



Victorian National Parks Association

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*People caring
for nature*

VNPA Submission

in response to

EPBC Act Referral: Origin Energy Resources Ltd/Exploration (mineral, oil and gas - marine)/VIC/RL2, PEP168, PPL10, Otway region

prepared by

Victorian National Parks Association Inc

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About the Victorian National Parks Association Inc

The Victorian National Parks Association Inc (VNPA) is Victoria's leading nature conservation organisation. VNPA is an independent, non-profit, membership-based group, which exists to protect Victoria's unique natural environment and biodiversity through the establishment and effective management of both marine and terrestrial national parks, conservation reserves and other measures. We will achieve our vision by facilitating strategic campaigns and education programs, developing policies, through hands-on conservation work, and by running bushwalking and outdoor activity programs which promote the care and enjoyment of Victoria's natural heritage.

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Submitted to:

Hon. Peter Garrett MP

Minister for the Environment, Water, Heritage and the Arts

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INTRODUCTION

This submission is in response to the proposal of Origin Energy Limited (hereafter 'Origin') to carry out both land-based and marine petroleum exploration (seismic survey) within the Bay of Islands Coastal Park (Victoria) and offshore marine environment. The Victorian National Parks Association (VNPA) is strongly against any form of petroleum exploration or extraction in marine and terrestrial national parks. The VNPA was not consulted during Origin's community consultation process.

Matters of national significance that will potentially be impacted on by this proposal are outlined in this submission.

BACKGROUND

Bay of Islands Coastal Park protects 950 hectares of fragile coastal vegetation and unique wildlife as well as offshore islands and rock stacks. The park protects the terrestrial environment above low water mark along a narrow 32km stretch of coastline. Bay of Islands Coastal Park and the adjacent Port Campbell National Park combine to form a linear reserve along 65 km of Victoria's Southern Ocean coastline, and contain some of the largest and most important areas of remnant vegetation between Portland and the Otways. This stretch of coastline has a number of major tourist attractions, including the iconic 'Twelve Apostles'.

Origin Energy's proposal involves both land and offshore seismic surveys. These surveys commonly use high-intensity, low frequency sound waves directed through layers of rock below the earth's surface and reflected at boundaries between geological layers with different physical and chemical properties.ⁱ The reflected sound waves are processed to give information about the structure and composition of geological formations buried below land and the sea. This is the basis for the use of high-intensity seismic signals to prospect for oil and gas reservoirs.

Offshore seismic surveys commonly use large ships to fire high-intensity air guns deep into the ocean to probe for the existence of oil and gas reserves. The high energy noise sources are directed into the seabed, commonly to depths of up to 10km, then reflected upwards again within the underlying rock strata.ⁱⁱ

There are considerable environmental concerns about the impacts on marine species from seismic testing, as well as the potential damage to ecological and geological values. Land-based seismic surveys require on-ground vehicle access to areas within the Coastal Park, which would potentially damage the fragile coastal vegetation if new roads or clearing were required.

MATTERS OF NATIONAL SIGNIFICANCE

Flora and Fauna

Bay of Islands Coastal Park mostly consists of Coastal Headland Scrub with patches of Coastal Dune Scrub. The area protects habitat for a range of nationally significant flora and fauna, including numerous birds, reptiles and mammals.

A preliminary flora and fauna study conducted by Biosis Research found thatⁱⁱⁱ:

*'The study area contains areas of high quality and undisturbed remnant native vegetation with a diverse number of species, and a number of records of nationally and state significant species. Remnant vegetation, along with vegetation within the **Bay of Islands Coastal Park** provides connectivity for a number of fauna species.'*

According to Biosis, two nationally significant flora species were recorded within the wider study area during field assessments, with at least five other species likely to occur.

The two flora species found are:

- Metallic Sun Orchid *Thelymitra epipactoides*
- Clover Glycine *Glycine latrobeana*

As noted by Biosis, there are seasonal limitations to conducting flora surveys. Further on-ground studies are required to ascertain the distribution of nationally significant flora species.

Five fauna species of national significance were recorded in the proposed exploration area or have been recorded in the area previously. These are:

- Orange-bellied Parrot *Neophema chrysogaster*
- Southern Brown Bandicoot *Isodon obesulus obesulus*
- Long-nosed Potoroo *Potorous tridactylus*
- Southern Bent-wing Bat *Miniopterus schreibersii bassanii*
- White-bellied Sea-eagle *Haliaeetus leucogaster*

According to Biosis, there are 32 additional species of state and national significance that appear on database records for areas within 5 km of the site.

Further fauna surveys are required to ascertain the existence of nationally significant fauna species within the proposed exploration area. The EPBC-listed critically endangered Orange-bellied Parrot has been historically recorded feeding on grasses within Bay of Islands Coastal Park. Any exploration activities in the area could potentially disturb this vulnerable species.

Marine

There appear to have been no surveys completed on the potential impacts of seismic testing on offshore marine habitats and fauna. The only documented study in Origin's EPBC referral is the *Underwater Sound Exposure Predictions for the Speculant 3D Transition Zone Seismic Survey*.

Nationally listed marine species that may seasonally occur within the proposed exploration area include (but are not limited to):

- Blue Whale *Balaenoptera musculus*
- Humpback Whale *Megaptera novaeangliae*
- Great White Shark *Carcharodon carcharias*

One of the leading scientific studies that researched the impacts of seismic surveys on marine species was a Curtin University of Technology project in 2000.^{iv} This study examined the environmental implications of offshore seismic survey noise on Humpback Whales, Sea Turtles, fishes and squid. Field trials were conducted on marine animals in their natural habitat as well as in simulated cage trials. There was a range of results from the study, key conclusions including:

- Observations from the seismic vessel showed that fewer whales were seen within three km of the vessel when its air-gun arrays were operating as compared to when they were not, indicating localised avoidance;
- At higher air-gun levels, turtles' behaviour became increasingly erratic, possibly indicating that if they had not been constrained (in cages) they would have avoided the approaching source;
- A greater startle response for some smaller fishes, as well as potential impacts on fishes' hearing systems (depending the air-gun noise level);
- Squid showed strong alarm responses to a nearby air-gun starting up, many firing their ink sacs and jetting directly away from the noise source.

Origin has stated that seismic testing would take place in October-December so that migrating whales are not disturbed. However, the Curtin study, as well as the historical concerns of local fisherman (Stateline Victoria, 2003), indicate there maybe some level of impact on marine species of national significance. In particular, there could be potential impacts on the nationally listed Great White Shark.

Furthermore, Greenpeace released a broadly referenced report in 2008 highlighting the impacts of seismic testing and other anthropogenic generated noises on whales.^v The report explained that the ocean is an acoustic environment, not a visual one, and therefore marine mammals rely heavily on sound for survival. Furthermore, without their heightened sense of hearing, marine animals struggle to find food, avoid possible predators or communicate with each other. Seismic testing introduces another threat to the survival of marine animals, on top of continued commercial whaling, entanglement in fishing nets, and collisions with ships.

Of particular note, this is not the first proposal for seismic testing that has been referred under the EPBC Act for the Otway region of Victoria. In a 2003 Federal Senate hearing, the then Minister for the Environment and Heritage, Senator Robert Hill, under questioning from Senator Bob Brown, stated that:

“Seismic testing may have a variety of impacts on marine animals depending upon the noise levels produced, propagation characteristics of the receiving environment, and timing or proximity of the survey relative to important life-cycle attributes.”^{vi}

CONCLUSION

The VNPA is strongly against Origin's proposal for seismic testing in Bay of Islands Coastal Park and road reserves as well as in the offshore marine environment. Seismic surveys in Bay of Islands Coastal Park sets a dangerous precedent for further oil and gas exploration in Victoria's national and other parks – those parks have been set aside for people and nature, not for oil and gas wells or mines.

The proposal will have an impact on matters of national significance. The VNPA considers seismic testing to be inappropriate in protected areas and recommend the exploration permit be rejected.

The implications for the feeding habitat of the critically endangered Orange-bellied parrot are of particular concern as well as migration patterns of both the blue and humpback whales and Great White Shark. Any clearing of native vegetation could damage nationally significant flora.

If the proposal proceeds it should be controlled action under the EPBC Act. Further detailed studies are required to identify matters of national significance. In particular, seasonal surveys need to be conducted to establish the existence and distribution of nationally significant flora and fauna that have been historically listed in the proposed exploration area. Further studies are also required to determine the potential impact of offshore seismic testing on nationally significant marine species.

ⁱ Swan, J.M., Neff, J.M. and Young, P.c. (Eds) (1994) *Environmental implications of offshore oil and gas development in Australia – the findings of a independent review*, Australian Petroleum Exploration Association, Sydney.

ⁱⁱ McCauley, R.D. et al. (2000) *Marine Seismic Surveys: Analysis and Propagation of Air-gun Signals; and Effect of Air-Gun Exposure on Humpback Whales, Sea Turtles, Fishes and Squid*, Prepared for Australian Petroleum Exploration Association, Centre for Marine Science and Technology, Curtin University of Technology, Western Australia.

ⁱⁱⁱ Biosis Research 2010, Speculant 3D Seismic Survey: Flora and Fauna Assessment, Origin, page VII.

^{iv} McCauley, R.D. et al. (2000) *Marine Seismic Surveys: Analysis and Propagation of Air-gun Signals; and Effect of Air-Gun Exposure on Humpback Whales, Sea Turtles, Fishes and Squid*, Prepared for Australian Petroleum Exploration Association, Centre for Marine Science and Technology, Curtin University of Technology, Western Australia.

^v Michael Stocker (2008) *An evaluation of impacts of specific anthropogenic noise types on cetaceans: New types of guidelines needed to protect whales from ocean noise*, Greenpeace, sourced from <http://www.greenpeace.org/raw/content/usa/press-center/reports4/now-hear-this.pdf>, June 2010.

^{vi} The Senate Questions on Notice (2003) Environment: Seismic Surveys, sourced from http://parlinfo.aph.gov.au/parlInfo/genpdf/chamber/hansards/2003-11-24/0173/hansard_frag.pdf;fileType%3Dapplication%2Fpdf, June 2010, Pg 1.