

## *Sequoia 3D Marine Seismic Survey*

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### **1. Purpose of this report**

NOPSEMA has accepted the Sequoia 3D Marine Seismic Survey environment plan (the EP) submitted by ConocoPhillips Australia SH1 Pty Ltd (the titleholder) for a seismic survey activity in the Otway Basin within the period 10 August – 31 October 2021.

As required by the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (the Environment Regulations), the public was provided with an opportunity to comment on the EP. After this period, ConocoPhillips Australia SH1 Pty Ltd took into account public comments and prepared a Report on Public Comment which is published on NOPSEMA's website<sup>1</sup>.

Following the public comment period, the titleholder submitted the EP for assessment by NOPSEMA on 11 February 2021. NOPSEMA has since completed its assessment of the EP and has determined that it is satisfied that the EP meets the criteria for acceptance<sup>2</sup> on 10 August 2021.

This report explains how NOPSEMA took into account comments received from the public during the public comment period in making its decision<sup>3</sup>. Comments have been grouped into 'matters' and 'claims' that capture the key issues, concerns or new information provided during the public comment process. This report also contains other 'key matters' that may be of interest to the public identified during the assessment process.

This report accompanies the accepted Sequoia 3D Marine Seismic Survey environment plan, Revision 5 submitted by ConocoPhillips Australia SH1 Pty Ltd, which is available on the NOPSEMA website and should be referred to for further information.

#### **1.1. Information relevant to NOPSEMA's decision:**

In making the decision to accept this EP, NOPSEMA took into account:

- the Environment Regulations;
- NOPSEMA Assessment Policy (PL0050), Environment Plan Assessment Policy (PL1347) and Environment Plan Decision Making Guidelines (GL1721);
- the Sequoia 3D Marine Seismic Survey environment plan;
- the information raised by relevant persons, government departments and agencies that is relevant to making a decision;
- the information raised through public comment that is relevant to making a decision;
- There were 341 public comment submissions received during the public comment period with issues raised predominantly in relation to the key matters outlined in the below report;

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<sup>1</sup> Titleholder report on public comments – Sequoia 3D Marine Seismic Survey, dated: February 2021

<sup>2</sup> Environment Regulations, Regulation 10A Criteria for acceptance of environment plan

<sup>3</sup> Environment Regulations, Regulation 11(3) Publication of notice, etc.

- relevant plans of management and threatened species recovery plans developed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and relevant guidance published by the Department of the Environment and Energy.

## 2. Next steps

Responsibility for the ongoing environmental performance of the seismic survey activity remains, at all times, with ConocoPhillips Australia SH1 Pty Ltd.

NOPSEMA has legislated responsibilities to inspect and investigate offshore petroleum and greenhouse gas storage activities, and to enforce compliance with environmental law. These functions will be applied to this activity in accordance with NOPSEMA's policies.

## 3. Sensitive Information

Sensitive information received during the public comment period, such as the names and contact details of commenters and specific information identified by the commenter or relevant person as 'sensitive', is not published in this report. Sensitive information is contained in a sensitive information part of the EP which has been considered by NOPSEMA during its assessment process.

## 4. Further information

If you would like further information about the activity, please contact the titleholder's nominated liaison person specified in the EP and on NOPSEMA's webpage for the Sequoia 3D Marine Seismic Survey.

If you would like to be notified of regulatory information on the activity, such as start and end dates and enforcement actions (if any), please subscribe to updates from the [Underway Offshore page](#) on NOPSEMA's website.

## How NOPSEMA has taken into account key matters raised during public comments, the assessment and decision making process for the Sequoia 3D Marine Seismic Survey EP

#	Issues raised	Titleholder response	NOPSEMA's assessment and decision
1	<p><b>Matter:</b></p> <p>There would be unacceptable losses of giant crab and future catches resulting from the survey.</p> <p><b>Claim:</b> Claims were made that seismic pulses will kill giant crab, including larvae, resulting in future economic losses to the giant crab commercial fishery.</p> <p>Some stakeholders requested that the south west corner of the operational area be excised from the survey, which would remove the impact of the seismic activity from a significant part of the Tasmanian giant crab fishery.</p>	<p><b>ConocoPhillips response after public comment:</b></p> <p>ConocoPhillips Australia undertook an assessment of the publicly available information, commissioned a report by South East Trawl Fishery Association (SETFIA), and undertook consultation with relevant government departments and other relevant persons with commercial fishing interests.</p> <p>The assessment undertaken found that the acquisition area overlaps 1.1% of the Tasmanian giant crab commercial fishery. Over the last 10 years, an average annual catch of 7.4 tonnes has been caught from the survey area, representing 39% of the fishery's total annual catch.</p> <p>Based on available literature, it was concluded that the key commercial catch areas mostly targeted by the giant crab fishery was at water depths of 140-300m, which is in the southwestern corner the acquisition area (Figure 1.1) and over the southern-most lead (Figure 2.1).</p>	<p><b>NOPSEMA's assessment based on final version of EP:</b></p> <p>NOPSEMA recognises that there is the potential for the activity, if not appropriately managed, to have unacceptable impacts on the giant crab (GC) stock and the fishery it supports.</p> <p>In making a decision regarding this matter, NOPSEMA took into account EP content, relevant scientific literature; views expressed by relevant persons, including the Department of Primary Industries, Parks, Water and Environment and NOPSEMA's Decision Making Guidelines (GL1721).</p> <p>The EP has defined acceptable levels of impact that are consistent with fisheries management objectives.</p> <p>During its assessment, NOPSEMA also raised matters with ConocoPhillips relating to the evaluation of impacts on the GC stock and how the proposed GC habitat survey excision area would be effective in ensuring that impacts to GC will be of an acceptable level. In response to this matter, ConocoPhillips committed to excising a</p>

		<p>Jasco Applied Sciences was commissioned to undertake acoustic modelling at these water depths to determine the distance to 'no-effect' for benthic crustaceans (Appendix 15). This modelling work concluded the distance to 'no-effect' being a 425 m buffer along the 130 m contour and a 455 m buffer along the 300 m contour.</p> <p>In response to consultation, ConocoPhillips Australia has redesigned the Sequoia 3D marine seismic survey (MSS) such that the 140-300 m water depths have been excised. The excise area combined with the abovementioned buffers has resulted in a loss of 4.9% of the original acquisition area. The excise area and the buffers still allow for acquisition in the remaining southwest section of the acquisition area where giant crab fishing does not occur but does compromise data capture objectives on the southern-most lead.</p> <p>This is discussed in the 'Evolution of the Survey Design' in Section 2.6 of the EP.</p> <p>The control measures adopted in response to this claim include:</p>	<p>larger area of GC habitat in the south-west corner of the acquisition area that encompasses and protects important GC habitat outside of the fished area.</p> <p>Given ConocoPhillips' commitment to excise a larger area of GC habitat from the acquisition area, NOPSEMA is reasonably satisfied that impacts of underwater noise on GC will be of an acceptable level.</p>
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		<ul style="list-style-type: none"> <li>Excising the giant crab fishery area (140-300 m plus buffers) from the acquisition area.</li> <li>The adoption of ConocoPhillips' Compressive Seismic Imaging (CSI) technology (Section 2.4.1).</li> <li>Using a maximum acoustic array of 3,480 cui.</li> </ul>	
2	<p><b>Matter:</b> The ecology of the southern rock lobster (SRL) and giant crab (GC) particularly breeding and larval release was insufficiently described.</p> <p><b>Claim:</b> Claims were made that an insufficient description of the ecology of these species means that the timing of the survey has not been optimised to avoid impacts.</p>	<p>ConocoPhillips Australia examined these claims and included additional information on the ecology of southern rock lobster and giant crab to the EP (Section 5.5.1).</p> <p>Key life phases for these species is as follows:</p> <ul style="list-style-type: none"> <li>Southern rock lobster (<i>Jasus edwardsii</i>) – mate from April to July, fertilized eggs carried for 4-6 months before being released between September and November. The larvae (phyllosoma) then live in the plankton and undergo 11 developmental stages over 12-24 months while being carried by ocean currents, often far beyond the continental shelf. The phyllosoma then moult and metamorphose into a puerulus larvae, still living in the water column and then settle on reef in shallower waters, moulting again into pigmented juvenile lobsters. In adults, moulting generally occurs in September and</li> </ul>	<p>NOPSEMA recognises that there was concern from fisheries stakeholders about the timing of the activity overlapping sensitive periods for SRL and GC and the potential ecological consequences of underwater noise on SRL and GC ecology.</p> <p>In making a decision regarding this matter, NOPSEMA took into account the content of the EP, NOPSEMA's Decision Making Guidelines (GL1721), the full text correspondence with relevant persons (presented to NOPSEMA in the sensitive information report) and how ConocoPhillips addressed the merits of objections and claims made by SRL and GC fisheries stakeholders.</p> <p>NOPSEMA acknowledges the potential overlap with sensitive life stages for SRL and GC and required ConocoPhillips to provide further information on SRL and GC ecology to inform the evaluation of impacts presented in the EP.</p>

		<p>October. Southern rock lobster reach commercial fishing size after 3 to 10 years.</p> <ul style="list-style-type: none"> <li>• Giant crab (<i>Pseudocarcinus gigas</i>)– this species is endemic to the waters of southern Australia, living along the upper slope of the continental shelf. Giant crab breed in June and July, with the females carrying eggs for about four months. After the eggs hatch between October to November, the larval duration is about 50 days. This species can live up to 30 years and is slow growing (reaching 12-14 cm at maturity, but up to 20 cm and 10 kg in weight). Juveniles moult their carapace every 3-4 years and adult females about once every nine years. Mating is only possible when the new shell is still soft.</li> </ul> <p>In deciding the optimal time to undertake the Sequoia 3DMSS, ConocoPhillips Australia has balanced the ecology of these species with those of key threatened cetaceans known to occur in the region, particularly for the migration and foraging seasons of the pygmy blue whale (PBW) and southern right whale (SRW).</p> <p>The key life stages for the threatened whales and key fisheries target species are illustrated in Figure</p>	<p>ConocoPhillips were also required to improve the evaluation of impacts to these species, undertake further consultation with relevant persons that raised relevant objections and claims and to evaluate how the additional control measures would be effective at mitigating impacts on SRL and GC to acceptable levels.</p> <p>In particular, NOPSEMA required ConocoPhillips to carry out work including:</p> <ul style="list-style-type: none"> <li>• Updating the impact evaluation for SRL having regard to the results of a new study (FRDC Report 2019-051) into the effects of seismic surveys on SRL;</li> <li>• better accounting for potential impacts to early life stages of SRL;</li> <li>• analysing the importance of SRL habitat within the survey area relative to habitat available the broader region; and</li> <li>• consider and adopt control measures that will reduce impacts to SRL and GC to an acceptable level.</li> </ul> <p>In response to this, ConocoPhillips more fully described the stock status and ecology of SRL and GC, improved the evaluation of impacts and undertook further consultation with relevant persons. During this process the Director of National Parks requested that an area of SRL habitat within the Zeehan Australian Marine Park (AMP) be excised from the survey area or</p>
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		<p>2.4 of the EP. This figure clearly demonstrates that there is no one period of time through the year where critical life stages for species of concern to stakeholders can be entirely avoided by the survey, though peak migration times for whales are avoided. ConocoPhillips Australia has aimed to undertake the survey that best protects threatened whale species and avoids overlap with peak periods of commercial fishing for the giant crab and southern rock lobster.</p>	<p>monitoring be undertaken to better understand the impacts. ConocoPhillips committed to additional control measures including:</p> <ul style="list-style-type: none"> <li>• A larger GC excision area in the south-west corner of the acquisition area that encompasses important GC habitat.</li> <li>• A survey excision area over a key area of SRL habitat identified by the Director of National Parks in the eastern end of the Zeehan AMP.</li> </ul> <p>Given the evaluation of impacts presented in the EP and ConocoPhillips' commitment to excise important GC habitat and an area of SRL habitat within the Zeehan AMP from the acquisition area, NOPSEMA is reasonably satisfied that the activity will not result in unacceptable impacts to SRL or GC.</p>
<p><b>3</b></p>	<p><b>Matter:</b> Impacts to southern rock lobster and giant crab larvae have been understated.</p> <p><b>Claim:</b> Claims have been made that the survey will result in death of larvae and subsequent losses to commercial fishing stocks in the survey area.</p>	<p>ConocoPhillips Australia assessed the potential for the Sequoia 3DMSS to have an impact on adult southern rock lobster and giant crab larvae. The EP also includes results from the only known study on the impacts of seismic surveys on early-stage embryonic (entirely soft tissue) southern rock lobsters. This assessment was supported by a comprehensive review of scientific literature and informed with the outputs of underwater acoustic modelling (Appendix 15).</p>	<p>NOPSEMA recognises the concerns raised by fisheries stakeholders and members of the public about of the potential mortal effects of seismic survey noise on SRL and GC larvae and the potential subsequent losses to fishing stocks in the survey area.</p> <p>In making a decision regarding this matter, NOPSEMA took into account the content of the EP, NOPSEMA's Decision Making Guidelines (GL1721) and the full text correspondence with</p>

		<p>Acoustic modelling applied the seafloor PK-PK threshold of 202 dB as the level of particle motion from sound that could cause an impact to crustaceans. Particle motion is considered to be the most appropriate metric to use as opposed to sound pressure level as it is this element of sound that crustaceans are most sensitive to. The distance from the source to this level varied between 324 m and 414 m depending on water depth.</p> <p>ConocoPhillips Australia's assessment concludes that impacts to the larvae of these species are localised, temporary and managed to a level that does not create an unacceptable impact on future recruitment and catch rates productivity because:</p> <ul style="list-style-type: none"> <li>• Of the small overlap with the southern rock lobster fishery (1%) and the absence of suitable rock lobster habitat in the survey area;</li> <li>• No overlap with the giant crab fishery, based on the excise of the 140-300 m water depths (plus buffers);</li> <li>• Research conducted to date does not indicate mortality of exposed adult crustaceans (meaning that breeding success may not be affected); and</li> </ul>	<p>relevant persons (presented to NOPSEMA in the sensitive information report).</p> <p>As per the response to Item 2 above, NOPSEMA required ConocoPhillips to undertake further evaluation of impacts to SRL and GC larvae and adopt additional control measures.</p> <p>In response to this, ConocoPhillips provided further information on the connectivity of the SRL stock and the limited spatial and temporal overlap of the seismic survey relative to the broad area and time over which spawning, and recruitment occurs. In addition, further control measures were adopted that limited seismic noise exposure over important GC and SRL habitats.</p> <p>NOPSEMA is reasonably satisfied that ConocoPhillips have provided a detailed evaluation of potential impact on SRL and GC stocks and demonstrated that with the adoption of control measures, impacts of the survey will be reduced to as low as reasonably practicable (ALARP) and an acceptable level.</p>
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		<p>The acoustic modelling undertaken for plankton indicates that crustacean in the drifting planktonic phase are not likely to be impacted by the seismic pulses unless within 210 m of the sound source.</p>	
<p><b>4</b></p>	<p><b>Matter:</b> The impacts of the survey to zooplankton have been understated and there would be unacceptable impacts to zooplankton productivity.</p> <p><b>Claim:</b> Claims were made that impacts to zooplankton selectively presented data favourable to the oil and gas industry while ignoring recent contradictory research findings, and that primary productivity would be adversely impacted.</p>	<p>ConocoPhillips Australia has undertaken a thorough environmental impact assessment of the impacts of MSS on zooplankton, using the latest Australian and international research. ConocoPhillips Australia acknowledges that impacts to zooplankton are likely, but that the research is limited and as such is an ongoing area of interest and research.</p> <p>The acoustic modelling undertaken for the Sequoia 3DMSS indicates the range at which mortality or mortal injury for zooplankton would occur is 210 m from the sound source. Plankton populations will be replenished by currents from non-impacted areas and mortality is predicted to be low compared with natural mortality levels.</p> <p>Measures in place to ensure that impacts to zooplankton are localised, temporary and managed to a level that is as low as reasonably practicable that do not create an unacceptable impact on primary productivity include:</p> <ul style="list-style-type: none"> <li>• Running the survey lines in a north-south direction, which run across the prevailing</li> </ul>	<p>NOPSEMA recognises that the oceanographic and bathymetric features of the Otway marine bioregion present favourable conditions for upwelling to occur which in turn supports high productivity in the region. High levels of productivity driven by the annual Bonney Upwelling is considered to be an important value of the Commonwealth Marine Area. NOPSEMA recognises that seismic survey activities have a potential to impact upon zooplankton which may have flow on effects for higher levels in the trophic system.</p> <p>In undertaking the assessment, NOPSEMA took into account the content of ConocoPhillips EP, the noise modelling report, scientific literature and the South East Marine Bioregional Plan (DoE, 2015).</p> <p>ConocoPhillips evaluated the impacts to primary productivity, including accounting for relevant scientific literature, predicted sound exposure levels for the Sequoia 3D MSS and the CSIRO's recommendations for mitigating impacts to zooplankton (Richardson et al., 2017). NOPSEMA recognises that the Bonney Upwelling is an</p>

		<p>currents, thereby allowing for maximum recovery of plankton.</p> <ul style="list-style-type: none"> <li>• Undertaking the survey outside of the Bonney Upwelling period (generally January to April).</li> <li>• The adoption of ConocoPhillips' Compressive Seismic Imaging (CSI) technology (Section 2.4.1)</li> <li>• Using a maximum acoustic array of 3,480 cui.</li> </ul>	<p>oceanographic phenomenon that results in favourable conditions for primary productivity (including phytoplankton and zooplankton blooms). NOPSEMA also acknowledged that zooplankton (e.g. larvae, crustaceans and small animals) are susceptible to impacts from seismic sound (McCauley et al., 2017).</p> <p>In making a decision, NOPSEMA took into account:</p> <ul style="list-style-type: none"> <li>- the potential for cumulative impacts from other seismic surveys in the region (proposed and past);</li> <li>- The evaluation provided that has incorporated the CSIRO guidelines for seismic surveys (Richardson et al., 2017);</li> <li>- the cumulative impact evaluation presented in the EP including the modelled recovery times for zooplankton; and</li> <li>- the scheduling of the seismic survey to avoid the Bonney upwelling period,</li> </ul> <p>and is reasonably satisfied that potential impacts to zooplankton will be localised and temporary and managed to ALARP and acceptable levels.</p>
5	<p><b>Matter:</b> The seismic survey will result in injury or death to whales and dolphins.</p>	<p>ConocoPhillips Australia is cognisant of the concerns regarding potential impacts to whales and dolphins from MSS. The Australian oil and gas exploration industry has operated within well-</p>	<p>NOPSEMA recognises that there is the potential for the activity, if not appropriately managed, to have unacceptable impacts on whales and dolphins.</p>

	<p><b>Claim:</b> Claims were raised that the Sequoia 3DMSS will injure or kill dolphins and whales and that recent strandings of pilot whales in Tasmania may have been related to a seismic survey.</p>	<p>defined guidelines for minimising such impacts for many years, and there have been no reported cases of injury or death to cetaceans from MSS in Australian waters.</p> <p>The stranding of 470 pilot whales in Macquarie Harbour in western Tasmania in late September 2020 is not related to MSS. There were no MSS occurring in western Bass Strait or the Southern Ocean at this time, and the nearest MSS (which occurred in eastern Bass Strait) occurred from January to July 2020.</p> <p>ConocoPhillips Australia has undertaken a thorough assessment of the known migration areas, foraging, breeding and calving areas for cetaceans in the survey area and surrounding regions, and mapped these biologically important areas (BIA) in the EP.</p> <p>The evaluation of impacts to cetaceans has been supported by acoustic modelling using inputs from the Sequoia 3DMSS design and using the latest research results regarding acoustic thresholds for cetaceans (divided into low frequency, mid-frequency and high frequency cetaceans). These acoustic modelling results are included in Section 7.1 of the EP and outline the distances to effect for</p>	<p>In making a decision regarding this matter, NOPSEMA took into account EP content, relevant scientific literature; views expressed by relevant persons, including the Department of Primary Industries, Parks, Water and Environment and NOPSEMA's Decision Making Guidelines (GL1721), the Blue Whale Conservation Management Plan 2015 and the Southern Right Whale Conservation Management Plan (2011-2021).</p> <p>NOPSEMA recognises that ConocoPhillips has selected the timing of the activity to reduce potential impacts on listed threatened whale species, particularly the Southern Right Whale (SWR) and the Blue Whale. These species have statutory recovery plans under the EPBC Act 1999 which identify anthropogenic noise as a key threat and NOPSEMA must not accept an EP that is inconsistent with a recovery plan for a listed threatened species.</p> <p>The EP has defined acceptable levels of impact that are consistent with conservation objectives for relevant whale species and set appropriate levels of protection for other marine mammal species.</p> <p>NOPSEMA raised matters relating to the evaluation of impacts on marine mammals and the effectiveness of the proposed control measures at ensuring impacts will be at or below</p>
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		<p>temporary threshold shift (TTS), permanent threshold shift (PTS) and behavioural effects.</p> <p>Features of the survey design that avoid or minimise impacts to threatened cetaceans include:</p> <ul style="list-style-type: none"> <li>• Timing the survey to avoid spatial and temporal overlap with the peak migration and foraging period of the threatened PBW.</li> <li>• A small overlap (1.75%) with the SRW known core range BIA, with little data to indicate this area is important for migration or foraging. The acquisition area is located 34 km south of a 'known migration area' BIA, 17 km west of the 'connecting habitat' BIA along the King Island coastline and 90 km southeast of the 'aggregation' BIA in southwest Victoria.</li> <li>• A very small (0.2%) overlap with the humpback whale 'core range' BIA in southeast Australia.</li> </ul> <p>The controls adopted by ConocoPhillips Australia to avoid or minimise impacts to cetaceans include:</p> <ul style="list-style-type: none"> <li>• Implementing the EPBC Act Policy Statement 2.1 (Part A) – pre-start visual observations, soft start, start-up delay, stop</li> </ul>	<p>the defined acceptable levels. As a result of this, ConocoPhillips committed to implement more effective whale detection and control measures. This included a particular focus on SRWs given the potential for interactions with a sensitive life stage, i.e., mothers and calves migrating out of biologically important areas for calving and nursing along the Victorian coast.</p> <p>The activity is scheduled to occur outside of the foraging season for blue whales thus considerably reducing the potential for any interaction with this species. The activity will also be managed in accordance with relevant requirements of EPBC Act Policy Statement 2.1 in order to provide effective control measures for other marine mammal species that may be present in the survey area.</p> <p>Given the above, NOPSEMA is reasonably satisfied that potential impacts to marine mammals will be managed to ALARP and acceptable levels.</p>
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		<p>work and night-time and low visibility procedures).</p> <ul style="list-style-type: none"> <li>• Implementing the EPBC Act Policy Statement 2.1 (Part B.1) – use of Marine Mammal Observers (MMOs).</li> <li>• Cetacean strategy will be discussed each day to assess all available data on whale presence at the time of the survey.</li> </ul> <p>ConocoPhillips Australia is confident that adopting these controls will reduce the impacts to cetaceans (e.g., death, injury or disruption to migration, foraging and feeding) to ALARP and an acceptable level.</p>	
<p><b>6</b></p>	<p><b>Matter:</b> Seismic surveys should not be allowed to proceed until the Senate Inquiry regarding the Impact of seismic testing on fisheries and the marine environment is complete and a report is released.</p> <p><b>Claim:</b> Claims were made that the Sequoia 3DMSS should not be allowed to proceed until the Senate Inquiry has reached its conclusion.</p>	<p>The Senate Inquiry on the Impact of seismic testing on fisheries and the marine environment is independent of the NOPSEMA assessment and approvals process for MSS EPs.</p> <p>ConocoPhillips Australia is following the current process under the Offshore Petroleum and Greenhouse Gas Storage Act 2006.</p>	<p>NOPSEMA is required to make decisions in accordance with the relevant legislation and notes that the inquiry is independent of the NOPSEMA assessment and approvals process for EPs.</p>

<p><b>7</b></p>	<p><b>Matter:</b> The timing of public exhibition over the Christmas and new year period was underhanded and designed to give stakeholders less time to provide comments.</p> <p><b>Claim:</b> Claims were made that the timing of public exhibition should be extended.</p>	<p>ConocoPhillips Australia is cognisant of the fact that the timing of EP exhibition was not ideal with regards to the holiday period. This timing was not a deliberate act to minimise the time in which the public were able to provide comments.</p> <p>The Sequoia 3DMSS is aiming to commence in August 2021. The approvals process can be lengthy because it has a number of steps, including:</p> <ul style="list-style-type: none"> <li>• Sufficient time for pre-submission stakeholder engagement;</li> <li>• EP preparation;</li> <li>• Public exhibition of the EP;</li> <li>• Addressing comments from public exhibition;</li> <li>• Formal submission to NOPSEMA and assessment; and</li> <li>• Any necessary re-submissions to address assessment comments from NOPSEMA.</li> </ul> <p>The length of the approvals process meant that the public exhibition period for the EP necessarily occurred over the holiday period. It is important to note that consultation with 'relevant persons' as defined under the Offshore Petroleum and</p>	<p>NOPSEMA acknowledges the concerns about the timing of the public comment period. The timing of EP submission by proponents is at the discretion of the titleholder. Once an EP has been received by NOPSEMA and NOPSEMA has decided that the EP includes material apparently addressing the content requirements of Division 2.3 of the Environment Regulations, NOPSEMA must publish the EP on their website with an invitation for public comment as soon as reasonably practicable. In addition, the Environment Regulations prescribe a period of 30 days for the public comment period. NOPSEMA is not able to extend this period.</p> <p>A total of 341 public comments were received and a number of the more material comments (e.g. those accompanied by supporting information) were received from persons or organisations that are 'relevant persons' as defined by the Environment Regulations.</p> <p>During the course of the assessment process, NOPSEMA identified that a number of these relevant persons had not received sufficient information and/or their claims and objections were not appropriately assessed. As a result, NOPSEMA required ConocoPhillips to more fully address claims, objections and other matters raised by relevant persons or members of the</p>
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		<p>Greenhouse Gas Storage (Environment) Regulations (OPGGS(E)) has taken place since August 2020, with face-to-face meetings prevented due to the COVID-19 pandemic travel restrictions.</p> <p>ConocoPhillips Australia has consulted, and is continuing to consult with all 'relevant persons', especially commercial fisheries associations, to ensure concerns about the survey are addressed in the survey design and in the EP.</p>	<p>public during EP preparation and the public comment process.</p> <p>In response to this, ConocoPhillips undertook further targeted consultation with relevant persons and provided a more comprehensive assessment of the merits of claims and objections, including the practicability of committing to additional or more protective control measures in response to matters raised during the public comment period or relevant person consultation process.</p> <p>Given the above, NOPSEMA is satisfied that the public comment process was appropriately implemented and that appropriate relevant persons consultation was undertaken during the preparation of the Sequoia MSS EP.</p>
<p><b>8</b></p>	<p><b>Matter:</b> The risk of an oil spill during the survey is too high.</p> <p><b>Claim:</b> Claims were made that there is a high risk of a diesel spill during the survey and that this would pollute large parts of Bass Strait and be detrimental to marine life.</p>	<p>Marine seismic surveys occur regularly around Australia, including Bass Strait. There have been no known large-scale diesel spills resulting from these surveys.</p> <p>Section 2.5.1 of the EP (pg 50) describes ConocoPhillips' vessel selection procedure, which aims to ensure only vessel contractors with the highest operating standards are chosen (thereby minimising the risk of a diesel spill).</p>	<p>NOPSEMA recognises that, like all commercial shipping activity, vessel-based seismic surveys present an oil spill risk.</p> <p>NOPSEMA considered the EP content relevant to oil pollution risk management for the activity. During the course of the assessment, NOPSEMA sought clarification from the titleholder on matters relating to arrangements for oil spill notification and response arrangements, testing of those arrangements and environmental monitoring.</p>

		<p>ConocoPhillips Australia commissioned diesel spill modelling to understand the risks associated with a diesel spill within the survey area. These results (based on the most credible but worst-case spill scenario), and the associated risk assessment, are included in Section 7.12 of the EP. In brief, these results indicate that the:</p> <ul style="list-style-type: none"> <li>• Maximum probability to shoreline contact is 16%.</li> <li>• The maximum probability to shoreline contact at King Island is 9% (at the 10 g/m<sup>2</sup> threshold), 5% (at the 100 g/m<sup>2</sup> threshold) and 0% (at the 1,000 g/m<sup>2</sup> threshold).</li> <li>• Minimum time to shore is 40 hours (2.75 days).</li> <li>• Maximum volume of hydrocarbons ashore of 27.6 m<sup>3</sup>.</li> </ul> <p>The Environmental that May Be Affected (EMBA) by the diesel spill scenario is the amalgamation of 100 randomly timed spills (to take into account various wind and water currents), not a single spill. Maps showing the extent of a single worst-case spill for diesel on the sea surface (Figure 7.13) and diesel on the shoreline (Figure 7.16) clearly indicate that very small areas are at risk.</p> <p>Table 7.74 of the EP presents the residual risk ratings (after controls are applied) for each of the</p>	<p>With the titleholder having responded to NOPSEMA's requests for clarification, the EP includes an oil spill risk assessment and an Oil Pollution Emergency Plan (OPEP) tailored to the risk presented by the activity, as well as other measures including for vessel selection and contract assurance. When considered together these measures collectively provide a basis for NOPSEMA to be reasonably satisfied that oil spill risk will be appropriately managed provided the titleholder implements its control measures diligently.</p>
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		<p>key receptors at risk during a diesel spill, noting that these risks are 'low' for each receptor.</p> <p>The control measures adopted relevant to this claim include:</p> <ul style="list-style-type: none"> <li>• Adopting ConocoPhillips vessel selection procedure (as described in Section 2.5.1).</li> <li>• Implementing the vessel's planned maintenance system.</li> <li>• Applying a Permit to Work and Job Hazard Analysis system for bunkering events.</li> <li>• Ensuring sufficient emergency response capability is in place.</li> </ul>	
9	<p><b>Matter:</b> Tasmania's and King Island's 'clean and green' reputation is at risk.</p> <p><b>Claim:</b> Claims were made that the Sequoia 3DMSS will damage Tasmania's and King Island's 'clean and green' reputation and tourism credentials.</p>	<p>ConocoPhillips Australia is cognisant of the marketability of Tasmania's and particularly King Island's image as a 'clean and green' area in which to fish, given the low human population in the region and relative absence of polluting industries.</p> <p>Figure 2.2 of the EP presents maps of the numerous 2D and 3D MSS that have occurred around King Island, which have not damaged King Island's current 'clean and green' reputation.</p>	<p>NOPSEMA recognises that there was concern from relevant persons, particularly residents of King Island, that the activity could impact on their functions, activities and interests.</p> <p>In making a decision regarding this matter, NOPSEMA took into account EP content, including impact evaluation and maps showing the proximity of the activity to King Island, the titleholder's consultation process and measures adopted by ConocoPhillips for ongoing consultation with relevant persons, including those at King Island. NOPSEMA required</p>

		<p>ConocoPhillips Australia takes its environmental responsibility seriously, and its Sustainable Development Position and Biodiversity Position are included in Section 3.9 of the EP. ConocoPhillips Australia believes these positions are met in the design of the Sequoia 3DMSS, the environmental impact assessment presented in the EP and the controls that will be adopted for the survey. As such, ConocoPhillips Australia believes that the Sequoia 3DMSS will not result in any damage to Tasmania's 'clean and green' reputation.</p>	<p>ConocoPhillips to ensure that relevant person consultation was undertaken with individual tourism operators who may be impacted by the activity. This resulted in ConocoPhillips consulting with charter operators that launch from locations that could access the operational area within a day trip. This included Port Campbell, King Island, Stanley and Apollo Bay. In order to identify charter companies in King Island, ConocoPhillips further engaged with the King Island Yacht Club. ConocoPhillips also engaged with Victoria and Tasmania peak recreational fishing representatives, the King Island Shire Council, King Island Chamber of Commerce (KICC) and the King Island Brand Management.</p> <p>The King Island Shire Council- Brand Management is a committee of King Island Council tasked with protecting and promoting the King Island brand.</p> <p>King Island Brand Management met with ConocoPhillips in May 2021 and discussed relevant considerations including the potential impacts to commercial fishing operators, long term impacts, survey timing, an adjustment protocol and stakeholder engagement. ConocoPhillips have made commitments to continuing ongoing consultation with King Island Brand Management. The EP also provides for ongoing consultations including with fishers, communities and local government bodies at King</p>
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			<p>Island, using methods suited to the circumstances, recognising that Covid-19 restrictions may prevent face-to-face engagement.</p> <p>As seismic surveys are exploratory activities, their results in terms of data about potential hydrocarbon-bearing geology are not certain before activities commence. Results of seismic surveys are among the factors considered by titleholders in deciding whether or not further petroleum activity in an area may be planned. Accordingly, there remains uncertainty as to whether the area of the Sequoia MSS may be the subject of future petroleum activity EPs.</p> <p>Taking into consideration the consultation conducted by ConocoPhillips, the control measures adopted to manage the activity, including the further consultation committed to as part of the fisheries and communities liaison program, and the commercial fisheries adjustment protocol, NOPSEMA is satisfied that ConocoPhillips have fulfilled the consultation requirements of the Environment Regulations.</p>
<p><b>10</b></p>	<p><b>Key Matter:</b> There would be unacceptable impacts on protected matters, specifically southern right whales (SRW).</p>	<p>ConocoPhillips undertook an assessment of the potential impacts of seismic survey noise on SRWs. This was informed by the Conservation Management Plan for the Southern Right Whale (SEWPC, 2012), published studies on the</p>	<p>NOPSEMA recognises the conservation significance of the SRW and the potential for the activity to have impacts on SRW if calving and breeding phases were disturbed, or if whales</p>

		<p>distribution and behaviour of SRWs in the region and the management procedures set out in EPBC Act Policy Statement 2.1 (DEWHA, 2008).</p> <p>ConocoPhillips will ensure that the activity is conducted such that Southern Right Whales continue biologically important behaviours.</p> <p>The control measures originally proposed by ConocoPhillips to ensure that SRWs can continue biologically important behaviours included:</p> <ul style="list-style-type: none"> <li>• Limiting the survey period to the months of August, September and October.</li> <li>• Implementing the EPBC Act Policy Statement 2.1 (Part A) – pre-start visual observations, soft start, start-up delay, stop work and night-time and low visibility procedures).</li> <li>• Implementing the EPBC Act Policy Statement 2.1 (Part B.1) – use of Marine Mammal Observers (MMOs).</li> <li>• Cetacean strategy will be discussed each day to assess all available data on whale presence at the time of the survey.</li> </ul>	<p>come within close proximity to the seismic source and were subject to injurious levels of sound.</p> <p>In making a decision regarding this matter, NOPSEMA took into account the content of ConocoPhillips EP, views expressed by relevant persons with functions relating to the conservation of the SRW, NOPSEMA's Decision Making Guidelines (GL1721), the Conservation Management Plan for the Southern Right Whale (SEWPC, 2012), EPBC Act Policy Statement 2.1 (DEWHA, 2008), and EPBC Act Significant Impact Guidelines 1.1 – Matters of National Environmental Significance (DEWHA, 2013).</p> <p>NOPSEMA considered that the activity avoids the SRW migration period into the region for calving and that any noise received within the coastal calving BIAs will be below adopted behavioural disturbance and injury thresholds. NOPSEMA also considered that the survey avoids the critical period for SRW calving when pregnant females and new calves would be at their most sensitive (AMMC, 2009).</p> <p>To provide confidence that impacts to SRW would be managed so that they are not inconsistent with the SRW Conservation Management Plan and to an acceptable level, NOPSEMA required ConocoPhillips to:</p>
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			<ul style="list-style-type: none"> <li>• Undertake further sound modelling to demonstrate that SRW mothers and calves won't be disturbed within emerging and established biologically important areas for calving and nursing on the Victorian coast.</li> <li>• Apply rigorous SRW detection measures to identify SRW mothers and calves moving toward the survey area and inform decisions on control measures designed to limit behavioural disturbance and prevent injury and/or hearing loss.</li> </ul> <p>In response to this, ConocoPhillips committed to the development and implementation of a SRW surveillance program including aerial, vessel and land based observations to inform a marine mammal adaptive management procedure. This also includes a commitment to the establishment of a peer review panel to review the procedure and provide advice during implementation.</p> <p>Given the above, NOPSEMA is reasonably satisfied that ConocoPhillips have provided a detailed evaluation of potential impact on SRWs and demonstrated that with the adoption of control measures the activity can be conducted in a manner that is not inconsistent with the Conservation Management Plan for Southern Right Whales.</p>
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<p><b>11</b></p>	<p><b>Key Matter:</b> The survey may result in unacceptable impacts to commercial fishing, including displacement of commercial fishers, loss of catch or damage to equipment.</p>	<p>ConocoPhillips conducted an evaluation into the ways that other marine users could be affected by the proposed activity. Specifically for commercial fisheries, the potential impacts of interference were identified as:</p> <ul style="list-style-type: none"> <li>• Diversion of commercial fishing vessels resulting in longer sail times and greater fuel consumption</li> <li>• Displacement of commercial fishers from fishing area resulting in longer sail times, greater fuel consumption and changes in catch</li> <li>• Damage to or loss of fishing equipment potentially resulting in change to catch.</li> </ul> <p>The evaluation concluded:</p> <ul style="list-style-type: none"> <li>• A maximum deviation of ~7km to get around the seismic vessel (~11 minutes) is unlikely to result in significant longer sail times /fuel consumption.</li> <li>• Potential for multiple displacement events that could be up to several days, however is unlikely to extend to the whole survey period.</li> <li>• Potential for fishing gear to be lost and associated loss of income from the loss of catch.</li> </ul>	<p>NOPSEMA acknowledges the potential for the activity, if not appropriately managed to have unacceptable impacts to commercial fisheries by displacing fishers, reducing catchability of fish and damaging fishing gear.</p> <p>In making a decision regarding this matter, NOPSEMA took into account the content of the EP, NOPSEMA's Decision Making Guidelines (GL1721), the full text of relevant person consultation in the sensitive information report and relevant scientific literature.</p> <p>During the course of the assessment process ConocoPhillips were required to demonstrate the activity and the associated concerns regarding impacts to commercial fisheries could be managed to acceptable levels.</p> <p>In response to this, ConocoPhillips provided an evaluation of the fisheries potentially impacted by the activity, the recent catches within those fisheries, the catches within the operational area, the existing pressures within the fishery and stakeholder concerns.</p> <p>ConocoPhillips also provided clear levels of performance for the key control measure, the commercial fisheries loss adjustment protocol.</p> <p>Taking into consideration the relatively short duration of the acquisition period (~35 days), the proposed control measures, timing of the survey</p>
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		<ul style="list-style-type: none"> <li>• Moderate risk of a change in fish behaviour making the fish potentially less abundant in the area of impact.</li> </ul> <p>ConcocoPhilips then provided a comparison of predicted impact with defined acceptable levels and demonstrated that any displacement, loss of gear and catchability impacts would be acceptable based on the control measures in place.</p> <p>Further measures to ensure there is no unacceptable displacement/impact to commercial fisheries as a result of the seismic survey include:</p> <ul style="list-style-type: none"> <li>• Notification of commencement of the survey</li> <li>• Daily 72 hour look ahead for acquisition to assist with planning</li> <li>• Notice to Mariners issued prior to the commencement of the survey</li> <li>• An 'on-water cooperation and interaction protocol for commercial fishers</li> <li>• Pre and during survey visits to Portland, King Island and Norther Tasmania to meet with local fishers</li> <li>• SIMOPS plan with abalone divers on King Island</li> </ul>	<p>to avoid peak fishing seasons for SRL and GC and the fishery compensation plan (loss adjustment protocol), NOPSEMA is satisfied that the potential impacts to commercial fisheries will be of an acceptable level.</p>
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		<p>The adjustment protocol ensures that no fisher is worse off as a result of the Sequoia seismic survey. The scope covers direct losses associated with:</p> <ul style="list-style-type: none"> <li>• Accidental damage or loss of fishing gear</li> <li>• Displacement or increased transit times</li> <li>• Reduced catch per unit effort.</li> </ul>	
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## 5. References

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