

Hunter Community Environment Centre



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September, 2006.

Scott Jeffries
Critical Infrastructure and Special Projects
Dept of Planning
By email: scott.jeffries@planning.nsw.gov.au

Dear Mr. Jeffries,

Please accept this submission to the proposed third Coal Export Terminal for Newcastle.

Sincerely,

Georgina Woods and Rebecca Blunden
Hunter Community Environment Centre

**Submission to the Environmental Assessment:
Newcastle Coal Infrastructure Group Coal Export Terminal
Project No. 06_0009**

Introduction

The Hunter Community Environment Centre believes that this project must not be approved due to the fundamentally unacceptable and irreparable harm that it will inflict upon the environment and on human health. If this project is constructed and becomes part of the Hunter Valley Coal Chain, it will certainly lead to significantly increased concentrations of greenhouse gases in the atmosphere, and would be the equivalent of doubling NSW domestic greenhouse gas emissions. The impacts of climate change are already being felt in the Hunter Region, with lengthening drought, less frequently but more intense rainfall, and disruption to the iconic wine industry. There is strong reason to believe that further impacts of climate change are occurring, that are yet to be documented, including unpredictable changes to ecological systems and weather systems, that stand to have devastating effects on the environment of the Hunter and its people.

The Environmental Assessment for the coal export terminal (CET) proposed by the Newcastle Coal Infrastructure Group (NCIG) fails to address this fundamental environmental impact of the project. The following impacts of this project have not been adequately assessed or addressed at all by the EA:

1. The environmental impact of increased concentrations of greenhouse gases in the atmosphere as a result of the project.
2. The social and economic impact of the climate change effects that will flow-on from these greenhouse gas emissions.
3. The inter-generational inequity of investing in a project that has moderate employment benefits in the short term, but heavy consequences for health, economic stability and environmental health in the medium term.
4. The documented poor response of Green and Golden Bell frogs to translocation to compensatory habitat.
5. Inconsistency between the EA and the Recovery Plan for the Green and Golden Bell Frog, and neglect of the Priority Action Statement.
6. Thresholds in the Environmental Risk Assessment for impacts and risks that are too great to justify.
7. Failure to explore the alternative that the project not be undertaken at all.
8. Impact of the project on the Endangered plant *Zannichella palustris* has been underestimated and poorly assessed.
9. Failure to assess and recognise the impact of key threatening processes on the endangered Saltmarsh and Freshwater Wetland Complex communities.
10. Impacts on the Kooragang population of Green and Golden Bell Frog (GGBF) – the most significant in the region – have been seriously downplayed.
11. Misrepresentation of GGBF use of existing protected areas and underestimation of the project's impact on the large proportion of the Kooragang population that does not exist in the reserve.
12. Develop credible and effective mitigation measures: those proposed in the EA and undertakings are simply inadequate in addressing the problems that will eventuate due to this proposal.

13. Failure to account for the broader impacts on the region of increased mining activity that the project will facilitate.
14. The environmental assessment does not even attempt to address the increased risk of foreign marine species invasion

The HCEC submits that these points render the Environmental Assessment grossly inadequate, even misleading. The EA must be rejected. The HCEC submits that the proposed CET must not be approved, as it will impact unacceptably and irreparably on the environment, from the local to the global level.

Environmentally Sustainable Development

The EA claims that “Project design, planning and assessment have been carried out applying the principles of ESD” (3.33), but HCEC contends that it would be impossible for this project to go ahead if that were true.

The EA itself notes the following principles which form part of the definition of ESD adopted by the *EP&A Act*, including,

1. the precautionary principle – namely that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation
2. inter-generational equity

Dealing with each of these principles in turn demonstrates the inappropriateness of this development in a global warming world.

The precautionary principle

In a broad sense, the precautionary principle should be applied to developments, industries and projects that fuel climate change as it is so difficult to model and accurately predict the precise effects of climate change. This is, of course, not within NCIG’s power, but the EA for this project is a microcosmic exemplar of the abandonment of the precautionary principle with regard to developments and industries that emit greenhouse gases.

For the CET, the precautionary principle would dictate, that our uncertainty about the effects of climate change on this Region should not be used as a reason to postpone the necessary abatement of the emissions that will cause them.

Inter-generational equity

NCIG rebuffed community demands that the emissions generated from Hunter Valley coal burnt overseas after export must be considered as an impact of this project on the grounds that we cannot control the activities of other countries. We find this argument to be cynical in the extreme. Global contexts are frequently cited in the EA – and in public rhetoric about this project – as a justification for this project, in that there is some duty to cash in on increasing global demands for coal. If these arguments are admissible in the socio-economic assessment of the project, then the global environmental context must also be considered. On a fundamental level, Australian governments must take responsibility for the end use of the products that we export if they are dangerous, as we do for controlled substances, and for uranium.

This acceptance is critical if we are to fulfil our legal – let alone our moral – requirement to consider inter-generational equity.

Current scientific research indicates that the more dramatic effects of climate change are not more than a generation away, so the authors of the EA for this project didn't need to speculate too far into the future to reveal severe and unacceptable debts that this generation will owe the next if we don't begin curtailing greenhouse gas emissions. With respect to ecological health, water, safety, security, economic stability and health, our failure to stop expanding greenhouse gas emissions will inflict unacceptable damage to future generations.

The argument so often used to dismiss calls for Australia and NSW to reduce our own greenhouse gas emissions from energy production – that our emissions are a drop in the ocean in comparison to countries like China – positions the export industry as our best opportunity to address this global crisis on our children's behalf. If large Asian economies have a greater share of responsibility because of greater net emissions, then NSW should take every responsibility to enable a reduction in those emissions by not expanding our coal exports to those nations.

The principle of Valuation, the EA states is that "Resources should be carefully managed to maximise the welfare of society" (3.35) and on this point, HCEC agrees utterly with the EA. We would like to see this principle immediately adopted.

Environmental risk analysis and project justification

Section 3.9.3, Consideration of Alternatives, did not consider the alternative action of not undertaking coal export capacity expansion at all (3.30), and is therefore, not a credible consideration of alternatives. Neither is the risk assessment a thorough and defensible risk assessment.

The Environmental Assessment Requirements for this project state that:

notwithstanding the above key assessment requirements, the Environmental Assessment must include an environmental risk analysis to identify potential environmental impacts associated with the project (construction and operation), proposed mitigation measures and potentially significant residual environmental impacts after the application of the proposed mitigation measures. Where additional key environmental impacts are identified through this environmental risk analysis, an appropriately detailed assessment of these additional key environmental impacts must be included in the Environmental Assessment (EAR, 4).

HCEC disagrees with the dismissal of dredging operations as "outside the scope" of the environmental risk analysis (EAR, 5). While we do not dispute that the dredging is subject to a separate consent, the activity certainly fits within the EAR scope identified in the assessment requirements as "potential environmental impacts associated with the project." The dredging of the south arm of the Hunter River was approved because of the anticipation of a particular project that is now not going to eventuate. It would probably not go ahead now if the CET were not to be built so it is certainly reasonable to consider impacts of the dredging, including suspension of solids in the river, and the impact of that suspension on estuarine ecology and on the viability of the local fishing fleet.

The risk assessment also considers that shipping movements are outside the scope of this EA, and yet the loader will directly cause a major increase in shipping movements (about 70%) in the Harbour.

Anecdotal reports from local fishers indicates that this traffic has a significant impact not only on estuarine ecology, but on their business.

The “key risk groups” of the risk assessment do not include flora and fauna (6) and the high risk mitigation measures proposed for the impacts of the project on the Green and Golden Bell Frog have not been assessed.

The Risk Assessment Process diagram is a closed loop (10) and is thus a perfect representation of the circular arguments that have to be employed to “justify” this project. No possibility is entertained and no thresholds identified in this part of the EA for *risks that are too great to justify*. The “establish the context” phase concedes that there are risks that are “intolerable” and that “if these risk levels cannot be reduced to ALARP [as low as reasonably possible] or tolerable level, NCIG objectives must be fundamentally reviewed by the management” (13). This sounds entirely reasonable, and appears to be a genuine approach to risk analysis, but it is not followed-through.

From the outset, the example given of an “intolerable” risk is smoking – which is an activity that people undertake every day. This example does not bode well, and implies an unwillingness to prohibit any activity found to be unjustifiable.

Given the risk analysis parameters and method established in the EA HCEC, NCIG’s objective to expand the coal export capacity of Newcastle Harbour must be reviewed. In the qualitative measures of probability, it is “Almost certain” that the concentration of carbon dioxide in the atmosphere will increase more quickly once the loader is in operation, and it is “likely” that this will accelerate dangerous climate change.

In the definitions of qualitative measures of maximum reasonable consequence, dangerous climate change would certainly warrant a number one ranking, given that it will result in “Extreme environmental harm (eg. widespread catastrophic impact on environmental values of an area)” (ERA, 23)

The Environmental Assessment acknowledges that there is a direct relationship between the construction of this project and the expansion of the coal industry in the Region in general: “The ability for NSW coal producers to export coal through Newcastle is constrained by the capacity of the Hunter Valley coal supply chain” (36). However, the risk assessment and EA overall neglect to address the causative link between the expanded capacity of the Newcastle coal exports facilities and increased mining activity in the Valley. The proponent of the project, the NCIG, is a consortium of six mining companies. That in itself is enough evidence to indicate that the project is an extension of mining projects, but very superficial investigation reveals that these companies are not only the proponents of the CET, but of major mining projects in the Hunter and beyond that are at various stages in their development.

- Hunter Valley Energy Coal Ltd: a subsidiary of BHP is currently proposing a major expansion to its Mount Arthur North coal mine and is also exploring the Caroon coal fields.
- Centennial Coal Company Ltd.: Proposing the massive new open cut coal mine at Anvil Hill at Wybong, which is also currently being assessed under Part 3A of the EP&A Act
- Donaldson Coal: Are proposing a major expansion of their Abel underground coal mine in the Lower Hunter
- Excel Coal: Proponents of the massive Wilpinjong open cut coal mine ear Wollar, which has recently been approved and the Wambo open cut coal mine.

- Felix Resources: Proponents of the Moolarben longwall mine proposal, for which the environmental assessment is also due to be released shortly, and expansion of the Ashton open-cut mine.
- Whitehaven Coal Mining: owners of mines and leases in the Gunnedah basin – focus of industry expansion following exhaustion of the Hunter reserves.

It is the NSW Government's responsibility to assess all likely environmental impacts of developments of this scale, and the cumulative impacts of these mines and mine expansions will be severe.

This real risk is not even attempted in the ERA and in this respect, HCEC does not believe that the EA fulfils the Environmental Assessment Requirements.

Ecological impacts: Flora and fauna

The Hunter River Estuary has been misused for nearly 200 years. Huge areas of it have been filled in reclamation projects, a large percentage of its natural vegetation has been lost and years of heavy industry have left us with large areas of toxic waste and devastated land. Despite these years of abuse the estuary still remains, supporting a huge range of flora and fauna. The former National Parks and Wildlife Service, now DEC, has described the Lower Hunter Estuary as "the most important site in NSW for a variety of migratory wading birds." (Healthy Rivers Commission 2002) It also remains the home to a number of threatened fauna including the iconic Green and Golden Bell Frog and Internationally critically endangered Australasian Bittern.

The Project site is situated on Kooragang Island and is amidst some of the most important sites for the biodiversity of the Hunter River Estuary, while the site itself is home to many critically important sites for a range of significant flora and fauna species and communities.

The environmental assessment prepared for the NCIG's coal export terminal development downplays the significants of this site in terms of the habitat it provides but also the effect that it may have on the species present as well as the broader ecological integrity of the entire estuary. The assessment also fails to consider the cumulative effects of the other developments that will occur to support the project and are essential for its existence such as the dredging of the south arm of the harbour, rail upgrades off site and the effects to the lower hunter river due to the increased mining need to feed the loader occurring in the Hunter River catchment. It is understood that separate environmental assessments will consider these impacts individually; however, the cumulative impacts on the estuary *must* be assessed to avoid oversimplification and underestimation of the combined effects of these developments on the extremely complex and largely uncomprehended ecosystem processes.

Bias in literature review of the existing ecological environments

To determine the existing environment on the proposal site and its surrounds, a literature review was conducted. 5 of the 11 references in the flora literature review used in NCIG's Environmental Assessment are environmental assessments from other developments while the remaining 6 are all written by one author. The two of the three documents that look directly at the proposal site were the *Proposed Cold Mill Facility Kooragang Island EIS* (Protect Steel 2001) and the *Terrestrial Ecology Impact Assessment* for the proposed Extension of shipping channels, Port of Newcastle, (Umwelt 2003) both of which are environmental impact statements and are therefore limited as ecological studies of the site.

It is widely recognised that EIS's are very rarely objective and due to the conscious and subconscious inclusion of personal values, and the fact that they are created to influence a decision-maker into approving the project. The companies and individuals who prepare or EIS's prepared on their behalf have the greatest stake in the acceptance of the projects proposed (Bates 2002). Also, due to the substantial economic investment put into their creation "naturally, they will want that document to emphasise the advantages of the project to the community and to down play the disadvantages" (Beder 1993). Thus, the use of EIS as a major constituent of the literature review and only component assessing the site directly is inappropriate and unacceptable.

Endangered Species

Zannichella palustris

Firstly the targeted survey for this species, conducted by Connell Hatch 2006, occurred in summer. It is well known and stated in the EA this plant is an annual and dies back in the summer. Despite this acknowledgement, there was no attempt to conduct the survey at a different time of year when more conclusive results may have been collected. Only a single-day visit to the study site was made for the entire vegetation survey, and taking into account that only decayed remnants of this plant would be remaining at that time of year, it seems even more unlikely that these results can adequately represent the population of this species on the site. As a result, the occurrence of this species at the site may have been underestimated and this development may have a much more detrimental effect on this species than is estimated.

Secondly, the importance of this population of *Zannichella palustris* is of greater significance to the species' conservation in Australia than is stated, as it is possibly the northernmost reach of this species, and therefore representing a distributional limit of this species.

The project should not be approved as the possible effects on this endangered species may have been drastically underestimated due to problems inherent in the survey methods. When assessing the implications of this development on this species, there should be consideration of the population's significance and the precautionary principle must be taken into account. There is no evidence that this has occurred.

Coastal Saltmarsh

Coastal Saltmarsh is declining dramatically across all of the east coast of Australia and the Hunter is no exception. In the Hunter River, saltmarsh communities lost 67% of their extent between 1954 and 1994 (Saintilan and Williams 1999) and there is nothing to suggest that this trend has changed in recent years. Saltmarsh ecosystem is extremely important for all types of fauna in the estuary. It is extremely important for the nursery of fish species (Thomas and Connolly 2001) and is vital roosting habitat for many Migratory and Local bird species (Saintilan and Rogers 2003).

The development will directly result in or contribute to three of the main threatening processes that are worsening the decline of saltmarsh.

These activities, listed as key threatening process by the Department of Environment and Conservation (DEC), are;

- the modification and filling of coastal wetlands for development,
- changes in water salinity and nutrient levels,
- and mangrove invasion due to rising tide levels (DEC 2005)

All of these processes are likely to be caused by both the dredging for and construction of the CET, and by climate change, which will be accelerated by the CET.

In-filling for development and physical damage from human disturbance is listed as primary threats to this EEC (DEC 2005). This development will do both. The report states that a total of 3 ha of Coastal Saltmarsh would be disturbed by the project. If this is added to the 0.9 ha of saltmarsh that will be removed by the dredging needed for the project it will mean just under 1% of the saltmarsh on the island will be lost as a *direct* impact of the disturbance the project will create.

Alteration of salinity and increasing nutrient levels is another process threatening saltmarsh distribution and abundance (DEC 2005). As admitted in the NCIG's EA and in other parts of this submission, it is clear that a direct implication of this project is the proliferation of more mines in the Hunter Valley and the Gunnedah Basin. It is well known that that coal mining has major impacts on water quality, especially salinity, and as many of these mines will be located in the upper reaches of the Hunter Catchment this will have a direct impact on the water quality down stream in the estuary and therefore the saltmarsh. Despite going to lengths to mention the socio-economic benefits of the mines, the EA does not even attempt to acknowledge, let alone assess, the cumulative environmental effects of this proliferation.

The final and potentially most damaging process threatening saltmarsh communities is the invasion of mangrove species into traditionally saltmarsh areas (DEC 2005). Two of the main hypothesis posed for this phenomenon is the increase of tidal prism due to dredging in estuaries and sea levels rises due to climate change (Saintilan and Williams 1999). Dredging in the northern rivers NSW has been noted to have altered tidal range significantly (Druery and Curedule 1979). Dredging the south arm of the Hunter River, from an average depth of 2m to 16m (GHD 2003) will have an effect on the tidal prism, potentially increasing the average tidal heights which will only exacerbate the issues of mangrove inundation as inundation into saltmarsh areas is increased. Although separately assessed, the cumulative effects of these inseparable developments, the dredging for and construction of this project must be considered.

As discussed elsewhere in this submission the export of coal to be burnt in offshore power stations leads to the release of CO₂ into the atmosphere. This will exacerbate climate change – also a listed key threatening process – and therefore indirectly impact on the sea levels around the world. This would affect the saltmarsh similarly to the above, increasing inundation thus causing further saltmarsh retreat and mangrove takeover.

The Environmental Assessment of the project does not even come close to assessing these important complexities and thus is an inadequate representation of the possible impacts on saltmarsh communities.

Freshwater Wetlands on Coastal Floodplains

The proposal will directly disrupt 50ha of this endangered ecological community, and potentially far more indirectly, through changes in sea level and flooding regimes due to climate change.

Climate change will have many and various effects on the local environment, the two of these that will effect the Hunter estuarine environment the most dramatically will be sea level rise and expected reductions in rainfall. Both of these will impact the Freshwater Wetlands on Coastal Floodplains EEC dramatically.

This ecological community needs environments with a strong freshwater influence. This means that the reduction in rainfall expected in the Hunter will have a dramatic effect on *all* existing areas of this community. The impacts of climate change will be exacerbated by the burning of the coal exported through this facility and thus this should have been assessed in this section of the EA and the effect of this must be taken into consideration when considering this proposal. Both anthropogenic climate change and land clearing, that this Project will cause or require, are listed as threatening processes by DEC (2005).

Compensatory and Mitigation Measures

It should be noted that the compensatory and mitigation measures proposed by the EA cannot hope to lessen the project's impacts on the flora of the site and the surrounding estuary as the impacts have not been properly assessed. Therefore, they are simply inadequate in addressing the problems that will eventuate due to this proposal. It is also noted that compensatory habitat is extremely controversial and there is much doubt in the scientific community of the ability of compensatory habitat to properly replace habitat removed directly by a development.

In addition, the proposed mitigation actions, to increase saltmarsh habitat by removing mangroves that are invading saltmarsh territory, are obviously short-sighted and do not address the underlying causes of these problems, such as dredging activities, water quality problems stemming from upstream mines and sea level rise due to climate change.

This EA is deficient in its assessment of the significance of the issues discussed above, and completely ignores the implications of climate change on the flora of the estuary. It is obvious that the effects, both direct and indirect, would be devastating to the estuarine communities and the broader ecological integrity of the entire estuary and should not be approved.

The Green and Golden Bell Frog (*Litoria aurea*)

The Green and Golden Bell Frog has declined significantly from being spread from the far north coast of NSW right down to eastern Victoria and are now only surviving in 10% of its former range (DEC 2005b).

The Priority Action Statement (PAS) for threatened species in NSW identified 31 Priority Actions for the Green and Golden Bell Frog. Among those actions, it is proposed that "Relevant land managers/authorities to consider this recovery plan when preparing land use planning instruments. Consent/determining authorities to consider this plan & DEC GGBF guidelines when assessing the impact of development & activity proposals."

There is little evidence that the EA has considered the PAS and Priority Actions for the GGBF and no evidence that they have considered it for any other species. Although the Priority Actions for the GGBF are listed in the References section, the PAS itself is not.

The Kooragang population is considered to be the most robust left in the region (DEC 2005b), yet it is also considered to be a highly vulnerable population because only a very small percentage of it actually resides in the Kooragang Nature Reserve and the remainder are under constant threat of development such as the one that is currently proposed.

The NCIG Environmental Assessment does not adequately consider the implications of the cumulative effects that this and other development will have on this species and downplays the impact that the Project itself will possibly have on this population. There are a number of attempts

within the EA to assure the reader that this population has ample protection within the nature reserve when it is well known that this is certainly not the case (DEC 2005b).

The NCIG continuously overestimates the protection that this species has in the Kooragang Nature Reserve. In Appendix F, it is stated that 14 of the 50 remaining populations are situated within conservation reserves (17). These reserves are listed, including Kooragang Island Nature Reserve (KINR). Claiming that these *populations* are situated *within* conservation reserves gives the impression that most, if not all, of the population is safely tucked away in the reserve, but this could not be further from the truth.

Appendix F further talks up the potential habitat availability and suitability in the KINR (19). It is not well understood why, but most of the potential habitat on Ash Island and the KINR is not used much by the frog and the EA neglects this critical detail.

The environmental impacts of this development on the GGBF are underestimated due to exaggeration of the population's use of the protected area. This is a misrepresentation of the facts and therefore undermines any conclusions that this report has come to regarding the insignificance of this disturbance on the survival of the population.

In the flora and fauna report, the impact on habitat connectivity is assessed,

Alteration of habitat can result in direct loss of habitat as well as isolation of habitat through creation of barriers to movement between populations. The Project infrastructure may potentially create a barrier between habitats for terrestrial species including the Green and Golden Bell Frog. However, existing industrial development in the immediate area of the Project (including PWCS Kooragang Island Terminal to the north and Blue Circle Southern Cement and Origin Energy to the east) is likely to already present a barrier to wildlife movement, including the Green and Golden Bell Frog.

Justifying the barriers that will be created by the proposal by saying that there are already other barriers is an unsatisfactory assessment of the impacts these may have. There is no discussion on the dramatic effects that these existing barriers may have already had on the population, nor any identification that the CET will unnecessarily exacerbate these issues. No threshold is identified for habitat connectivity for the Kooragang population of the GGBF.

There is no attempt to assess the cumulative effects of a number of developments that are occurring or will be occurring at a similar time to this proposal. These will have significant implications on the Green and Golden Bell Frog separately which will be assessed in individual EIS yet there has been no acknowledgement of the combined effects of these projects. The cumulative effects of the development may be disastrous to the survival of this species in the future.

The first of these, which is already going ahead, is the Sandgate Rail Grade Separation, undertaken by the Australian Rail Track Corporation Ltd (ARTC). This development is impacting on half a hectare of Green and Golden Bell Frog Habitat. Although there were compensatory measures undertaken, this mitigation technique is subject to a notoriously large failure rate and it is questionable if this has compensated for the impacts on the species. Assessment needed to occur of the mitigation methods undertaken at Sandgate for the overpass to add to knowledge of this species and help address its decline.

The Port Waratah Coal Services are also planning a significant expansion of their terminal, which is directly adjacent to the proposed NCIG CET. This will include expansion of the existing stockpile

area as well as widening the railway to the site. Both of these developments will impact on the habitat of the GGBF. The railway expansion will impact greatly on prime GGBF habitat.

These developments, combined with the impact of the NCIG proposal could take this population to the brink of extinction and it is the Government's responsibility to properly investigate this possibility and reject this and the PWCS proposal if they are found *together* to have an unacceptable impact on the GGBF. It is unacceptable that the EA makes no attempt to evaluate this and renders their assessment of the impacts on the GGBF as useless and insufficient.

It is very interesting that the NCIG had to look far abroad to get scientists to sign off on the assessment of impacts on this population. It is interesting that the highly-regarded scientists that actually work in the Newcastle area and have studied these frogs in detail, were not included in the peer review section for the Green and Golden Bell Frog. Scientists within the University of Newcastle have done extensive work directly on this site for many years and would have been better able to try and fully comprehend the impacts of this development of the frog. Neglect of this kind leaves the EA, NCIG and the Government open to accusations of obscuring or avoiding proper assessment and raises the question that perhaps their views did not fit in with the NCIG's plans as neatly as the two scientists' that *were* willing to sign off on the frogs and their integrity on a pre-written letter.

The EA states that part of their mitigation measures includes donation of money to the University frog study team. To our knowledge, no commitment has yet been made to provide such money.

NCIG has proposed the creation of compensatory habitat for losses that will arise due to the development. In the Draft Recovery Plan for the GGBF it is stated that key populations must be protected in-situ, and that this is by far the favourable way of protecting the species. It also states however that if disturbance is unavoidable,

Any habitat creation initiatives that are proposed as an offset to a development must be on a tested performance basis. Performance is to be measured by two successful breeding events that demonstrate that the life cycle has been completed in any created/enhanced habitat. Monitoring and mark recapture studies over an extended period would be required to demonstrate this and might reasonably be expected to take a minimum of 4 years" (DEC 2005b).

If the development is to be approved, and the impacts on the GGBF to be adequately mitigated, compensatory habitat must be established 4 years prior to the coal loader being developed, to assure that there will be no net loss of functioning habitat.

Birds

The former National Parks and Wildlife Service has described the Lower Hunter Estuary as "the most important site in NSW for a variety of migratory wading birds" (Healthy Rivers Commission 2002). Despite this, the ecology of the Hunter River Estuary is continuing to be undermined by human development to the detriment of these nationally and internationally significant bird species. Consequently, there has been a 50% reduction in bird numbers using the estuary between the 1970s and the 1990s (Healthy Rivers Commission 2002).

It is noted that during consultation about the project, the Hunter Bird Observers Club objected "to any Project elements disturbing Deep Pond, and particularly the development of the high capacity optional inlet rail spur ... because of the presence of shorebird habitat in Deep Pond" (3.26). Despite this advice, the project is proposed to fill in some of Deep Pond.

In 1997, a report was released by Kingsford and Ferster Levy analysing the changes that had occurred in the Hunter River Estuary since 1801. It stated that at least 18 of the 33 species of migratory wading birds using the estuary have declined in numbers, and the estimated mean number fell by nearly 50% between the 1970s and 1990s and made strong recommendations that there should be no further development in the harbour that will lead to further destruction of migratory bird habitat. Although conservationists have made attempts to minimise this trend through habitat rehabilitation and such there must not be any further loss of existing habitat to really curb this dramatic decline.

This project will significantly effect local and migratory bird populations of the Hunter River Estuary, habitat will be lost and further manipulations of the estuarine tidal hydrology may lead to the demise of this vitally important estuary. Some of the impacts will be the direct destruction of vital habitat for the construction of the coal stockpile area, and the rail loop as well as the indirect consequences of dredging and climate change.

The demise of the flora of this area due to this project and other related projects, such as the dredging, was assessed above. The impacts on saltmarsh in particular will have dramatic implications for the suitability of this site for migratory birds.

Compensatory habitat proposed to mitigate the impact on the birds that use the estuary is extremely dubious. National and international studies indicate an extremely high failure rate where compensatory habitat of this kind is involved. The Draft Lower Hunter Conservation Issues Paper by the former National Parks and Wildlife Service (2002) states that the creation of compensatory habitat should not be used as a justification for the removal of existing habitat, and that the protection of existing habitat is extremely important in the long-term conservation of wading bird and other species. Thus this proposal should not be approved as it relies too heavily on compensatory measures to minimise the effects that it will have. There is no guarantee that this will occur. If the compensatory measures fail, or if they are not done years in advance and assessed for their success, there are sure to be dire consequences.

Shipping Traffic and Foreign Marine Species Invasion

A study published by the Australian Quarantine Inspection Service in 1995 considered Newcastle Port to be Australia's most vulnerable to foreign marine species invasion – a direct result of coal ship traffic between Newcastle and Japan (Herfort and Kerr 1994). Construction of the CET will undoubtedly increase the amount of shipping traffic and hence increase the already alarming risk of foreign marine species invasion. Any foreign marine species invasion will negatively impact the already deteriorated ecological integrity of the both the Hunter River and Estuary, and may also have a significant impact on the productivity and quality of local fisheries (Herfort and Kerr 1994). The environmental assessment does not even attempt to address this important issue and is therefore inadequate and must be done again before any decision is made based on this document.

If this development is allowed to proceed it will be yet another piece of evidence against the ability of the current government regulations to truly conserve and protect the biodiversity of this state. The proposed developments will cause major ecological impacts with additional damage to the health of the estuary, likely and further decline or possibly extinction of threatened species and migratory waders protected under State and Federal legislation, international conventions and treaties.

Approval will ignore an international rebuke to Australia, passed without dissent at the 1996 Ramsar Convention Conference, calling for reconsideration of proposed developments within and in the

catchment of Ramsar sites. It will confirm an already strongly held perception that Australia cannot be trusted to carry out its international obligations. Any form of approval accompanied by statements implying that the developments will have minimal or no significant impacts on the ecology of the estuary and that impacts can be offset by mitigation projects or trade off against habitat rehabilitation or creation projects elsewhere is a total joke and will disgust and shame generations to come.

It is obvious that the development will lonely bring short term and unsustainable profit to a few, while destroying the long term sustainability of our estuary and it must therefore not go ahead.

Air quality (including GHG emissions)

The figures given in the EA estimating the greenhouse gas (GHG) emissions from the CET are inaccurate.

The true GHG emissions of the project are likely to be far greater than the EA states. Given a projected 33 Mtpa volume of coal burning facilitated by the CET, and given the Australian Greenhouse Office 2005 calculation of 1:2.6 relationship between coal burnt and carbon dioxide emitted, the CET is likely to cause an additional 86 million tonnes of carbon dioxide to be released into the atmosphere every year. If operating capacity reaches 66Mtpa, which is the figure for which approval is being sought, and is therefore the figure which needs to be used, those emissions too, will double, to 172 million tonnes of carbon dioxide. NSW currently emits 151 Mtpa CO₂-e from all sources, so at full capacity, the loader would be the greenhouse equivalent of more than doubling this State's domestic greenhouse pollution.

Socio-economic

In general, the EA is highly selective in its gloss of cumulative impacts and benefits of the project, and this is very apparent in the assessments tunnel-vision approach to socio-economic considerations.

If the NSW Government allows this development to go ahead, it will hold the Newcastle and Hunter Valley communities hostage to the profiteering of international coal corporations who have thinly and unconvincingly disguised their own benefit as the benefit of our community.

The EA is lop-sided in its assessment of flow-on effects, eager to promote limited socio-economic flow-on effects, while dismissing outright substantial and guaranteed environmental flow-on effects.

The assessment cannot credibly include the socio-economic benefits of "other capacity improvements in the Hunter Valley coal supply chain" (37) and exclude assessment of the negative impacts of these "other improvements" such as the Sandgate overpass, which had a profound impact on species and communities that are also going to be impacted by the CET.

The EA considers that the CET project is consistent with the aims of the Hunter Regional Environment Plan, one of which is "to coordinate activities related to development in the region so there is optimum social and economic benefit to the community" (EA, 3.2). This assertion is manipulative and false, and has clearly and inappropriately conflated the interests of the companies in question with the interests of the community.

This Project will have a deleterious effect on the economic wellbeing of the Hunter on a number of levels. Firstly, it seeks to further ensconce the Hunter into an outmoded industry that is going to decline in the medium-long term.

Other matters

The NSW Maritime Authority holds a development consent for the Extension to Shipping Channels within the Port of Newcastle, but it is we understand that this consent does not include the disposal of treated sediment, or clean sediment from that dredging. We believe that the dredging is unlikely to occur in the short term if the CET does not go ahead and that the cumulative impact of the loader construction and the dredging needed to be assessed.

The EA states that “Sufficient clean (uncontaminated) dredge material is available from the approved dredging of the south arm of the Hunter River to meet the fill requirements for development of the Project.” It is our understanding that this filling activity was not assessed by the Dredging EIS and that that document specifically states that any project that uses the fill from the dredging activity would have to consider the environmental impacts of that filling.

Conclusion and recommendations

HCEC believes that this Environmental Assessment is inadequate, because it fails to assess the full impacts of the CET proposal. It frequently and deliberately misrepresents and underestimates the full extent of the project, or its likely impacts.

The principal failure of the EA is its omission of the full impacts of climate change that the CET would cause. Approval is being sought to export up to 66 million tonnes of coal per year, which when burned would emit 172 million tonnes of equivalent carbon dioxide. This is a deliberate and unavoidable consequence of selling the coal, and must be assessed as part of the CET project. The CET impacts through climate change that the CET would inflict on NSW and elsewhere must be considered.

Similarly, the EA refuses to assess the environmental impacts of more mining in NSW, even while selectively including the apparent economic benefits of this. This issue arises frequently throughout the EA, which accounts for tenuous and debatable broader economic benefits of the proposed CET, but deliberately discounts very real and obvious deleterious consequences of the proposal. Other examples include dredging of Newcastle Harbour and an increase in shipping movements.

In its assessment of the more localised impacts of the proposed CET, the EA is extremely flawed. It systematically misrepresents the present environmental and biodiversity values of the site, underestimates the impacts of the proposal on these, and overestimates the potential of the so-called “offsets” that are proposed.

The HCEC submits that the Environmental Assessment must be rejected due to its gross inadequacy. We submit that the NCIG’s proposed Coal Export Terminal must not be approved, due to the unacceptable and irreparable harm it would inflict on human welfare and the environment, from the local to the global.