



# International Fund for Animal Welfare

Matthew Philipchuk  
 Chairman and CEO  
 Bight Petroleum Pty Ltd  
 GPO Box 1884,  
 Adelaide, SA 5001

24 March 2014

Dear Mr Philipchuk,

IFAW received an email, dated 20 March, updating stakeholders on the latest situation regarding the environmental approvals process for the proposed 'Lightning' 3D seismic survey. The email stated Bight Petroleum will align with the new approval requirements in place as a result of the recent streamlining of Environmental Regulations for Petroleum Activities in Commonwealth waters which came into effect on 28th February 2014, whereby approvals are now being assessed solely by NOPSEMA.

IFAW's understanding of the new arrangements in place is that Bight Petroleum must withdraw its existing Environment Plan and submit a new one to be considered under the new regulations.

IFAW wishes to take this opportunity to confirm our desire to remain a stakeholder in preparation of your new Environment Plan. For the purposes of stakeholder consultation, IFAW wishes to reconfirm our status as a relevant person under Regulation 11A of the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (the Regulations). As one of the leading international animal welfare and conservation organisations, IFAW's work includes a focus on the protection of marine mammals, including the protection of whales and dolphins from risks related to offshore petroleum exploration and production, such as ocean noise pollution (from seismic surveys, construction, shipping noise), ship strikes and oil spills. As such IFAW's interests are in ensuring whales and dolphins are protected from potential impacts of Bight Petroleum's proposed activities. As you are aware, IFAW's activities have included research in the proposed seismic survey area and may include further research in that area in coming months and years.

As a relevant person for the purposes of stakeholder consultation, IFAW would welcome an update from Bight Petroleum on the proposed timeline for submission of the new Environment Plan?

IFAW would also like to take this opportunity to specify that we wish the comments we fed into the now defunct 'controlled action' EPBC assessment to be taken to be comments for the purposes of your stakeholder consultation on the new EP. These comments are attached again for your convenience.

OCEANIA REGIONAL OFFICE  
 6 Belmore Street  
 Surry Hills, NSW 2010  
 Australia  
 Tel: +61 (0)2 9288 4900  
 Fax: +61 (0)2 9288 4901  
 Toll free (Australia): 1800 00 IFAW (4329)

Australia  
 Belgium  
 Canada  
 China  
 France  
 Germany  
 India  
 Japan  
 Kenya  
 Netherlands  
 Russia  
 South Africa  
 United Arab Emirates  
 United Kingdom  
 United States

As noted in the email of 20 March, Bight Petroleum responded to comments received as part of the controlled action assessment. That response raised a number of issues IFAW wishes to take this opportunity to address and highlighted a number of areas where IFAW still requires further information to allow us to make an informed assessment of the possible consequences of the activity on our interest in seeing marine life protected from potential impacts related to the proposed seismic survey. I have outlined each of these in detail below.

## 1. Lack of baseline data

In the response to public comments, Bight Petroleum continues to insist there is already adequate baseline data about whale presence/absence in the area, when in reality there has been a severe lack of scientific survey effort in that area **at the time of year of the proposed survey**. Bight Petroleum makes three citations to back up its claim.

The first is blue whale aerial surveys during a previous seismic survey in the area in 2003/2004. However, this survey was conducted at a different time of year and, because it was during a seismic survey, cannot be considered as reflective of natural baseline data due to likely avoidance of the seismic noise by species in the area.

The second is Bight Petroleum's own aerial surveys which are claimed to be "extensive research". However, as previously pointed out by IFAW, these aerial surveys consisted of only one day of surveying during the proposed time period for the seismic survey (one day in March, none in April or May).

The third reference is to IFAW's own vessel-based research conducted in the area in April/May 2013 (IFAW/MCR, 2013). Unfortunately, Bight Petroleum has misinterpreted sightings records to be individual animals whereas they were in fact groups of animals. Bight Petroleum also attempts to suggest that because sightings were outside the proposed seismic survey they are somehow not indicative of likely cetacean presence in the wider area and/or that such animals would not be impacted by seismic noise. This is despite Bight Petroleum's own noise modelling showing sound travelling well beyond the survey boundaries at levels known to cause behavioural impacts to cetaceans.

Bight Petroleum also attempts to suggest that the findings are somehow invalid because there was no control area to compare them to. In this instance there was no need for a control area – the purpose of the research was to collect information about the cetaceans likely to be present in and around the seismic survey area at the proposed time of year of the survey. One thing that was comparable to other areas was sperm whale density, which was comparable with other important sperm whale habitats around the world, indicating the significance of this area as important habitat for sperm whales.

Furthermore, IFAW's research very clearly acknowledges that it is a limited snapshot and explicitly states the need for more information. As a general scientific standard, multiple years of baseline data gathering are usually required to draw any conclusions about an area. As a recent paper on best practice to minimise impacts from seismic surveys on marine mammals underlined, multi-year baseline ecological data is a critical element of a robust plan for conducting seismic surveys responsibly (Nowack *et al.*, 2013). The authors emphasise that a "*thorough understanding of seasonal occurrence and density, behavior, reproduction, foraging, and habitat use is needed to guide survey planning and the design of appropriate mitigation*".

IFAW cannot fathom how Bight Petroleum views the limited existing environmental data as being adequate when other operators in the Great Australian Bight (GAB), e.g. BP, have entered into a \$20 million partnership with CSIRO and MISA to address recognised data gaps.

Therefore, at the very least, before the seismic survey proceeds, IFAW recommends Bight Petroleum contracts independent scientists to conduct visual and acoustic surveys of the proposed survey area and its surrounds, and to make this information publicly available. These surveys must include sufficient effort over multiple years to be able to make an adequate assessment of likely cetacean presence and distribution across the region. As recommended by Nowacek *et al.* (2013), *in situ* measurement of the biological environment with sufficient characterisation of sources of natural variability is required to inform timings for the survey and the likelihood of success of proposed mitigation and monitoring measures. Avoiding key times of cetacean presence is the best way of avoiding impacts from acoustic disturbance. Therefore, this information is absolutely fundamental for stakeholders to be able to make an informed assessment of the possible consequences of the activity.

## 2. Acoustic disturbance

Bight Petroleum's response to public comments continues to downplay the risk of acoustic disturbance to whales in the area. As mentioned above, it is suggested that because some animals have only been seen outside the proposed survey area these animals would not be disturbed. IFAW does not agree with this assertion. For the rarely-seen Shepherd's beaked whale, for example, (less than ten sightings in the wild at sea worldwide), IFAW suggests that having been spotted twice in proximity to the survey area, this should be cause for extreme caution and an expectation that this species may be more prevalent in the wider area. IFAW cannot agree with Bight Petroleum's assertion that because these two sightings were 15-30km outside the proposed area, these whales will not be disturbed at that distance. For example, Bight Petroleum's own noise modelling demonstrated the sound will travel considerable distances outside the survey area at or above levels known to cause behavioural change in other cetacean species.

Bight Petroleum also suggests the extension of the survey's proposed timing to the end of May will not impact upon endangered southern right whales and attempts to justify this on two grounds. Firstly, that southern right whale calving grounds are at least 85km away from the survey area. Secondly, that a similar survey further west in the GAB has been approved to operate until 30 June. However, IFAW wishes to reiterate that in consideration of southern right whales the focus should not only be on calving/resting areas but also migratory routes, which are likely to take southern right whales directly through the survey area where they will be vulnerable to acoustic disturbance. Also, IFAW wishes to point out again that the southern right whales migrating through the Bight Petroleum survey area are likely to be from the south-eastern population which is not recovering, therefore justifying extra caution compared to seismic surveys further west which will interact with the south-western population which *is* showing signs of recovery.

The documentation provided by Bight Petroleum also repeats the claim that there were no impacts on blue whales from a previous seismic survey in the area in 2003. However, this directly contradicts information provided by Bight Petroleum alongside the response to public comments in the '*Key Ecological Features of Kangaroo Island Pool and Canyons*' document. This document notes that blue whales stopped feeding in proximity to the seismic survey vessel in the 2003 survey and did not resume feeding until 30 minutes after the array was shut down. Therefore, it is not correct to say there was no impact.

While the KEF document suggests such an impact would be localised and/or temporary, without significant long-term studies it is impossible to be sure that there will not be longer-term impacts from preventing endangered blue whales from foraging in one of only three identified feeding areas in Australian waters.

Furthermore, the scientists who observed the blue whales in question (Morrice *et al.*, 2004, cited in Origin Energy, 2012) also stressed that the proximity of whales to seismic vessels must be interpreted in the context of their pressing need to consume tonnes of food per day and that these whales may need to feed in their zone of acoustic discomfort if the only krill available are in the proximity of an active seismic vessel. This important caveat has been repeatedly ignored by Bight Petroleum despite IFAW pointing it out on numerous occasions. Refusing to acknowledge this important caveat does not tally with a later statement by Bight Petroleum in the response to public comments document where Bight Petroleum claims it would be remiss to provide “anything but a balanced view of the available facts and science”.

As the recent draft Conservation Management Plan for the Blue Whale (SEWPaC, 2012) makes clear, *“a blue whale individual may continue feeding despite anthropogenic disturbance in the area if other suitable feeding areas are limited. This can give the appearance of a low effect of the threat, when in reality the threat is severely decreasing the quality of the population’s habitat by introducing stressors which may affect immune system function and overall health.”*

Bight Petroleum also suggests concerns about the use of a higher pressure array than that modelled are invalid. Again this seems to contradict information provided in the preliminary documentation where correspondence from noise modellers at CMST suggests that an increase in pressure from a 3090 cu in array to a 3250 cu in array would lead to a 5% increase in the range for received sound levels to drop below a given threshold. Again, neglecting to acknowledge such advice and caveats from scientists suggests Bight Petroleum is indeed being remiss and not providing “a balanced view of the available facts and science”.

It should be noted that Nowacek *et al.* (2013) recommend that detailed characterization of key operational parameters (e.g., sound output parameters from seismic sources, vessels, and other sources) should be provided and quantitative modelling of their propagation in the environment undertaken. While IFAW recognises Bight Petroleum has provided sound propagation modelling this is based on generic air gun arrays not specific to the actual seismic sources that will be used, as these have not yet been confirmed. It also contains no information about sound output from other sources such as vessels, as these have also not been confirmed. Therefore, at this stage IFAW does not believe we have sufficient information to enable an informed assessment of the possible consequences of the activity on our interests in seeing marine life in the area protected from potential impacts related to the proposed survey.

### **3. Alternative strategies**

It should also be noted that Nowacek *et al.* (2013) recommend that it is best practice for proponents to describe alternative strategies, regardless of economic feasibility. In IFAW’s view, this should include the use of marine vibroseis instead of airguns because it has the potential to significantly reduce environmental impacts by reducing underwater noise at source.

We regret that Bight Petroleum continues to refuse to consider the use of marine vibroseis. IFAW accepts that marine vibrators are not currently commercially available. However, this ignores the possibility that they will be when Bight Petroleum intends to undertake the survey in 2015.

Several companies are currently advanced in their development of these systems. A recent BOEM workshop (BOEM, 2013) suggested that systems are likely to be commercially viable within a year i.e. before Bight Petroleum plans to start its survey.

Furthermore, such a sensitive marine environment as Kangaroo Island Pool and Canyons presents a good area to trial such technologies. US regulators have recognised this possibility in settlement of recent litigation on seismic testing in the in the Gulf of Mexico where a trial of marine vibroseis is being required in sensitive marine mammal habitats (see Natural Resources Defense Council Inc., *et al.*, v. S.M.R. Jewell, Sec. Dept. Interior, *et al.*, United States District Court for the Eastern District of Louisiana, DC: 4861376-1).

Marine vibroseis has the potential to be about 100 times quieter, resulting in a 10,000-fold reduction in the area of impact in the near field when compared to airguns (Weilgart 2010, 2012). Bight Petroleum claims in the response to the public comments that it is already at "*the point where the economic/health and safety costs required to reduce the environmental impacts and risks of the activity any further would be grossly disproportionate to the environmental benefit gained*". However, it is worth noting that in an environmental assessment report funded by the International Association of Oil and Gas Producers, a marine vibroseis survey was estimated to only expose roughly 1-20% of whales and dolphins to high noise levels when compared to those exposed to an airgun survey (LGL and MAI 2011). As such, IFAW suggests that the environmental benefits that could be gained from the use of marine vibroseis are highly significant and easily proportionate to the costs that Bight Petroleum may incur.

Nowacek *et al.* (2013) make it clear that proponents of responsible seismic surveys should conduct a quantitative risk assessment of the proposed activity, and that this should be based on sufficient baseline data, and include an evaluation of alternatives.

Therefore, IFAW requests that Bight Petroleum provide a quantitative risk assessment of the proposed activity and alternatives so that IFAW is able to make an informed assessment of the possible consequences of the activity on our interests in seeing marine life in the area protected from potential impacts related to the proposed survey. However, IFAW does not believe this will be possible until sufficient baseline data is gathered *in situ*, as recommended by Nowacek *et al.* (2013).

#### **4. Proposed mitigation measures**

IFAW notes with regret that Bight Petroleum did not provide any further information in the response to public comments about how planned mitigation measures will be implemented. IFAW specifically highlighted a number of areas in the planned mitigation methods where more detail was required. This lack of further detail means insufficient information is available to enable IFAW to make an informed assessment of the likelihood of success of the proposed mitigation measures and, therefore, assess the possible consequences of the activity on our interests in seeing marine life in the area protected from potential impacts related to the proposed survey.

No protocols have been described to stakeholders to demonstrate how the various proposed mitigation measures will interact. For example, there is no detail on how passive acoustic monitoring (PAM) operators and marine mammal observers (MMOs) will interact and there is no description of survey design for how the scout/support vessel will survey ahead of the seismic vessel.

Nowacek *et al.* (2013) make it clear that proponents should develop full protocols including command chain and real-time actions required if mitigation measures are not working. Nowacek *et al.* (2013) also recommend that effective monitoring methods for before, during, and following operations are designed and that integrated monitoring technologies and protocols using real-time and archival elements are required. These methods should be adaptable and with sufficient power to detect changes in key parameters, determine if mitigation methods are working, address data and information gaps, and contribute to long-term monitoring.

Nowacek *et al.* (2013) recommend that detail on mitigation measures and monitoring methods be made publicly available. It may be that Bight Petroleum has already designed these protocols and monitoring programs, as it appears to IFAW that such elements are required for the implementation strategy for the Environment Plan under Regulation 14 of the Regulations. However, if these are not provided to stakeholders, it is impossible to quantitatively assess the risk reduction these mitigation methods would provide in reality and whether monitoring programs are appropriate.

Therefore, IFAW requests that Bight Petroleum provide such information so that IFAW is able to make an informed assessment of the likelihood of success of the proposed mitigation measures and, therefore, assess the possible consequences of the activity on our interests in seeing marine life in the area protected from potential impacts related to the proposed survey.

IFAW also wishes to highlight at this juncture that there are other mitigation and monitoring options that are not currently planned which could help further reduce risk and improve monitoring. These include aerial surveying before, during and after the seismic activity; adaptive planning to include monitoring of upwelling intensity and krill swarm presence and adaptation of survey accordingly; and thermal imagery and night-vision technologies to address detection of baleen whales at night-time and in poor visibility. These latter measures would likely require additional MMOs to enable them to be carried out successfully. Deployment of acoustic buoys to measure received noise levels during the seismic survey for comparison with modelled sound exposure levels throughout the area could also be used to test modelling and adapt the survey accordingly if sound levels are above those modelled.

Such additions would help ensure mitigation and monitoring methods are adaptable and sufficiently powerful to detect changes in key parameters, determine if mitigation methods are working, address data and information gaps, and contribute to long-term monitoring, as outlined by Nowacek *et al.* (2013).

## **5. Cumulative impact**

Bight Petroleum also appears to have misunderstood concerns expressed about the cumulative impact of the proposed seismic survey on whales in the wider GAB region. In the response to public comments, Bight Petroleum has focused exclusively on whether other seismic surveys in the GAB would also be audible to whales within Bight Petroleum's proposed survey area or increase the amount of noise within that area. However, this is not the issue at stake.

IFAW's concern is that the combination of seismic surveys in Bight Petroleum's survey area and further west (TGS-NOPEC 'Nerites' seismic survey) will lead to a cumulative reduction in the acoustic quality of habitat in biologically important areas for whales across the GAB, at the same time period, and over consecutive years (the TGS-NOPEC survey will run the year before Bight Petroleum's survey as well as same period as the Bight Petroleum survey in 2015). This issue has

not been addressed by Bight Petroleum in its response to public comments despite this specific aspect of cumulative impact being raised directly by IFAW.

Therefore, IFAW requests that Bight Petroleum provide further information about how this particular aspect of cumulative impact will be addressed so that IFAW is able to make an informed assessment of the possible consequences of the activity on our interests in seeing marine life in the area protected from potential impacts related to the proposed survey.

IFAW acknowledges the length of this letter but as can be seen from the level of detail provided above, there are still considerable gaps, across a number of areas, in the information required for IFAW to be able to make an informed assessment of the possible consequences of the activity on our interests in seeing marine life protected from potential impacts of the proposed seismic survey. Based on the information currently available to us, IFAW does not believe that the risks to cetaceans from acoustic disturbance have been reduced to as low as practicable or to an acceptable level.

IFAW would be grateful if you could supply the information outlined above so that we can provide more informed feedback.

Yours sincerely,

A handwritten signature in blue ink that reads "Matthew Collis".

Matthew Collis  
Marine Campaigns Manager  
IFAW Oceania

## **References**

BOEM (United States Bureau of Ocean Energy Management), 2013. Quieting Technologies for Reducing Noise During Seismic Surveying and Pile Driving: A BOEM Workshop on the Status of Alternative and Quieting Technologies. Silver Spring, Maryland, 25-27 February 2013.

IFAW MCR IFAW/MCR, (2013). Final report for a survey of cetaceans in the eastern Great Australian Bight, 26th April – 8th May 2013. Available at:  
<http://www.ifaw.org/sites/default/files/IFAW%20cetacean%20survey%202013.pdf>

LGL and MAI. (2011). Environmental Assessment of Marine Vibroseis. LGL Rep. TA4604-1; JIP contract 22 07-12. Rep. from LGL Ltd., environ. res. assoc., King City, Ont., Canada, and Marine Acoustics Inc., Arlington, VA, U.S.A., for Joint Industry Programme, E&P Sound and Marine Life, Intern. Assoc. of Oil & Gas Producers, London, U.K. 207 p.

Morrice et al, 2004, as cited in Origin Energy Resources Limited (2012). EPBC referral 2012/6565 Origin Energy Resources Limited/Exploration (mineral, oil and gas - non-marine)/Otway Basin/VIC/The Enterprise 3D Seismic Acquisition Survey, Otway Basin, Vic.

Nowacek, D.P., Bröker, K., Donovan, G., Gailey, G., Racca, R., Reeves, R.R., Vedenev, A.I., Weller, D.W., Southall, B.L., (2013). Responsible Practices for Minimizing and Monitoring Environmental Impacts of Marine Seismic Surveys with an Emphasis on Marine Mammals. *Aquatic Mammals* 39(4), pp.356-377.

SEWPaC (2012). Department of Sustainability, Environment, Water, Population and Communities. Draft Conservation Management Plan for the Blue Whale. Draft for consultation, December 2012. Canberra: Commonwealth of Australia.

Weilgart, L. (Ed.). (2010). Report of the Workshop on Alternative Technologies to Seismic Airgun Surveys for Oil and Gas Exploration and their Potential for Reducing Impacts on Marine Mammals. Monterey, CA, USA, 31 August-1 Sept. 2009. Okeanos Foundation for the Sea.

Weilgart, L. (2012). Are there technological alternatives to air guns for oil and gas exploration to reduce potential noise impacts on cetaceans? In: Popper, A. N.; and Hawkins, A. (Eds.). *The Effects of Noise on Aquatic Life, Advances in Experimental Medicine and Biology* 730: 605-607, New York: Springer Press.