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Environment Protection and Biodiversity Conservation Amendment (Great Barrier Reef) Bill 2013. Comments by Mackay Conservation Group

Dear Secretary,
Mackay Conservation Group (MCG) is a regional environmental NGO based in Mackay, Queensland. We cover the northern part of Central Queensland and have over 100 members including affiliated local environmental groups.

We undertake submissions on Terms of Reference and Environmental Impact Assessments in our region on coal and unconventional gas mining projects as well as coastal developments, and comment on government legislation and policies affecting biodiversity and community health at all levels of government. Many of these projects affect the health of the Great Barrier Reef.

We support the Bill's aims to get key recommendations of the Great Barrier Reef World Heritage Committee into law under amendments to the Environmental Protection and Biodiversity Act.

1. **Reactive Monitoring Mission recommendation 2:**
   No new approvals by the Australian environment minister of any new developments that would seriously affect the Great Barrier Reef until the Strategic Assessment report and recommendations are completed and reviewed, and a long-term plan for the sustainable development of the Reef has been completed and considered by the GBR World Heritage Committee.

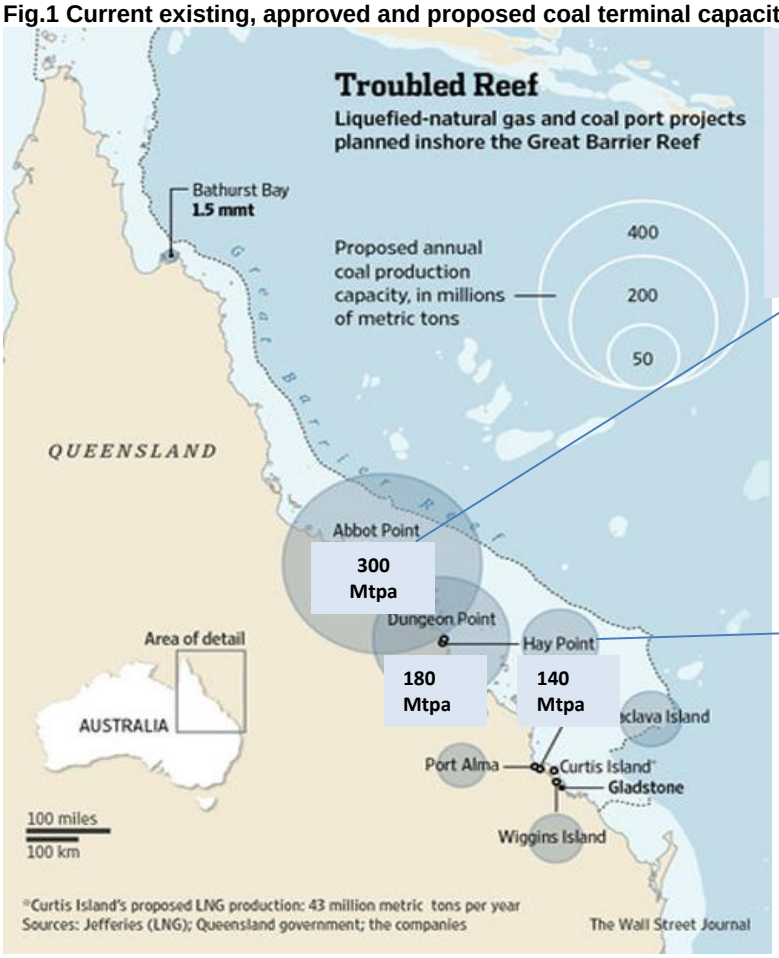
   MCG Reasons: Development Plans by the Queensland Government for More Coal Port Capacity at Hay Point and Abbot Point Port lands Continues on a Massive Scale

   As shown on Fig.1 between 620 to 870 Million tonnes of export coal capacity is planned or being applied for at the coal ports at Abbot Point and Hay Point. These will be the largest coal ports along the Great Barrier Reef (GBR). The contract for an expansion of Hay Point coal terminal from 44 to 55Mtpa was announced in the Mackay *Daily Mercury* on April 27th. BHP Billiton which runs Hay Point coal terminal also has plans to expand to 85Mtpa when demand warrants.

   If only the larger 180,000 tonne Cape sized vessels are used this represents 3,444 to 5,400 shipping trips annually through the Great Barrier Reef. Using the 80,000 tonne Panamax ships the trips would be 7,750 to 10,875. As there will probably be a mix of shipping sizes the actual number will be somewhere in these two ranges if the ports operate at full capacity. The numbers are far greater than the current situation. Hay Point Terminal for example is only shipping around 32Mtpa. That represents 155 Cape-sized vessels or 400 Panamax vessels. All coal traffic is currently under 1,000 vessels per annum. The huge increase represents a

much greater risk to vulnerable marine life in the GBR from noise, strikes, accidents and spills.

Fig.1 Current existing, approved and proposed coal terminal capacity along the GBR.



T0 Adani – 70Mtpa
T1 Xstrata et al. – 50 Mtpa
T2 BHP Billiton – 60Mtpa
T3 GVK/Hancock – 60Mtpa
AP-X Anglo American et al. – 60Mtpa
TOTAL: 300Mtpa

To **550** Million tonnes per annum of coal exports if proposed Palmer's 250 Mtpa Wharf is approved.

Hay Point 55 Mtpa; Dalrymple Bay 85 Mtpa

Dudgeon + Dalrymple + Hay = **320Mtpa**

Clive Palmer's Waratah Coal has also applied for Infrastructure of Significance status for its Palmer's Wharf project (which if granted by the Queensland government allows the State to compulsorily acquire land from landowners and then sell or lease it to the company). The application covers 70% of the Abbot Point State Development Area. If approved the project plans 250Mtpa of coal export capacity from the Galilee Basin. The ToR for this project was issued over a year ago.

This project partially covers the AP-X expansion proposal initiated by the Queensland Government last Dec 2012 when it issued a Registration of Interest (ROI) announcement for an additional 60Mtpa of two berth expansions off a proposed earth and rock jetty off One Tree Hill (within the Abbot Point port lands and west of the tip of Abbot Point). Anglo American and another bidder applied for two berth expansions(60Mtpa in all) off a proposed earth and rock jetty off One Tree Hill (within the Abbot Point port lands and west of the tip of Abbot Point).

This location is just below the mouth of the Caley Valley wetlands, now recognised as of international as well as national and regional significance because of the 200+ bird species, and over 40,000 birds it supports in the Wet Season. Construction of a massive earthen and rock jetty at that location will send large sediment plumes over the mouth of the Caley Valley wetlands. We have informed the DEHP Minister of this as migratory shorebirds feed on the mud flats there at low tide and will be impacted.

Both the Palmer Wharf and AP-X proposals have adjoining 0.5km transport corridors from the coal stockpiles farther inland to the coast. These transport corridors will transport coal via conveyor belts. The corridors will cross and disturb habitat for the vulnerable (EPBC & IUCN)

Australian Painted Snipe. This habitat was described by Birdlife Australia as the largest known in Australia.

There is also a near shore reef that acts as a fish nursery as well as seagrasses that will be lost to dredging to accommodate coal terminal projects.

There are nine seagrass species in the near shore and offshore marine waters off Abbot Point. The near shore sea grasses have been almost wiped out largely due to two massive flood events in the past few Wet Seasons. As Climate Change proceeds the intensity, frequency and areal coverage of such events is predicted to increase. This spells bad news for the future of migratory species such as turtles, which feed on sea grasses.

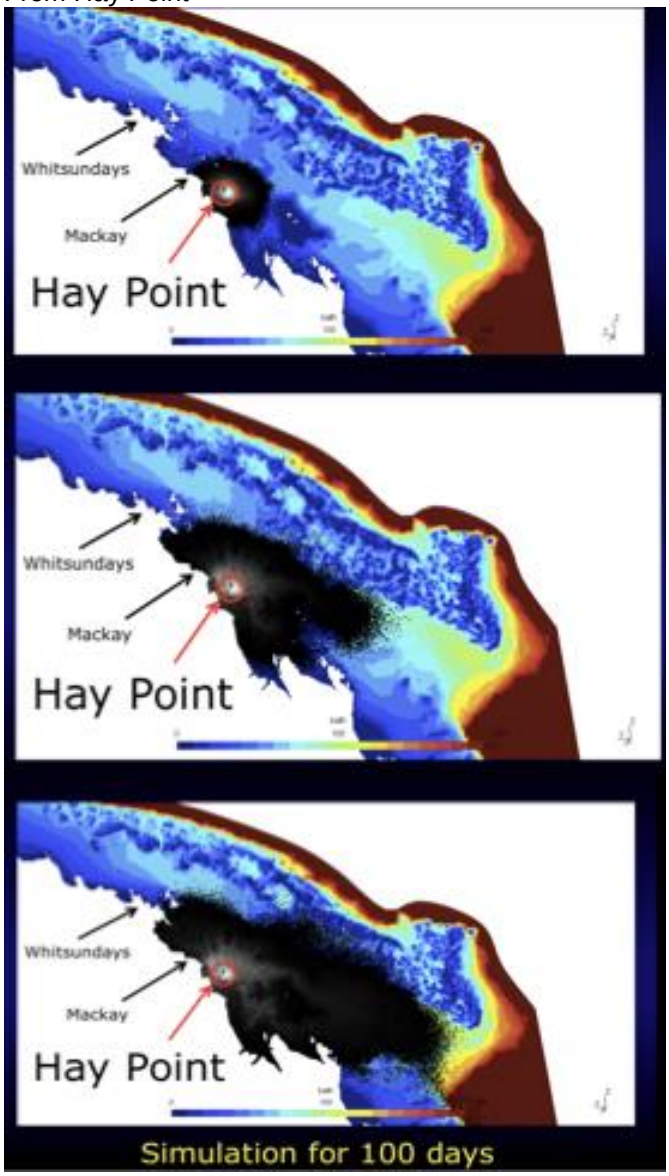
Fig. 3 Green sea turtle from Briske Bay near Bowen covered in fibropapilloma virus lesions.

The above image is of a green turtle which is affected by a fibropapilloma virus. Some 50 per cent of the turtle population at Brisk Bay near Bowen was reported as affected. The reason is not clear but was thought to be the result of poor diet after the seagrass beds were severely

affected by two large flood events in the past few years. Lack of food was thought to be depressing the animals' immune systems and making them susceptible to the virus.

Another hypothesis by marine life researcher Rangi Faulder is that the heavy metal arsenic was being washed out to the coast from mines. Seagrasses take up arsenic and concentrate it. The green sea turtle eats more sea grasses than other sea turtle and thus would get a higher dose. This would also affect the animal's immune system.

Flood outflows from the Burdekin River Basin which contains coal mines would be transported south by the east Australian current. Dr. Kathy Burns at James Cook University has found that coal particulates in marine waters can flow from the coal ports (mostly south because of this current) out to the outer reefs of the GBR within 100 days. Such flows from Abbot Point could easily reach Briske Bay near Bowen.
Fig. 2 Modelled coal particles flow in GBR marine waters to the outer reefs over 100 days From Hay Point



Source: Dr. Kathy Burns – James Cook University 2012.

Peter Dallas who lives close to Dalrymple Bay coal terminal in the Hay Point port lands has reported coal contaminated wastewater flowing from wastewater pond overflow into the local Sandy Creek and offshore into GBR waters. This follows average rainfall events in the Wet Seasons for the past three years. The water runs black. For a few weeks after such events dead marine life including lobsters wash ashore. After we reported the violations to DEPH in

Brisbane Dalrymple Bay ports management this year received two mild fines each $2,000 for this pollution. This pollution happens because Dalrymple Bay management unlike Hay Point management only has one settling pond for coal wastewaters from the stock piles. Hay Point has three settling ponds. The local QLD DEHP pollution officer says she cannot force Dalrymple Bay management to install more settling ponds. The result is ongoing chronic pollution of the GBR waters and the adjacent mangrove forest.

We know that such polluted runoff incidents into the Abbot Point port lands have also occurred. A repair scar on a wastewater berm for such an overflow event was reported to us in 2010 following heavy Wet Season rainfall. This polluted water went into the GBR waters via flow in to adjoining Caley Valley Wetlands. There was no reply from the QLD DERM following our report and request for more information. We understand repairs were made before DERM arrived.

The point is that when animals with signs of severe stress or death appear the causes need to be determined. And they may be multiple. This is a sign that GBR health is not what it should be and mining is contributing to the problem.

As CO2 from burned coal is a major anthropogenic source of global warming which is linked to rising ocean water temperatures, the massive increase in coal export capacity along the Great Barrier Reef planned by the Queensland government will contribute further to the demise of such marine life.

Adani is still working through final approvals for its T0 terminal at Abbot Point. The coal stockpiles for this terminal are directly adjacent to the burial grounds of the local indigenous grou, the Juru people who have just reluctantly signed an ILUA agreement. There are at least 13 cultural sites within the port and APSDA including 2,500 year old rock art. The GVK/Hancock line will pass through the middle of this art.

Dredging for ocean channels for coal terminals T0, T2 and T3 will be 3 million cubic meters. No details have yet been provided for the AP-X and Palmers Wharf proposals. At a Technical Advisory Committee Meeting for the Public Environmental Report for this dredging proposal I asked what the total amount of dredging might be if Abbot Port reached its full capacity. Staff for NQBP were not sure but said that may be available in June when they plan to release a 50 year Master Plan for Abbot Point. They also said that had the Multi-Purpose Cargo facility proceeded that dredge spoil would have been 39Mtpa. Adding in past and proposed expansions we estimate that at least 50Mtpa of dredge spoil may be created and dumped in the Great Barrier Reef at a cost to NQBP and the relevant coal mining companies of $5 to $15 per cubic metre. This is far less that the cost of even municipal waste disposal. If allowed it poses a major threat to the Outstanding Universal Values of the Great Barrier Reef.

I have also been made aware by a coastal environmental expert with GBR port experience that the coastal ocean currents along the Abbot Point port lands are particularly fast and that any shipping channels dredged there will quickly erode along their outer edge creating the need for on-going dredging and presumable creating a permanent sediment plume offshore and around Cape Upstart National Park. So we need reliable information on just how much dredge spoil will be created by coal ports running at full capacity, as well as current capacity, and the amount of ongoing dredging that will occur. There also appear to be no suitable places where such large amounts of dredge spoil can safely be dumped in the GBR without impacts on its OUVs.

The scale of proposed coal mining terminal developments at Abbot Point (20km northwest of Bowen) and Hay Point port lands (13km directly south of Mackay) is too great not to have impacts which will be detrimental to the Great Barrier Reef.

Currently 250 million tonnes per annum (Mtpa) of coal export capacity is planned within the Abbot Point port lands. I have just completed public comments on an application by Waratah Coal for Infrastructure of Significance designation by the Queensland Coordinator-General for an additional 250 Mtpa coal terminal export capacity within the Abbot Point port lands. IFS

designation would allow Waratah Coal to compulsorily acquire seventy per cent of lands within the adjacent Abbot Point State Development Area for coal stockpiles, transport corridor and other port infrastructure. The Palmer's Wharf component of the Waratah Coal Project would partially cover another 60 Mtpa coal terminals' project currently being assessed by the Queensland government for Anglo American and the other proponent, Aurizon (rail company fmr. QR National & Lend Lease).
To put this projected 550 Mtpa of coal export capacity at Abbot Point port lands into perspective, the largest coal export facility in the world is located in the Richards Bay harbour on the Indian Ocean coast of **South Africa**. Its coal export capacity is 91 Mtpa.

Recently we commented on a Public Environment Report (the Australian government's equivalent of an EIS) for a proposal by North Queensland Bulk Ports for the dumping of 3 million cubic metres of dredge spoil offshore of Abbot Point outside of NQBP's port lands. The site was 4km from Nares Rock, an internationally known fishing spot and along the path of migratory whales, and 8km from Holbourne Island National Park where turtles and migratory birds nest. Fringing coral reefs are high conservation value. Holbourne Island has been designated by the Queensland government in its management plan as a future Climate Change Refuge. So its protection from adverse impacts is important.

This proposed dredge spoil site has now been rejected after local fishers pointed out the economic damage to fishing stocks at that site, and local divers reported there was a downed Catalina flying boat from WWII at the south-eastern end of the spoil ground. Twelve dead are still there so the site fits the criteria for a war grave.

While three million cubic metres of dredge spoil within GBR World Heritage Area (GBRWHA) sounds unacceptable in reality it would just be the start of dumping dredge spoil into the GBRWHA from dredging operations with the Abbot Point port lands. Current legislation under the GBR Marine Parks Act allows the dumping of "clean" dredge spoil if no other option is available.

Initially the coal mining companies wanted to dispose of this spoil for no charge. The Great Barrier Reef Marine Authority (GBRMPA) did not want any disposal in the GBRWHA outside of the port land boundaries. Our information is that under pressure from the former Australian Mining Minister, the Australian environment minister proposed a fee of $5 - $15 per cubic metre to be paid to GBRMPA to accept the spoil. The argument that was given was that it would help GBRMPA meet its budget. If GBRMPA has to help meet its budget by accepting growing amounts of dredge spoil it countermands their primary responsibility to protect the sustainability of the GBRWHA.

It is difficult to get the true figure for just how much dredge spoil could be dumped in the GBRWHA outside of port lands at Abbot Point. But a guide is the amount planned formerly when the Multi-Purpose Cargo Facility was proposed. That would have generated 39 million cubic metres. If approval is given to the Anglo American and the Waratah Coal terminals the amount of dredge spoil generated could easily be between 50 million cubic metres. And dredging would be ongoing as onshore currents are very swift around Abbot Point and will quickly erode the outer curves of dredged shipping channels. Locals already report a significant loss of fish and nesting turtles around Abbot Point.

At Hay Point at least 13-15 Mtpa of dredge spoil is anticipated for the two proposed Dudgeon Point coal terminals to handle a coal export capacity of 180 Mtpa. The Hay Point coal port lands are proposed to grow to 320 Mtpa of coal exports. This will also be disposed of outside the Hay Point port lands boundaries within GBRWHA waters.

Local Turtle Watch observers tell us that after the last large scale dredging at Hay Point the composition and colour of beach sands changed in the northern beaches of Macka,y in particular Blacks Beach. The temperature of turtle nests and hatching rates also changed with nest temperatures rising and hatching rates decreasing.

The Dudgeon Point terminals proposal at first covered a salt pan where migratory shorebirds that travel from Asia along the GBR coastline and islands roosted at high tide. Migratory birds

have some protection under international agreements signed by the Australian government. We were able to object and the coal stockpiles now will not cover the salt pan but will go around and adjacent to it. This is still not satisfactory as coal dust will fall continuously on the salt pan and threaten the health of migratory birds that roost there.

Inshore sea grasses are also being adversely impacted at the coal ports in the GBRWHA as more severe weather events attributed to climate change impacts have caused extensive loss of inshore seagrass species in the last five years.

There is an extensive freshwater to saline water wetland, the Caley Valley Abbot Point wetland aggregation of some 6,000 ha at Abbot Point. It is listed as nationally significant in the Directory of Nationally Important Wetlands. But as such wetlands are not specifically protected under the EPBC Act in essence it has no legal protection from adverse impacts at the federal or state levels.

When the coal mining companies undertook a cumulative impacts assessment (CIA) of this wetland earlier this year it was found that these wetlands are internationally significant primarily because they support threatened bird species and a bird population of over 50,000 birds during the Wet Season. This means they qualify for RAMSAR status but the Queensland government has no interest in pursuing official RAMSAR designation for these and other GBR wetlands along the coast.

Coal port operations at Abbot Point, Hay Point and Townsville port lands will generate high amounts of toxic coal dust. Fine coal dust of PM2.5 or less is particularly harmful to health and impossible to totally control. It will travel over neighbouring GBR wetlands. Heavy metals in it will move up the food chain. It will also travel out to the outer reefs of the GBR. Dr Kathy Burns from James Cook University has found that it can reach the outer reefs within 100 days. As coal is composed of Polycyclic Aromatic Hydrocarbons (PAHs) and heavy metals these toxic substances present both a short-term and chronic adverse impact on GBR waters.

Low fines of $2,000 for pollution are no disincentive for coal terminal operators to run better managed operation that prevents coal wastewaters from overflowing into creeks that run into the Great Barrier Reef marine waters.

For three years in a row during the Wet Season during average rainfall events, coal wastewaters flow from the Dalrymple Bay coal terminal in the Hay Point port lands into the adjacent creek and then out into Reef waters. The tides bring this pollution into the adjacent mangroves as well as carry it out to sea.

For two weeks following such events locals tell us that dead marine life e.g. lobsters are being washed ashore in large numbers. I can send images. This year after we obtained press coverage and reported such a pollution incident to the Queensland Department of Environment and Heritage (DEHP) Dalrymple Bay management was fined two counts of $2,000 each. That will hardly be a deterrent to future pollution incidents.

When we investigated we found that Dalrymple Bay terminal operation only has one coal wastewater settling pond while neighbouring Hay Point terminal has three to better filter out suspended coal particles. The difference can easily be seen in a Google image.

Yet Dalrymple Bay has a capacity of 85 Mtpa while Hay Point's capacity is currently much smaller at 44 Mtpa but set to increase to 55Mtpa. Clearly Dalrymple Bay management has decided that it is cheaper to pollute than address its wastewater management issues.

Without stronger action by the Queensland government, which has little incentive to address the problem because it depends heavily on the income from coal export royalties, the situation of chronic pollution of GBRWHA waters will only worsen.

There is no plan by the Queensland government to monitor the effects on wildlife or the GBR marine waters of toxic coal dust pollution. It is not even mandatory to monitor PM2.5 particulates let alone coal dust at either the Queensland or Australian government levels. To

date no Management Plan has been produced for the Caley Valley wetlands, despite a draft plan being produced two years ago.

The political will to fully protect Reef waters simply does not exist at the State level and will not do so unless the EPBC Act is strengthened, as the Queensland government moves to ensure more coal exports with the Premier declaring “we are in the coal business.”

The Juru indigenous people at Abbot Point have a connection with the land and sea there that goes back for many hundreds of years. That cultural connection can also be recognised as an Outstanding Universal Value of the GBR. Yet GVK/Hancock’s rail line runs through the middle of rock art that dates back 2,500 years. The proposed Adani coal terminal’s coal stockpiles sit directly next to Juru traditional burial grounds with no buffer in between. The Juru asked for a 500m buffer zone.

The large scale of proposed mines, rail corridors and ports means more coal and heavy metals pollution and higher salinity levels in waterways that flow into the GRBWHA waters.

Yet the Queensland government recently allowed higher concentrations of pollutants into these waterways during high flow events under the belief that “the solution to pollution is dilution” approach to public policy. In fact water column measurements of pollutants entering waterways tell us nothing about the fate of these pollutants in the environment.[1]

Heavy metals do not biodegrade and accumulate up the food chain and site specific analyses of their fate in the local ecosystems are necessary to understand their impacts. They accumulate in the benthic layers and are sequentially picked up and moved downstream with each flood wave.

Highly saline waters are denser than fresh waters and sit on the bottom of waterways and move downstream affecting the quality of the aquatic bottom layers. Where coal mine overburden contains coal seams of no commercial value they are crushed into the overburden and washed downstream during floods. Coal wastewater ponds sit on the edge of the major waterways of the Burdekin and Fitzroy River Basins because that is where the coal resources are. When they fail in large flood events they send acid mine drainage downstream. Ninety-five per cent of the Burdekin River Basin and eight-five per cent of the Fitzroy River Basin are covered with coal exploration permits. If demand for coal continues the downstream pollution into Great Barrier Reef waters from mines will increase.

As long as the scale of coal and unconventional gas port developments along the Great Barrier Reef remains high and limitless it is not possible to create a sustainable development plan to protect the Outstanding Universal Values of the Great Barrier Reef.

[1] http://ro.uow.edu.au/cgi/viewcontent.cgi?article=7594&context=scipapers&sei-redir=1&referer=http%3A%2F%2Fwww.google.com.au%2Furl%3Fsa%3Dt%26rct%3Dj%26q%3Dwhat%2520know%2520selenium%2520university%2520of%2520wollongong%26source%3Dweb%26cd%3D1%26ved%3D0CC4QFjAA%26url%3Dhttp%253A%252F%252Fro.uow.edu.au%252Fcgi%252Fviewcontent.cgi%253Farticle%253D7594%2526context%253Dscipapers%26ei%3Dm_p9UafdH9GhiAeY7YF4%26usg%3DAFQjCNH7MaF4PEnJUGXBrIAAXjXrMrdjIg%26bvm%3Dbv.45645796%2Cd.dGI#search=%22what%20know%20selenium%20university%20wollongong%22. What You Should Know about Selenium. Terry Young et al. Univ. of Wollongong. 2012.

2. **WHC Rec 4, and also UNESCO monitoring report which identifies the various regions which should not be developed. Putting in place a permanent ban on any new port development outside of the existing and long-established major port areas within or adjoining the GBR WHA, including specifically banning new port developments in Port Alma, Balaclava Island, northern Curtis Island and the entire northern section of the Great Barrier Reef.**

   MCG does not support additional port development outside of existing port developments as experience has shown us that the planning and governance system is not independent, transparent and robust enough to guarantee adequate protection for environmental and community values and health.

   The downtown business centre of Mackay is just 13km directly northwest of Dudgeon Point. Fine hazardous coal dust will easily reach Mackay and as the life of the port will be at least 90 years, the region will experience some health problems as a result. No safe threshold for fine particulates pollution has been established by the World Health Organisation. This dust will also spread over the ocean through both air and water pollution and presents a threat to life in the GBR.

   More coal ports along the GBR catchments means more exposure to these pollutants, as well as higher shipping and dredging impacts. The Dudgeon Point site has important shorebird habitats and a high tide wader roost site that will be right next to the coal stockpiles. These stockpiles will be 13-14m high and sit atop a concrete base of 6m to place them above storm surge levels. The current ports sit on narrow floodplains and in all likelihood more ports would be in the same position. Coal stockpiles site very close to important coastal wetlands and other ecosystems. A cyclone and or flood every few years is a high risk of damage from these coal ports to the GBR and coastal OUVs.

3. **WHC Rec 4. Amending the approval criteria for all activities proposed *within* existing port areas so they can't proceed if they impact individually or cumulatively on the Outstanding Universal Value of the property.**
   MCG supports this. A system of independent expert assessment of any potential impacts on OUVs of the GBR needs to be established at arms-length from the proponents and the government possibly a well-regarded institute or university.

4. **WHC rec 8. Amend the minister's approval criteria for projects that will impact the GBR WHA, so that any approved projects have to deliver a net benefit for the Reef**.
   MCG's concern on this is that offsets will be used to deliver a "net benefit" to the Reef. Offsets have already degenerated into financial payments for damage e.g. VGK/Hancock bargained down a monetary payment to GBRMPA for loss of OUV values from their coal terminal at Abbot Point. "Net benefit" would have to be very carefully defined. The payments do not have to apply within Abbot Point.

Coordinator,
Mackay Conservation Group