of this species within 5 km of the infrastructure corridor. Whilst it is possible that individual plants may occur along the corridor, the remnant vegetation patches are too fragmented and disturbed to support viable populations of these species. Given the absence of records near the corridor, and failure to identify this species in field investigations, it is highly unlikely the corridor supports a population of this species or habitat critical for its survival. A significant impact to this species from the proposed action is unlikely."*

The field investigations, namely the ''rapid methodology referred to" , undertaken over five days to 'survey' 130 kilometres of corridor, assuming access has been granted to the full 130 kilometres, in November and or December is hardly evidence of a detailed environmental impact study upon which an investment the size of the CEIP is proposing depends.

This leaves the unanswered question; what about the remaining 51 weeks of a year?

"Given the absence of records near the corridor" implies, of course that the transport corridor has been known for eons and that a formal reporting process has been in place to 'report' occurrences of listed species thereon. Clearly the authors of the document do not expect such comments to hold any credibility with the public.

Consideration given to the white bellied sea eagle
Apart from the observed fly over by the 'survey team', what investigations were carried out to determine the population of white bellied sea eagles in the vicinity of the proposed port and storage facility, given the knowledge that these birds are somewhat territorial and do have a significant hunting range?

What research was undertaken to determine the presence or other wise of breeding pairs in the vicinity of the facility?

What research was undertaken with respect to the presence or otherwise of the dietary requirements of the eagle within the vicinity of the proposed facility?

What research was undertaken with respect to the potential impact upon that food source by fugitive dust emanating from the facility?

What research has been undertaken to determine what other factors (light, noise) would impact upon the habitat of the eagle and as a consequence, and an appropriate risk assessment made?

It is known that the sea eagle habitat extends over this area and that there are known breeding site(s) within the area.

The referral appears to be deficient in its investigation of the occurrence and potential impact upon the sea eagle.

Consideration given to the Mallee fowl

The presence of Mallee fowl on Eyre Peninsula is well known, but Freeman, et al (Malleefowl (*Leipoa ocellata)* Conservation on Eyre Peninsula, South Australia: Andrew Freeman[1]; Paula Peeters[2]; Graeme Tonkin) writes:

> *"Mallee fowl continue to survive on northern Eyre Peninsula (EP) in isolated patches of habitat both in the reserve scheme and on private land. However, information on the viability of these scattered populations remains limited.*
>
> *To assess the success of Mallee fowl conservation programs on Eyre Peninsula, population trends need to be monitored. As Mallee fowl density is difficult to measure directly, changes in the number of active mounds over time are being used as an indicator of changes in Mallee fowl density, as recommended by Benshemesh (2000).*
>
> *Five survey grids (2 km x 2 km) have been established in Munyaroo, Pinkawillinie and Hincks Conservation Parks as well as in two heritage agreements one just north of Cowell and one just north of Lock (Fig. 6)."*

Benshemesh, J. (2007). National Recovery Plan for Malleefowl. Department for Environment and Heritage, South Australia, writes:-

Nonetheless, there is insufficient information available to accurately assess the conservation status of Malleefowl across Australia except in broad terms. This is primarily because little is known of the population dynamics of the species, or its current distribution and population trends in many areas. Despite these uncertainties, there is no doubt that Malleefowl are currently threatened by a range of factors, and in many areas there has been such loss and fragmentation of their habitat that remaining populations are small and isolated, and prospects for their long-term conservation are poor. Detailed and extensive monitoring of Malleefowl populations in Victoria, SA and NSW have shown steep declines in breeding densities over the past decade, and the past five years in particular (Priddel & Wheeler 2003; Gates 2004; Benshemesh 2005). (pp10: Underlining added)

No particular populations or general areas can be described as being of greater importance for the long-term survival of Malleefowl than any other at this stage. Malleefowl still occur over most of their range, and although populations tend to be sparser in areas with low or highly variable winter rainfall, this is compensated by these areas being extensive. Conversely, Malleefowl densities are highest in remnants of habitat within the wheatbelts, but these areas are usually small and fragmented and will require intensive management in the long term to retain the species. (pp18-19)

Some forms of mining involve the removal of all vegetation at a site and causes major disturbance to the substrate which may have long lasting effects despite efforts at revegetation. Such destructive mining should be prohibited in areas that support remnant vegetation and relatively high densities of Malleefowl unless clear long term gains for Malleefowl can be demonstrated. (pp 25)

Table 2.
Number of Malleefowl records (to 2005) in the NRM areas across Australia sorted by time periods that contain similar numbers of records across Australia. Shaded rows indicate a total of less than ten records in an NRM. Numbers are indicative only and may contain records duplicated across different databases. Data sources are shown in Table 1.

NRM region name	Before 1963	1964-1976	1977-1980	1981-1991	1992-1995	1996-1999	2000-2005	Total
NSW								
Central West	19	7	18	20	3	13	17	97
Hawkesbury/Nepean	-	1	-	-	-	-	-	1
Hunter/Central Rivers	-	-	-	2	-	1	-	3
Lachlan	15	30	33	75	13	17	11	194
Lower Murray/Darling	8	17	25	27	29	72	51	229
Murrumbidgee	8	29	36	46	1	3	2	125
Namoi	-	3	5	5	-	2	1	16
Western	6	5	3	12	-	-	-	26
NT								
Northern Territory	19	1	-	-	-	-	-	20
SA								
Aboriginal Lands	10	4	3	12	17	8	40	94
Eyre Peninsula	26	23	21	36	23	53	37	219
Mount Lofty Ranges and Greater Adelaide	3	-	-	-	-	-	-	3
Murray Darling Basin	74	66	84	64	34	37	96	455
Northern and Yorke	5	8	2	14	3	9	19	60
Agricultural District								
Rangelands (SA)	8	8	1	4	-	1	16	38
South East (SA)	17	21	21	52	6	59	29	205
VIC								
Glenelg Hopkins	-	-	-	6	-	-	-	6
Mallee	107	88	172	63	26	37	71	564
North Central	20	-	2	3	1	4	-	30
Port Phillip and Westernport	2	-	-	-	-	-	-	2
Wimmera	13	22	42	11	10	24	33	155
WA								
Avon	49	99	59	21	100	97	73	498
Northern Agricultural Region	26	33	29	27	15	18	52	200
Rangelands (WA)	81	74	58	99	37	32	30	411
South Coast Region	25	12	28	26	199	51	31	372
South West Region	47	14	13	12	19	11	6	122
Swan	3	4	3	-	-	-	1	11
Total	591	569	658	637	536	549	616	4156

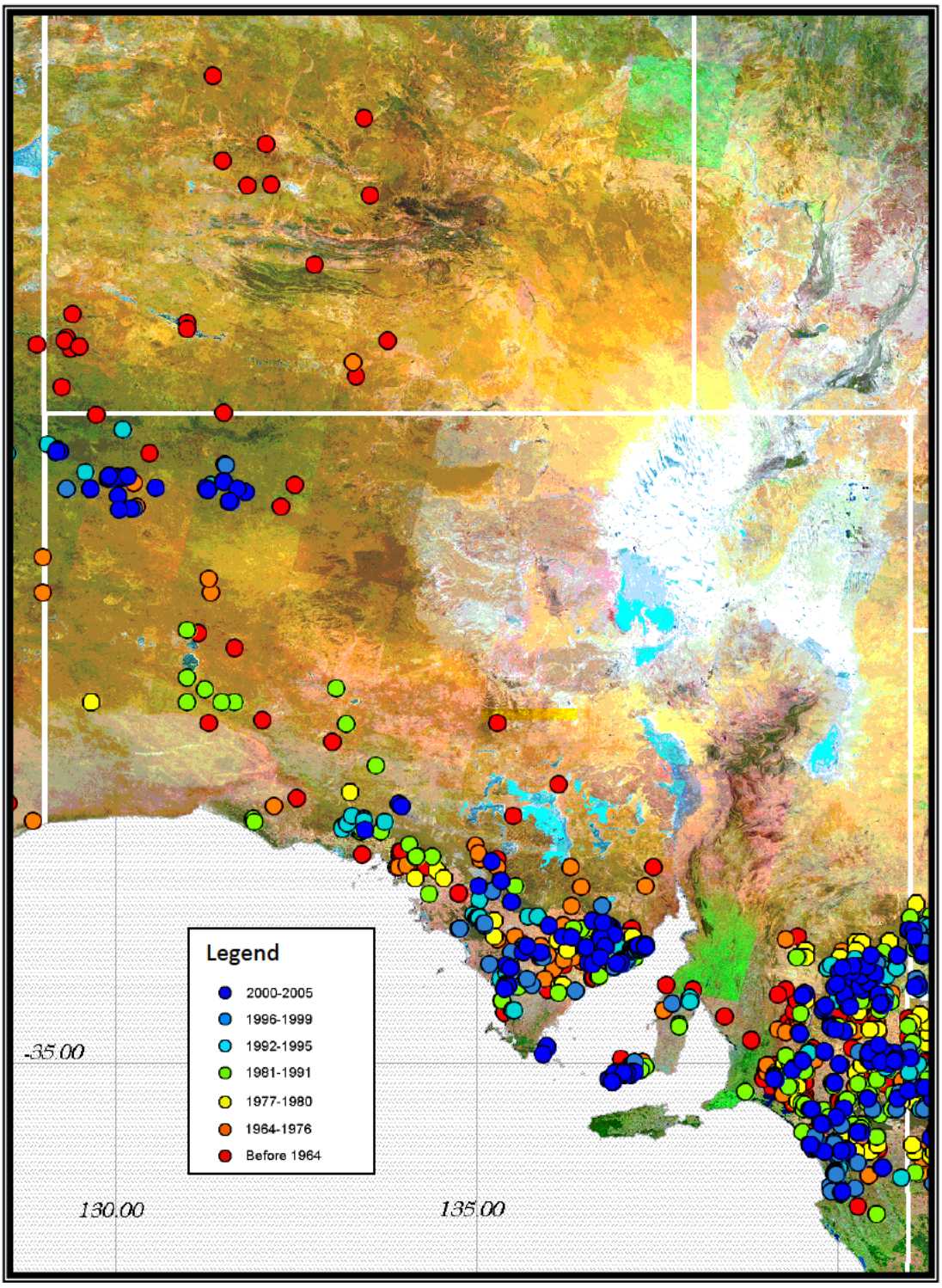
(pp 110)

Table 3.
Number of Malleefowl records (to 2005) in the biogeographical regions across Australia (Environment Australia 2000) sorted by time periods that contain similar numbers of records across Australia. Shaded rows indicate a total of less than ten records for a Bioregion. Data sources are shown in Table 1. Numbers are indicative only and may contain records that are duplicated across different databases.

Biogeographical region		Before 1963	1964-1976	1977-1980	1981-1991	1992-1995	1996-1999	2000-2005	Total
AW	Avon Wheatbelt (WA)	67	75	28	19	27	37	80	333
BBS	Brigalow Belt South (NSW)	11	7	11	17	2	15	17	80
BRT	Burt Plain (NT)	3	-	-	-	-	-	-	3
CAR	Carnarvon (WA)	17	3	3	9	-	4	8	44
CR	Central Ranges (NT,SA,WA)	16	2	-	-	1	1	6	26
CP	Cobar Peneplain (NSW)	15	39	50	67	4	9	3	187
COO	Coolgardie (WA)	10	12	36	14	8	4	5	89
DRP	Darling Riverine Plains (NSW)	4	1	8	7	1	-	-	21
ESP	Esperance Plains (WA)	9	8	21	23	187	46	29	323
EYB	Eyre Yorke Block (SA)	31	31	23	47	24	60	68	284
FIN	Finke (NT)	2	1	-	-	-	-	-	3
FLB	Flinders Lofty Block (SA)	3	1	-	-	-	-	-	4
GAS	Gascoyne (WA)	1	-	-	-	-	2	1	4
GAW	Gawler (SA)	6	7	1	3	-	3	4	24
GS	Geraldton Sandplains (WA)	4	18	18	22	2	8	13	85
GD	Gibson Desert (WA)	2	-	-	-	-	-	-	2
GSD	Great Sandy Desert (NT)	5	-	-	-	-	-	-	5
GVD	Great Victoria Desert (SA,WA)	21	12	2	14	20	10	35	114
HAM	Hampton (WA)	1	2	3	36	27	4	1	74
JF	Jarrah Forest (WA)	21	11	10	7	7	3	6	65
KAN	Kanmantoo (SA)	15	11	-	1	-	-	-	27
MAC	MacDonnell Ranges (NT)	1	-	-	-	-	-	-	1
MAL	Mallee (WA)	22	44	56	30	104	89	32	377
MUR	Murchison (WA)	14	23	8	15	1	6	5	72
MDD	Murray Darling Depression (NSW,SA,VIC)	195	189	311	200	107	187	270	1459
NCP	Naracoorte Coastal Plain (SA,VIC)	10	19	20	48	3	54	20	174
NSS	NSW South Western Slopes (NSW)	8	15	14	26	2	-	1	66
NUL	Nullarbor (SA,WA)	5	1	2	3	-	-	-	11
RIV	Riverina (NSW,SA,VIC)	22	6	25	12	3	-	-	68
SEH	South Eastern Highlands (NSW)	1	-	-	-	-	-	-	1
STP	Stony Plains (SA)	1	-	-	-	-	-	-	1
SWA	Swan Coastal Plain (WA)	4	3	-	1	-	-	-	8
SB	Sydney Basin (NSW)	-	1	-	2	-	-	-	3
TAN	Tanami (NT)	1	-	-	-	-	-	-	1
VM	Victorian Midlands (VIC)	8	-	2	5	1	4	-	20
VVP	Victorian Volcanic Plain (VIC)	-	-	-	1	-	-	-	1
WAR	Warren (WA)	18	4	-	3	2	-	-	27
YAL	Yalgoo (WA)	13	23	6	3	2	3	11	61
	Total	587	569	658	635	535	549	615	4148

(pp111)

Figure 2.
Records of Malleefowl in the Northern Territory and South Australia. Records are grouped in time periods that contain similar numbers of records across Australia. More recent records overlie older records. Data sources are shown in Table 1. (pp113)



The information contained in the two reports discussed above would suggest serious deficiencies potentially leading to inaccurate conclusions being drawn, especially in light of the Rapid assessment undertaken over a period of five days for the 130 kilometre corridor.

> *"Targeted searches for Mallee fowl or evidence of Mallee fowl (active, disused or abandoned mounds) were undertaken in areas likely to contain Mallee fowl habitat. No evidence of Mallee fowl was found." (EPBC Referral*

The question being, will the proposed action exasperate the decline assuming the empirical evidence confirms a decline?

The following sighting was sourced from the Australian Living Atlas website:
www.ala.org.au

Leipoa ocellata
Malleefowl

Observation: **2013-11-14 13:39**
Added: 8 months ago

Nantuma Road, Warramboo SA 5650, Australia
Lat: -33.2908861
Lng: 135.6928556
Coord source: camera/phone

Consideration given the southern right whale.

> *"There are no known current or historical aggregation areas within the South Australian gulfs (Kostoglou and McCarthy 1991; DSEWPaC 2012).*

The SRW are easily identifiable by the general public and highly conspicuous during their nearshore mother-calve aggregations. As such, a single individual (or mother and calf) may be sighted on numerous occasions as they move east to west from one aggregation area to another, as evidenced by South Australian Whale Centre records (2013-4). Despite historic infrequent sightings of SRW within Spencer Gulf, the gulf is not part of any established or historical migration path or aggregation area.

Given the tendency of SRW to show high fidelity to existing aggregation areas, the likelihood of large numbers of SRW using the gulf in future is considered highly unlikely. Individual SRW (or mother and calf pairings) that visit Spencer Gulf are likely moving from one aggregation area to another (Victoria to Encounter Bay to GAB) and not using the area for foraging or nursery grounds.

Arup (2013), using data from the South Australian Whale Centre, list eleven possible sightings of SRW (the species was unidentified in two of those sightings) between 1997 and August 2012 with a combined total of 19 whales sighted. Since then, two SRW were sighted at Point Lowly in September 2012. From 5 - 11 July 2013, there were seven separate sightings of up to four whales near Port Neill (SA Whale Centre 2013). It is likely that most, if not all,

of these sightings involved the same whales. Sightings in the Whale Centre's database are predominantly from the Victor Harbour region.

There were no recorded boat strikes in the Spencer Gulf and only one in the general area of the gulf (at Cape Jervis). (underlining added)

Arup (2013) also notes that a deep water facility has operated at Port Bonython (Santos refinery) in the Upper Spencer Gulf for the last 30 years with no recorded incidents of whale strike."

Unfortunately, the records consulted were not up to date. A fatal ship strike occurred just south of Tumby Bay in 2013 with the cause of death being confirmed by the SA Museum.

With the proposed increase in shipping through Port Bonython, Whyalla, Pt Pirie, the proposed Braemar Development just north of Wallaroo, Lucky Bay, cape Hardy and Pt Spencer, the probability of increased ship strike on whales increases.

This probability increases with the increasing incidence of whale movements in the lower Spencer Gulf region as observed and reported in recent times.

A singular reference point of the Whale Centre in Victor Harbour is hardly evidence of whale movements in the Spencer Gulf.

Is this action part of other actions?
The answer to this question has been sought but avoided by the Company. The reality being the DFS document, a document put to the market outlining the benefits of investing in the CEIP project. The document contains statements as to the reserve ore bodies, giving a total ore reserve of some billions of tonnes thereby providing evidence of a potentially economic ongoing mining proposition, albeit with some caveats included.

The Company has identified and listed a number of additional prospects together with an estimate of the ore reserve.

The extent of the prospect is outlined in table A3, pp 25 Definitive Feasibility Study.

This information is that which was posted on the Australian Securities Exchange (ASX code IRD). The inference being, the tenement has potential for expansion, and by definition implies it is part of a further action.

In addition, the transport corridor and port is dependent upon an addition action, being the mine or mines.

The bigger picture is neither disclosed nor assessed in this referral.

Indigenous Culture and Heritage
Eyre Peninsula has been home to Aboriginal people for thousands of years, with the Nauo (south western Eyre), Barngarla (eastern Eyre), Wirangu (north western Eyre) and Mirning (far western Eyre) being the predominant original cultural groups present at the time of the arrival of Europeans (Tindale 1974 in DEH 2004a; SATC 1999).

All Aboriginal groups on Eyre Peninsula are known to have used a wide variety of native plant and animal (including fish) species for food and other resources.

The Lake Newland area is traditionally associated with the Nauo Barngarla and Wirangu peoples with visits by the desert Kokatha peoples. The Barngarla/Nauo people are the traditional owners of the land of Lincoln National Park (DEH 2004b). The Gawler Ranges to the north of Eyre Peninsula are thought to have been part of the boundary of Barngarla and Kokatha territories (DEH 2006a). This area is thought to be rich in cultural sites.

An archaeological survey along the Anxious Bay coast from Elliston to Fowlers Bay yielded important information about the use of coastal areas and Lake Newland during day-to-day life, through a number of camp sites and midden finds (Nicholson 1991 in DEH 2003).

The area around Lincoln National Park has a rich Aboriginal cultural heritage with a number of sites of Aboriginal significance having been described, including fish traps in Porter and Proper Bays (DEH 2004b). The most comprehensive archaeological study undertaken to date on lower Eyre Peninsula and surrounding areas was a fish trap study by Sarah Martin in 1988 (Welz 2002)22.

A number of surveys and research recorded 87 fish traps, as well as a number of campsites and soakages (Welz 2002). In 1999, Eddie Munro was commissioned by the (then) Australian Heritage Commission to conduct an archaeological and anthropological survey of lower Eyre Peninsula. Munro reviewed data collected from past studies to establish a database of over 145 sites, including burials, stone arrangements, middens and fish traps.

Other archaeological/anthropological studies on Eyre Peninsula were predominantly commissioned by companies or agencies in response to proposed developments. No comprehensive, wide ranging or exhaustive study has been undertaken for Eyre Peninsula to date.

Many sites of cultural significance are recorded under the State Heritage Register but there are many unrecorded sites of major significance to Aboriginal people.

The majority of registered and reported Aboriginal Heritage Sites in the Whyalla and Eyre Peninsula region occur along the coast, with clusters around the coastlines near Coffin Bay and Avoid Bay, Port Lincoln and Louth Bay, Cowell, Whyalla, the coastline west of Sheringa, Anxious Bay, Sceale Bay, Corvisart Bay and Streaky Bay, Smoky Bay, Ceduna, the coastline between Denial Bay and Point Bell, and Fowlers Bay. **Inland sites include Lake Malata, Wanilla, Yalata Aboriginal Reserve and near Kimba.**

An absence of registered or reported sites does not indicate an absence of sites or objects; it may simply indicate that an area has not been surveyed for Aboriginal cultural heritage sites.

CONCLUSION

The referral has been made in a climate of non disclosure to the public.

The evidence provided by an examination of the minutes of the two identified Community Consultative Groups, CEIP CCC and the TBDCCG would confirm this assertion.

The Company's dealings with the Port Lincoln Residents & Ratepayers Association Inc, the Tumby Bay Residents and Ratepayer Association Inc and its subcommittee, the Eyre Peninsula Community Mine to Port Consultative Committee is indicative of the contempt the Company holds to any party who seeks answers to real questions and whom are not prepared to accept company spin.

The declaration of climatic conditions based upon meteorological observations at Kyancutta and Cleve, both some distance from the actual transport corridor is also indicative of the approximations the company is putting forward. Where are the site specific data relating to wind, temperature etc for the port, for given points along the corridor and for the Warramboo dispatch point? Without this data, noise dispersion patterns, dust dispersion patterns have no credibility.

Clearly this referral indicates the company's position, that on the basis of limited field surveys (given that access to property was not granted by all whom are likely to be affected by this proposal) and significant desktop literature reviews, as opposed to a genuine longitudinal environmental study of at least twelve months across the designated area, a study that would actually establish a reasonable baseline upon which impacts could actually be measured in the future, lead to the conclusion:

> *"None of the 17 species of conservation significance with potential to occur in the study area are expected to be significantly impacted. If local individuals occur they may be displaced however all of the fauna species are highly mobile and unlikely to be solely reliant on habitat within the study area.*
>
> *Mitigation activities to avoid impacts to fauna species during construction and operation that will be addressed as part of a CEMP for the proposed development are considered sufficient to reduce impacts to these species."*

The Company, in presenting the case, has clearly not consulted with the local community with respect to the presence or otherwise of both the whale and sea eagle. Clearly the very limited on site survey of the habitat around the port is deficient, given that on site surveys could have been conducted in 2011, 2012 and 2013 during the whale migration period and throughout the year with respect to the sea eagle.

The reliance on desktop analyses in this case has been shown to be limited. The problem with whale sightings et al on this section of the coast is the lack of human occupancy to actually make the observations and to report them, in contrast to that which happens at Victor Harbour.

The report does not provide the public with the confidence that the habitat/environment within which the listed species reside will not be impacted to the extent of total displacement from an existing habitat.

The pristine environment which we enjoy has been degraded enough, without having the impost of heavy industry further degrading it to such an extent that listed species et al will no longer be present, and significant quantities of money being required to rehabilitate the environment at the completion of this action.

One only has to point to the port of Esperance and the reported $23M being spent to rehabilitate this area as a consequence of fugitive dust impacting upon humans let alone our natives species.
The claim by the Company that this is not a controlled action is unsustainable.
Any decision as to the actual approval should be withheld until a detailed Environmental Impact Study is undertaken as a consequence of the Development Application that has been lodged with the South Australian Government and the submission of a Mining Lease application, or a full EIS required under the provisions of the EPBC Act is undertaken, given that this action is part of an action involving a mine, and potentially additional mines, as well as the transport corridor and port.

The Iron Road EPBC referral does not identify the Nauo, Barngarla, Wirangu and Mirning people as have been adequately engaged and the significant historical and cultural sites, such as women's business and burial sites, which are not yet on the Aboriginal Register and have not been included and risk management determined.

APPENDIX

References:

Hazards of Heavy Metal Contamination
http://www.ncbi.nlm.nih.gov/pubmed/14757716

http://bmb.oxfordjournals.org/content/68/1/167.full

Heavy metals and food contamination
http://ec.europa.eu/food/food/chemicalsafety/contaminants/cadmium_en.htm

Toxic Effect of Heavy Metals in Livestock Health: Veterinary World, Vol 1(1) 28-32, 2008
http://www.veterinaryworld.org/2008/January/Toxic.pdf

Determination of contaminant levels in forage grasses, Dareta Village, Nigeria: Archives of Applied Science Research, 2013, 5(3):229-236
http://scholarsresearchlibrary.com/aasr-vol5-iss3/AASR-2013-5-3-229-236.pdf

(Google: Heavy metal contamination in animals)

Ninety First Report of the Natural Resources Committee, Whyalla Region Fact Finding Visit, 23-24 October 2013 (SA Parliamentary Committee, tabled Nov 2013)

The Senate: Community Affairs Reference Committee: Impacts on health of air quality in Australia, August 2013

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Benshemesh, J. (2007). National Recovery Plan for Malleefowl. Department for Environment and Heritage, South Australia

Freeman, et al (Malleefowl (*Leipoa ocellata)* Conservation on Eyre Peninsula, South Australia: Andrew Freeman[1]; Paula Peeters[2]; Graeme Tonkin)

Google Earth

Lazenby D: Literature Review and Report on Potential Health Impacts of Exposure to Crustal Material in Port Headland, pp52, 2007

Link to Iron Road Definitive Feasibility Study (DFS) Report
http://clients2.weblink.com.au/clients/ironroad/article.asp?asx=IRD&view=6668845

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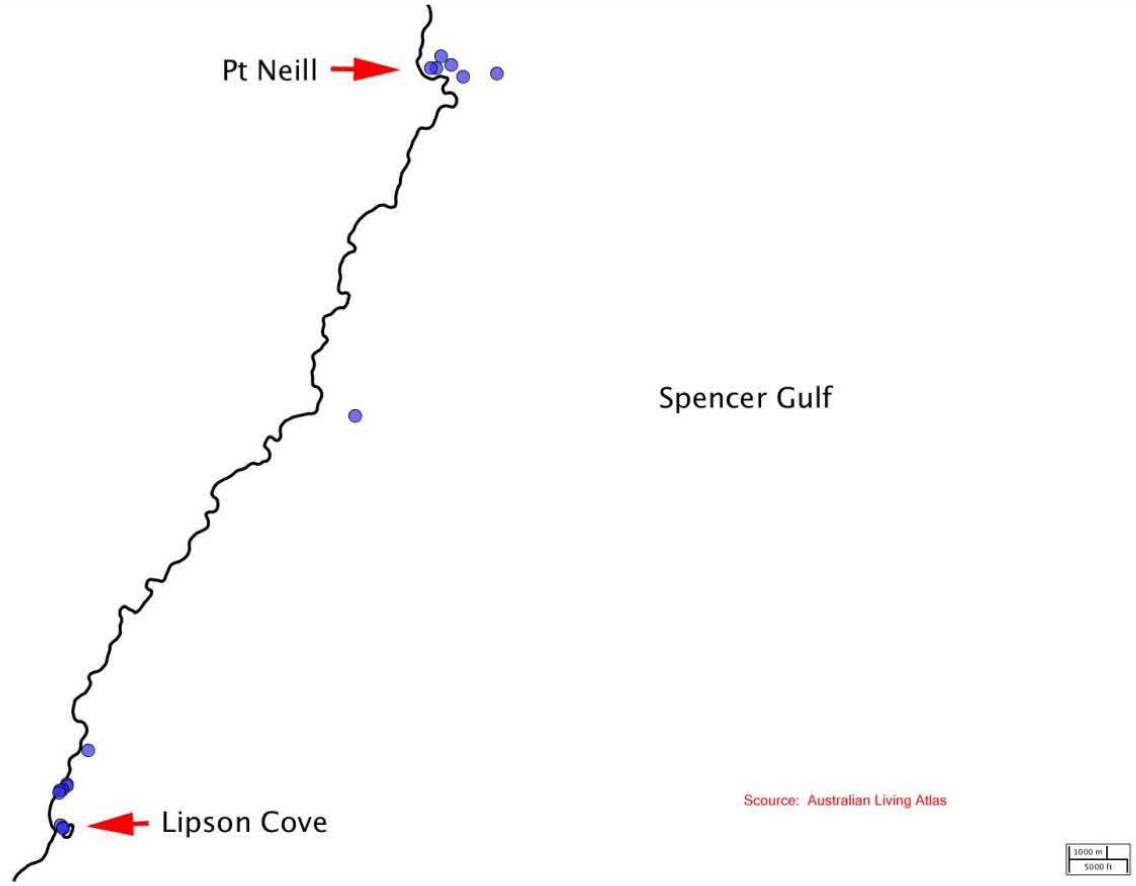
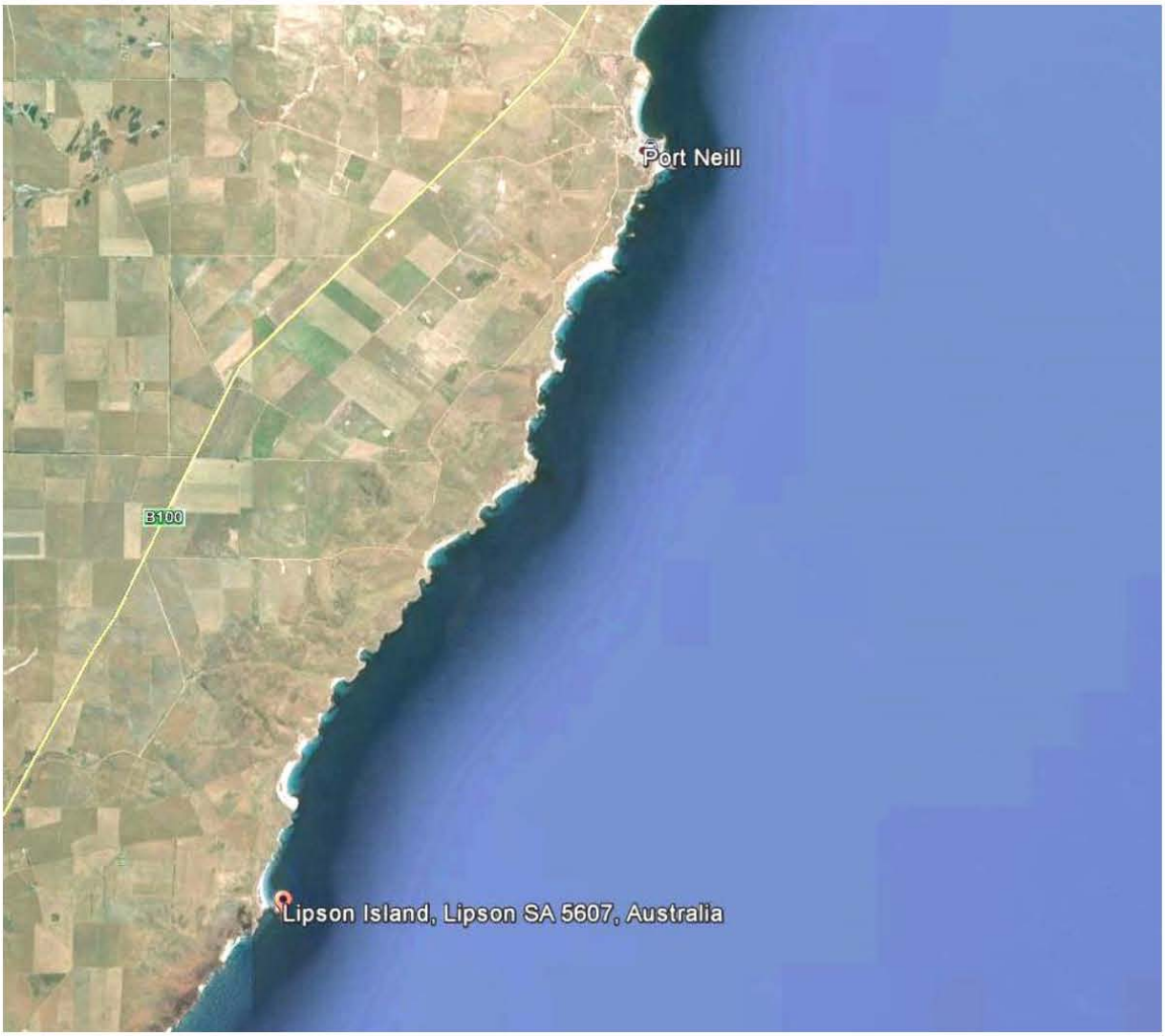
www.samuseum.sa.gov.au

Australian Living Atlas https://www.ala.org.au/

DATA SOURCED FROM THE AUSTRALIAN LIVING ATLAS WITH RESPECT TO SIGHTINGS OF SOUTHERN RIGHT WHALE

Location:





Eubalaena australis
Southern Right Whale
4 individuals recorded

Observation: **2013-07-07**
Added: 1 year ago

Lipson Cove, Spencer Gulf, South Australia
Lat: -34.25579761767937
Lng: 136.26462936401367
Coord source: Google maps

Eubalaena australis
Southern Right Whale
4 individuals recorded

Observation: **2013-07-08**
Added: 1 year ago

Lipson Cove, Spencer Gulf, South Australia
Lat: -34.2558685595284
Lng: 136.26402854919434
Coord source: Google maps

Eubalaena australis
Southern Right Whale
2 individuals recorded

Observation: **2013-07-10**
Added: 1 year ago

Lipson Cove / Lipson Island Conservation Park
Lat: -34.25480442551197
Lng: 136.2656593322754
Coord source: Google maps

Eubalaena australis
Southern Right Whale
3 individuals recorded

Observation: **2013-08-25**
Added: 11 months ago

LOT 196 Swaffers Road, Lipson SA 5607, Australia
Lat: -34.25501725339201
Lng: 136.2656593322754
Coord source: Google maps

Eubalaena australis
Southern Right Whale

Observation: **2014-06-01 16:53**
Added: 2 months ago

LOT 196 Swaffers Road, Lipson SA 5607, Australia
Lat: -34.25643609216708
Lng: 136.2637710571289
Coord source: Google maps

DATA SOURCED FROM THE AUSTRALIAN LIVING ATLAS WITH RESPECT TO SIGHTINGS OF THE WHITE BELLIED SEA EAGLE

Haliaeetus (Pontoaetus) leucogaster
White-bellied Sea-eagle

Observation: **2014-07-04 10:00**
Added: 1 month ago

LOT 196 Swaffers Road, Lipson SA 5607, Australia
Lat: -34.253314615277446
Lng: 136.26591682434082
Coord source: Google maps

Haliaeetus (Pontoaetus) leucogaster
White-bellied Sea-eagle
2 individuals recorded

Observation: **2014-06-16 11:48**
Added: 1 month ago

Unnamed Road, Lipson SA 5607, Australia
Lat: -34.25480442551197
Lng: 136.26407146453857
Coord source: Google maps

Haliaeetus (Pontoaetus) leucogaster
White-bellied Sea-eagle

Observation: **2014-06-15**
Added: 1 month ago

LOT 196 Swaffers Road, Lipson SA 5607, Australia
Lat: -34.25343876713789
Lng: 136.2647795677185
Coord source: Google maps **(no image)**

Haliaeetus (Pontoaetus) leucogaster
White-bellied Sea-eagle

Observation: **2014-05-24 16:47**
Added: 2 months ago

LOT 196 Swaffers Road, Lipson SA 5607, Australia
Lat: -34.25178930604142
Lng: 136.2660026550293
Coord source: Google maps

Haliaeetus (Pontoaetus) leucogaster
White-bellied Sea-eagle
2 individuals recorded

Observation: **2014-03-08**
Added: 4 months ago

LOT 196 Swaffers Road, Lipson SA 5607, Australia
Lat: -34.25551384968507
Lng: 136.26583099365234
Coord source: Google maps **(no image)**

Haliaeetus (Pontoaetus) leucogaster
White-bellied Sea-eagle

Observation: **2013-07-16**
Added: 1 year ago

Lipson Island Conservation Park
Lat: -34.26374273291649
Lng: 136.26651763916016
Coord source: Google maps

Haliaeetus (Pontoaetus) leucogaster
White-bellied Sea-eagle

Observation: **2013-07-16**
Added: 1 year ago

Lipson Cove
Lat: -34.26175652445979
Lng: 136.26171112060547
Coord source: Google maps

Haliaeetus (Pontoaetus) leucogaster
White-bellied Sea-eagle

Observation: **2013-06-26**
Added: 1 year ago

Lipson Cove
Lat: -34.25920275895473
Lng: 136.26102447509766
Coord source: Google maps

Haliaeetus (Pontoaetus) leucogaster
White-bellied Sea-eagle

Observation: **2011-07-20 04:45**

Added: 1 year ago

LOT 7 Lipson Cove Road, Lipson SA 5607, Australia
Lat: -34.26331712076712
Lng: 136.2587070465088
Coord source: Google maps

Haliaeetus (Pontoaetus) leucogaster
White-bellied Sea-eagle

Observation: **2011-01-08 06:15**
Added: 1 year ago

Between Lipson Cove and Rogers Beach
Lat: -34.248135545897526
Lng: 136.2682342529297
Coord source: Google maps

Haliaeetus (Pontoaetus) leucogaster
White-bellied Sea-eagle

Observation: **2011-01-08 05:26**
Added: 1 year ago

Rogers Beach
Lat: -34.244446151396026
Lng: 136.2685775756836
Coord source: Google maps

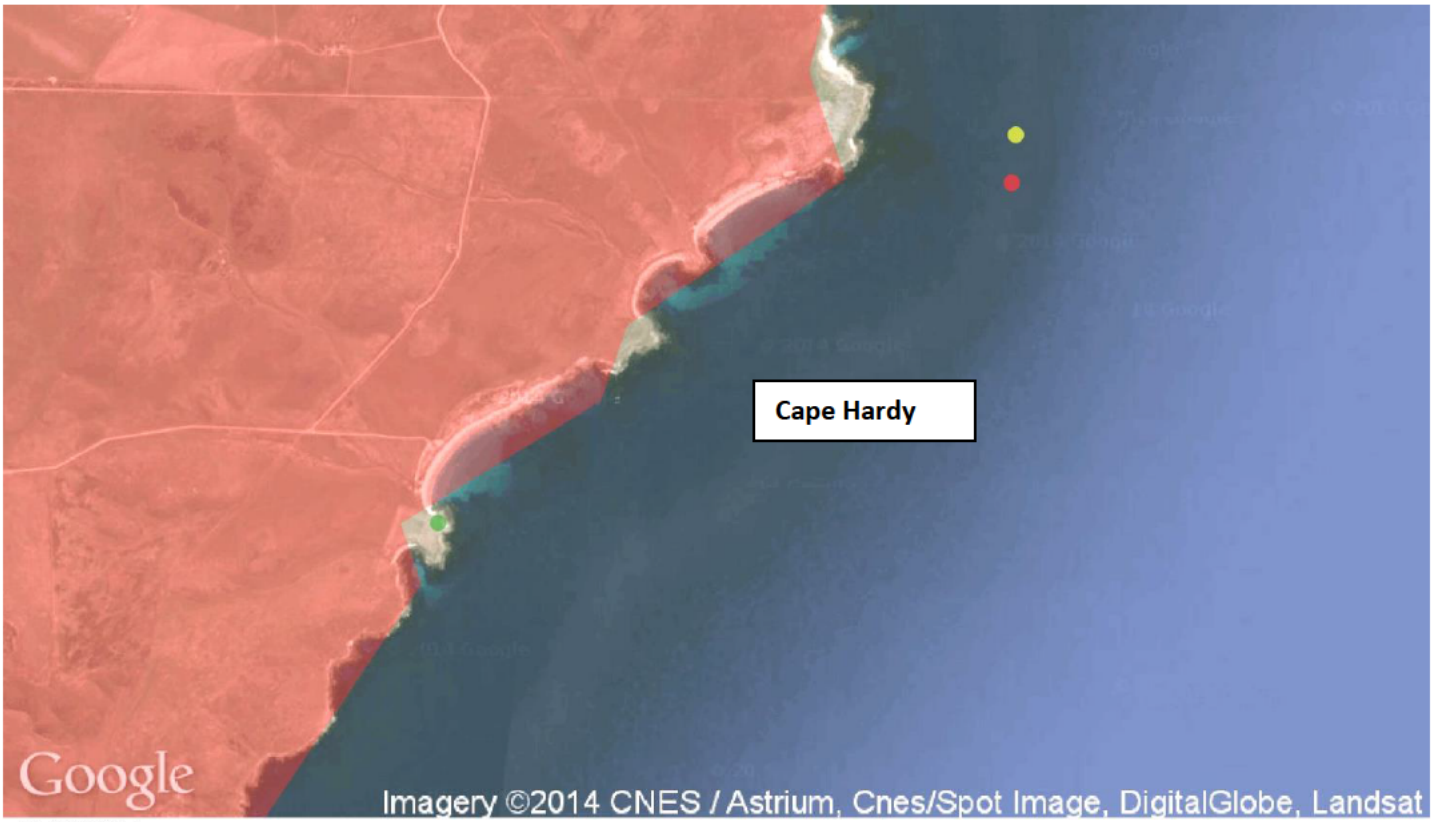
Haliaeetus (Pontoaetus) leucogaster
White-bellied Sea-eagle

Observation: **2008-10-15 14:52**

Added: 1 year ago

Lipson Cove
Lat: -34.26204027139666
Lng: 136.26617431640625
Coord source: Google maps

DATA SOURCED FROM THE AUSTRALIAN LIVING ATLAS WITH RESPECT TO SIGHTINGS OF SOUTHERN RIGHT WHALE, WHITE BELLIED SEA EAGLE AND GREEN TURTLE AT THE 'CAPE HARDY' LOCATION



07/08/2014

Green Turtle
Scientific name: Chelonia mydas
Kingdom: ANIMALIA
Family: CHELONIIDAE
Data provider: Citizen Science - ALA Website
Longitude: 136.33359095332025 , Latitude: -34.180974368017345 (zoom to)
Spatial uncertainty in metres: 1000 metres
Occurrence date: 02/2013

Southern right whale
Scientific name: Eubalaena australis
Kingdom: ANIMALIA
Family: BALAENIDAE
Data provider: undefined
Longitude: 136.33332824707 , Latitude: -34.1833343505859 (zoom to)
Spatial uncertainty in metres: 500 metres
Occurrence date: 08/1983
Full record: View details

White-bellied sea eagle
Scientific name: Haliaeetus (Pontoaetus) leucogaster
Kingdom: ANIMALIA
Family: ACCIPITRIDAE
Data provider: BirdLife Australia
Longitude: 136.3 , Latitude: -34.2 (zoom to)
Spatial uncertainty in metres: 10500 metres
Occurrence date: 11/2008
Full record: View details

Southern Right Whale Point Bolingbroke, South Australia 2013
(This is a summary of the information collected)

First seen washed up: 30 July 2013

Reported: 30 July 2013 by Nathanial Staniford, Department of Environment, Water and Natural Resources, South Australia

Location: Point Bolingbroke, South Australia. Precise locality is 2.7 km NNE Point Bolingbroke, SA. 34º 31' 18.1" S, 136 º 06' 00.5" E

Collected: 2–8 August 2013 by David Stemmer, Ikuko Tomo, Mara Buss, Tania Cann, Garrie Rees, Sue and Robert Lawrie.

SA Museum temporary accession number: 13.057

Collected specimens: Full skeleton, two testes, left side of baleen, two ear plugs (formalin), kidney (formalin), cyamids (formalin), series of tissues fixed for pathology (liver, kidney, lung, skin wounds), series of tissues frozen for genetics, series of tissues frozen for toxic contaminants.

State of decomposition: probably Geraci 2 when first washed up but deteriorated to Geraci 3 by the time of necropsy.

Biological details
Total length: 11.2 m
Sex: male
Age: Juvenile (skeleton physically immature, testes small, ~30 cm long)

Callosity pattern: It was not possible to photograph the callosities until the carcass was pulled out of the water (numerous white pointer sharks around the carcass in the water!). The photos taken may not be adequate for individual identification because the skin/callosities were damaged.

Circumstance of death: Other Unintentional (vessel collision), according to SA Museum system for categorising circumstance of death for cetaceans. The circumstance of death was assigned based on the severe, deep sub-dermal haemorrhaging (blunt trauma) and deep parallel injuries possibly consistent with propeller wounds.

Pathology details
A detailed pathology report has been prepared by Ikuko Tomo (attached). This includes gross pathology findings and evidence for cause of death.

Post Mortem Examination
Southern right whale (*Eubalaena australis*) (SA Museum accession number 13.057)
Reported: 30 July 2013 by Nat Staniford (DEWNR)
Dissected: 3 -8 Aug 2013
Place: Point Bolingbroke
Juvenile male, 11.2 m body length

Gross Macroscopic findings
General body condition
This juvenile male Southern right whale was in relatively good body condition. The blubber thickness on the dorsal surface was 15cm and 18cm on the ventral surface. Skin (epidermis) had started to peel off.

There were multiple linear lacerations on the ventral posterior surface and left ventral anterior surface. Width of posterior ventral lacerations were around 30- 60cm, depth around 25 -40 cm. Width of anterior ventral lacerations were around 30cm, depth around 40-50cm.Those lacerations were almost parallel.

There are multiple shark bites on the body. Sharks were around and an increase of bite marks had been observed by local people since the whale stranded on the beach.

Lateral view with ventral side uppermost, showing multiple linear lacerations at posterior

Lateral view with ventral side uppermost showing posterior area, four yellow linear lacerations. Parts of these wounds were probably caused by sharks.

Posterior view with ventral side up

Left lateral view with dorsal side up, showing two linear lacerations on the left ventral head anterior to the flipper, and several wounds on the left side of the caudal peduncle (arrow:lacerations)

Sub dermal and musculoskeletal system

The muscles had started to softened and a small amount of gas had accumulated.

The extensive subdermal haemorrhaging was found in the following places:

1. Centre of right mandible and maxilla (locally deep and severe) and from the occipital bone to anterior side of flipper (extensive and severe)

2. Left corner of mouth to blowhole (locally severe)

3. Dorsal side from posterior of the blowhole to near tail flukes (severe at anterior, mild towards posterior)
4. Left lateral side, from posterior of the flipper to near anus (extensive and moderate)

Some of the haemorrhaging extended as deep as bone

1. Centre of right maxilla (locally severe)
2. Centre of right mandible
3. Right side of occipital bone

Dorsal middle of the body, part of blubber shows the sign of redness with muscle that had begun decomposing.

Right mandible showing redness on the bone surface (arrows: focal haemorrhaging)

Right occipital posterior view, showing redness on the right ventral occipital bone surface (arrow: focal haemorrhaging)

Body cavities
Organ positions appeared normal.
The amount of fluid in the body cavities could not be determined because of seawater inflows.

Liver
No significant findings

Stomach and intestines
No significant findings
No stomach contents were found. The intestine contained small amounts of yellow slimy material.

Kidney
No significant findings
Lobular structure was good. Medulla cortex borders were defined. Interstitial connective tissues between lobes were slightly loose.
Testes
No significant findings
Parenchyma was slightly soft.

Trachea
Mucous membrane was red.

Lung
Generally lung parenchyma was sunken and dark red. There was no exudative fluid from parenchyma, and the lungs contained a small amount of air. There was no froth in the bronchi.

Heart
No significant findings
There was no blood in the heart.

Pancreas, Spleen, Adrenal, Thyroid and Brain
Not examined

Gross Macroscopic Diagnosis

- Centre of right mandible and rostrum: locally severe subdermal haemorrhaging extended to the bone surface
- Right occipital process to anterior side of flipper: locally extensive severe subdermal haemorrhaging
- Left maxillaries at the corner of mouth and near blowhole : locally extensive severe subdermal haemorrhaging
- Dorsal side of the body between blowhole and tail flukes: extensive mild to severe haemorrhaging, severe on anteriorly and mild on posteriorly
- Left lateral body: moderate to severe subdermal haemorrhaging

Comment

Based on the reproductive organ size (Moore et al. 2004) and skeletal development, this animal is classified as juvenile.

Multiple linear lacerations were found on the ventral posterior surface and left ventral anterior surface. Most of the laceration surfaces were scavenged and lost original shapes and size. The lacerations on the left neck area were associated with locally extensive subdermal haemorrhaging, indicating they may have occurred prior to death.

Blunt trauma on the mandible, dorsal to left lateral trunk, appeared to have occurred prior to death. Because of the decomposition of this animal, acute inflammatory reaction urged muscle break down quickly. Additionally it should be noted that strong force applied by front-end loader to place the whale on the beach prior to dissection, which may have caused further breakdown of the soft tissues.

The nature of this trauma is not evident, however a very strong impact including vessel collision should be considered a distinct possibility. Northern right whales were reported their mortality and serious injury were often caused by human activities, particularly commercial fishing and shipping (Knowlton and Kraus 2001).

Generally all organs I examined appeared to have no significant change. No infectious or inflammatory conditions were identified.

Selective tissues will be examined by histopathology.

Cause of death

Extensive severe blunt trauma
Ikuko Tomo B.V.Sc, M.V.Sc (Pathology)

Literature cited

Moore, M.J., Knowlton, A.M., Kraus, S.D., McLellan, W.A. and Bonde, R.K. (2004), Morphometry, gross morphology and available histopathology in North Atlantic right whale (*Eubalaena glacialis*) mortalities (1970 – 2002), Journal of Cetacean research Management 6(3), p 199-214

Knowlton, A.R. and Kraus, S.D (2001), Mortality and serious injury of northern right whales(*Eubalaena glacialis*) in the western North Atlantic Ocean, Journal of Cetacean research Management 2, p193-20

“Whale Collisions Spark Calls for Ship Speed Limits in Australia

Instances of gruesome whale collisions have prompted a conversation about whether to impose speed limits for ships along Australia's coast”
http://time.com/3021736/whale-collision-australia-humpbacks-strikes/

New ‘whale-spotting’ app created by marine scientists in hopes of helping cargo carriers avoid hitting sea creatures
'Whale Spotter,' a new iPhone app, allows commercial boat captains to track and follow the movement of whales. The app was created in hopes of reducing the number of whales struck by vessels each year.
THE ASSOCIATED PRESS
Wednesday, September 18, 2013, 4:12 PM
http://www.nydailynews.com/news/national/whale-spotting-app-lets-commercial-sailors-track-sea-animals-locations-article-1.1460123

Australian Government

Department of Sustainability, Environment, Water, Population and Communities

EPBC Act Protected Matters Report

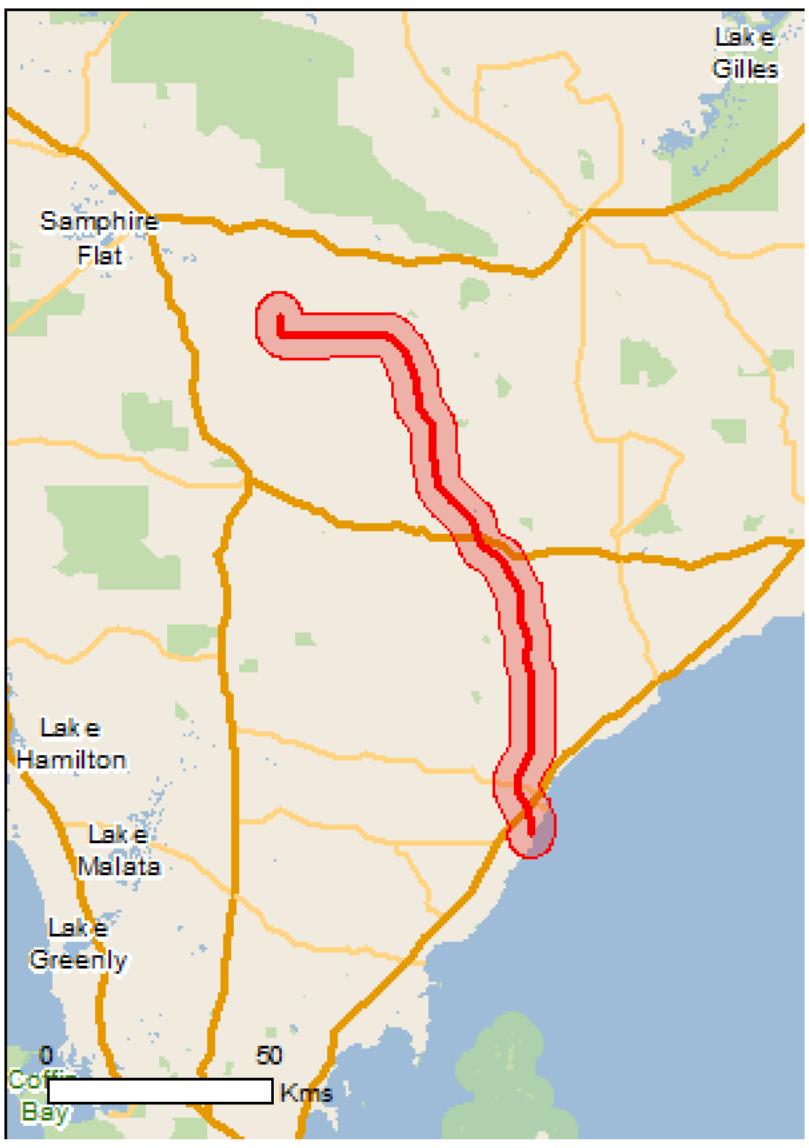
IRD Ref: E-F-34-RPT-0009

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about Environment Assessments and the EPBC Act including significance guidelines, forms and application process details.

Report created: 28/08/13 14:12:44



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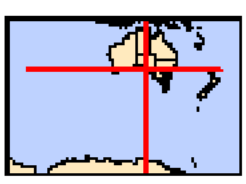

Summary

Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance.

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Areas:	None
Listed Threatened Ecological Communities:	None
Listed Threatened Species:	35
Listed Migratory Species:	31

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place and the heritage values of a place on the Register of the National Estate.

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Land:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	55
Whales and Other Cetaceans:	12
Critical Habitats:	None
Commonwealth Reserves:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

Place on the RNE:	2
State and Territory Reserves:	4
Regional Forest Agreements:	None
Invasive Species:	22
Nationally Important Wetlands:	None
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Listed Threatened Species		[Resource Information]
Name	Status	Type of Presence
Birds		
Acanthiza iredalei iredalei		
Slender-billed Thornbill (western) [25967]	Vulnerable	Species or species habitat likely to occur within area
Diomedea exulans antipodensis		
Antipodean Albatross [82269]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea exulans exulans		
Tristan Albatross [82337]	Endangered	Species or species habitat may occur within area
Diomedea exulans (sensu lato)		
Wandering Albatross [1073]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Halobaena caerulea		
Blue Petrel [1059]	Vulnerable	Species or species habitat may occur within area
Leipoa ocellata		
Malleefowl [934]	Vulnerable	Species or species habitat likely to occur within area
Macronectes giganteus		
Southern Giant-Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli		
Northern Giant-Petrel [1061]	Vulnerable	Species or species habitat may occur within area
Pachycephala rufogularis		
Red-lored Whistler [601]	Vulnerable	Species or species habitat likely to occur within area
Psophodes nigrogularis leucogaster		
Western Whipbird (eastern) [64448]	Vulnerable	Species or species

Name	Status	Type of Presence
		habitat may occur within area
Pterodroma mollis Soft-plumaged Petrel [1036]	Vulnerable	Species or species habitat may occur within area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area
Sternula nereis nereis Australian Fairy Tern [82950]	Vulnerable	Species or species habitat likely to occur within area
Thalassarche bulleri Buller's Albatross [64460]	Vulnerable	Species or species habitat may occur within area
Thalassarche cauta cauta Shy Albatross, Tasmanian Shy Albatross [82345]	Vulnerable	Species or species habitat may occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area
Thalassarche melanophris impavida Campbell Albatross [82449]	Vulnerable	Species or species habitat may occur within area
Mammals		
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area
Eubalaena australis Southern Right Whale [40]	Endangered	Breeding known to occur within area
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Species or species habitat likely to occur within area
Neophoca cinerea Australian Sea-lion [22]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Sminthopsis psammophila Sandhill Dunnart [291]	Endangered	Species or species habitat likely to occur within area
Plants		
Acacia enterocarpa Jumping-jack Wattle [17615]	Endangered	Species or species habitat likely to occur within area
Acacia pinguifolia Fat-leaved Wattle [5319]	Endangered	Species or species habitat may occur within area
Acacia rhetinocarpa Neat Wattle, Resin Wattle (SA) [11282]	Vulnerable	Species or species habitat likely to occur within area
Caladenia tensa Greencomb Spider-orchid, Rigid Spider-orchid [24390]	Endangered	Species or species habitat likely to occur within area
Frankenia plicata [4225]	Endangered	Species or species habitat likely to occur within area
Prostanthera calycina West Coast Mintbush, Limestone Mintbush, Red	Vulnerable	Species or species

Name	Status	Type of Presence
Mintbush [9470]		habitat likely to occur within area
Ptilotus beckerianus		
Ironstone Mulla Mulla [3787]	Vulnerable	Species or species habitat may occur within area
Pultenaea trichophylla		
Tufted Bush-pea [12715]	Endangered	Species or species habitat may occur within area
Swainsona pyrophila		
Yellow Swainson-pea [56344]	Vulnerable	Species or species habitat likely to occur within area
Reptiles		
Caretta caretta		
Loggerhead Turtle [1763]	Endangered	Breeding likely to occur within area
Chelonia mydas		
Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Dermochelys coriacea		
Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour known to occur within area
Sharks		
Carcharodon carcharias		
Great White Shark [64470]	Vulnerable	Species or species habitat may occur within area

Listed Migratory Species [Resource Information]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Migratory Marine Birds		
Apus pacificus		
Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Diomedea antipodensis		
Antipodean Albatross [64458]	Vulnerable*	Foraging, feeding or related behaviour likely to occur within area
Diomedea dabbenena		
Tristan Albatross [66471]	Endangered*	Species or species habitat may occur within area
Diomedea exulans (sensu lato)		
Wandering Albatross [1073]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Macronectes giganteus		
Southern Giant-Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli		
Northern Giant-Petrel [1061]	Vulnerable	Species or species habitat may occur within area
Puffinus carneipes		
Flesh-footed Shearwater, Fleshy-footed Shearwater [1043]		Foraging, feeding or related behaviour likely to occur within area
Thalassarche bulleri		
Buller's Albatross [64460]	Vulnerable	Species or species habitat may occur within area
Thalassarche cauta (sensu stricto)		
Shy Albatross, Tasmanian Shy Albatross [64697]	Vulnerable*	Species or species habitat may occur within area

Name	Threatened	Type of Presence
Thalassarche impavida		
Campbell Albatross [64459]	Vulnerable*	Species or species habitat may occur within area
Thalassarche melanophris		
Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area
Migratory Marine Species		
Balaenoptera edeni		
Bryde's Whale [35]		Species or species habitat may occur within area
Balaenoptera musculus		
Blue Whale [36]	Endangered	Species or species habitat may occur within area
Caperea marginata		
Pygmy Right Whale [39]		Species or species habitat may occur within area
Carcharodon carcharias		
Great White Shark [64470]	Vulnerable	Species or species habitat may occur within area
Caretta caretta		
Loggerhead Turtle [1763]	Endangered	Breeding likely to occur within area
Chelonia mydas		
Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Dermochelys coriacea		
Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour known to occur within area
Eubalaena australis		
Southern Right Whale [40]	Endangered	Breeding known to occur within area
Lagenorhynchus obscurus		
Dusky Dolphin [43]		Species or species habitat may occur within area
Lamna nasus		
Porbeagle, Mackerel Shark [83288]		Species or species habitat likely to occur within area
Megaptera novaeangliae		
Humpback Whale [38]	Vulnerable	Species or species habitat likely to occur within area
Orcinus orca		
Killer Whale, Orca [46]		Species or species habitat may occur within area
Migratory Terrestrial Species		
Haliaeetus leucogaster		
White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area
Leipoa ocellata		
Malleefowl [934]	Vulnerable	Species or species habitat likely to occur within area
Merops ornatus		
Rainbow Bee-eater [670]		Species or species habitat may occur within area
Migratory Wetlands Species		
Ardea alba		
Great Egret, White Egret [59541]		Species or species habitat likely to occur within area

Name	Threatened	Type of Presence
Ardea ibis		
Cattle Egret [59542]		Species or species habitat likely to occur within area
Charadrius veredus		
Oriental Plover, Oriental Dotterel [882]		Species or species habitat may occur within area
Gallinago hardwickii		
Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
Rostratula benghalensis (sensu lato)		
Painted Snipe [889]	Endangered*	Species or species habitat may occur within area

Other Matters Protected by the EPBC Act

Listed Marine Species		[Resource Information]
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
Birds		
Apus pacificus		
Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea alba		
Great Egret, White Egret [59541]		Species or species habitat likely to occur within area
Ardea ibis		
Cattle Egret [59542]		Species or species habitat likely to occur within area
Catharacta skua		
Great Skua [59472]		Species or species habitat may occur within area
Charadrius veredus		
Oriental Plover, Oriental Dotterel [882]		Species or species habitat may occur within area
Diomedea antipodensis		
Antipodean Albatross [64458]	Vulnerable*	Foraging, feeding or related behaviour likely to occur within area
Diomedea dabbenena		
Tristan Albatross [66471]	Endangered*	Species or species habitat may occur within area
Diomedea exulans (sensu lato)		
Wandering Albatross [1073]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Gallinago hardwickii		
Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
Haliaeetus leucogaster		
White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area

Name	Threatened	Type of Presence
Halobaena caerulea		
Blue Petrel [1059]	Vulnerable	Species or species habitat may occur within area
Macronectes giganteus		
Southern Giant-Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli		
Northern Giant-Petrel [1061]	Vulnerable	Species or species habitat may occur within area
Merops ornatus		
Rainbow Bee-eater [670]		Species or species habitat may occur within area
Pandion haliaetus		
Osprey [952]		Species or species habitat known to occur within area
Phalacrocorax fuscescens		
Black-faced Cormorant [59660]		Foraging, feeding or related behaviour likely to occur within area
Pterodroma mollis		
Soft-plumaged Petrel [1036]	Vulnerable	Species or species habitat may occur within area
Puffinus carneipes		
Flesh-footed Shearwater, Fleshy-footed Shearwater [1043]		Foraging, feeding or related behaviour likely to occur within area
Rostratula benghalensis (sensu lato)		
Painted Snipe [889]	Endangered*	Species or species habitat may occur within area
Thalassarche bulleri		
Buller's Albatross [64460]	Vulnerable	Species or species habitat may occur within area
Thalassarche cauta (sensu stricto)		
Shy Albatross, Tasmanian Shy Albatross [64697]	Vulnerable*	Species or species habitat may occur within area
Thalassarche impavida		
Campbell Albatross [64459]	Vulnerable*	Species or species habitat may occur within area
Thalassarche melanophris		
Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area
Thinornis rubricollis rubricollis		
Hooded Plover (eastern) [66726]		Species or species habitat known to occur within area
Fish		
Acentronura australe		
Southern Pygmy Pipehorse [66185]		Species or species habitat may occur within area
Campichthys tryoni		
Tryon's Pipefish [66193]		Species or species habitat may occur within area
Filicampus tigris		
Tiger Pipefish [66217]		Species or species habitat may occur within area
Heraldia nocturna		
Upside-down Pipefish, Eastern Upside-down Pipefish, Eastern Upside-down Pipefish [66227]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Hippocampus breviceps Short-head Seahorse, Short-snouted Seahorse [66235]		Species or species habitat may occur within area
Histiogamphelus cristatus Rhino Pipefish, Macleay's Crested Pipefish, Ring-back Pipefish [66243]		Species or species habitat may occur within area
Hypselognathus rostratus Knifesnout Pipefish, Knife-snouted Pipefish [66245]		Species or species habitat may occur within area
Kaupus costatus Deepbody Pipefish, Deep-bodied Pipefish [66246]		Species or species habitat may occur within area
Leptoichthys fistularius Brushtail Pipefish [66248]		Species or species habitat may occur within area
Lissocampus caudalis Australian Smooth Pipefish, Smooth Pipefish [66249]		Species or species habitat may occur within area
Lissocampus runa Javelin Pipefish [66251]		Species or species habitat may occur within area
Maroubra perserrata Sawtooth Pipefish [66252]		Species or species habitat may occur within area
Notiocampus ruber Red Pipefish [66265]		Species or species habitat may occur within area
Phycodurus eques Leafy Seadragon [66267]		Species or species habitat may occur within area
Phyllopteryx taeniolatus Common Seadragon, Weedy Seadragon [66268]		Species or species habitat may occur within area
Pugnaso curtirostris Pugnose Pipefish, Pug-nosed Pipefish [66269]		Species or species habitat may occur within area
Solegnathus robustus Robust Pipehorse, Robust Spiny Pipehorse [66274]		Species or species habitat may occur within area
Stigmatopora argus Spotted Pipefish, Gulf Pipefish [66276]		Species or species habitat may occur within area
Stigmatopora nigra Widebody Pipefish, Wide-bodied Pipefish, Black Pipefish [66277]		Species or species habitat may occur within area
Stipecampus cristatus Ringback Pipefish, Ring-backed Pipefish [66278]		Species or species habitat may occur within area
Urocampus carinirostris Hairy Pipefish [66282]		Species or species habitat may occur within area
Vanacampus margaritifer Mother-of-pearl Pipefish [66283]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Vanacampus phillipi		
Port Phillip Pipefish [66284]		Species or species habitat may occur within area
Vanacampus poecilolaemus		
Longsnout Pipefish, Australian Long-snout Pipefish, Long-snouted Pipefish [66285]		Species or species habitat may occur within area
Vanacampus vercoi		
Verco's Pipefish [66286]		Species or species habitat may occur within area
Mammals		
Arctocephalus forsteri		
New Zealand Fur-seal [20]		Species or species habitat may occur within area
Arctocephalus pusillus		
Australian Fur-seal, Australo-African Fur-seal [21]		Species or species habitat may occur within area
Neophoca cinerea		
Australian Sea-lion [22]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Reptiles		
Caretta caretta		
Loggerhead Turtle [1763]	Endangered	Breeding likely to occur within area
Chelonia mydas		
Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Dermochelys coriacea		
Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour known to occur within area

Whales and other Cetaceans		[Resource Information]
Name	Status	Type of Presence
Mammals		
Balaenoptera acutorostrata		
Minke Whale [33]		Species or species habitat may occur within area
Balaenoptera edeni		
Bryde's Whale [35]		Species or species habitat may occur within area
Balaenoptera musculus		
Blue Whale [36]	Endangered	Species or species habitat may occur within area
Caperea marginata		
Pygmy Right Whale [39]		Species or species habitat may occur within area
Delphinus delphis		
Common Dophin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area
Eubalaena australis		
Southern Right Whale [40]	Endangered	Breeding known to occur within area
Grampus griseus		
Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area
Lagenorhynchus obscurus		
Dusky Dolphin [43]		Species or species habitat may occur within area

Name	Status	Type of Presence
Megaptera novaeangliae		
Humpback Whale [38]	Vulnerable	Species or species habitat likely to occur within area
Orcinus orca		
Killer Whale, Orca [46]		Species or species habitat may occur within area
Tursiops aduncus		
Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat likely to occur within area
Tursiops truncatus s. str.		
Bottlenose Dolphin [68417]		Species or species habitat may occur within area

Extra Information

Places on the RNE [Resource Information]

Note that not all Indigenous sites may be listed.

Name	State	Status
Natural		
Darke Range	SA	Registered
Hambidge Conservation Park	SA	Registered

State and Territory Reserves [Resource Information]

Name	State
Hambidge	SA
Port Neill	SA
Tumby Bay To Dutton Bay	SA
Unnamed (No.HA625)	SA

Invasive Species [Resource Information]

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resouces Audit, 2001.

Name	Status	Type of Presence
Birds		
Alauda arvensis		
Skylark [656]		Species or species habitat likely to occur within area
Carduelis carduelis		
European Goldfinch [403]		Species or species habitat likely to occur within area
Columba livia		
Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Passer domesticus		
House Sparrow [405]		Species or species habitat likely to occur within area
Streptopelia chinensis		
Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
Sturnus vulgaris		
Common Starling [389]		Species or species habitat likely to occur

Name	Status	Type of Presence
		within area
[Turdus merula](#) Common Blackbird, Eurasian Blackbird [596]		Species or species habitat likely to occur within area
Mammals		
[Capra hircus](#) Goat [2]		Species or species habitat likely to occur within area
[Felis catus](#) Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
[Mus musculus](#) House Mouse [120]		Species or species habitat likely to occur within area
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[Vulpes vulpes](#) Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		
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[Carrichtera annua](#) Ward's Weed [9511]		Species or species habitat may occur within area
[Chrysanthemoides monilifera](#) Bitou Bush, Boneseed [18983]		Species or species habitat may occur within area
[Chrysanthemoides monilifera subsp. monilifera](#) Boneseed [16905]		Species or species habitat likely to occur within area
[Lycium ferocissimum](#) African Boxthorn, Boxthorn [19235]		Species or species habitat likely to occur within area
[Olea europaea](#) Olive, Common Olive [9160]		Species or species habitat may occur within area
[Opuntia spp.](#) Prickly Pears [82753]		Species or species habitat likely to occur within area
[Rubus fruticosus aggregate](#) Blackberry, European Blackberry [68406]		Species or species habitat likely to occur within area
[Solanum elaeagnifolium](#) Silver Nightshade, Silver-leaved Nightshade, White Horse Nettle, Silver-leaf Nightshade, Tomato Weed, White Nightshade, Bull-nettle, Prairie-berry, Satansbos, Silver-leaf Bitter-apple, Silverleaf-nettle, Trompillo [12323]		Species or species habitat likely to occur within area
[Ulex europaeus](#) Gorse, Furze [7693]		Species or species habitat likely to occur within area

Coordinates

-34.1602616861 136.316945981,-34.1504785127 136.320189646,-34.1422679909 136.320454711,-34.1191276387 136.313133778,-34.0874166723 136.289092411,-34.0655789054 136.289238386,-34.0217514949 136.320163841,-33.8976468287 136.320663549,-33.8654861042 136.307137528,-33.8410885711 136.312440206,-33.8234274882 136.30877699,-33.8066055908 136.298206711,-33.7597180172

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-Ocean Biogeographic Information System
-Australian Government, Department of Defence
-State Forests of NSW
-Geoscience Australia
-CSIRO
-Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the Contact Us page.

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Australian Government

Department of the Environment

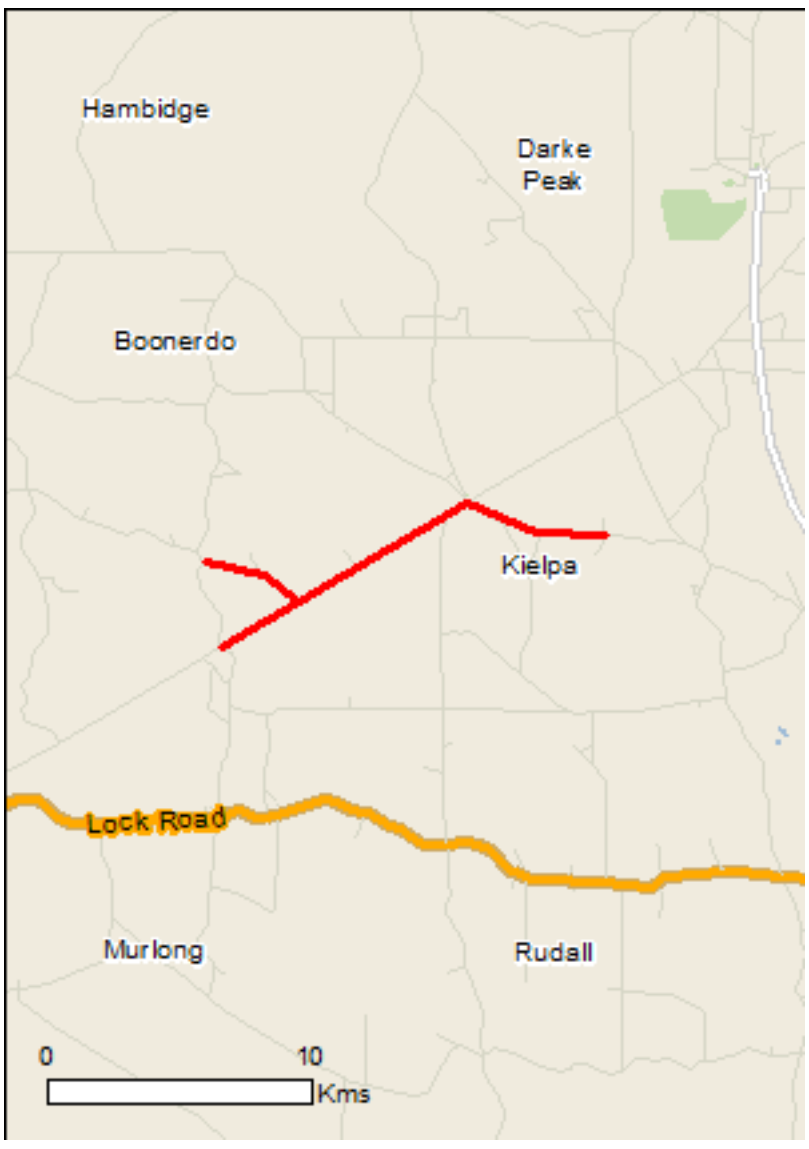
EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

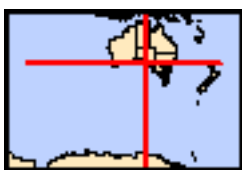
Information is available about Environment Assessments and the EPBC Act including significance guidelines, forms and application process details.

Report created: 08/07/14 16:18:45



Coordinates

Buffer: 5.0Km



Summary

Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance.

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Areas:	None
Listed Threatened Ecological Communities:	1
Listed Threatened Species:	6
Listed Migratory Species:	7

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place and the heritage values of a place on the Register of the National Estate.

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Land:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	8
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Commonwealth Reserves Marine	None

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

Place on the RNE:	None
State and Territory Reserves:	None
Regional Forest Agreements:	None
Invasive Species:	14
Nationally Important Wetlands:	None
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Listed Threatened Ecological Communities [Resource Information]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Name	Status	Type of Presence
Eyre Peninsula Blue Gum (Eucalyptus petiolaris) Woodland	Endangered	Community may occur within area

Listed Threatened Species [Resource Information]

Name	Status	Type of Presence
Birds		
Leipoa ocellata		
Malleefowl [934]	Vulnerable	Species or species habitat may occur within area
Pachycephala rufogularis		
Red-lored Whistler [601]	Vulnerable	Species or species habitat may occur within area
Mammals		
Sminthopsis psammophila		
Sandhill Dunnart [291]	Endangered	Species or species habitat known to occur within area
Plants		
Caladenia tensa		
Greencomb Spider-orchid, Rigid Spider-orchid [24390]	Endangered	Species or species habitat likely to occur within area
Olearia pannosa subsp. pannosa		
Silver Daisy-bush [12348]	Vulnerable	Species or species habitat may occur within area
Swainsona pyrophila		
Yellow Swainson-pea [56344]	Vulnerable	Species or species habitat likely to occur within area

Listed Migratory Species [Resource Information]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence

Name	Threatened	Type of Presence
Migratory Marine Birds		
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Migratory Terrestrial Species		
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat may occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Migratory Wetlands Species		
Ardea alba Great Egret, White Egret [59541]		Species or species habitat likely to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat likely to occur within area
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Species or species habitat may occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area

Other Matters Protected by the EPBC Act

Listed Marine Species [Resource Information]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Birds		
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea alba Great Egret, White Egret [59541]		Species or species habitat likely to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat likely to occur within area
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Species or species habitat may occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat may occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Pandion haliaetus Osprey [952]		Species or species

Name	Threatened	Type of Presence
		habitat may occur within area

Extra Information

Invasive Species [Resource Information]

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resouces Audit, 2001.

Name	Status	Type of Presence
Birds		
Alauda arvensis Skylark [656]		Species or species habitat likely to occur within area
Carduelis carduelis European Goldfinch [403]		Species or species habitat likely to occur within area
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Passer domesticus House Sparrow [405]		Species or species habitat likely to occur within area
Sturnus vulgaris Common Starling [389]		Species or species habitat likely to occur within area
Turdus merula Common Blackbird, Eurasian Blackbird [596]		Species or species habitat likely to occur within area
Mammals		
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species

Name	Status	Type of Presence
		habitat likely to occur within area
Plants		
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-33.576507 136.011644,-33.580333 136.0319,-33.587304 136.043402,-33.600567 136.016966,
-33.559414 136.100522,-33.567568 136.12434,-33.568748 136.148072,-33.568748
136.148072,-33.568712 136.148029

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