



Sauropod 3D Marine Seismic Survey (WA-527-P)

Report on Public Comment

28 October 2019

Project No.: 0500168

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1. INTRODUCTION

3D Oil submitted the Sauropod 3D Marine Seismic Survey (MSS) Environment Plan (EP) to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) on 16 July 2019.

The EP was deemed acceptable for public comment by NOPSEMA, in accordance with regulation 9AA of the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Environment Regulations).

3D Oil placed advertisements in national, state and regional newspapers and included a notice on its company website, in accordance with NOPSEMA's Environment Plan Assessment Policy ([N-04750-PL1347](#)). The advertisements invited the general public to review and provide comment on the EP.

The EP was open for public comment for 30 days (between 23 July – 22 August 2019). This report provides a summary of the comments received during the public comment period, and outlines 3D Oil's response.

1.1 Titleholder and Nominate Liaison Person

The titleholder's details are:

Company Name	3D Oil limited
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The titleholder's nominated liaison person is:

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Position	Exploration Manager
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2. RESPONSE TO PUBLIC COMMENT

During the public comment period (23 July – 22 August 2019), 3D Oil received comments from one organisation. Table 2-1 provides a summary of the comments received during the public comment period, and outlines 3D Oil's response (and where amendments have been made to the EP).

In addition, 3D Oil has replied directly to the organisation via email to respond to their comments in more specific terms.

Table 2-1 3D Oil Response to Public Comments

#	Comments Received (in general terms)	Titleholder Response (sections of the EP that have been modified in response to comments are underlined>)
1	<p><i>Matter:</i></p> <ul style="list-style-type: none"> - Naming of commercial fisheries presented in the EP is not accurate. <p><i>Claim:</i></p> <ul style="list-style-type: none"> - The Pilbara Line Fishery is not a managed fishery and the EP incorrectly refers to it as the Pilbara Line Managed Fishery. - The EP refers to the Pilbara Fish Trawl (Interim) Managed Fishery, the Pilbara Trap Managed Fishery and the Pilbara Line Fishery collectively as the Pilbara Demersal Scalefish Managed Fisheries. This is also incorrect and the fisheries should be addressed as three completely separate fisheries. 	<p>3D Oil has updated references to the 'Pilbara Line Fishery' and 'Pilbara Demersal Scalefish Fisheries' in the text <u>throughout the EP</u>. The term 'Managed' has been removed where it is not appropriate.</p> <p>In some instances in the EP, the three fisheries continue to be referred to collectively, but are called the 'Pilbara Demersal Scalefish Fisheries'. The EP refers to the three fisheries collectively, consistent with recent State of the Fisheries reports published annually by the Department of Primary Industries and Regional Development (DPIRD) for the purposes of managing the stocks of the key target demersal fish species. The same species are a common component in the catches of each of the three fisheries, therefore, it is appropriate to refer to the fisheries collectively in some instances. The EP distinguishes between the three different fisheries, their gear types and fishing methods, where appropriate.</p>
2	<p><i>Matter:</i></p> <ul style="list-style-type: none"> - Underwater sound impacts on fish spawning. <p><i>Claim:</i></p> <ul style="list-style-type: none"> - The timing of the Sauropod 3D MSS during the spawning periods of key commercial indicator species is not justified. There is science demonstrating that seismic surveys impact fish spawning and plankton. 	<p>In assessing the potential effects of seismic sound on fish spawning and potential impacts to fish stocks, 3D Oil has considered the geographical range of the fish stocks, the spawning periods of key species, the biological connectivity of the stocks, and the body of available scientific research on the effects of seismic sound to fish and plankton. The impact and risk assessment has assessed the potential impacts to spawning adult fishes and to planktonic eggs and larvae, considering the potential spatial and temporal overlap of the Sauropod 3D MSS on the fish stocks.</p> <p>3D Oil considers that the risk assessment is appropriate and the overall level of risk to fish spawning has not changed.</p> <p>Survey scheduling has been based on the predicted level of risk to each receptor, which takes into account the receptors' hearing capabilities, sensitivity to underwater sound, the requirements of protected species conservation management plans, and the potential for impacts to species at both an individual level and at a population level.</p> <p>The Sauropod 3D MSS will have very limited spatial overlap with the habitat of key demersal species and limited temporal overlap with the extended spawning periods of these species. Population level impacts (i.e. impacts to the stocks) are not expected for the reasons provided in the EP.</p> <p>Nonetheless, opportunities to avoid or minimise overlap with fish spawning periods have</p>

		<p>been considered by 3D Oil, but this is not practicable. The spawning periods of different fish species occur throughout the year and so it is not possible to avoid the spawning periods of all of these species completely. The Sauropod 3D MSS avoids the migration periods of more sound-sensitive marine mammal species. Further time constraints and attempting to avoid fish spawning periods would mean that the proposed seismic survey could not be acquired.</p> <p>Although no material changes have been made to the EP in relation to the overall level of risk to fish spawning or the survey scheduling, 3D Oil has made the following updates:</p> <ul style="list-style-type: none"> - <u>Sections 4.3.4 and 4.3.10</u> have been updated with information regarding ruby snapper, a demersal fish species which wasn't previously acknowledged, but is used as an indicator species for the offshore demersal scalefish resources targeted by the Pilbara Line Fishery and for which DPIRD has recently provided species-specific spawning information. - <u>Section 7.1.6</u> has been updated to include assessment of the potential impacts to spawning ruby snapper, noting that the Sauropod 3D MSS overlaps only 2.2% of the habitat and principal depth range of this species, and no discernible population level impacts are predicted. - <u>Section 7.1.6</u> has been updated to include further research relating to seismic impacts to plankton, including a recent scientific study into the effects of seismic on zooplankton (Fields et al. 2019). - <u>Section 7.1.9</u> has been updated to provide clearer explanation in the demonstration of ALARP and why avoidance of fish spawning periods is not practicable.
<p>3</p>	<p><i>Matter:</i></p> <ul style="list-style-type: none"> - Cumulative impacts of underwater sound on commercial fisheries and fish spawning <p><i>Claim:</i></p> <ul style="list-style-type: none"> - Cumulative impacts of ongoing and repetitive seismic surveys are unacceptable and do not meet ALARP from a commercial fishing perspective. It is wrong for 3D Oil to dismiss this. 	<p>Cumulative impacts have not been dismissed. An assessment of cumulative impacts is included in Section 7.2 of the EP. This considers previous seismic surveys and other proposed seismic surveys that have the potential to occur concurrently with the 3D Oil Sauropod 3D MSS. The assessment considers the potential for cumulative impacts to fish spawning and to commercial fisheries.</p> <p><u>Section 7.2</u> has been updated to more clearly explain the potential cumulative impacts to commercial fisheries and to fish spawning, as well as to recognise other previous and potentially concurrent seismic surveys that have been identified since submission of the EP.</p>
<p>4</p>	<p><i>Matter:</i></p> <ul style="list-style-type: none"> - Broad objection or comment regarding cumulative impact assessment not related to the Sauropod 3D MSS EP content. 	<p>The NOPSEMA information paper on acoustic impact evaluation and management includes consideration of cumulative impacts.</p> <p>NOPSEMA will consider the evaluation of cumulative risks during their assessment of the</p>

	<p><i>Claim:</i></p> <ul style="list-style-type: none"> - When will NOPSEMA address cumulative impact issues? 	<p>Sauropod 3D MSS EP.</p>
<p>5</p>	<p><i>Matter:</i></p> <ul style="list-style-type: none"> - Consideration of comments that the organisation understands 3D Oil received from the State government department, DPIRD, regarding fish spawning. <p><i>Claim:</i></p> <ul style="list-style-type: none"> - DPIRD requested scientific peer reviewed literature (location and species specific) which demonstrates there is no impact, and requested that no seismic survey acquisition is to occur during spawning periods for key species. - More information is required and a review of the survey scheduling is also required to minimise survey overlap with the peak spawning of key indicator species. 	<p>3D Oil has considered feedback provided by DPIRD and responded to them directly in June 2019, summarising 3D Oil's assessment of the potential risk to commercial fish resources and explaining the timing of the Sauropod 3D MSS.</p> <p>The risk assessment incorporates species-specific spawning information received from DPIRD, as well as other information published by DPIRD regarding the biology of the various stocks. While species-specific research on the effects of seismic sound is limited in some cases, the available research is still highly relevant. Where species-specific research is lacking, it is possible to ascertain the likely hearing sensitivity of the types of fish that occur in this region, based on both global and Australian research into the hearing capabilities of different families of fish. The risk assessment references relevant and credible scientific studies on the effects of seismic, many of which are published in peer-reviewed journals. From the available research, it is reasonable to predict the likely impacts.</p> <p>The issue of scheduling to minimise the overlap of the Sauropod 3D MSS with the peak spawning periods of commercial fish species (which occur year-round) is addressed in the response above and 3D Oil has provided a detailed explanation to the organisation making the comment. Ultimately, the Sauropod 3D MSS will overlap with a very small proportion of the habitats and spawning periods of the key indicator species and no population-level impacts are expected.</p> <p>No further changes have been made to the EP.</p>

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