

SAFEGUARD
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SEABED

Marine phosphate mining

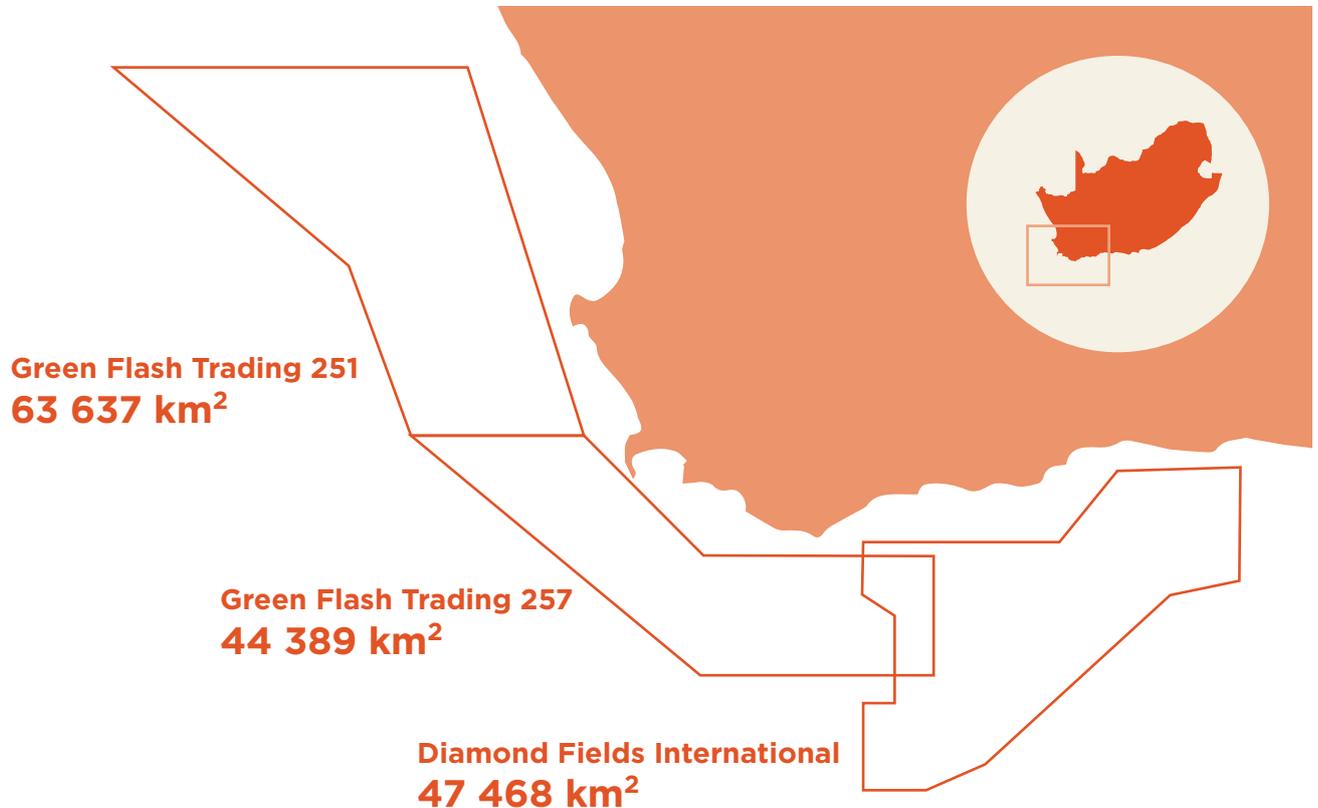
South African context



Marine phosphate mining would have severe and irreversible impacts on marine ecosystems and fishery resources and associated jobs, livelihood and food security benefits sustained by our fishing industry.

Prospecting for marine phosphate in South Africa

In 2012 and 2014, the Department of Mineral Resources granted three prospecting rights for marine phosphate to **Green Flash Trading 251 (Pty) Ltd (GFT 251)**, **Green Flash Trading 257 (Pty) Ltd (GFT 257)** and **Diamond Fields International Ltd (DFI Ltd)** respectively. Both the Green Flash Trading rights were granted on 4 January 2014.



A number of irregularities were identified and objections raised in respect of the granting of these prospecting rights, particularly related to the potential environmental damage and negative impacts on fishery resources if bulk marine sediment mining were to proceed in future.

Green Flash Trading 251 (Pty) Ltd

Prospecting right number: WC 30/5/1/1/2/10023 PR

LOCATION Off West Coast from Groen River to Cape Town

SIZE 63 637 square kilometres

OVERLAPS with four proposed offshore marine protected areas; Childs Bank, Benguela Bank, Benguela Muds and Cape Canyon.

Coincides with areas identified as Critically Endangered Ecosystems and with benthic habitat types that don't exist anywhere else.

OVERLAPS with fishing footprints: Demersal trawl, demersal long-line, pelagic long-line, small pelagic purse seine, tuna pole, traditional line and west coast rock lobster fisheries.

STATUS Right executed and financial provision was provided accordingly (not commenced). Green Flash Trading has entered into an agreement with Montero Mining and Exploration and Oviation Capital in order to finance prospecting in the license area and for plans to establish a fertiliser plant in Saldanha to process the rock phosphate.

Green Flash Trading 257 (Pty) Ltd

Prospecting right number: WC 30/5/1/1/2/ 10024 PR

LOCATION Southwest Coast from Cape Town to Cape Infanta

SIZE 44 389 square kilometres

OVERLAPS with three proposed offshore marine protected areas; Browns Bank Complex, Browns Bank Corals and Agulhas Bank Complex.

Coincides with areas identified as Critically Endangered

Ecosystems and with benthic habitat types that don't exist anywhere else.

OVERLAP with fishing footprints: Demersal trawl, demersal long-line, pelagic long-line, small pelagic purse seine, tuna pole, traditional line and west coast rock lobster fisheries.

OTHER COMMENTS Significant objections raised against Green Flash 257 prospecting rights applications related, inter alia, to environmental damage, negative impacts on fishery resources and inadequate public consultation.

STATUS OF RIGHT Granted not executed as applicant has not submitted financial provision

Diamond Fields International

Prospecting right number: WC30/5/1/2/2/10038PR

DATE GRANTED Lodged on 19 December 2012, publicly announced granted on 13 January 2014

COMPANY DETAILS Toronto listed, Canadian company

OVERLAPS with three proposed offshore marine protected areas; Browns Bank Complex, Agulhas Bank Complex and Southwest Indian Seamounts.

LOCATION within the Outeniqua Basin, offshore Mossel Bay

SIZE 47 468 square kilometres

Proposed **PROSPECTING PROGRAMME** includes remote sensing, grab and core sampling and bulk sampling. Bulk sampling could extract up to 500 tonnes of sediment from the sea-floor.

OTHER COMMENTS Untransparent process. Many stakeholders only became aware of the right from a Canadian media release.

STATUS OF RIGHT Granted, not executed as applicant not yet submitted financial provision (not commenced)

Concerns by stakeholders in the granting of prospecting rights

A number of irregularities were identified and objections raised in respect of the granting of the two Green Flash Trading prospecting rights, particularly related to the potential environmental damage and negative impacts on fishery resources if bulk marine sediment mining were to proceed in future.

The Environmental Management Plans prepared by Green Flash Trading, criticised as a mere 'cut and paste' job, were inadequate on a number of grounds, including contradictory information and little attention to content and context.

The public participation process was wholly inadequate. Green Flash Trading gave little notice of public meetings,

provided an incorrect venue in advertisements and did not properly consult with interested and affected parties. Many stakeholders only became aware of the Diamond Fields International prospecting right after it was granted, through a press release in Canadian media¹. Furthermore, the two Green Flash Trading companies are virtually identical. They were seemingly set up separately to create the impression that the owners would not have a monopoly, given the extent of the prospecting areas. This was an attempt to circumvent provisions in the MPRDA that require the Minister to refuse to grant a right if it will result in the concentration of a mineral resource in the control of the applicant.

In 2012, a number of coalition partners submitted comprehensive objections to the Green Flash Trading prospecting right applications. In 2013 the Centre for Environmental Rights, on behalf of WWF-SA submitted an access to information request to DMR. That request sought to gather information related to DMR's broader strategy and policy in relation to seabed mining and prospecting. The DMR refused to provide this information as it would 'substantially and unreasonably divert the resources of the public body.' WWF-SA and CER appealed the decision to refuse the PAIA request. The appeal has never been decided by DMR and was therefore deemed refused.

What are the environmental impacts of marine phosphate mining in South Africa?

Prior to the Green Flash Trading prospecting rights being granted, WWF-SA commissioned a report on potential impacts of marine sediment mining in the west and south coasts of the Western Cape². The report found that bulk marine sediment in the Green Flash Trading prospecting areas would have severe and potentially irreversible impacts on seabed habitats. The destruction and permanent alteration of marine habitats would be inevitable in light of the type of mining proposed.

The list of potential impacts outlined include:



Direct destruction of seabed ecosystems which are the building blocks of marine ecosystems



Direct destruction of spawning, breeding and feeding habitats for fish species, many of which are commercially important



Burial and smothering of marine organisms both in the mining block and surrounding areas



The release of hazardous substances such as radioactive materials, methane, hydrogen sulphide and heavy metals locked in the seabed



Reduced light penetration and hence photosynthesis of marine flora



Habitat destruction and resultant ecosystem changes in mined areas could be permanent, as recovery to pre-disturbed states would occur only on geological time scales.

The report found that marine phosphate mining could cause significant and irreversible impacts to biodiversity, ecosystem functioning and fishery resources.

How will this impact on existing ocean economy activities?

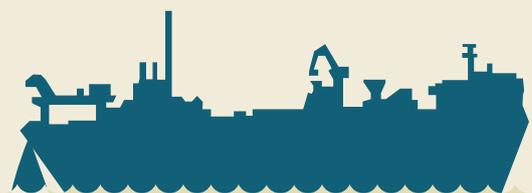
If bulk mining of the sea floor is to be considered, the financial gains and job creation for local communities need to be weighed up against the economic, social and ethical implications of permanent alteration of mined habitats, loss of biodiversity, and potential ecological knock-on effects and disturbance to fishery resources.' - Currie, J

What are the socio-economic contributions of fishing?

As seabed mining would have significant impacts on fish stock it would also impact on revenue, jobs and livelihood associated with the fishing industry. It is thus important that the socio-economic contributions of fishing are understood and considered in decision-making on seabed mining.

Contribution of commercial fishing to Gross Domestic Product **0.5%**

Contribution of commercial fishing to Gross Geographic Product in the Western Cape **2%**



Contribution of commercial fishing to jobs
27 000 DIRECTLY **100 000 INDIRECTLY**

Number of local rights holders in commercial fishing **2900 LOCAL RIGHTS HOLDERS³**

A range of fisheries that coincide with the prospecting areas will be directly impacted if seabed mining were to proceed. These include the following, with an indication of their contribution to jobs and gross domestic product:

FISHERY	JOBS SUSTAINED	DURATION OF RIGHTS	GROSS ASSET VALUE
DEEP-SEA TRAWL	12 000	2006-2020	R4 BILLION
HAKE LONGLINE	1 495	2006-2020	R182 MILLION
TUNA POLE	2 516	2006-2013	R125 MILLION
SMALL PELAGICS	15 133	2006-2020	R1.2 BILLION
SQUID	2 400	2006-2013	R441 MILLION
WEST COAST ROCK LOBSTER	1 058	2006-2015	R941 MILLION
SOUTH COAST ROCK LOBSTER	441	2005-2020	R127 MILLION

CASE SOUTH AFRICA'S ONLY MARINE STEWARDSHIP COUNCIL (MSC) FISHERY



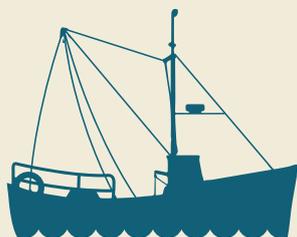
Seabed mining in the Green Flash Trading areas will negatively impact on South Africa's only MSC fishery. The deep-sea trawling industry employs **12 000 people** and generates approximately **R4 billion in revenue** annually. It has operated sustainably for approximately **120 years**, creating thousands of jobs, within the area where the prospecting rights have been granted and could continue to do so in perpetuity. The jobs and revenue generated by seabed mining would be short-term and once off, while its impact on the MSC fishery would be irreversible.

What about small-scale fishing?

8050

small-scale fishers
in South Africa

1660 in the
Western Cape⁴



Small scale fishers directly rely on healthy marine ecosystems for livelihood, nutrition, food security and income. Small scale fishing plays a critical role in providing employment and access to protein in coastal communities. There are approximately 44 coastal communities along the coastline of the Western Cape.

And tourism?

Seabed mining will likely have considerable detrimental impact on tourism, particularly coastal and marine tourism. Bulk marine sediment mining requires additional coastal developments that have associated impacts. These include desalination plants, beneficiation facilities, processing plants and vast quantities of mining waste as well as increased shipping. In relation to the Sandpiper Project, residents of Walvis Bay were 'concerned about the potential release of toxic elements in the land-based phosphate processing phase'⁵. Bulk marine sediment mining off the West Coast and Agulhas, would likewise negatively impact on coastal tourism in these areas.

What are the potential socio-economic contributions of seabed mining?

Although analysis of potential jobs and economic contributions of commercial seabed mining are not readily available, some conclusions can be drawn. For example, for its proposed Sandpiper Project, NMP (Pty) Ltd undertook a feasibility study. The study indicated that the project would produce around **400 jobs during construction** and **150 full time jobs** during the projects lifetime of **35 years**⁶. The Sandpiper Project proposed a huge operation which would remove **5.5 million tonnes of marine sediment per year**.

If a project of this scale provides only 150 permanent jobs, it appears that seabed mining's contribution to jobs would be marginal. It is also unlikely that these jobs would be local, in light of the specialist nature of seabed mining.

Do we have legal and governance systems in place to prevent harmful impacts?

Our current legal and governance framework is wholly inadequate for dealing with bulk marine sediment mining.

The MPRDA and NEMA provide the strongest indication of the gaps in our capacity to govern seabed mining.

The Mineral and Petroleum Resources Development Act, 2002 (MPRDA)

The MPRDA does not explicitly deal with offshore prospecting and mining. The Act itself is entirely geared to terrestrial mining. Many provisions would be difficult to apply to seabed prospecting and mining and provisions such as legal requirements to consult with landowners and community members act as a check and balance against inappropriate prospecting and mining. These checks and balances would not be possible for far offshore environments. Furthermore, there are no specific regulatory instruments or guidelines that provide assistance to decision-makers in this regard. DMR has significant capacity constraints for compliance monitoring and enforcement (CME) of terrestrial mining. In some cases, environmental CME is entirely absent. With the

one-environmental system, the DMR's environmental mandate has been broadened, thus putting further strain on its CME resources. There are insufficient institutional arrangements, capacity, experience, guidance or knowledge for reviewing, monitoring and enforcement of environmental management programmes and conditions of environmental authorisations in respect of bulk marine sediment prospecting and mining.

National Environmental Management Act, 1998 (NEMA)

Many provisions in NEMA would be infringed if seabed mining were permitted. There is relative lack of knowledge of impacts of seabed mining. In such circumstances, NEMA requires a precautionary approach which takes into account the 'limits of current knowledge about the consequences of decisions and actions'. Seabed mining would certainly not comply with a precautionary approach. Furthermore, NEMA requires development to avoid, minimise or remedy disturbance of ecosystems and loss of biological diversity. Independent impact assessments of seabed mining undertaken in other countries, have found that such disturbance and loss is unavoidable.

In sum, there are serious gaps in South Africa's legal, governance and institutional frameworks to manage bulk marine sediment mining. This would see an offshore mining industry that is unregulated and not subject to state monitoring or enforcement of its compliance with licences and environmental laws. This would facilitate severe and irreversible damage to marine environments and fisheries resources.

References and further reading:

1. Market Wired (2014). 'Diamond Fields Announces Granting of South African Marine Phosphate Exploration Licence'.
2. Currie, J. (2013). Brief Overview of Potential Ecosystem Impacts of Marine Phosphate Mining in the Western Cape, South Africa.
3. Department of Agriculture, Forestry and Fisheries, (2012). Agriculture, Forestry and Fisheries Integrated Growth and Development Plan (GDP), DAFF Sector GDP.
4. Isaacs, M. and Hara, M. (2015). Backing small-scale fishers: Opportunities and challenges in transforming the fish sector. Published by the Institute for Poverty, Land and Agrarian Studies.
5. Benkenstein, A. (2014). Seabed Mining: Lessons from the Namibian Experience. SAIIA.
6. Midgley, J., 2012. Environmental Impact Assessment Report for the Marine Component. Sandpiper Project . Proposed recovery of phosphate enriched sediment from the marine Mining Licence Area No. 170 off Walvis Bay Namibia.



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