

National Offshore Petroleum Safety and Environmental Management Authority
(NOPSEMA)
Submitted via website.

4 August 2023

Submission for Otway Basin 3D Multi-client Marine Seismic Survey

Vets for Climate Action is grateful to NOPSEMA for the opportunity to comment on seismic blasting in the Otway basin.

Vets for Climate Action (see Appendix 1) has more than 2000 supporters, mostly from Australia's veterinary profession, together with a group of 33 former Chief Veterinary and Senior Government Officers from most states and territories and the Commonwealth of Australia.

Veterinarians are highly concerned about the threats faced by all animals from global warming and climate change, as well as the devastation of natural ecosystems through land-use changes and pollution.

We urge NOPSEMA to act according to the published science of climate change and to acknowledge your duty to avoid further damage to the environment for the sake of all people and animals. We expand on these issues below:

1 Climate change

The most recent IPCC report, the AR6 Synthesis Report¹ based on the content of the three Working Groups Assessment Reports was released in March 2023. It states that human activities, principally through emissions of greenhouse gases, have unequivocally caused global warming. The largest share and growth in gross GHG emissions occurs due to the mining and combustion of fossil fuels.

Global surface temperature reached 1.1°C above 1850–1900 in 2011–2020. If CO₂ and other greenhouse gases continue to be emitted, the temperature will continue to rise. Every increment of global warming will intensify climate hazards.

¹ <https://www.ipcc.ch/assessment-report/ar6/>

In the northern hemisphere, the summer of 2023 has seen extended heatwaves, record temperatures and bushfires. There are warnings that an El Nino system is forming, and Australia can expect increased risks of drought, heatwaves, bushfires and coral bleaching during the coming summer².

Many animals have already been lost in Australia due to heatwaves and severe weather events. The details are presented in Appendix 2 below.

In 2021, Fatih Birol, executive director of the International Energy Association and one of the world's foremost energy economists, said: "If governments are serious about the climate crisis, there can be no new investments in oil, gas and coal, from now – from this year"³.

On 15 June 2023, United Nations Secretary-General Antonio Guterres said that countries must start phasing out oil, coal and gas, not just emissions⁴.

A discernible slowdown in global warming within around two decades can be achieved by deep, rapid, and sustained reductions in greenhouse gas emissions.

Seismic blasting is a method of locating and mapping oil reserves below the ocean floor. It is the first step in oil and gas exploration in the oceans⁵. Mining for oil in the Otway region will add more CO₂ to the atmosphere, both during the mining process and when the oil is burnt to create energy. This will contribute to further global warming. The complete opposite from what is required to halt climate change.

Recommendation: NOPSEMA should heed the science of climate change and refuse to permit the seismic testing in the Otway basin. All decision makers have a duty to the human right to 'life, liberty and security of person'⁶ and a responsibility for the health and welfare of animals. Seismic blasting, the first step towards drilling for oil in the Otway basin should not proceed.

2 Damage to the marine ecosystem, fish and marine mammals

The most recent IPCC report states that climate change has caused substantial damages, and increasingly irreversible losses, in terrestrial, freshwater, cryospheric, and coastal and open ocean ecosystems (high confidence). Hundreds of local losses of species have been driven by increases in the magnitude of heat extremes (high confidence) with mass mortality events

² <https://www.csiro.au/en/news/all/news/2023/july/expert-commentary-el-nino>

³

<https://www.theguardian.com/environment/2021/may/18/no-new-investment-in-fossil-fuels-demands-top-energy-economist>

⁴ [UN chief to fossil fuel firms: stop trying to 'knee-cap' climate progress | Reuters](https://www.marineconservation.org.au/what-is-seismic-blasting/)

⁵ <https://www.marineconservation.org.au/what-is-seismic-blasting/>

⁶ <https://www.un.org/en/about-us/universal-declaration-of-human-rights>

recorded on land and in the ocean (very high confidence). Impacts on some ecosystems are approaching irreversibility such as the impacts of hydrological changes resulting from the retreat of glaciers, or the changes in some mountain (medium confidence) and Arctic ecosystems driven by permafrost thaw (high confidence).⁷

A United Nations report has determined that about one million animal and plant species are threatened with extinction, many within decades, more than ever before in human history⁸. Biodiversity is essential for the processes that support all life on Earth, including human life. Without the range of animals, plants and microorganisms, we cannot have the healthy ecosystems that we rely on to provide the air we breathe, clean drinking water and the food we eat.

The Environmental Defenders Office provided the following information in their Submission to the Inquiry into the Impact of seismic testing on fisheries and the marine environment in December 2019⁹.

The University of Tasmania's Institute for Marine and Antarctic Studies (IMAS) has been undertaking research into the direct impact of seismic testing on marine species that are important for commercial fisheries. They have identified significant increases in mortality in scallops as a result of noise from seismic airguns, a potential three-fold increase in mortality of adult and larval zooplankton, and damage to the sensory organs and righting reflexes of rock lobsters. The impacts of noise on marine life remains an evolving field of research, but a 2015 review identified that "anthropogenic noise can cause auditory masking, leading to cochlear damage, changes in individual and social behavior, altered metabolisms, hampered population recruitment, and can subsequently affect the health and service functions of marine ecosystems". These impacts occur in an environment where 90% of fish stocks are already considered fully fished or over-fished, making them vulnerable to cumulative anthropogenic impacts.

Seismic blasting is being undertaken to determine the potential for oil drilling in the Otway area. Offshore oil wells create a higher risk for oil spills and oil pollution. The National Ocean Service¹⁰ in the United States provides the following information:

Oil destroys the insulating ability of fur-bearing mammals, such as sea otters, and the water repellency of a bird's feathers, thus exposing these creatures to the harsh

⁷ <https://www.ipcc.ch/assessment-report/ar6/>

⁸ <https://www.un.org/sustainabledevelopment/blog/2019/05/nature-decline-unprecedented-report/>

⁹ <https://www.edo.org.au/2019/12/16/impact-of-seismic-testing-on-fisheries-and-marine-environment/>

¹⁰

<https://oceanservice.noaa.gov/facts/oilimpacts.html#:~:text=Oil%20destroys%20the%20insulating%20ability,mammals%20will%20die%20from%20hypothermia.>

elements. Without the ability to repel water and insulate from the cold water, birds and mammals will die from hypothermia.

Juvenile sea turtles can also become trapped in oil and mistake it for food. Dolphins and whales can inhale oil, which can affect lungs, immune function and reproduction. Many birds and animals also ingest oil when they try to clean themselves, which can poison them.

Fish, shellfish, and corals may not be exposed immediately, but can come into contact with oil if it is mixed into the water column — shellfish can also be exposed in the intertidal zone. When exposed to oil, adult fish may experience reduced growth, enlarged livers, changes in heart and respiration rates, fin erosion, and reproduction impairment. Fish eggs and larvae can be especially sensitive to lethal and sublethal impacts. Even when lethal impacts are not observed, oil can make fish and shellfish unsafe for humans to eat.

Recommendation: NOPSEMA should heed the science and refuse to permit the seismic testing in the Otway basin. All decision makers have a responsibility to protect the environment and avoid further loss to ecosystems and the biodiversity of fauna and flora. Seismic blasting, the first step towards drilling for oil in the Otway basin should not proceed.

Signed:

A handwritten signature in black ink, appearing to read 'Stefany Goldring', with a stylized flourish at the end.

Stefany Goldring
Acting CEO
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APPENDIX 1

ABOUT VETERINARIANS FOR CLIMATE ACTION (VfCA)

Vets for Climate Action (VfCA) is an animal-centred, vision-led and impact-driven organisation. We are leading the Australian veterinary and animal care Industry into a future where animals, the industry, our communities and the natural world are thriving. We are evidence-based and informed by published scientific findings.

We represent over 2000 members of the veterinary profession and animal care community around Australia. Our role is educating, collaborating, and advocating for climate action within the veterinary community, broader animal care network, and government.

Our Board of six Directors, includes Dr Helen Scott-Orr, former Inspector-General of Biosecurity and Professor Mark Howden, Nobel Laureate and a current Vice Chair of the Intergovernmental Panel on Climate Change. Thirty-three former Chief Veterinary Officers and Senior Government Veterinarians work alongside us allowing mutual exchange of knowledge and experience. Our Patron is Professor Peter Doherty, veterinary surgeon, Nobel Laureate and Australian of the Year in 1997.

<https://www.vfca.org.au>

APPENDIX 2

AUSTRALIAN ANIMALS SUFFER AND DIE DUE TO CLIMATE CHANGE

Dogs and other companion animals

Walking our dogs on hot pavements burns their feet and can result in heat stress, even death. Dogs and other pets can die in as little as 4 to 6 minutes if left unattended in a vehicle. The body temperature of racehorses and greyhounds rapidly increases during training or competition risking their lives. Vets in the Northern Territory are already familiar with fatal heat stress from dogs simply exercising during hotter months.

Native wildlife

Heatwaves can result in mass die-offs of animals and birds. More than 23,000 spectacled flying foxes were killed in far north Queensland, when temperatures were over 42°C, almost a third of the species.

A hotter climate sees the food of koalas, Eucalyptus leaves, become drier, and this endangered species will risk leaving their trees in search of water, becoming vulnerable to dog attacks or vehicle hits.

The bushfires of 2019-20 resulted in nearly three billion vertebrate wild animals – mammals, reptiles, birds, and frogs – being killed or displaced. 'This ranks as one of the worst wildlife disasters in modern history,' said WWF-Australia CEO.

Severe flooding in eastern Australia in 2022 saw wombats and echidna trapped and drowned in their burrows. Marine species, turtles and seabirds were displaced when floodwaters reached the ocean.

Rising ocean temperatures have caused mass bleaching events, killing the coral of the Great Barrier Reef, bringing long term risks not only to the reef itself but to the diversity of marine fauna living within the reef, including dugong and marine turtles.

The risk of extinction

An Australian rodent in the Torres Strait Islands, the Bramble Cay melomys is the first mammal to become extinct due to climate change. Rising sea levels and storm surges resulted in loss of habitat.

The sex of a sea turtle is determined by the temperature of the sand incubating the eggs. Warmer temperatures produce females. 99% of green turtles are hatching female already – we will see turtles, so will our children, but our grandchildren will not.

A United Nations report has determined that about one million animal and plant species are threatened with extinction, many within decades, more than ever before in human history. Biodiversity is essential for the processes that support all life on Earth, including human life.

Climate change brings new disease threats

One Health is the connection between the health of the environment, people and animals. Climate change will alter disease prevalence, especially when vectors are involved. In the past two years mosquitoes moved south in Australia, carrying Japanese Encephalitis virus, infecting piggeries and resulting in cases and deaths in humans.

Fruit bats are likely to respond to climate change and extreme temperatures by migrating to more suitable areas. Hendra virus, found naturally in fruit bats, has had a huge impact in Queensland and NSW, with fatalities in horses as well as people. The virus responsible for the COVID-19 pandemic is thought to have originated from bats with Pangolins as an intermediate host.