deepwater group

COMMITTED TO SUSTAINABLE OCEANS SUSTAINABLE FISHERIES

10 July 2014

SUBMISSION TO THE ENVIRONMENTAL PROTECTION AUTHORITY ON THE APPLICATION BY CHATHAM ROCK PHOSPHATE FOR A MARINE CONSENT TO MINE PHOSPHATE ON THE CHATHAM RISE

Introduction and summary of DWG's position

1. The Deepwater Group (DWG) is a non-profit organisation representing participants in New Zealand's deepwater fisheries, including hake, hoki, jack mackerel, ling, orange roughy, oreos, scampi, southern blue whiting and squid. DWG's shareholders own around 95% of quota in New Zealand's deepwater fisheries. DWG provides the vision and leadership needed to ensure New Zealand's deepwater fisheries are profitable, sustainable, and managed in an environmentally and socially responsible way:
   - Our mission is to optimise the sustainable economic value of our deepwater fisheries; and
   - Our vision is to be recognised as the best managed deepwater fisheries in the world.

2. DWG's shareholders have an "*existing interest*" under the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012 (EEZ Act) which has an area in common with the activity to be undertaken by Chatham Rock Phosphate and which would be impacted by the application being granted.

3. DWG opposes Chatham Rock Phosphate's marine consent application and seeks that consent be declined on the grounds that, among other matters, the proposal:
   - Will have significant and irreversible adverse effects on the environment that cannot be avoided remedied or mitigated through the imposition of conditions;
   - Will have significant adverse effects on DWG's shareholders' existing interests in the utilisation and sustainability of fisheries resources and in the protection of the benthic environment in the Mid Chatham Rise Benthic Protection Area (BPA);
   - Is based on inadequate information and has a high level of uncertainty;
   - Is of dubious short-term economic benefit in comparison with the demonstrated perpetual flow of economic benefits from sustainably managed fisheries on the Chatham Rise;
   - Is not an efficient use or development of natural resources;
   - Does not protect the biological diversity and integrity of marine species, ecosystems and processes in any way;
   - Will interfere with the successful operation of existing management regimes, including the Quota Management System (QMS) and the protection of biodiversity through the BPA network; and
   - Does not include conditions that are able to adequately reduce the level of uncertainty or avoid, remedy or mitigate the adverse effects of the proposal.

4. This submission sets out a summary of the reasons for DWG's opposition to the proposal. DWG may subsequently identify additional grounds for opposition and further information will be set out in the evidence DWG proposes to call at the hearing into the application.

DWG's shareholders have an existing interest in the form of ITQ

5. The EEZ Act provides that:[1]

> ***existing interest*** *means, in relation to New Zealand, the exclusive economic zone, … the interest a person has in – (a) any lawfully established existing activity, whether or not authorised by or under any Act or regulations, including* ***rights of … fishing****"*

6. As owners of commercial fishing rights, DWG's shareholders are explicitly recognised as having an existing interest in the area of CRP's application. Commercial fishing rights take the form of Individual Transferable Quota (ITQ) in deepwater stocks that are fished on the Chatham Rise, including but not limited to hoki (HOK 1), hake (HAK 1 and HAK 4), silver warehou (SWA 3 and SWA 4), ling (LIN 3 and LIN 4), orange roughy (ORH 3B), the oreo species complex (OEO 3A and OEO 4), scampi (SCI 3 and SCI 4A), squid (SQU 1T), jack mackerel (JMA 3), barracouta (BAR 4), and alfonsino (BYX 3).[2]

7. ITQ rights are defined and secured under the Fisheries Act 1996, and the various activities that derive from the exercise of ITQ are also authorised under that Act. The Fisheries Act has a dual purpose of providing for the utilisation of fisheries resources while ensuring sustainability.[3] Consistent with that purpose, ITQ provides quota owners with a strong interest not only in the harvest of fish but also in the management and protection of fisheries resources and the wider marine environment. For quota owners, deciding not to fish in an area in order to ensure sustainability is as much an expression of their ITQ rights as a positive decision to fish in an area.

8. The activities that form part of quota owners' existing interest in the Chatham Rise therefore include:

- Utilising fisheries resources – for example, in trawl fisheries for hoki (and associated species hake and silver warehou), orange roughy and oreos, and longline fisheries for ling;
- Ensuring the sustainability of fisheries resources – for example, by implementing non-regulatory area closures in order to protect juvenile hoki and improve stock recruitment; and
- Avoiding, remedying or mitigating adverse effects of fishing – for example, by setting aside BPAs in which trawling is prohibited by regulation.

9. DWG estimates that Chatham Rise deepwater fisheries have an asset value of at least $NZ 700 million and an export value of over $NZ 130 million per year. The BPA network also has a tangible economic value. BPAs are instrumental in New Zealand's deepwater fisheries obtaining third party environmental certification which enables premium pricing for New Zealand's seafood exports and is becoming a minimum standard for entry into key markets.

Adverse effects on the environment

10. The Chatham Rise is one of New Zealand's most productive deepwater fisheries. DWG is concerned that the ecosystem that supports these fisheries will be adversely affected in an irreversible manner by the proposed mining activity. The environmental impacts of most concern to DWG are as follows.

    10.1 The seabed in the mining blocks will be removed and all benthic fauna destroyed, including fully protected cold water corals. This impact is irreversible as the removal of the phosphate nodule habitat will prevent recolonisation of the original benthic communities and lead to a significant habitat shift with unknown ecological consequences. Habitat changes will also occur in and around each mining block as a result of smothering of sensitive benthic communities. The benthic impacts of mining occur at least in part inside the BPA where trawling is prohibited, resulting in significant cumulative effects.

[1] EEZ Act section 4 (emphasis added)

[2] Fish stocks managed under the QMS are referred to by a three letter species code followed by a numerical area code – for example, LIN 3 is the ling fishery off the east coast of the South Island (including the western end of the Chatham Rise) and LIN 4 is the ling fishery around the Chatham Islands (including the eastern end of the Chatham Rise)

[3] Fisheries Act section 8

10.2 Habitat impacts are of particular concern to DWG because the Chatham Rise provides essential habitat for numerous commercially significant species. The proposed mining area provides habitat for ling, hoki, white warehou, silver warehou, hake and other fish and is an important spawning area for ling and silver warehou. Ninety percent of juvenile hoki are found on the Chatham Rise and juveniles of nearly all deepwater commercial species are highly abundant, making the area a recognised "hotspot" habitat for juvenile fish. The proposed mining activity therefore has the potential to affect fisheries beyond the Chatham Rise, as discussed further below.

10.3 The likelihood and rate of recolonisation of mined areas by key commercial fish species is highly uncertain.

10.4 The disposal of mine tailings will cause changes to water quality as a result of the release of:

- trace metals in concentrations that exceed ANZECC Guideline levels;
- uranium in concentrations that exceed natural seawater levels by around 20 times; and
- significantly elevated levels of organic carbon;

all of which will be dispersed within and beyond the mining blocks with uncertain ecological consequences. If fish are attracted to the organic content of plume they will be exposed to higher levels of contaminants than anticipated, resulting in the bioaccumulation of trace metals with ecotoxic effects on fish and adverse consequences for human consumption of seafood.

10.5 Fish will be exposed to multiple cumulative stressors, including the effects of habitat destruction, entrainment, physical disturbance, suspended sediment, contaminants, smothering, and food web effects. These individual and combined effects will impact on adult and juvenile fish, fish eggs and spawning behaviour. Ling and scampi will be particularly vulnerable as a result of their habitat and lifecycle requirements.

10.6 Unplanned events such as malfunctions in the mining equipment, oil spills, vessel accidents, and biosecurity incursions will increase the risk of significant adverse effects on marine ecosystems on the Chatham Rise and potentially around the Chatham Islands and New Zealand's coast.

Adverse effects on quota owners' existing interests

11. The proposal will have the following direct and indirect effects on quota owners' interests in the utilisation of fisheries resources.

11.1 Longline fisheries will be directly excluded from active mining blocks and surrounding waters throughout the application area and trawl fisheries will be excluded from active mining blocks in the application area outside the BPA (an area of around 5,000 sq km).

11.2 The combined impact of the environmental effects identified above is likely to cause changes in fish stock recruitment, abundance and distribution. Fisheries far beyond the confines of the Chatham Rise may be affected – for example, if juvenile hoki are adversely affected by mining, hoki stock abundance and catches may be reduced across the entire New Zealand fishery.

11.3 For quota owners, this will result in sustainable utilisation opportunities foregone, increased cost of fishing, cumulative effects of spatial exclusion from mining areas in addition to existing closed areas, costs associated with future uncertainty, loss of market access and/or value as a consequence of real or perceived issues with fish quality, and reduction in quota value.

12. With respect to the considerations in EEZ Act section 60:

a. The entire proposed mining area overlaps with a ling longline fishing area and approximately 50% of the proposed mining area overlaps with areas utilised (or able to be utilised) by trawl fisheries;

b. The existence of commercial fishing in an area does not exclude other environmentally compatible activities. However, the proposed mining activity will directly exclude commercial fishing from at least 1,120 sq km during each single mining cycle; [4]

c. Trawling can be carried out in areas outside the application area. However, the ling longline fishery is highly dependent on the eastern part of the application area and it is unlikely that longline catch taken within the application area could be taken from elsewhere on the Chatham Rise.

13. The Mid Chatham Rise BPA is an important expression of deepwater quota owners' existing interests in the Chatham Rise. The environmental effects of CRP's proposed mining activities on the benthic habitat within the BPA are so extensive and so significant that they are unable to be avoided, remedied or mitigated.[5] Allowing mining to proceed in the Mid Chatham Rise BPA will therefore adversely affect the existing interests of deepwater quota owners by:

- Authorising a use that is fundamentally incompatible with the protection provided by the BPA;
- Jeopardising the use of trawling as an environmentally and socially viable fishing method by undermining the integrity of the BPA network;
- Increasing the risk of additional spatial closures to trawling in the EEZ, limiting access to fisheries resources and increasing uncertainty for quota owners;
- Undermining the management approach in the National Fisheries Plan for Deepwater and Middle-depths Fisheries which acknowledges the role of the BPAs in ensuring that fishing is conducted in a way that achieves the purpose of the Fisheries Act;[6]
- Jeopardising consumer perceptions of the sustainability of New Zealand seafood, with consequences for international market access and premium pricing; and
- Compromising the ability of New Zealand's seafood producers to gain independent third party certification for seafood exports.

14. With respect to the considerations in EEZ Act section 60:

a. The application area occupies 59% of the Mid Chatham Rise BPA;

b. The BPA and the proposed mining activity are mutually exclusive: if the proposed mining activity proceeds, it will undermine and invalidate the purpose and effect of the BPA;

c. The Mid Chatham Rise BPA can be implemented only in the area to which the application relates due to the lack of alternative relatively pristine locations to protect similar habitat classes.

Inadequate information and uncertainty

15. The application has major information gaps and the effects of the proposal on the environment and on existing interests are highly uncertain. DWG considers that the application:

15.1 Lacks basic information about proposed mining approach (e.g., configuration of drag head and on-board processing equipment, preferred port and shipping route);

15.2 Is over-reliant on un-validated models and lacks real baseline data. The baseline monitoring data is spatially limited in comparison with the large size of the application area, and does not reflect the full range of seasonal, spatial or annual variability. Baseline information for the area beyond CRP's mining permit is almost entirely absent and the majority of Appendices address the "initial mining area" only;

[4] Suspended sediment concentrations of 3-5mg/l (causing avoidance effects in fish) are predicted to occur 15 km from the source 25% of the time. In the absence of real time monitoring of plume direction, skippers will effectively be excluded from a 15km buffer around the mining block, resulting in a total exclusion of 32km x 35km or 1,120km^2

[5] EIA page 385

[6] The Fisheries Plan has been approved by the Minister of Fisheries under section 11A of the Fisheries Act.

15.3 Relies on a plume model that: cannot accurately predict the spatial extent of ecologically-damaging sediment concentrations due to the small domain size; has not been tested across the full application area; and is based on assumptions that are unlikely to reflect the reality of the Chatham Rise environment;

15.4 Contains no analysis of the combined impacts on fish of the effects of benthic habitat destruction, suspended sediment levels, release of contaminants, smothering, sub-surface lighting and noise, food web/tropic effects, and effects on juvenile fish, fish eggs and fish spawning behaviour; and

15.5 Is based on an inadequate description and assessment of commercial fishing activity, commercial catch, exclusion of commercial fishing, and the impacts on the full extent of quota owners' existing interests.

Dubious short term economic benefit

16. DWG considers that the economic benefits of the proposal, if any, are uncertain and short term compared with the demonstrated sustainable (perpetual) stream of economic benefits from Chatham Rise commercial fisheries. In particular DWG notes that:

16.1 NZIER's assessment of economy-wide costs and benefits omits all environmental costs and the "economic assessment of environmental effects" is entirely dependent on the partial and inadequate description of environmental effects contained in the EIA; and

16.2 The claimed economic benefit to New Zealand depends on factors beyond CRP's control. For example, the fertiliser market will determine:

- whether the phosphate is applied directly (giving rise to the claimed environmental benefits) or processed into conventional fertilisers; and
- the degree of import substitution that occurs.

Consumers will decide whether they are prepared to use a fertiliser with twice the global average uranium concentration.

Nature and effect of existing management regimes

17. The EIA does not address the impact of the mining proposal on two existing management regimes of importance to DWG – i.e., the QMS and the BPA network:

17.1 The QMS achieves its objective of ensuring the sustainable utilisation of fisheries resources through a carefully calibrated set of incentives that arise as a consequence of the attributes of commercial fishing rights. If those incentives are disrupted by the effects of activities, such as the proposed mining activity, that are incompatible with quota owners' initiatives to protect the marine environment, the effectiveness of New Zealand's fisheries management regime may be compromised.

17.2 The BPA network is both an expression of quota owners' rights under the QMS and an important component in New Zealand's management of marine biodiversity. The BPAs are recognised internationally and domestically as Marine Protected Areas and help meet New Zealand's domestic and international obligations for marine biodiversity protection. The purpose and role of the BPA is also directly relevant to EEZ Act subsections 59(2)(d), the importance of protecting biological diversity, and (2)(e) the importance of protecting rare and vulnerable ecosystems.

Adaptive management, compensation package and other conditions

18. DWG considers that the conditions put forward by CRP do not come close to avoiding, remedying or mitigating the identified adverse effects on the environment and existing interests. In particular:

18.1 The proposed "no-mining" areas do not serve to mitigate or offset or compensate the adverse effects of CRP's mining activity. CRP does not own the seabed and has no control over the use of these areas by other parties or of future marine protection regulatory processes. The no-mining area is therefore ineffective as it is not

protected by a statutory mechanism nor is it in place in perpetuity. Moreover, by promoting the exclusion of other users from the no-mining areas CRP seeks to shift the cost of mitigation of adverse effects of mining to the fishing industry;

18.2 Instead of enhancing Chatham Rise ecosystems or compensating those reliant on the health of those ecosystems for their livelihoods, the "environmental compensation package" primarily provides benefits to the Chatham Islands community and funds research of benefit to the seabed mining industry. The compensation package lasts only for extent of mining operation and not for extent of the adverse effects (which are irreversible);

18.3 The proposed "hard substrate trials" cannot be considered as part of the mitigation package because their effectiveness has not been demonstrated;

18.4 The monitoring programme is sporadic and limited, with no real-time monitoring of the plume or other aspects of the mining operation to confirm that it is operating as predicted;

18.5 The conditions contain almost no quantitative environmental trigger values or performance standards. Even the most basic parameters of the mining operation such as annual or total limits on the area or volume to be mined are missing. In the only example of a quantitative limit (condition 14), exceeding the limit has no substantive consequences for the miner;

18.6 The adaptive management approach is not adaptive management. It entails full scale mining for an initial 5 years, during which 150 sq km will be mined, and then provides for an additional 30 years of mining with no pause for monitoring and review, no clarity about the nature and extent of baseline information that will be required, and no transparent evaluation of performance.