Rio Tinto Alcan

# Appendix 2-D

## Submissions Summary and Response Table

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| EIS001 | Gulf of Carpentaria Commercial Fishermen Association | 1.1 | Economic Impacts | Concerns over impacts on fisheries in the Gulf including:<br>• the effect of dredging as the proposed dredge channel goes through the grey and Spanish mackerel fishing grounds including turbidity from the channel being constantly dredged impacting on surrounding fishing grounds;<br>• vessels constantly loading on the fishing grounds will make it impossible to maintain the fishing environment;<br>• denied access to any fishing grounds may force fishermen to relocate to other already fished areas that may affect the sustainable fishing balance in those areas; and,<br>• effects on the inshore barramundi net fishery, the offshore Grey Mackerel net fishery, the Spanish mackerel Line fishery and the mud-crab including a reduction of catches by not being able to access some fishing grounds. | Dredging would not occur continuously, but in campaigns as required to maintain the depth required for safe shipping, or to extend the initial dredged channel at such time that a capacity increase is required to meet bauxite market demand (up to the maximum amount identified in the EIS).<br><br>Bauxite ships would only load at the proposed Port (transhipping is not proposed). Fishing vessels are permitted to operate within mooring areas. Maritime Safety Queensland requires commercial fishing boats keep clear of anchored bulk carriers. This means a small proportion of available fishing ground would be temporarily unavailable while vessels are anchored in the existing anchorage area off the Port of Weipa (note that the new anchorage area as proposed in the Queensland EIS (RTA 2011) is no longer proposed).<br><br>A compensation model for commercial fishing operations in Queensland has been developed by DAFF to determine the level of compensation which might apply to fishing operators affected by projects in Queensland's marine environment. The model addresses two aspects:<br>• compensation for lost income in the area impacted (fishers who traditionally fish the affected area); and,<br>• effort displacement (fishers who traditionally fish adjacent areas and would be subject to increased competition).<br>With specific regard to the SoE Project, modelling undertaken by DAFF indicated that a total compensation amount of approximately $242,000 would be reasonable in the case of commercial fishery impacts arising from the Project. The Queensland Coordinator General has supported this approach and determined that *"the compensation model developed by DAFF for commercial fishing impacts provides a fair, reasonable, scientific and defendable basis for determining a compensation amount of $242,000"*. RTA has agreed to pay this amount and for the Queensland Rural Adjustment Authority (QRAA) to administer compensation to relevant fishers and to buyout an appropriate level of fishing effort. |
| EIS001 | Gulf of Carpentaria Commercial Fishermen Association | 1.2 | Economic Impacts | Fishing vessels will need to divert from the direct route into Weipa. Inshore vessels would need to go further to sea and this could be dangerous and/or life threatening and would add extra time and financial costs when the industry is already suffering rising management costs. | The jetty infrastructure for the proposed Port would be approximately 18m above lowest astronomical tide (LAT) and the pile spacing's over water would be more than 20m apart. RTA would designate a safe passage underneath the proposed jetty (in accordance with any Maritime Safety Queensland requirements) for boats that can safely navigate under the jetty in order to avoid the need to travel around the wharf. This commitment has been added to Section 17.4.3.2 of the final EIS. |

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| EIS001 | Gulf of Carpentaria Commercial Fishermen Association | 1.3 | Access | Being excluded from one of the anchorages at the rock wall which is a main access for mother ships unloading both prawn & fish products between July and November. | RTA understands that the rock wall referred to in the submission extends seaward from Pera Head, south of the proposed Port and temporary barge landing. The rock wall would be outside the Maritime Safety Queensland 50m exclusion zone around the wharf and therefore commercial fishermen would not be excluded from anchoring at the rock wall. |
| EIS001 | Gulf of Carpentaria Commercial Fishermen Association | 1.4 | Compensation | GoCCFA have never agreed to the proposed adjustment package that has been discussed with Queensland Fisheries and consider that the process that was used to arrive at the amount of compensation is an insult to all fishermen and does not take into consideration all the issues. Require adequate discussion and agreement on compensation between the fishermen involved in the Gulf Fishery. | A compensation model for commercial fishing operations in Queensland has been developed by DAFF to determine the level of compensation which might apply to fishing operators affected by projects in Queensland's marine environment. The model addresses two aspects:<br>• compensation for lost income in the area impacted (fishers who traditionally fish the affected area); and,<br>• effort displacement (fishers who traditionally fish adjacent areas and would be subject to increased competition).<br>With specific regard to the SoE Project, modelling undertaken by DAFF indicated that a total compensation amount of approximately $242,000 would be reasonable in the case of commercial fishery impacts arising from the Project. The Queensland Coordinator General has supported this approach and determined that *"the compensation model developed by DAFF for commercial fishing impacts provides a fair, reasonable, scientific and defendable basis for determining a compensation amount of $242,000"*. RTA has agreed to pay this amount and for the Queensland Rural Adjustment Authority (QRAA) to administer compensation to relevant fishers and to buyout an appropriate level of fishing effort. |
| EIS002 | Regional Development Australia Far North Qld and Torres Strait (FNQ&TS) | 2.1 | N/A | Regional development Australia FNQ&TS wishes to congratulate RTA on the completion of the draft EIS; the consultation methodology, process and mitigation factors applied have resulted in an extensive and coherent study.<br><br>Regional Development Australia FNQ&TS is keen to support any project which will directly employ 950 people and 993 people indirectly from FNQ&TS during the construction phase, injecting some $1billion into the local economy. The potential employment, at full operational capacity of over 3,400 people from the region provides a much-needed boost to our socio-wellbeing fabric. | Noted. RTA has approached Regional Development Australia FNQ&TS to discuss the matters outlined in their submission. |

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| | | | | Regional Development Australia FNQ&TS looks forward to ongoing engagement around the project's delivery.<br>A summary provided on what Regional Development Australia FNQ&TS does.<br>Provided a summary of the importance of mining to Regional Development FNQ&TS.<br>Provided a summary of the regional vision for Regional Development Australia FNQ&TS's road map which includes:<br>1. Economic vitality;<br>2. World class sustainable natural and cultural resource management;<br>3. Visionary and enabling build infrastructure (connecting regions);<br>4. Inclusive planning and delivery of community services;<br>5. Empowered people through knowledge and skills; and<br>6. Re-conceptualising regionalism | |
| EIS002 | Regional Development Australia Far North Qld and Torres Strait (FNQ&TS) | 2.2 | Use of Traditional Power Generation | **Use of traditional power generation sources**<br><br>Regional Development Australia FNQ&TS recently met with the Australian Renewable Energy Agency (ARENA) to discuss the Regional Australia's Renewables (RAR) program. This program is currently in the consultation phase. ARENA is looking for energy intensive industry leaders that are ready to partner with ARENA to set a benchmark for renewable energy. The SoE project was discussed with ARENA as a potential candidate for funding. The intent is that ARENA finds a high profile, mining project with which to partner (initial indications suggest a majority capex subsidy) for the RAR program thereby, 'trail blazing' the way as a demonstration project where renewables are seen as a viable, cost-effective solution for the resources sector. Regional Development Australia FNQ&TS will provide a submission on behalf of the region's renewable energy industry to address the current consultation paper. The final RAR program, where funding submissions are sought, will launch in second quarter 2013. Regional Development Australia FNQ&TS is keen to work with RTA to support a submission to the RAR program which will | Alternative for power generation for the SoE Project, such as biomass, wind, solar and wave have been considered (refer to Section 1.6.5 of the Queensland EIS (RTA 2011)). Wave power was determined not to be technically viable. Wind and solar sources were not able to supply guaranteed minimum base load power. Biomass was not technically viable for low base load demand situations (e.g. beneficiation plant not running, ship loaders not running).<br><br>RTA has approached Regional Development Australia FNQ&TS to discuss the matters outlined in their submission. |

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| | | | | further enhance RTA's Health, Safety and Environment Policy that includes commitments to minimise environmental impact. | |
| EIS002 | Regional Development Australia Far North Qld and Torres Strait (FNQ&TS) | 2.3 | Economic Impacts at Closure | **Supporting Weipa's Economic Diversification**<br><br>RDA FNQ&TS has a strong desire to ensure that the Weipa township continues to thrive and survive after the South of Embley project. As outlined in the EIS summary, "…the option of not proceeding with the Project is not financially feasible as the economic bauxite reserves will be depleted in RTA's current mining areas leading to the progressive closure of RTA's existing Weipa mining operations" and "…the town of Weipa would lose its major financial contributor". This statement is obviously synonymous with any mining project due to the life of the mine. Given the 2006 Census data suggests that 43 per cent of jobs in Weipa are attributed to Mining and Mineral Product Manufacturing, the need to diversify the economy to address the inevitable mine life cycle is crucial.<br><br>Weipa is a key township in the Cape York Peninsula which supports surrounding Indigenous communities. Steps need to be taken now in order to build capacity and support innovation, entrepreneurship and population growth to develop and sustain industries outside of mining. RDA FNQ&TS is keen to work with both RTA and the Weipa Town Authority to realize this ambition. | A Rio Tinto corporate requirement is that all of its operations (including the future operation of the SoE Project) develop and maintain a Closure Plan for the life of the operation. In addition, a Social Impact Management Plan (SIMP) (Queensland EIS (RTA 2012)) was required by the Queensland Coordinator General. This plan identifies communities directly affected by the business; is developed and maintained as a result of a 'fit for purpose' socioeconomic knowledge base; and reflects the concerns and priorities of neighbouring communities and the business. The SIMP provides for engagement with key stakeholders, including neighbouring local governments, on priority issues including their respective community plans, which identify any economic development aspirations and actions. In addition, the SIMP describes company initiatives to manage socio-economic impacts such as:<br>• Indigenous Employment and Training;<br>• Local and Indigenous Business Development; and,<br>• Rio Tinto's Reconciliation Action Plan.<br>The intent of the SIMP is to minimise any potential negative impacts that eventual mine closure could bring to the community and maximise the positive legacy by leaving behind a strong independent community able to choose from a number of economic options. In addition the SIMP also describes the Weipa Town Governance Project which will provide a platform for informed decision making for the future of the Weipa region. The knowledge base that informs the planning and development of the SIMP and/or Closure Plans will be updated on a regular basis, enabling a flexible and responsive approach to changing community needs. This approach will minimise socio-economic impacts of future closure on Weipa and other Western Cape communities and promote economic diversification.<br><br>RTA has approached Regional Development Australia FNQ&TS to discuss the matters outlined in their submission. |
| EIS003 | The Wilderness Society | 3.1 | Shipping Numbers in the GBR | The Wilderness Society does not accept the premise of using net figures to assess shipping impacts on the Great Barrier Reef. The impact assessment – and all associated safeguards, avoidance and mitigation measures - should be re-done using gross shipping figures for projected SoE operations.<br>1. The use of net shipping figures in the draft EIS is based on a | The Executive Summary of the EIS states:<br>The small potential increase in Project-related bauxite and cargo shipping, under a maximum production scenario, would represent a potential 0.4% increase in ship movements through the inner GBR Designated Shipping Area. The Project's total bauxite ship movements of 600 would represent 4.2% of the estimated ship movements in 2020 through the inner GBR Designated Shipping Area. The Project's |

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| | | | | purported reduction in shipping from the Port of Weipa as bauxite activities at the North of Embley (NoE) mine site are reduced. However, beyond some very general statements in the draft EIS that mining (and associated shipping) from SoE will replace mining (and associated shipping) from NoE, there is nothing in the draft EIS to substantiate such assertions, let alone detail the precise timing or scale of the purported substitution of operations and shipping.<br>2. To rely on net shipping figures is misleading and completely undermines the validity of the draft EIS risk assessment in relation to GBR impacts.<br>3. The NoE mine is still in production, producing 20.7Mt in 2011. Bauxite reserves for NoE are listed as 1,554Mt (proven and probable at 31 December 2011).<br>4. The proponent has apparently just doubled its refining capacity at the Port of Gladstone with the opening of the Yarwun 2 refinery expansion. It is therefore unclear how limited refining capacity at Gladstone would act as an effective cap on shipping numbers.<br>5. SoE projected production figures are 50Mdptpa. On those figures alone - and assuming the highly unlikely scenario that NoE was to completely shut down production tomorrow - it's hard to see how that would only generate 300 ships – when 270 ships pa currently go from NoE to Gladstone (based on production of 20.7Mt, which is half that proposed for SoE).<br>6. There is no certainty that the claim of commensurate reductions in shipping from NoE to offset increased shipping in SoE will occur.<br>7. The draft EIS must account only for the actual shipping directly associated with the SoE project and not seek to discount it by offsetting it against a purported and entirely unsubstantiated reduction in mine related shipping from the NoE site.<br>8. The EIS needs to clearly address potential impacts from 300 ships, as opposed to 30, on marine fauna. | total ship movements (bauxite and cargo) of 900 would represent 6.2% of the estimated ship movements in 2020 through the inner GBR Designated Shipping Area. This information has also been added to Section 11.3.4.2 of the final EIS.<br><br>Table 18-3 clearly shows the predicted decrease in shipping from the Port of Weipa as SoE Project production (and associated shipping from the Boyd Port) increases. It should be noted that these figures are total shipments from those ports and not shipments through the GBR.<br>1. The use of net shipping figures in the EIS for shipping through the Great Barrier Reef (GBR) is appropriate. The number of bauxite ships traversing the GBR is not driven by the timing of the ramp down of bauxite activities north of the Embley River. The shipments through the GBR following commencement of production at SoE would continue to be the shipments required to meet the needs of the existing Gladstone refineries, within the approved capacity limits that currently exist (including the approved Yarwun 2 expansion). Bauxite production beyond the requirements for the approved production capacities at the Gladstone refineries would be sold to international markets. Any future proposed production expansions at the Gladstone refineries beyond current approvals would be subject to further relevant approval processes at the relevant time.<br>2. See introductory statement above.<br>3. The 1,554Mt of ore reserves reported by Rio Tinto includes ore from both north and south of the Embley River, of which the reserves in the south are the most significant.<br>4. As noted in point 1 above, the bauxite shipping numbers used for the assessment reflect the bauxite requirements for the approved production capacities at both Gladstone refineries (including the approved Yarwun 2 expansion which has already been commissioned). Bauxite production beyond the requirements for the approved production capacities at the Gladstone refineries would be sold to international markets. Any future proposed production expansions at the Gladstone refineries beyond current approvals would be subject to further relevant approval processes at that time.<br>5. The 270 ships to Gladstone refer to the number is ships needed to supply the installed refining capacity (Yarwun 1 and 2, QAL) at the time when the SoE Project commences production (see Table 3-10). See also the answer to point 4 |

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| | | | | | above.<br>6. See response to points 1 and 4.<br>7. See response to points 1 and 4.<br>8. See statements above. |
| EIS003 | The Wilderness Society | 3.2 | Shipping - Cumulative and Facilitated Impacts | The draft EIS should outline how many ships are expected to leave Gladstone post-refining, how many will traverse through the GBR, and confirm the extent to which those shipping movements are authorised by other environmental approvals. | The Gladstone refineries currently operate in accordance with existing approvals. Production capacity at the refineries is capped by those approvals. The SoE Project would not result in an increase in approved capacity of the refineries. Any future proposed production expansions at the Gladstone refineries beyond current approvals would be subject to further relevant approval processes at that time. |
| EIS003 | The Wilderness Society | 3.3 | Shipping in the GBR (UNESCO Mission Report) | The cumulative effect of shipping impacts combined with other pressures (such as climate change and extreme weather events) on known environmental vulnerabilities should be addressed.<br>• The assessment of "cumulative" impacts on the GBR contained within the draft EIS does not seem to address many of the matters outlined in the UNESCO Mission Report as requiring consideration in assessing the impacts of particular activities, such as increased shipping for example, the effects of climate change and extreme weather events, combined with the already degraded nature of parts of the GBR.<br><br>The assessment of shipping related impacts needs to be considered by the Federal Government in the broader context of emerging findings from the Strategic Assessment currently underway (refer to the UNSECO Mission Report – 2012 on the health of the GBR). | The UNESCO Reactive Monitoring Mission report (UNESCO 2012) states that climate change factors are expected to pose the greatest threat to the long term conservation of the GBRWHA. The UNESCO report describes the following specific climate change threats and predicted potential impacts that present a risk to all coral reefs, including the GBR:<br>• Increased seawater temperature which is predicted to lead to increased frequency of coral bleaching, and organisms in coral reefs and coastal habitats becoming more susceptible to disease and predation.<br>• Increased sea level is predicted to cause changes in tidal habitats and saltwater intrusion into low lying freshwater habitats.<br>• Increased weather variability predicted to have a range of implications including elevated risks of sedimentation, algal blooms, storm damage and more frequent crown of thorns star fish outbreaks. Heavy rainfall associated with cyclones can lead to extensive flood plumes and lowered salinities that stress or kill sensitive organisms such as corals and seagrasses and can cause widespread physical damage.<br>• Increasing ocean acidification is predicted to lower the capacity of corals to build skeletons.<br>The UNESCO report also states that threats posed to the GBRWHA need to be considered for their cumulative and/or combined effect on the area as a whole.<br><br>Existing threats from rising seawater temperature, rising sea level, acidification, or increased storm damage, would not be increased by Project-related shipping. Potential impacts associated with Project-related shipping on the GBRWHA include oil spills, grounding of large vessels, exotic species introduction and vessel discharges (refer Section 12.4). The cumulative impacts of these existing risks are |

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| | | | | | addressed in Section 18.4.2 and 18.4.3.<br><br>Information from the UNESCO report has been added to Section 18.4.1. |
| EIS003 | The Wilderness Society | 3.4 | Underwater Noise | The analysis of underwater impacts from noise and vibration on marine fauna appears simplistic and requires much more detailed scrutiny. In summary, The Wilderness Society has significant concerns with the robustness of the analysis in section 15 (and Appendix 15-A), which must be addressed in the final EIS, including all associated impact assessments and management strategies for marine fauna that rely on the current modelling and assessment of impacts.<br>1. The modelling work on which the EIS relies appears to misconstrue key findings from Southall et al in relation to behaviour disturbance. As a basic proposition, behaviour analysis should be multi-variable. In the absence of that multivariable analysis, the assessment of potential impacts and mitigation measures contained within the draft EIS is flawed and not reflective of more recent scientific literature. The final EIS must take into account more recent scientific literature and appropriately update its assessment of risks, impacts and mitigation measures.<br>2. Southall's work was concerned with animal movements (behavioural disturbance) in response to noise. It did not address animals that remained stationary in response to noise, and it is therefore problematic to generalise that avoidance behaviour is a common response to noise.<br>3. Similarly, Southall's findings cannot be generalised out to all marine fauna.<br>4. The assumed impacts of pile driving on crocodiles and the assertion that dolphins are not affected by noise because they're found in ports - are unrealistic and unsupported by adequate peer reviewed literature.<br>5. It is unclear why the draft EIS has adopted a threshold of 170dB as constituting "continuous disturbance". The Wilderness Society understands that a lower threshold | RTA disagree that the analysis of underwater noise impacts on marine fauna is simplistic. The assessment of underwater noise (see Section 15.3) was based upon published scientific literature and is supported by modelling of underwater noise from marine piling (see Appendix 15A). However, further published scientific literature has been reviewed to support the assessment as noted below.<br>1. Southall *et al.* (2007), and more recently Erbe (2012), both identify that impact assessment in regards to behaviour disturbance should be multi-variate. However, Southall *et al.* (2007) identify sound pressure level as the best metric with which to assess the available behavioural response data, given that this has most often been measured or estimated during disturbance studies. Searches using the Scopus database have not identified any more recent or more relevant information. The identified impact distances (see Section 15.3.2.3) and mitigation measures (see Section 15.3.3.1) are considered appropriate to reduce the potential for ecological meaningful impact (i.e. below levels considered likely to affect vital rates of foraging or reproductive output). Further information has been added to Section 15.3.2.2 and Appendix 15-A of the final EIS.<br>2. For mobile marine animals, avoidance behaviour is well established in the peer reviewed literature as the common response to underwater noise which occurs when that noise reaches a certain threshold (e.g. Janik and Thompson 1996; Nowacek *et al.* 2001; Ng and Leung 2003; Hodgson and Marsh 2007; DeRuiter and Doukara 2012). This information has been added to Section 15.3.2.2 and Appendix 15-A of the final EIS. Notwithstanding the clear weight of evidence that mobile marine animals respond to underwater noise by avoidance behaviour, conservative assumptions were considered in this impact assessment (see Section 15.3.2.3).<br>3. The Southall *et al.* (2007) study is a peer reviewed study undertaken to specifically review cetaceans and pinnipeds physiological and behavioural responses to anthropogenic sound, and to propose exposure criteria for certain effects. Peer reviewed scientific literature relating to impact on marine turtles (McCauley *et al* 2000), elasmobranches (Casper 2006), and Dugongs (Gerstein 1999, Anderson and Barclay 1995) has been included in, or added to, Section |

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| | | | | (120dB) is the accepted benchmark.<br>6. It is noted that Exclusion zones for dredging operations do not seem to have been determined.<br>7. There have been no studies on brides whales, dugongs and relevant dolphins. In such circumstances, a pilot study on noise impacts would seem to be a more appropriate management response. Additionally TWS expects a long-term baseline study in respect of the effects of noise on marine fauna from pile driving and shipping to be undertaken and this to be proposed in the Final EIS. Shipping impacts on all potentially affected marine fauna should be monitored. | 15.3.2.2 of the final EIS.<br>4. The assessment did not assert that dolphins would not be affected by noise because they're found in ports. Potential effects on dolphins from marine noise sources associated with the Project (pile driving, dredging and shipping) are described in Section 15.3.2.2 and impacts of underwater noise on cetaceans is assessed in Sections 9.5.4.2 (pile driving) and 9.5.4.3 (shipping). The co-existence of dolphins with coastal development is just one part of this impact assessment. Further discussion of the co-existence of dolphins with coastal development has been included in Section 9.5.1.1 (Australian Snubfin Dolphin) and Section 9.5.1.2 (Indo-pacific Humpback Dolphin) of the final EIS.<br>The impact assessment for Estuarine Crocodiles has been updated in the final EIS (see Section 15.3.2.2, Section 9.3.4.2 and Appendix 15-A) to identify that noise is not a potential impacting process on Estuarine Crocodiles (Leach *et al*. 2009). This conclusion is also reflected in the DSEWPaC SPRAT database which identifies fishing, illegal hunting/harvesting and collection, ecosystem degradation and invasive species as threats.<br>5. The EIS did not adopt a threshold of 170dB for any listed threatened or migratory species assessed. Behaviour disturbance criteria are presented in Table 15-4 of the EIS (see Section 15.3.2.2), including the range of exposure criteria for behaviour disturbance from continuous (non-pulse) noise sources. Information on behavioural ecology and likely impact on species has been clarified in Section 15.3.2.2 and Appendix 15-A of the final EIS.<br>6. Although potential for injury is unlikely, the Marine Turtle and Marine Mammal Management Process (see Figure 7-21, Section 7.3.6.1) would provide observation and exclusion distances to prevent injury from dredging activities. A cross reference to the Marine Turtle and Mammal Management Process has been added to Section 15.3.3.2 and Section 7.3.6.1 of the final EIS and the wording of the conclusion in Section 15.3.2.2 has been clarified.<br>7. Potential impacts of underwater noise on Dugongs are assessed in Sections 9.4.4.2 (pile driving) and 9.4.4.3 (shipping). Impacts of underwater noise on cetaceans are assessed in Sections 9.5.4.2 (pile driving) and 9.5.4.3 (shipping). Mitigation measures for potential impacts on Dugongs are presented in Section 9.4.5.2 (pile driving) and Section 9.4.5.3 (shipping), and Sections 9.5.5.2 (pile driving) and 9.5.5.3 (shipping) for potential impacts to cetacean species (including the Bryde's Whale). With the implementation of the identified |

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| | | | | | mitigation measures, residual impacts on each species from both pile driving and shipping are concluded to be negligible. Therefore pilot and long-term baseline studies on the impacts of underwater noise, or monitoring of underwater noise from shipping activities, are not considered necessary. |
| EIS003 | The Wilderness Society | 3.5 | Transportation | 1. The volume of cargo barge traffic to the Hey River terminal has not been specified and whether transportation is by road or barge needs to be clarified.<br>2. Table 3-10 (Project related shipping activities) lists cargo and diesel transfers from the Humbug terminal to the project area at 11 crossings per day. That seems to be incorrect. We expected the figure to be 87 pa. | During construction it is expected that almost all fuel and cargo would be transferred from Humbug terminal to the Hey River terminal via barge and then by road. There is the potential for some barge transfers via a temporary beach access at Pera Head. Cargo movement would predominately be by barge, but during the early phases of construction some road transport would be required. Any oversize plant and equipment that is too large or heavy for river infrastructure may also be transported by road.<br><br>The river facilities are designed for all the regular requirements during operations, and all transfers by barge would be via the Hey River terminal.<br><br>The figure presented in Table 3-10 of 11 crossings per day for fuel and cargo transfers while at 50Mdptpa is correct. However the text has been changed to 11 round trips per day to provide clarification. It is not clear why the submission states a figure of 87pa is expected. |
| EIS003 | The Wilderness Society | 3.6 | Sea Snake | 1. Quantifying the volume, and associated impacts, of cargo barge traffic to the Hey River terminal in relation to the new species of sea snake needs to be explicitly addressed.<br>2. Further investigation is required into the habitat and distribution of the snake, including consideration of its conservation status. Until further investigations into the habitat and range of these species are concluded - and consideration given to whether or not they should be listed as endangered, vulnerable, near threatened or least concern under Federal legislation - the highest level of protection should be given. The extent of that protection should be outlined in the final EIS. | 1. Cargo barge traffic is presented in Table 3-10. During construction, an annual average of approximately 75 barge deliveries would be made from the Humbug terminal to the Hey River terminal. At maximum production there would be 11 barge round trips per day carrying fuel and cargo.<br>2. The process for nomination and listing of species is set out in the EPBC Act, Chapter 5, Part 13, Division 1 Section 194A, Sub-Division AA – The Nominations and Listing Process.<br>DSEWPaC (2012n), in the marine reptiles species group report card, reported an analysis of pressures on 19 species of sea snakes in the North Marine Region. The results of the analysis identified the following pressures as “of concern” and “of potential concern”:<br>Of Concern: By catch (commercial fishing);<br>Of Potential Concern: Climate change (change in sea temp, ocean acidification); physical habitat modification (dredging and/or dredge spoil).<br><br>By-catch from commercial fishing is assessed as “of concern” for 11 sea snake |

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| | | | | | species and "of potential concern" for eight sea snakes species. This pressure is associated with commercial fishing activities in trawl fisheries, and particularly the Northern Prawn Fishery. In 2009, 7369 sea snakes were reported in logbook records as caught in the Northern Prawn Fishery (DSEWPaC, 2012n).<br>Barge traffic has not been identified as "of concern" or "of potential concern'" by DSEWPaC (2012n) and is considered to have negligible impact on sea snakes. Potential impacts to sea snakes are addressed in Section 10.4.3.1. |
| EIS003 | The Wilderness Society | 3.7 | Shipping – Fuel Supplies | It would be useful to indicate likely alternative departure ports for fuel shipping, particularly if those ports may require fuel to be shipped through the GBR. | Fuel is currently sourced from Darwin. However, this is subject to change at the discretion of the third party supplier (refer to Section 3.9.1.2) and the likelihood and details and any such change in the future are not known. If a change in supply location were likely to result in a significant impact on a matter of NES, then the third party supplier would need to refer the matter under the EPBC Act. |
| EIS003 | The Wilderness Society | 3.8 | Spill Modelling | It is unclear why the only modelling that appears to have been done relates to a spill in Gladstone Harbour, at least some modelling ought to be done for spills in the GBR (reference to UNSECO Mission Report associated with collision and grounding). | The Commonwealth Tailored EIS Guidelines require stochastic modelling for most likely scenarios for a shipping incident (e.g. geographic areas, pollutant types and relative amounts). The modelled scenarios were selected on the basis that a spill during refuelling in the Port of Gladstone represents the highest probability of a marine oil spill from Project-related shipping (refer Section 4.3.4). This is supported by the Assessment of the Risk of Pollution from Marine Oil Spills in Australian Ports and Waters (DNV 2011) prepared for the Australian Maritime Safety Authority (AMSA), which states *that "The main accident types are spills from bunkering of bulk carriers and cargo transfer on oil tankers"*. The report identifies high risk areas as being Hay Point, Gladstone and Brisbane.<br><br>The stochastic modelling of different spill volumes was undertaken at two locations: the Fisherman's Landing Wharf and the South Trees Wharf terminals in Gladstone. These two locations have the highest probability of both a refuelling spill event and collision spill event associated with Project-related shipping. This is because refuelling of Project-related bauxite vessels in Australia would only take place at these two locations and collision risk is highest in and around berthing locations.<br><br>The modelled locations were reviewed and accepted by GBRMPA and DSEWPaC. The full modelling report is provided in Appendix 4-D of the final EIS. |
| EIS003 | The Wilderness Society | 3.9 | Cape York Peninsula World Heritage | The final EIS, and Federal Government consideration of this project, need to address the impact of land clearing and mining of this scale on a potential future World Heritage nomination for Cape York Peninsula, including particular regard to impacts on | The Australian Government is currently conducting consultation on the proposed nomination of a Cape York Peninsula World Heritage area. Boundaries for a nomination have not yet been determined. The Minister for Sustainability, Environment, Water, Population and Communities has stated that the nomination |

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| | | | Nomination | the cliffs around the Weipa and Aurukun coastline, which are an extensive and world class example of an 'aluminium-rich lateritic weathering profile'.<br>1. The project will involve clearing almost 30,000 hectares of native vegetation, the majority of which (87% of the total project area, and 99% of the actual disturbance area) is Darwin Stringybark (*Eucalyptus tetrodonta*). This is the largest land-clearing program in Cape York's recent history. The draft EIS fails to acknowledge or address that bauxite landscapes are an identified biome currently under consideration by the Federal Government for inclusion in a World Heritage nomination for Cape York Peninsula. The inclusion of the bauxite landscapes of the Cape York Peninsula will be critical component of any World Heritage nomination, particularly as regards criterion viii4 of the Operational Guidelines for the Implementation of the World Heritage Convention. | would not proceed without Traditional Owner consent.<br><br>World heritage listing does not automatically prevent development; however mining is generally not carried out inside world heritage properties. Any activities that are already permitted under the EPBC Act would be permitted to continue should a new World Heritage Area be declared in the region; however new activities that are likely to have a significant impact on the values of area would require approval under the EPBC Act. Existing mining leases (such as that over the SoE Project area) are likely to be excluded from a proposed World Heritage Area. Mining would not affect the cliffs along the coastline in the Project area.<br><br>Information on the status of the World Heritage nomination has been updated and provided in Table 4-2 of the final EIS.<br><br>1. RTA noted that the Australian Government was currently conducting consultation on the proposed nomination of the Cape York Peninsula World Heritage Area in Section 4.5.2.4 of the draft EIS. The nomination, which was released after the draft EIS, states that one of the indicative values of the proposed World Heritage Area is "Cape York Peninsula's western slopes and plains show that entire landscapes can persist for millions of years" (Commonwealth of Australia 2012). This landscape is dominated by the Regional Ecosystem (RE) 3.5.2 (*Eucalyptus tetrodonta*, *Corymbia nesophila* tall woodland on deeply weathered plateaus and remnants), of which there is 791,008ha mapped in the Cape York Bioregion and 668,673ha in the Weipa Plateau subregion. The percentage of RE 3.5.2 that would be cleared for the Project represents 4.4% of this RE within the Subregion (refer Section 4.2.1.2 of the EIS) and 3.7% of the Bioregion. RE3.5.2 is classified as "least concern' under the Queensland *Vegetation Management Regulation 2012* and the proposed clearing would not cause RE3.5.2 to be classified as "of concern" or "endangered". |
| EIS003 | The Wilderness Society | 3.10 | Springs | The final EIS needs to explicitly address any impacts of the project on any associated sinkhole structures and spring-fed ecosystems in the project area. | There are no sinkholes in the Project area. The lower reaches of Norman Creek and Ward River are perennial/semi-perennial and fed by shallow aquifer groundwater (see Section 16.1.1). Section 16.4.1 notes that the AWBM modelling of mining impacts show (see also Section 16.2.4) that mining has a temporary impact on the partitioning of surface runoff and baseflow (i.e. groundwater fed flow) and that, as |

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| | | | | | rehabilitation matures, the overall hydrological regime at a catchment scale returns toward an "undisturbed" situation. The main reason the change due to mining has a small impact is that direct surface runoff from the bauxite plateau is a very small proportion of annual average incident rainfall (<1%); hence, redirection of surface flow does not greatly alter aquifer recharge characteristics. The removal of bauxite would only have the potential to change discharge from the shallow aquifer in situations where the bauxite is an appreciable source of baseflow. Typically in the Project area, the water table is within the bauxite only at the height of the wet season, if at all (see Figures 16-17 to 16-20). In the dry season the water table generally falls to 4 to 8m below the base of the bauxite. Streamflow during the dry season tends to be maintained by baseflow originating predominantly from kaolinitic strata. The overall effect of mining on the baseflow and deep baseflow component of the water balance is very small (refer Section 16.2.4) and there would not be a significant impact on any spring-fed ecosystems. |
| EIS003 | The Wilderness Society | 3.11 | Clearing *Eucalyptus tetrodonta* | This project needs to be considered in the context that clearing of the bauxite landscapes for mining has already significantly impacted on the status of this regional ecosystem. An integrated management plan which addresses the conservation requirements of the *E. tetrodonta* dominated bauxite landscapes of Cape York Peninsula should be undertaken as an essential baseline within which this and future bauxite mining projects are assessed.<br>1. Recent research (Gould 2010) has established that in simple terms, *Eucalyptus tetrodonta* cannot be re-established after the bauxite layer has been removed, meaning that any rehabilitation program will involve the introduction of a completely new ecosystem in the mined area (30,000 hectares). The final EIS therefore needs to account for and expressly document potential changes to ecosystems (flora and fauna) that are likely to result from the project, irrespective of any rehabilitation program, including impacts on EPBC listed species and associated prey species. This should include clearly identifying those 5% of species that were only found (in surveys conducted by the proponent) in Darwin Stringybark woodland and not in other habitats in | As detailed in the response to Issue 3.10 above, RE3.5.2 is listed under the *Queensland Vegetation Management Regulation 2012* as "least concern". The proposed clearing of RE 3.5.2 for the SoE Project (29,366ha) represents 4.4% of this RE type in the Weipa Plateau Subregion and 3.7% of this RE type in the bioregion (see Section 4.2.1.2). Potential cumulative impacts are assessed in Section 18.1.3. Given the high proportion of RE3.5.2 that shall remain, the status of this regional ecosystem remains secure.<br><br>Section 3.10.3.1 of the EIS provides discussion regarding the history of rehabilitation at Weipa and acknowledges that the existing mining operations have implemented a variety of post mining rehabilitation objectives since mining commenced in the 1960's, including pasture, horticulture, native and non-native forestry and native vegetation. RTA is now wholly dedicated to returning a native rehabilitated ecosystem to the post mining landscape. Monitoring undertaken in recently rehabilitated areas in the existing operations at East Weipa, indicates successful establishment of framework species in both wet (*Melaleuca* and/or *Lophostemon* species) and dry (*Eucalypts*, *Corymbias*, *Erythrophleum*, etc. species) post mining landscapes. Annual monitoring of site establishment (8-10 months after seeding) over three years between 2008 and 2010 demonstrated that in areas where the objective was to establish a 'dry woodland' community, the average stems per hectare of framework species varied between 1000 and 1400 and between 43.5% |

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| | | | | the project area.<br>2. Palm cockatoos, pied imperial pigeons, brown treecreepers, varied sittellas, grey-crowned babblers and emus are some of the species likely to be affected by the removal of the original eucalyptus forest. | and 73.4% of sites had more than 500 stems per hectare of the framework species. On average, 12 to 18 species were present in each 500m$^2$ plot, with a total of 75 to 117 species recorded each year. These data are presented in Section 3.10.3.1 of the EIS.<br><br>While the security of species found in the Darwin Stringybark woodland ecosystem does not rely upon the proposed rehabilitation program, rehabilitation would provide valuable habitat for a wide range of flora and fauna in the Project area and would form an important component in the conservation of biodiversity in the Project area. The proposed rehabilitation program is discussed in Section 3.10.<br><br>With respect to the 5% of fauna species recorded only in Darwin Stringybark woodland during the biological surveys (derived from Appendix 7F in the Queensland EIS (RTA 2011)), none of these species are threatened species listed under the EPBC Act. These species would remain secure in the undisturbed habitat in the subregion and it is likely that a substantial proportion of these species would colonise rehabilitation areas.<br><br>With respect to the Palm Cockatoo, Pied Imperial Pigeon, Brown Treecreeper, Varied Sittella, Grey-Crowned Babbler and Emu, none are listed as threatened species under the EPBC Act and all are considered 'Least Concern' by the IUCN.<br><br>The clearing of Darwin Stringybark woodland for the SoE Project is unlikely to substantially affect the security of the Palm Cockatoo population. The very large area of intact Darwin Stringybark woodland remaining in the sub-region, taking into consideration the potential cumulative impacts of other projects (see Section 18.3.1) indicates that it is most unlikely that mining would significantly impact the Palm Cockatoo. There appear to be other factors affecting the species that will need to be addressed to ensure the security of the population regardless of whether the SoE Project proceeds. In particular, the widespread loss of nesting hollows from repeated fires across most of Cape York is of considerable concern. RTA recognises that improved fire management across Cape York will help protect MNES species and has proposed an improved fire management program for the SoE Project area as an ecological enhancement measure (Section 6.3.4.2).<br><br>The Pied Imperial Pigeon, Varied Sittella, Grey Crowned Babbler and Emu |

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| | | | | | populations appear to be currently secure on Cape York and clearing of Darwin Stringybark woodland for the Project is not expected to have a significant impact on the future of these species. |
| | | 3.12 | Red Goshawk and Rehabilitation | The proponent has still to establish whether rehabilitated areas will support the re-colonisation of affected areas by the Red Goshawk, and that the draft EIS itself acknowledges that the Red Goshawk has not been recorded from rehabilitation areas at Weipa (6.3.4.6). It is also noted that the suitability of rehabilitated habitat for a range of native fauna, including prey species for the Red Goshawk, is proposed as a performance indicator for rehabilitation (6.3.4.6 and Table 3-14).<br><br>The Wilderness Society has significant concerns that these issues are being trialled over such an extensive area and that reliance seems to being placed on so-called "adaptive management" practices to address current and future deficits in rehabilitation outcomes. | Despite intensive searching for the Red Goshawk, the species has not been recorded in the SoE Project area. There has only ever been one confirmed sighting near Weipa, 15km to the north of the Project area (a report was received by RTA in January 2013 that a pair of birds was sighted on the boundary of the East Weipa mining area in August 2012 – the final EIS has been amended accordingly). All other documented sightings come from the large river basins further east, the other nearest being sightings on the Wenlock River 50km and 90km north-east and around Merluna Plains and the Archer River system approximately 90km east. Birds in the Weipa region have been surveyed for many years, with surveys in mine rehabilitation for the last 30 years, annual baseline surveys in new mining areas, a number of regional surveys and many hundreds of hours of bird observing by experienced and amateur bird observers. The lack of Red Goshawk sightings suggests that it makes very infrequent use of potential habitat within the region. Therefore it is not surprising the Red Goshawk has not been found in mine rehabilitation areas at Weipa, although it is possible that the pair of birds sighted at Weipa were hunting prey in nearby young mine rehabilitation.<br><br>The analysis of prey species found in Weipa rehabilitation indicates that there would be an adequate food supply for the Red Goshawk, should the species choose to colonise the area and forage in existing mine rehabilitation. Surveys indicate the presence of 66 known or probable prey species in rehabilitated habitats north of the Embley River. This is more than the number of known or probable prey species that occur in Darwin Stringybark open forest (37) (see Section 6.3.4.6). The greater variety of habitats found in rehabilitated areas compared to the more uniform Darwin Stringybark habitat is likely to account for this finding. The presence of prey species in rehabilitated areas is considered to be an appropriate performance indicator (see Table 3-14). The use of performance indicators is a standard approach to track the attainment of designated rehabilitation criteria and trigger any change to management practices that may be required from time to time. |
| EIS003 | The Wilderness Society | 3.13 | Dam C | The draft EIS acknowledges that there will be a significant impact on immediate downstream flow, with a reduction of over 50% in the 50Mdptpa scenario. However the draft EIS almost exclusively focuses on the impact of Dam C on the catchment as | Dam C is located on one of several Norman Creek tributaries that flow to the Norman Creek estuary. The length of tributary between the dam wall and the tidally influenced ecosystems is approximately 2.5km (see Figure 4-1a). The presence of a dam could change the downstream flooding regime; however Figures 16-12 to 16- |

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| | | | | a whole. The draft EIS needs to provide further information on the localised downstream ecological impacts of damming one branch of Norman Creek, particularly as the draft EIS acknowledges that "the ecology of these areas is not dependent on extreme flood events" (16.1.1). In such circumstances, the reduction of mean annual flow by over 50% is likely to have a significant impact on local ecology, which needs further consideration.<br><br>Indeed, it is noted that the "impact benchmarking" methodology used by the EIS seems to support the view that further information is required in relation to localised downstream impacts. The methodology indicates that changes of >20% to mean annual flow have the potential to have "major/very major impacts…on geomorphological and/or ecological conditions" (16.2.3). | 14 show that Dam C has a negligible impact on the volume of downstream overbank flow. The reason for this is that by the time the flow into the dam reaches the bank full flow rate the dam is already full and functioning as a drowned weir. As such, water passes water straight through with little impact on overbank flooding and hence on any ecosystems dependent on such flooding. Another ecological aspect of flow, besides overbank flow, is that of late dry season flows. Figure 16-11 and Table 16-16 show that there is typically little dry season flow at Dam C after July. When flow ceases, pools within the channel are no longer connected and some without groundwater inflow eventually dry up. The effect of Dam C would be to stop flow between pools earlier than would be the case under natural conditions. To mitigate this, Dam C would be fitted with an outlet pipe which would permit the controlled release of environmental flows when required. Sufficient water would be reserved for environmental flows to enable continued releases from August to October of a volume equivalent to 25% of dam inflows (see Section 6.2.3). |
| EIS003 | The Wilderness Society | 3.14 | Ward River | The EIS proposes that abstraction from the Ward River would be capped at 1% of mean annual flow. Given that the southernmost portion of the Project area is within the Ward River sub-catchment, which drains into the Archer Bay Aggregation and, more broadly, forms part of the pristine Watson River basin, modelling of hydrological and associated ecological impacts requires independent verification.<br><br>Concerned that the delivery of freshwater to downstream ecosystems, including wetlands, will be severed by the proposed direct extraction of water from the Ward River. Given that these wetland systems are significant nesting and feeding grounds for migratory birds, aquatic refugia and habitat for threatened species, the modelling undertaken by the proponent for the project as well as the assessment of potential impacts to flora and fauna as a result of the changed hydrological regime needs to be peer reviewed by a suitably qualified expert nominated by the Federal Government. | The impact on flows in the Ward River from the proposed pumping of water (once production rates exceed 30Mdptpa) has been modelled and is described in Section 16.2.3. The annual volume of water pumped from the Ward River would be capped at 1% of mean annual river flow at the pump station. In addition, no pumping would occur when the Ward River flow was less than 1,000L/s and rate of pumping at all times would be less than 20% of the flow rate.<br><br>The Ward River discharges into Archer Bay. Archer Bay is fed by the Ward, Watson and Archer Rivers. The Project would not affect the Watson or Archer Rivers while some mining activity would occur in the Ward River catchment. The Ward River catchment comprises only 3.8% of Archer Bay's total contributing catchment of 17,358km$^2$. An assessment of impacts of pumping water from the Ward River catchment determined that the Project would reduce mean annual discharge to the Ward River estuary by 0.4% (see Table 16-17) and therefore the impact on Archer Bay ecosystems would be very minor, if any (refer Section 16.2.4). |

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| EIS003 | The Wilderness Society | 3.15 | Artesian Aquifer | The final EIS needs to provide further detail on the work being done by DNRM to determine the sustainable groundwater capacity of the Great Artesian Basin in the region and any implications that may have for the project's proposed rates of groundwater abstraction, including any revised water licensing arrangements. | The Queensland Coordinator General has recommended to DNRM, the State agency administering the *Water Act, 2000*, that work be undertaken to determine the sustainable capacity of the Great Artesian Basin in the Cape York region to inform on any future development in the region (refer Section 16.4.3). RTA understands that DNRM has commenced preliminary work on this matter. |
| EIS003 | The Wilderness Society | 3.16 | Environmental Buffers | The final EIS should more explicitly outline the rationale for applying a particular environmental buffer to affected watercourses (including those impacted by ancillary infrastructure), having regard to the overall hydro-ecological functioning of system at local, catchment and basin levels.<br>1. The Watson River Basin remains a comparatively pristine environment and has a foundational relationship to the ongoing functioning of the Archer Bay Aggregation.<br>2. Given the comparatively undisturbed nature of much of the mining lease, and associated watercourses, it is inadequate to generically apply a (maximum) buffer of 200 metres around watercourses. The Queensland experience in relation to other wild river basins demonstrates that buffers of up to 1km are required to maintain important hydro-ecological functions. | Land clearing is not proposed within the catchment of the Watson River, nor within 1km of the catchment (see Figure 16.2). The Watson River Basin is not a declared wild river under the Queensland *Wild Rivers Act 2005*. The Ward River discharges into Archer Bay. Archer Bay is fed by the Ward, Watson and Archer Rivers. The Project would not affect the Watson or Archer Rivers while some mining activity would occur in the Ward River catchment. The Ward River catchment comprises only 3.8% of Archer Bay's total contributing catchment of 17,358km$^2$. An assessment of impacts of mining on the Ward River catchment determined that the Project would reduce mean annual discharge to the Ward River estuary by 0.4% (see Table 16-17) and therefore the impact on Archer Bay ecosystems would be very minor, if any (refer Section 16.2.4).<br><br>The Queensland Government's Regional Vegetation Management Code for Western Bioregions (DERM 2009c) sets out clearing set-back distances for the Cape York region of up to 200m from the high bank of watercourses, depending on stream order. The proposed SoE environmental buffer system exceeds these set back distances for all stream orders. For example, under the proposed SoE environmental buffer system, the buffer distance would be measured from the edge of the riparian vegetation, not the high bank (see Table 6-15). Based on currently available information, the area protected by the proposed SoE environmental buffer system would be at least 8,356ha larger than that which would be required under the regulatory requirements. It is noted the minimum clearing set back distance from watercourses set out in the Archer Basin Wild River Declaration (DERM, 2009) is 200m. |
| EIS003 | The Wilderness Society | 3.17 | Economic Analysis | 1. Employment figures are provided as gross figures and, as such, fail to account for the loss of jobs from the scaling back of North of Embley operations.<br>2. The Federal Government should to take into account the limitations of the Input-Output (IO) model in assessing the | 1. The economic modelling report (refer Appendix 17A) states that the employment impacts are separate to the existing RTA Weipa bauxite mining operations at East Weipa and Andoom. The impacts reported in the EIS refer only to the impact of the construction and the on-going operation of the SoE Project. Employee and contractor employment at 50Mdptpa is estimated to be 1,346 (see |

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| | | | | purported economic benefits of the project, as the Australian Bureau of Statistics (ABS) has outlined some of the shortcomings of IO models including:<br>• Lack of supply–side constraints: may overstate economic impacts. The actual impact is likely to be dependent on the extent to which the economy is operating at or near capacity.<br>• Fixed prices: Constraints on the availability of inputs, such as skilled labour, require prices to act as a rationing device. In assessments using multipliers, where factors of production are assumed to be limitless, this rationing response is assumed not to occur. Prices are assumed to be unaffected by policy and any crowding out effects are not captured.<br>• IO multipliers are likely to significantly over–state the impacts of projects or events. More complex methodologies, such as those inherent in Computable General Equilibrium (CGE) models, are required to overcome these shortcomings."<br><br>3. Provide at least some assessment of the impact of the project on "non-market goods" including vegetation loss due to land clearing and the economic impacts of climate change. | Table 17-4). At the time of the 50Mdptpa production scenario, there wouldn't be demand for similar Weipa mine-related employment as reserves from North of Embley deplete over time. Accordingly, it is reasonable to attribute the gross employment numbers at 50Mdptpa production to the SoE Project.<br>2. The economic modelling report acknowledges the limitations of input-output models which are static in nature. Nevertheless, they are a commonly accepted tool for use in modelling the economic impacts of project proposals and the results produced for the purpose of assessment provide reliable information regarding project impact under current conditions. The report also explains that the Federal Government's National 111 Industry Input- Output (IO) Table published by the Australian Bureau of Statistics (ABS) was aggregated to 20 industries for the purpose of the economic assessment. Using information on the local, regional and state employment structure (from the 2006 ABS Census Journey to Work and Labour Force Survey data) and financial data on the Project acquired directly from Rio Tinto, the IO table was modified for the local, regional and State economies. The result is a purpose-built, or tailored economic model, which was used to undertake the economic assessment of the Project at the local, regional, State and national levels. This approach has helped to address any shortfalls in using IO multipliers such as the potential overstatement of impacts.<br>3. An assessment of impacts on "non-market goods" (e.g. vegetation, climate) are beyond the scope of what is required in an economic impact assessment consistent with Commonwealth Tailored EIS Guidelines. |
| EIS003 | The Wilderness Society | 3.18 | Freshwater Crab and Stygofauna | 1. Further work is required to identify the habitat, distribution and conservation status of the unidentified species of freshwater crab and stygofauna species that have been found in the project area. Until further investigations into the habitat and range of these species are concluded - and consideration given to whether or not they should be listed as endangered, vulnerable, near threatened or least concern under Federal legislation - the highest level of protection should be given. The extent of that protection should be outlined in the final EIS.<br>2. The final EIS should fully document what precautionary | 1. RTA, in consultation with Queensland Museum and EHP, undertook additional surveys for the unidentified crab (*Austrothelphusa* sp.) and Mysid shrimp species (family Lepidomysidae) in May 2012. The survey involved revisiting the original locations where specimens were found and surveying additional locations with similar features. The Queensland Museum confirmed that additional specimens of the crab species were found in the Project area and outside the Project area (in locations both north and south of the Embley River). The Queensland Museum is currently undertaking taxonomic classification of the crab species. The Queensland Museum confirmed that additional specimens of the Mysid shrimp were present in an upper estuary location north of the Embley River, outside the Project area. The specimens were again collected from a littoral grab |

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| | | | | measures will be put in place around the mine access road from the Hey River ferry terminal to the mine site as Winda Winda Creek is where the new species of freshwater crab was first found. At present, no specific safeguards have been put in place to manage earthworks and clearing around Winda Winda Creek. The Queensland Government's current draft Environmental Authority for the project excludes ancillary infrastructure, including roads, from a proposed environmental buffer system. | sample. The Queensland Museum is currently undertaking further classification of the Mysid shrimp species. Further details of the May 2012 survey have been included in the description of aquatic ecosystems in the Project area (see Section 4.2.1.4) and maps showing the sampling locations and where specimens were found are now provided in Appendix 4-A of the final EIS.<br>2. Impacts from establishment of the mine access road across Winda Winda creek were assessed in the Queensland EIS (RTA 2011) and mitigation measures were proposed. Section 8.15.2.1 of RTA (2011) identifies that where haul roads and other infrastructure intersect sensitive environmental areas, sediment control traps would be installed to intersect surface runoff before it reports to surface drainage systems. Clearing of riparian vegetation for infrastructure crossings of surface drainage lines has been minimised by careful route selection. Habitat connectivity within Winda Winda Creek would be maintained by the establishment of both wet and dry cell fauna passages (Section 8.16.2.1 and Section 7.17.2 of RTA (2011)).<br><br>These mitigation measures proposed for the Project are included in the Queensland EIS and Supplementary EIS and are expected to protect aquatic biota, including the unidentified species of freshwater crab and Mysid shrimp. |
| EIS003 | The Wilderness Society | 3.19 | Dam C and Loss of Ecological Function | The footprint of Dam C will flood eight hectares of evergreen notophyll vine forest – the largest patch in the project area, where numerous species of conservation significance are recorded (including nesting sites for Palm Cockatoo, foraging and nesting sites for the estuarine crocodile and the Masked Owl). This patch is likely linked to other vine patches with species moving between the areas. While the proponent has indicated that it will put in place a 200-metre environmental buffer from the full supply level of Dam C, the adequacy of that buffer in terms of providing continuity of ecological function has not been demonstrated and, in the absence of the proponent's Species Management Plan, the impact on species remains unknown. The proponent itself acknowledges that the construction of Dam C will disrupt the riparian corridor along the middle branch of Norman Creek, which in turn "may force the Red Goshawk…to alter movement patterns in this area" (6.3.3.1). Impacts are also noted in relation to the foraging and | Regional Ecosystem (RE) 3.3.5 (evergreen notophyll vine forest) is classified 'least concern' under the Queensland *Vegetation Management Act 1999*. There is 28ha of RE 3.3.5 within the Project area, of which 7.9ha would be disturbed within the footprint of Dam C. The other areas of RE 3.3.5 within the Project area occur in two patches; 8.6ha along Norman Creek, upstream of Dam C and 11.9ha along Ward River (refer Figure 4-1). Neither of these patches would be disturbed by mining. There is 22,498ha and 54,065ha of RE 3.3.5 in the Weipa Plateau subregion and the Cape York Bioregion, respectively. The clearing of 7.9ha of RE 3.3.5 within the Dam C footprint represents less than 0.04% and 0.015% of the extent in this RE in the sub-region and bioregion respectively. This information has been added to Section 4.2.1.2 of the final EIS. The statement that the alluvial vine forest patch in Dam C is the largest in the Project area was incorrectly made within Section 7.15.6 and Section 7.18.1 of the Queensland EIS (RTA 2011).<br>The patch of vine forest within the Dam C footprint is linked along the Norman Creek riparian corridor to the larger patch upstream of Dam C and is also loosely linked to vine forest on dunes near the mouth of Norman Creek. Habitat continuity around the dam impoundment would be provided by a minimum 200m |

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| | | | | nesting habitat of the Masked Owl (6.4.1.3), with further surveys required in respect to the Bare-rumped Sheathtail Bat (in the project area as a whole).<br><br>While the proponent will be required to implement a biodiversity offsets plan for this area under the terms of the Queensland Government's current draft Environmental Authority (mitigating some immediate impacts on EPBC listed flora), the issue of offsetting habitat loss has to be considered separately to the question of whether vital ecological function will be maintained with the loss of this particular area of forest, including in respect of impacts on EPBC listed species and associated prey species. | environmental buffer from the full supply level of the impoundment. This was considered in the impact assessment in Section 6.3.3.1 and Section 6.4.3.1 for the Red Goshawk and Masked Owl respectively, however further clarification has been added to these sections for the final EIS. Neither species have been found in the Project area. Both species are highly mobile and, were they to be present, would be able to utilise peripheral habitat around the Dam C impoundment to maintain connectivity upstream and downstream of the dam.<br><br>The Palm Cockatoo is not a listed threatened species under the EPBC Act.<br><br>The footprint of Dam C and other initial infrastructure disturbance areas, and the future mining footprint were surveyed for the presence of the Bare-rumped Sheathtail Bat in June and October 2012 (see Section 6.6.2.1 and Figure 6-2). The species was not found in any of the surveyed areas and there are no previous records from the Project area or wider Subregion (see Section 6.6.2.2). The future surveys for the Bare-rumped Sheathtail Bat in 2013 will extend survey effort in the future mining footprint. Section 6.6.4 of the EIS concluded that there is no evidence to suggest the Bare-rumped Sheathtail Bat is present within the Project area. |
| EIS004 | Weipa Town Authority | 4.1 | Nine Mile and Three Mile Reef | Both the Three Mile Reef and Nine Mile Reef systems are critical habitats supporting not only a significant commercial line fishery, a tourist charter fishery but more broadly a recreational fishery that does not exist in any other part of Albatross Bay. Both areas have reef assemblages that support a unique Albatross Bay fishery for between 6-7 months each and every year. Vast quantities of bait migrate to the waters adjacent to both reef systems from April to October each year; attracting schools of Long Tail Tuna, a number of Mackerel species, Queenfish, various species of Shark, Trevally and other schooling species of pelagic and demersal species. This fishery underpins both the commercial mackerel line fishery and the day-charter sport fishing eco-tourism industry (log books can confirm this effort). Of further significance to the future of a growing sport fishing tourist industry within the region has been the recent discovery of what potentially can be North Queensland's most abundant Black Marlin and Sail Fish fishing grounds adjacent to and underpinned by these two reef systems. | The 'Nine Mile Reef' is an area of mixed sponge and soft coral assemblages as described in Section 10.4.2.1 of the EIS. Results of modelling indicate that the turbidity plume from disposal of dredged material would not reach habitat at Nine Mile Reef, which is located approximately 6km southwest of the proposed new spoil ground. The modelling report is provided in full in Appendix 7A of the EIS.<br>The 'Three Mile Reef' described in the submission is an area of scattered rubble substrate (described in Section 17.4.3.3). Dredge plume modelling for the initial capital dredge program for the proposed Port shows that the Three Mile Reef area would not be impacted by turbidity. Following the public consultation period for the Queensland EIS in 2011, RTA realigned the shipping channel 2 degrees south which reduced direct impact on the Three Mile area. It should be noted that the channel length for the initial capital dredge program for the Port proposed in the Commonwealth EIS would be much shorter than that proposed in the Queensland EIS and would fall short of the Three Mile area.<br><br>Billfishes such as black marlin and sailfish can form a small and highly specialised subset of sportfishing activities. In areas where large fish can be regularly encountered, such as the breeding aggregations offshore of Cairns, the contribution |

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| | | | | | the subset makes to angling benefits can be considerable. Very few adult black marlin occur in the Gulf of Carpentaria (Domeier and Speare, 2012), and the juveniles are considered to be more abundant at higher latitudes (Speare, 1994). There are three main aggregation sites of sailfish that support recreational fisheries in Queensland – Beaver Cay (near Dunk Island), Cape Bowling Green and Cape Moreton. While black marlin and sailfish are recorded from Albatross Bay, the known biology of the two species is not consistent with the area being able to support a large and dedicated fishery similar to the three locations noted above.<br><br>Section 17.4.3 of the EIS discusses impacts on Commercial and Recreational Fishing and provides the following mitigation measures to minimise potential impacts on charter operators and recreational fishers:<br>• re-align the jetty and main access channel by two degrees south to avoid most of the "Three Mile" fishing area;<br>• designate a safe passage underneath the proposed jetty for small recreational and charter boat users to prevent the need to travel around the jetty (subject to MSQ requirements);<br>• support the establishment of a local recreational fishing reference group to provide a forum to develop and help implement the establishment of a communities fisheries project (which may take the form of new or upgraded infrastructure or studies or management measure). The reference group would comprise representatives from charter operators and the Weipa Sportsfishing Club and would operate by consensus; and,<br>• provide funding and/or works up to the value of $242,000 for the above agreed communities fisheries project.<br><br>The Queensland Coordinator General has stated *"I accept that the project will have both positive impacts through enhanced fish habitat provided by jetty and wharf piles as well as negative impacts through access restrictions"* and *"I support the commitment given by RTAW to establish a local recreational fishing reference group to identify a suitable community fisheries project and to commit funding to the project to the level of $242,000"* (Queensland Government 2012). If the local recreational fishing reference group so chooses, some support for billfishing studies could come from the community fisheries project. |

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| EIS004 | Weipa Town Authority | 4.2 | Dredge Modelling | Concerns that the relevant studies of the options for the development of a new port facility were conducted using only short term data collection, when it is stated that the study was undertaken by means of "utilisation of numerical models of hydrodynamic and coastal processes in addition to short term data collection at the site that included currents, water depth, wave conditions and turbidity".<br><br>Concerns raised by the charter and commercial line fishermen that the data relating to seasonal current flows, wave heights and direction along with seasonal wind frequency is incorrect.<br>• Table 2-3 "Seasonal Wind Frequency for Weipa Aero". This data does not reliably relate to the new port development area, but rather data collected by the Bureau of Meteorology at Weipa airport, about 45 nm north north-west.<br>• The statement "swell waves are rare since the Gulf of Carpentaria is a semi-enclosed body of water and the only swell events reaching Weipa require wind blowing over long fetches that originate in the Arafura Sea" must also be brought into question. The new port area and dredge spoil disposal site are in open waters, influenced by southerly and south westerly influences throughout the dry season. These conditions can generate significant swell conditions that are not accounted for.<br>• Wave rider buoy recordings for Albatross Bay referred to in the Draft EIS have little relevance for the area adjacent to the Nine Mile Reef.<br>• Data collected on Currents, was collected in 14 metres of water off Boyd Point not at the dredge spoil disposal site near the Nine Mile Reef, therefore the desk top modelling for impacts to the Nine Mile Reef could be justifiably and seriously flawed. | The Dredge Modelling Report has been updated for the final EIS and is provided in Appendix 7-A. The dredge modelling includes validation of winds, currents and waves as follows:<br>• The location of the proposed Boyd Port development south of Boyd Point, being 40km south of Weipa on the same stretch of coastline, does indeed experience a slightly different wind climate to that observed at the Weipa Aero weather station. Localised differences in wind speed are expected, and these have been included in the latest modelling of the impacts by a composite wind field generated through a combination of that extracted from the Weipa Aero records and data from the widely used Global Forecast System (GFS) wind database developed by the NOAAs National Centre for Environmental Prediction (NCEP). This dataset provided continuous records from January 2007 to December 2011 over a 0.5 x 0.5 degree grid and represented reliable, quality assured wind information in absence of continuous long-term ground measurements.<br>• It is important to note that the site experiences a relatively benign wind climate (typically <24km/hr) and the presence of the 3m tidal range at the site dominates the fate of transported dredge material.<br>• The modelling report states that swell waves are rare in the Gulf, however, it is acknowledged that they are not impossible. However, Section 4.3 of the report notes that the model was forced at its open boundaries by the NOAA global wave model (that includes the Gulf in its domain) and as such, included any significant swell events that are generated in the fetch of the Gulf.<br>• Wave and current data collected for the study was used primarily as a means of calibrating the numerical model employed. It is correct that more calibration points would increase the reliability of the model results. However, calibration of the currents at the Project site and with wave measurements at two separate sites (EHP Weipa wave buoy and previous ADCP wave measurements at Boyd Point) is considered sufficient to prove that the model is replicating near shore environmental conditions to an acceptable level of skill.<br>• The results of a wave validation exercise at both Weipa and Boyd Point have indicated that the model is accurate across the Project area and at Weipa. Given the large distance between these two comparison sites (over 30km), and the fact that the same model forcing has been applied to each, then the short distances to the proposed new spoil ground (approximately 15km) and Nine Mile Reef (approximately 17km) means that the model is similarly accurate at these |

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| | | | | | locations. Likewise, the accuracy of the hydrodynamic (current) model at the site, in terms of tidal elevation, speed and direction, is representative of its accuracy across the Project area and Nine Mile Reef area.<br>• Whilst measurements of currents at the proposed offshore spoil disposal site would be useful, such measurements are not considered to be likely to significantly improve the accuracy of the results given the high level of accuracy of the model in the near shore zone. |
| EIS004 | Weipa Town Authority | 4.3 | Dredging and Habitat Loss | A research project on Three and Nine Mile Reef (prior to any dredging approvals) funded by Rio Tinto will need to be undertaken to ascertain potential impacts to the related fisheries by habitat loss by significant impact by dredging, alteration to existing currents and effects on bait school activity/migration to include resultant impacts/risks to sport fishing eco- tourism more broadly. | A compensation model for commercial fishing operations in Queensland has been developed by DAFF to determine the level of compensation which might apply to fishing operators affected by projects in Queensland's marine environment. The model addresses two aspects:<br>• compensation for lost income in the area impacted (fishers who traditionally fish the affected area); and,<br>• effort displacement (fishers who traditionally fish adjacent areas and would be subject to increased competition).<br><br>With specific regard to the SoE Project, modelling undertaken by DAFF indicated that a total compensation amount of approximately $242,000 would be reasonable in the case of commercial fishery impacts arising from the Project. The Queensland Coordinator General has supported this approach and determined that *"the compensation model developed by DAFF for commercial fishing impacts provides a fair, reasonable, scientific and defendable basis for determining a compensation amount of $242,000"*. RTA has agreed to pay this amount and for the Queensland Rural Adjustment Authority (QRAA) to administer compensation to relevant fishers and to buyout an appropriate level of fishing effort.<br><br>Section 17.4.3 of the EIS discusses impacts on Commercial and Recreational Fishing and provides the following mitigation measures to minimise potential impacts on charter operators and recreational fishers:<br>• re-align the jetty and main access channel by two degrees south to avoid most of the "Three Mile" fishing area;<br>• designate a safe passage underneath the proposed jetty for small recreational and charter boat users to prevent the need to travel around the jetty (subject to MSQ requirements);<br>• support the establishment of a local recreational fishing reference group to |

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| | | | | | provide a forum to develop and help implement the establishment of a communities fisheries project (which may take the form of new or upgraded infrastructure or studies or management measure). The reference group would comprise representatives from charter operators and the Weipa Sportsfishing Club and would operate by consensus; and,<br>• provide funding and/or works up to the value of $242,000 for the above agreed communities fisheries project.<br><br>The Queensland Coordinator General has stated *"I accept that the project will have both positive impacts through enhanced fish habitat provided by jetty and wharf piles as well as negative impacts through access restrictions" and "I support the commitment given by RTAW to establish a local recreational fishing reference group to identify a suitable community fisheries project and to commit funding to the project to the level of $242,000"* (Queensland Government 2012). |
| EIS004 | Weipa Town Authority | 4.4 | Environmental Offsets | Baseline data collection will be critical in developing a transparent approach to environmental offsets for the project under the current EPBC Act environmental offsets policy where the five keys aims are identified as:<br>• ensure the efficient, effective, timely, transparent, proportionate, scientifically robust and reasonable use of offsets under the EPBC Act;<br>• provide proponents, the community and other stakeholders with greater certainty and guidance on how offsets are determined and when they may be considered under the EPBC Act;<br>• deliver improved environmental outcomes by consistently applying the policy;<br>• outline the appropriate nature and scale of offsets and how they are determined; and<br>• provide guidance on acceptable delivery mechanisms for offsets.<br>As stated in the policy, EPBC Act Environmental Offsets will need to be informed by scientifically robust information and incorporate the precautionary principle in the absence of scientific certainty. | Under the EPBC Act Environmental Offsets Policy, offsets are not required where the residual impact is not likely to be significant (when assessed against the Matters of National Environmental Significance: Significant Impact Guidelines 1.1). The requirements for potential offsets based on the assessment of mitigated impacts are discussed in the EIS in the following sections.<br><br>Flora – Sections 5.3.5, 5.4.5, 5.5.5, 5.6.5, 5.7.5 and 5.8.5;<br>Terrestrial Fauna – Sections 6.3.5, 6.4.5 and 6.5.5;<br>Estuarine and Marine Fauna – Sections 7.3.7 and 7.4.7;<br>Migratory Avian Species – Section 8.6;<br>Non-Avian Migratory Species – Sections 9.3.6, 9.4.6 and 9.5.6;<br>CMA – Section 10.5;<br>GBRMP – Section 11.5;<br>GBRWHA – Section 12.5; and,<br>GBRNHP – Section 13.5. |

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| EIS004 | Weipa Town Authority | 4.5 | Coastal Processes | The WTA would also like to draw attention to an issue of proposed operation of the new port that the Draft EIS needs to significantly address. Modelling of the coastal processes and impacts of ship loading spills to the beaches within the project area (Thud Point to Red Cliffs) should be conducted. The long term shoreline changes in the Embley River adjacent to the current ship loading facilities at Lorim Point facility have been significant (photo's provided). Similar impacts to beaches within the 'extended' project area will have a significant impact. The EIS does not refer to innovative or improved loading methods by significantly larger and more regular shipments, leading WTA to believe sedimentation of the beach and therefore degradation of marine turtle nesting sites (Olive Ridley, Flat Back and Hawksbill) and migratory bird habitat would occur more rapidly over a much broader comparative area.<br><br>Loading of bauxite onto ships at the Port will have a significant impact on marine turtle nesting, given the EIS does not refer to innovative or improved loading methods by significantly larger and more regular shipments, leading to sedimentation of the beach and therefore degradation of marine turtle nesting sites (Olive Ridley, Flat Back and Hawksbill), which would occur more rapidly over a much broader comparative area that at the existing Weipa port.<br><br>Rio Tinto needs to demonstrate a significant 'shift' from their current policy in relation to major spills during ship loading at the Lorim Point facility. Relevant government staff also need to observe the current loading protocols at Lorim Point to better understand the company policy and model the potential environmental impacts as a result of the proposed SOE ship loading facility.<br><br>There would need to be scientific opinion, underpinned by appropriate modelling to confirm that the shoreline impacts in the Embley River adjacent to the Lorim Point facility will not be | The impacts of ship loading spills are assessed in Section 4.5.3.6. Due to its large particle size (gravel, ranging from 0.3 to 25.0mm), its density, and its lack of solubility, any bauxite spilled into the sea would be expected to settle quickly to the sea floor. Bauxite is a benign material and any bauxite spilled during ship loading or unloading would not cause an adverse impact on water quality as has been demonstrated by leach tests in freshwater and sea water (refer Section 3.5.4). It should be noted that bauxite naturally occurs in the sediment in the vicinity of the proposed Port, having been derived from the adjacent cliff areas through natural erosion processes (RTA (2011), Section 6.9.2.9). These naturally deposited bauxite materials have not had any impact on the marine environment.<br><br>Modelling of coastal processes was conducted to assess the impact of the proposed Port facility on coastal morphology as presented in Section 7.2.1. Modelling identified that alongshore sediment transport rates of sand sized particles vary considerably with material transport occurring both north and south along the coast depending on the storm track and mean wave direction. Results of modelling indicate that for even the largest of the modelled storms, along-shore sediment transport occurred within 350m of the shoreline. Therefore if any bauxite is spilled during ship loading, between approximately 550m to 850m from the shoreline, it would not be transported on to the beach.<br><br>Although bauxite is not a contamination hazard, action would be taken to minimise spills. RTA has proposed the following controls to reduce the risk of spillage at the proposed Boyd Port (refer Section 3.7.3):<br>• a catch tray under the tripper to catch spillage from the inclined section of belt. The material collected from the tripper catch tray would be directed to the head-end sump and then pumped onshore to a sediment holding pond;<br>• three-stage belt scraping with water sprays would be positioned at the conveyor head pulley to clean the belt. The scrapings and the water used for belt cleaning would be directed into the head end sump for pumping onshore into sedimentation ponds;<br>• the wharf conveyor would be designed with variable speed drives to provide controlled belt starting, thereby minimising the potential for bauxite spillage;<br>• belt drift switches would be installed on the wharf and ship loading conveyor that shuts down the conveyor drives if a belt moves from the designed position. |

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| | | | | duplicated in the SOE project site if more advanced loading technology is utilised (though not stated nor referenced in Draft EIS).<br><br>Immediate potential impacts to the beaches by the deposition of 'spill' will not be limited to loss of habitat for endangered and vulnerable species of marine turtles but also migratory nesting birds (listed under EPBC Act).<br><br>(Pictures provided) | Training idlers that track the belts would also be installed;<br>• when loading ships, the product reclaimer would withdraw from the stockpile, and a section of conveyor allowed to empty, before the ship loading boom travels between hatches to prevent bauxite spillage onto the deck of the ship; and,<br>• a sealed maintenance area would be provided at the end of the wharf so the ship loading boom can be serviced and cleaned within a bunded area. Runoff from this sealed maintenance area would be directed to the head end sump for pumping back to shore.<br><br>The coastal process modelling shows that any bauxite spilled during ship loading activities would not be transported to the beach. No impact is predicted on marine turtle nesting or migratory bird habitat resulting from any product spilt at the wharf. |
| EIS004 | Weipa Town Authority | 4.6 | Dredge Modelling | Flawed desk top modelling (dredging and spoil disposal) raises concerns for the sustainability and protection of the marine environment affected by the project within the Commonwealth Marine Area (CMA) and beaches adjacent thereto. | The dredge model has been calibrated against measured wave and current data (as detailed in response to Issue No 4.2) and provides accurate predictions of potential impacts. The Dredge Modelling Report has been updated in the final EIS and is provided in Appendix 7-A. |
| EIS004 | Weipa Town Authority | 4.7 | Spoil Disposal - Port | Whilst it is noted that RTA contends that utilisation of the current dredge spoil disposal site in Albatross Bay State waters) by barging material from the new proposed port facility "substantially increases the dredge campaign time and cost", this disposal option has no potential for degradation of any significant reef assemblages within the CMA thus obviating any potential for substantial environmental offsets under the EPBC Act. The current disposal site does not impact on any reef systems at the northern end of Albatross Bay, and would therefore impact little on either the recreational or commercial fishery. The WTA and fishing industry more broadly would accept the dredge spoil disposal in Albatross Bay as the only acceptable option for spoil disposal from both capital and maintenance dredging for this project. The paucity of base line data, elements of doubt over relevant desk-top modelling suggest the precautionary principle must apply for this aspect of the project; i.e. a dredge spoil ground within the CMA in adjacent waters to the nine Mile Reef. | Detail on Project alternatives is provided in Section 3.12 and Table 3-21. The use of the existing Albatross Bay spoil ground for disposal of dredged material from the Port was evaluated and found not to be feasible. It would require the material to be barged twice the distance compared to the proposed new spoil ground, which is cost prohibitive, extends the dredging campaign time and extends the duration of turbidity plumes.<br><br>The dredge model provides an accurate assessment of plume dispersion from the disposal site. The model predicts that the plume would move in a south south-east direction away from Nine Mile Reef and would not impact any "reef assemblages within the CMA".<br><br>Under the EPBC Act Environmental Offsets Policy, offsets are not required where the residual impact is not likely to be significant (when assessed against the Matters of National Environmental Significance: Significant Impact Guidelines 1.1). It was assessed that no significant residual impacts (after mitigation) would occur on Matters of Environmental Significance as a result of disposal of dredge spoil at the proposed new spoil disposal ground. Under the EPBC Act Environmental Offsets Policy, offsets are therefore not required. |

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| EIS004 | Weipa Town Authority | 4.8 | State Matters | Other maritime aspects of the project that fall within State jurisdiction will require further investigation with regards relevant environmental offsets for impacts on renowned locations within State Waters; areas such as Three Mile Reef and Red Cliffs. | This EIS has been prepared to meet the requirements of the Commonwealth EPBC Act (refer to Section 2.1 and Section 2.7) and as such this EIS does not address matters that fall within the State jurisdiction. Requirements of the Queensland Biodiversity Offsets Policy were considered in the Queensland EIS (RTA 2011) and Supplementary Report (RTA 2012). The Queensland Coordinator General's Report (Queensland Government 2012) outlines the offset requirements for the State and includes offsets for protected plants, protected animals, wetlands, watercourses, and marine turtles. Offsets relating to Three Mile Reef or Red Cliffs were not required under Queensland offset arrangements. |