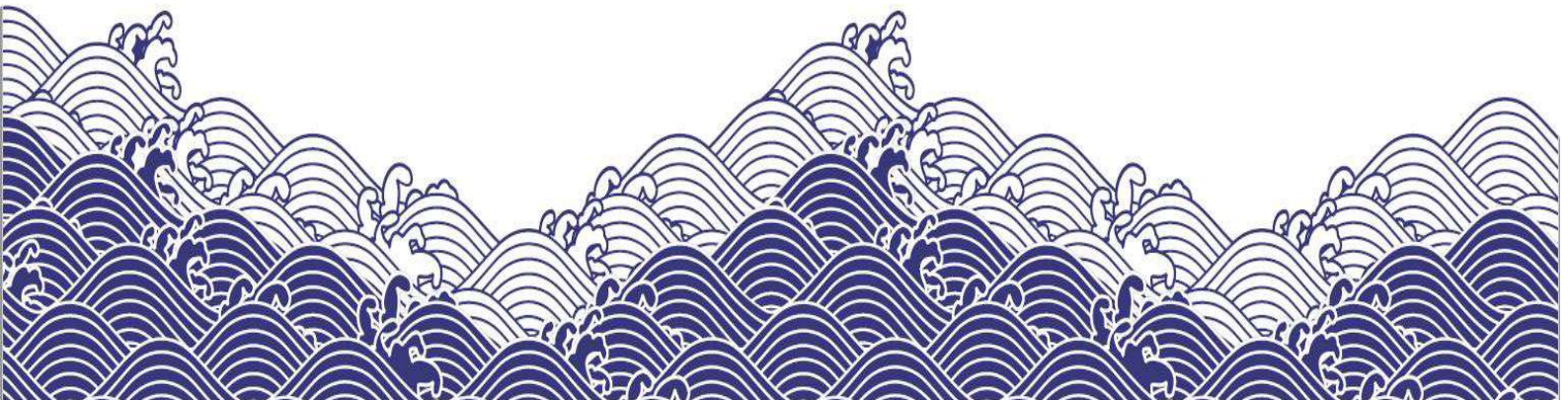


INPEX

**Bonaparte Basin 3D Marine
Seismic Survey EP:
Titleholder Report on Public
Comment**



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Acronym, term or abbreviation	Description
ALARP	As low as reasonably practicable
CCS	Carbon capture and storage
EP	Environment plan, namely the Bonaparte Basin 3D Marine Seismic Survey EP
GHG	Greenhouse gas
INPEX	INPEX Browse E&P Pty Ltd

1 INTRODUCTION

The following Titleholder Report on Public Comment applies to the Bonaparte Basin 3D Marine Seismic Survey environment plan (hereafter referred to as the EP), which was available for public comment from 7th September 2022 to 7th October 2022. The titleholder contact details for the EP are provided in Table 1-1.

Table 1-1: Titleholder details

Titleholder	INPEX Browse E&P Pty Ltd (INPEX)
Titleholder liaison person	Jake Prout
Business address	Level 22, 100 St Georges Tce, Perth, WA 6000
Telephone number	+61 8 6213 6000
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Email address	jake.prout@inpex.com.au

1.1 Public comments evaluation and response process

The NOPSEMA *Responding to Public Comment on Environment Plans Guidance Note* (N-04750-GN1847), outlines the requirements for responding to public comments received on an environment plan. Specifically, it requires that a titleholder must respond to any comments received during the public comment period in "general terms"¹. However, some comments received were very specific and detailed in nature. In these instances, INPEX felt it was appropriate to provide more specific responses as presented in Table 2-2.

The process followed by INPEX when responding to public comments, is as follows:

1. Review public comments and identify matters raised (themes and issues) and specific claims relating to these.
2. Evaluate matters raised in context of the EP or activity.
3. Provide a statement outlining how any matter/s raised have either:
 - a. already been taken into account within the EP or whether the EP has been updated to consider these; or
 - b. do not relate to the EP or the activity described.

Where a public comment has triggered a change/update to the EP, a reference to the section where the change has been reflected will be provided in the response. Any new information incorporated into the EP as a result of public comments, will be clearly identified in the resubmitted EP (i.e. text will be underlined).

¹ In accordance with the NOPSEMA Guidance Note responding in 'general terms' means "that the Titleholder should outline its consideration of the issues or themes raised in public comments. A separate response to each comment received is not required."

2 RESPONSE TO PUBLIC COMMENTS

During the public comment period a total of five separate submissions were received, each providing a number of comments. Common themes raised during the public comment period for the EP are listed in Table 2-1 and shown in Figure 2-1. Responses to the comments received during the public comment period are provided in Table 2-2.

Table 2-1: Common themes

Common themes
Impacts to the marine environment and marine protected areas
Timing of seismic survey activities to consider other sensitivities
Consideration of the precautionary principle
Unacceptable/Uncertainty of impacts to marine fauna from seismic activities
Cumulative and additive impacts from hazardous emissions to the marine environment
Greenhouse gas emissions management
CCS is unproven technology
Consultation process and identification of relevant persons

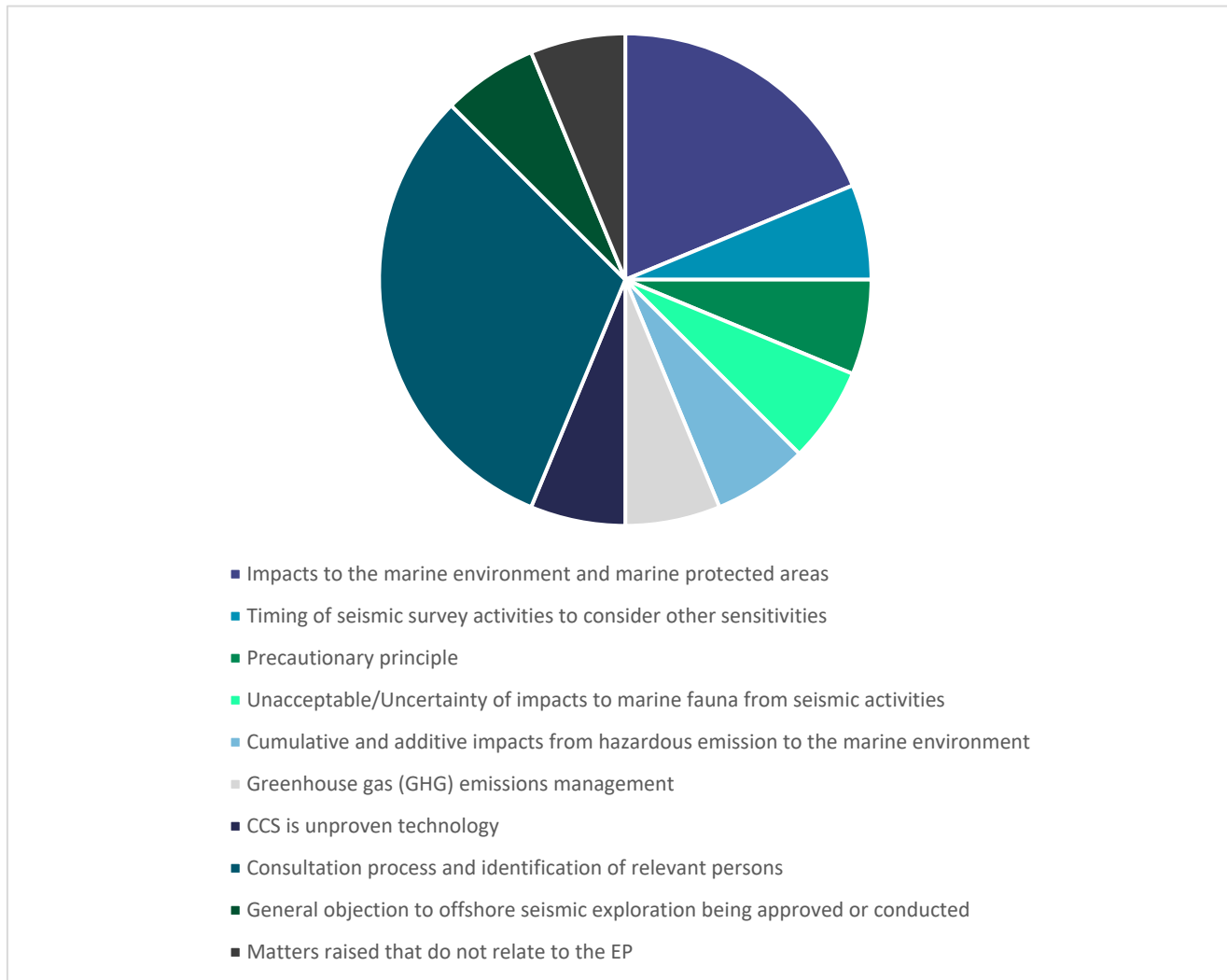


Figure 2-1: Bonaparte Basin 3D marine seismic survey EP public comments by theme

Table 2-2: Titleholder response to public comments

#	Comments received (in general terms)	Titleholder response
1	<p>Matter: Impacts to the marine environment and marine protected areas.</p> <p>Claims: The proposed activities have the ability to impact on the environment including marine impacts and impacts to marine protected areas.</p> <p>The activities have the potential to result in direct and indirect impacts to ecologically significant offshore, nearshore and onshore ecological communities, including impacts to coral reefs, seagrass communities, mangroves, migratory birds, sea turtles, dugongs, whales, diverse finfish communities.</p> <p>Note: Three comments were made in relation to this matter.</p>	<p>INPEX agrees with commenter opinions that the activity has the potential to result in both direct and indirect impacts to ecologically significant offshore, nearshore and onshore ecological communities. Therefore, in accordance with Division 2.3, Regulation 13(5) of the OPGGS (E) Regulations 2009, an environmental risk assessment was undertaken to evaluate impacts and risks arising from the proposed activity using the methodology described in Section 6 of the EP, that aligns to International Standards and best practice.</p> <p>Potential impacts and risks to identified values and sensitivities have been assessed in Section 7 and 8 of the EP, where control measures and possible alternatives are identified to prevent or mitigate threats. If controls are judged during the impact and risk evaluation as inadequate to manage the identified threat, additional safeguards or controls are proposed.</p> <p>Potential environmental impacts and risks are only deemed acceptable once all reasonably practicable alternatives and additional measures have been taken to reduce the potential impacts and risks to as low as reasonably practicable (ALARP).</p> <p>INPEX has provided further responses within this titleholder report to other specific claims made by the commenter about effects to specific receptors.</p> <p>No changes have been made to the EP.</p>
2	<p>Matter: Timing of seismic survey activities to consider other sensitivities</p> <p>Claim: The timing of the seismic survey to avoid critical periods of high biological activity is not given adequate consideration in the EP.</p>	<p>The timing of key ecological and socio-economic sensitivities relevant to the seismic survey are presented in Section 4.10 of the EP. Where key seasonal receptors have been identified as being sensitive to the effects of underwater sound, timing has already been considered as part of the additional safeguards/control measures (ALARP Evaluation) process, including prawn spawning (Section 7.1.5), fish spawning (Section 7.1.6), marine turtles (Section 7.1.8), commercial fishing operations – Northern Prawn Fishery (Section 7.2.1).</p> <p>Coral reefs and coral spawning are described in Section 4.7.2 of the EP. Coral spawning is not considered to be directly at risk from planned activities, including underwater sound emissions. Dispersal of larvae and coral recruitment is</p>

#	Comments received (in general terms)	Titleholder response
	<p>The timing of the seismic survey does not give consideration to coral spawning, to avoid impacts to other species that may be attracted to this spawning events.</p> <p>Note: One comment was made in relation to this matter.</p>	<p>described as being limited to within a few kilometres to a few tens of kilometres from natal reef patches. The Active Source Area is located in water depths greater than 67 m and the predominantly soft sediment seabed habitats in this area of the Joseph Bonaparte Gulf do not include coral reefs. The closest coral reefs are located greater than 85 km away. Given that the effects of sound to eggs, larvae and invertebrates are localised (typically within tens or hundreds of metres from the seismic source), no impacts to coral reefs or coral recruitment at such long distances will occur. The impact assessment in Section 7.1.4 of the EP will be updated to reflect this. Table 4-7 in Section 4.10 of the EP will also be updated to reflect coral spawning periods.</p> <p>Marine fauna (e.g. mobile invertebrates, fish, turtles, cetaceans) that may be attracted to coral spawning events are also acknowledged as having a wider range and may move within or near the Active Source Area. Potential impacts to transient marine exposed to the moving seismic source (including invertebrates, fish, cetaceans and marine turtles) are already assessed in the various sub sections of Section 7.1, based on an extensive body of peer-reviewed literature and internationally recognised effects criteria. INPEX has reviewed the impact assessments in light of the comments made and these remain valid. Irrespective of the reason for marine fauna moving through the Active Source Area to forage (coral spawning or otherwise), exposures of transient fauna to seismic sound will be temporary and the impacts assessed are the same.</p> <p>INPEX also acknowledges that marine fauna will move through the potential exposure zone defined for spilled hydrocarbons. Potential impacts to coral larvae and marine fauna resulting from exposure to spilled hydrocarbons are assessed in Section 8.2.5.</p> <p>Given that no impacts to coral spawning will occur from exposure to underwater sound and that a vessel collision and hydrocarbon spill are highly unlikely to occur, timing of the proposed activity (avoidance of the coral spawning period) is not practicable or justified.</p>

#	Comments received (in general terms)	Titleholder response
3	<p>Matter: Consideration of the precautionary principle in decision making by the Regulator</p> <p>Claim: Due to data gaps and scientific uncertainty, NOPSEMA’s decision-making should be delayed until more data becomes available; until such time that risks can be conclusively established as insignificant; or until such time as alternative technologies or practices are available to mitigate harm.</p> <p>Note: One comment was made in relation to this matter.</p>	<p>The precautionary principle is that lack of full scientific certainty should not be used as a reason for postponing a measure to prevent degradation of the environment where there are threats of serious or irreversible environmental damage (i.e. if there is scientific uncertainty <i>and</i> potential for serious or irreversible environmental damage).</p> <p>INPEX acknowledges that data gaps and some level of scientific uncertainty exists in relation to the effects of seismic surveys, as is the case with all fields of science. However, an extensive body of research, as well as empirical evidence, exists on the effects of seismic surveys and INPEX does not consider that the extent of the data gaps and level of uncertainty is such that reasonable conclusions and decisions regarding the level of potential impacts cannot be made at the present time.</p> <p>The potential impacts to species and ecosystems that may arise from the proposed survey are not considered to be ‘serious or irreversible’.</p> <p>It should also be noted a level of precaution is generally applied in the assessments, including conservative effects thresholds or exposure scenarios, and these are described in the EP.</p> <p>For example:</p> <ul style="list-style-type: none"> • Plankton: Most research indicates that the effects of seismic exposure to planktonic organisms are limited to within a few metres or tens of metres from the seismic source. The impacts assessment in the EP applies some conservatism and considers some research which indicates that some chronic effects may occur over several hundreds of metres or more. Even accounting for these more extensive effects ranges, the impacts to planktonic communities are localised and temporary; in the context of natural mortality rates and turnover, plankton communities will recover quickly and limited impacts to the food web or to species recruitment is expected in the context of natural variability. Impacts to plankton communities of the Joseph Bonaparte Gulf will not be serious or irreversible. Further information is included in the assessment in Section 7.1.4.

#	Comments received (in general terms)	Titleholder response
		<ul style="list-style-type: none"> Invertebrate communities: The assessment of impacts to invertebrate communities considers available research into the effects of seismic on different invertebrate organisms. While it is acknowledged that research may not be available at an individual species-specific level, similarities in the physiological characteristics of different invertebrate organisms and their abilities to detect sound and vibration allow the available research to provide a reasonable proxy for the effects to a variety of different organisms. The impact assessment accounts for research that suggests some types of organism (not all) may experience a range of lethal and sub-lethal effects, and that some effects may occur gradually over weeks or months following exposure. Importantly, the Active Source Area is located in an area of soft sediment seabed communities, not an area where particularly significant and diverse invertebrate communities exist. The recovery of similar soft sediment communities subject to much greater levels of disturbance or even complete removal (e.g. dredging) demonstrates that communities recover through recruitment from adjacent areas of seabed. No long-term population or community level impacts are expected, therefore, impacts to invertebrate communities will not be serious or irreversible. Further information is included in the assessment in Section 7.1.5. Fish: An extensive body of literature concerning the effects of seismic on fish is reviewed in the EP. This research includes recent research into the demersal fish assemblages present off northern Australia, undertaken by the Australian Institute of Marine Science which confirms that there are no long term behavioural changes. A precautionary approach to estimating the proportion of the Joseph Bonaparte Gulf spawning biomass for key species has been applied, and this is found to be negligible. Further information is included in the assessment in Section 7.1.6.

#	Comments received (in general terms)	Titleholder response
		<ul style="list-style-type: none"> • Cetaceans: The area where the proposed activity will be undertaken is not significant habitat for any cetacean species. Short-term behavioural impacts to transient animals only. Precautionary assessment and inclusion of controls for species not listed as threatened/migratory (i.e. Omura’s whale) have been included in recognition of uncertainties around their life history in the NWMR. Further information is included in the assessment in Section 7.1.7. • Turtles: The assessment notes, that relatively localised and transient behavioural effects on turtles within the foraging BIA may occur; however, brief disturbances do not have potential for serious or irreversible environmental damage. Further information is included in the assessment in Section 7.1.8. <p>No changes have been made to the EP.</p>
4	<p>Matter: Unacceptable/Uncertainty of impacts to marine fauna from seismic activities</p> <p>Claim: There is a large body of scientific literature demonstrating that seismic testing impacts a wide range of species, some of which are expected to include those using the PEZ.</p> <p>Note: One comment was received in relation to this matter.</p>	<p>A number of specific references and citations were provided by the commenter, many of which describe the effects of seismic on a range of marine organisms or species. INPEX acknowledges that the sound produced during seismic surveys may result in a range of effects to different types of marine fauna. However, while research provides important understanding of potential effects, it does not always address the matter of consequence (or potential impact). For example, effects such as those reported in the scientific literature, are the broad range of potentially measurable changes that may be observed in individuals, groups of animals, or even habitats as a result of sound exposure (e.g. behavioural response). The resulting impacts or consequences of the effects must consider if the effects to individuals or groups may give rise to consequences of ecological significance. Thus, the role of environmental impact and risk assessment is not to just consider the known or likely effects but to consider location-specific and activity-specific context to suggest what the ecological consequence of those effects may be; the effect does not indicate the significance, whereas the impact/consequence takes into account the extent, severity, and duration of the effect upon animal populations and ecological communities.</p> <p>Many of the references provided by the commenter have already been reviewed and referenced in the EP, along with a broader body of research.</p>

#	Comments received (in general terms)	Titleholder response
		<p>Section 7.1 of the EP presents the relevant research as well as the potential exposure scenarios considered to reach conclusions regarding the potential impacts and consequence.</p> <p>Further justification and response to individual claims:</p> <ul style="list-style-type: none"> • <i>There are risks to marine mammals from seismic activities due to their reliance on acoustics to communicate, locate food, and navigate.</i> Refer to Section 7.1.7 where potential effects to marine mammals (including potential auditory impacts, behavioural impacts, and masking of biologically important sounds) have been discussed and assessed. • <i>Seismic activities have a significant impact on some whale species.</i> The literature describes effects such as behavioural disturbance and avoidance but does not confirm that seismic activities have a significant impact on marine mammals. Some of the references cited by the commenter in relation to whales are also included in Section 7.1.7 of the EP. A summary of some additional papers cited by the commenter has also now been included in the literature review in Section 7.1.7, although it does not alter the outcome of the risk assessment. Behavioural effects of seismic are relatively localised and do not typically result in significant impacts to species providing that key life stages and seasonally important habitats (e.g. for breeding, foraging, etc) are not extensively disturbed. Seismic surveys have been undertaken regularly off NW Australia since the 1960s with no apparent significant impact to marine mammal populations; the WA humpback whale population has recovered to the highest numbers of any humpback population globally over the same timeframes and in the same waters as many of these seismic surveys.

#	Comments received (in general terms)	Titleholder response
		<ul style="list-style-type: none"> • <i>Humpback whales exposed to vessels towing seismic air gun arrays showed a reduction in their social interactions. Current mitigation strategies and recommendations were insufficient to prevent detrimental effects.</i> The research underpinning this statement is referenced in the EP. The effects cited are relatively localised and temporary. In the broader context of the activity, noting that the Active Source Area and surrounding waters do not provide important habitat for any marine mammal species, and noting that the seismic source is continually moving, the effects will be temporary and transient. • <i>Humpback whales avoided non-threatening noise stimulus from seismic air gun noise. That is, they were changing their movement behaviours.</i> As described above. • <i>There are uncertainties in the magnitude of impacts from seismic testing to cetaceans, fish, and invertebrates.</i> INPEX acknowledges that data gaps and some level of scientific uncertainty exists in relation to the effects of seismic surveys, as is the case with all fields of science. However, an extensive body of research, as well as empirical evidence, exists on the effects of seismic surveys and INPEX does not consider that the extent of the data gaps and level of uncertainty is such that reasonable conclusions and decisions regarding the level of potential impacts cannot be made at the present time. The proposed Active Source Area also does not overlap with unique or sensitive habitat for benthic invertebrates, fish or cetaceans; where sensitive habitats for these receptor groups occur in the region, they are at distances significantly greater than physiological and significant behavioural effects ranges for their respective functional hearing groups. • <i>Higher noise intensities and shallower waters increased the risks to immobile invertebrates (e.g. molluscs).</i> Acknowledged and assessed in the EP. However, impacts to invertebrate communities are temporary and recoverable. The proposed Active Source Area does not overlap with unique or sensitive habitat for benthic invertebrates; it is in an area dominated by soft sediment communities.

#	Comments received (in general terms)	Titleholder response
		<ul style="list-style-type: none"> • Exposure to air gun signals damaged rock lobsters mechanosensory organs, impairing complex reflexes, including righting reflex. These effects and the relevant studies are described and assessed in the EP. The responses are likely within the range of variation that can occur from a range of other common natural and anthropogenic stressors considered in the risk assessment in the EP, which generally do not affect survival. • Seismic survey operations can result in acute and chronic impacts to a variety of marine taxa. This is acknowledged and acute and chronic exposures are assessed in the EP. • Synergistic, additive, or antagonistic interactions between seismic sound impacts and other stressors has not been studied. Single stressors related to sound exposure may show no effects in isolation but when combined with other stressors (e.g. temperature, food competition) effects may become pronounced. The knowledge gap is acknowledged. Many of the stressors identified are natural variables that are part of the baseline environment. Such complex interactions are likely to vary considerably depending upon location, ecological community structure, environmental conditions, and stressors at the time which are difficult to predict. Noting also that “resident” receptors in the vicinity of the Active Source Area do not include significant benthic or fish communities or significant habitat for other marine fauna, there is not the potential for serious or irreversible environmental damage and INPEX does not consider that the level of scientific uncertainty is such that reasonable conclusions and decisions regarding the level of potential impacts cannot be made at the present time. Observations of marine fauna populations, fish assemblages, fish stocks, ecological communities, etc. following exposure to seismic generally indicate no discernible long term change, which may indicate that such interactions are insignificant in the context of natural variability (as referenced in Section 7.1 of the EP).

#	Comments received (in general terms)	Titleholder response
		<ul style="list-style-type: none"> • Sea snakes are sensitive to low frequency sounds. More research is required to further assess the vulnerability of sea snakes to anthropogenic noise. The research indicates that sea snakes are able to detect low frequency sound but they are in fact less sensitive than fish and turtles. Therefore, localised and short-term disturbances are unlikely to result in significant impacts. Further, the survey area is not an area of particular significance for sea snakes. • Visual monitoring for large marine fauna during seismic surveys is unreliable. INPEX agrees that this statement is true. However, a gradually approaching seismic source and increasing sound levels provides opportunity for animals to move away and avoid close-range auditory impacts, in addition to visual observation and shut-down procedures. Studies referenced by the commenter acknowledge that such management practices are likely appropriate to prevent physiological and auditory impacts. The potential for behavioural impacts may extend beyond visual observation ranges, but these impacts will be temporary given the transient nature of the survey and marine fauna within the survey area. • Further targeted research on the effects of seismic surveys to marine fauna is needed. Further research is always welcomed to improve understanding. However, INPEX does not consider that the extent of the data gaps and level of uncertainty is such that reasonable conclusions and decisions regarding the level of potential impacts cannot be made at the present time.
5	<p>Matter: Risks from hazardous emissions to the marine environment.</p> <p>Claim: Additive and cumulative effects of marine discharges are not discussed.</p>	<p>Liquid discharges associated with 3D MSS are limited to standard marine vessel routine discharge which are permissible in accordance with the relevant AMSA Marine Orders and MARPOL 73/78. Given the discharges are relatively small volumes for a short term activity (up to 65 days), no cumulative or additive impacts are expected particularly as the vessels will be moving and all discharges undertaken in accordance with Marine Order requirements.</p>

#	Comments received (in general terms)	Titleholder response
		<p>The discharge of firefighting foam (the only fluorinated surfactant that could be used during the activity) would only occur in the event of an incident and is regarded as a safety critical element whose discharge cannot be eliminated. No changes have been made to the EP.</p>
6	<p>Matter: GHG emissions – unacceptable impacts and/or management</p> <p>Claim: EP does not adequately consider the cumulative impacts of its GHG emissions alongside other offshore petroleum industry activities, whereby the release of GHG emissions from the EP activity will add to local and global GHG concentrations and will, therefore, influence climate change.</p> <p>Note: One comment was made in relation to this matter.</p>	<p>Section 7.5.2 (Table 7-26) provides an impact and risk evaluation for atmospheric emissions from the vessels and helicopters associated with the activity. Within Table 7-26, the particular values and sensitivities identified as potentially being impacted by atmospheric emissions, includes climate and marine avifauna. A further assessment and acknowledgement is then presented stating that the “<i>various sources of atmospheric emissions generated from the activity will add to overall global GHG concentrations</i>”.</p> <p>Based on the relatively short-term and temporary duration of the activity (up to 65 days), the contribution arising from vessels and helicopters (such as from fuel combustion) is considered to be insignificant in volume on a global scale (8,851 t-CO₂-e).</p> <p>The activities and proposed controls to manage atmospheric emissions detailed in the EP are compliant with industry standards, relevant international conventions and Australian legislation, specifically AMSA Marine Order 97: Marine Pollution Prevention – Air Pollution, the <i>Protection of the Sea Act</i>, the <i>Navigation Act 2012</i>, and MARPOL, Annex VI.</p> <p>No changes have been made to the EP.</p>
7	<p>Matter: Carbon sequestration in depleted gas fields is an unproven and a risky technology.</p> <p>Claim: Environmental risks from the proposal to assess the suitability of offshore reservoirs for CO₂ storage as outweighing any likely benefits.</p>	<p>Technologies such as renewable energy, improved energy efficiency and fuel switching are aimed at preventing the creation of CO₂ emissions. CCS complements these technologies by addressing emissions that currently cannot be avoided, such as CO₂ emissions from industrial processes like steel or cement manufacturing (Geosciences Australia: https://www.ga.gov.au/scientific-topics/energy/resources/carbon-capture-and-storage-ccs)</p> <p>No changes have been made to the EP.</p>

#	Comments received (in general terms)	Titleholder response
	<p>Note: One comment was received in relation to this matter.</p>	
8	<p>Matter: Consultation process and identification of relevant persons</p> <p>Claims: Claim was made that INPEX inappropriately applied the IAP2 consultation criteria by removing some key components of the IAP2, thus reducing its responsibilities to meaningfully consult with stakeholders. Consultation with a much wider group of "relevant persons" is required based on the location of the EMBA and PEZ, specific example of such relevant persons were traditional owners. Several commenters identified themselves as relevant persons under Regulation 11(A) of the OPGGS E Regulations. Note: Five comments were made in relation to this matter</p>	<p>Following the appeal decision of the Federal Court of Australia in Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193 on 02 December 2022, and in accordance with the NOPSEMA consultation guidance published on 15 December 2022, INPEX is undertaking further identification and consultation with relevant persons.</p> <p>Two commenters and another organisation representing a relevant person identified themselves as relevant persons in the public comment period and INPEX has initiated further consultation with them.</p> <p>Section 5 of the EP has been rewritten to reflect the revised INPEX methodology used to identify relevant persons and undertake appropriate and meaningful consultation. The outcome of the additional and ongoing consultation will be reflected in the resubmitted EP (relevant person consultation log and sensitive matters report).</p>
9	<p>Matter: General objection to offshore seismic exploration being approved or conducted</p> <p>Claim: There is an unknown impact on marine mammals and phytoplankton</p>	<p>The effects of sound on marine mammals and phytoplankton are well studied. While there is opportunity for further research, INPEX does not consider that the extent of the data gaps and level of uncertainty is such that reasonable conclusions and decisions regarding the seismic survey cannot be made at the present time.</p>

#	Comments received (in general terms)	Titleholder response
		<p>The commenter references a recent whale stranding event off Tasmania’s coast as a reason for ceasing seismic surveys. INPEX presumes they are referring to the mass stranding of pilot whales near Macquarie harbour on Tasmania’s west coast in September 2022.</p> <p>Making such assumptions regarding the cause of the strandings is misleading. No seismic survey activities took place in the region during, or in the days or weeks prior, to the stranding event or the previous mass stranding event at the same location two years prior.</p> <p>Cetaceans have always been known to strand, for a variety of reasons, most of which are natural causes, though sometimes the cause is not known. Macquarie Harbour is well known for cetacean strandings. Cetacean stranding experts undertook necropsies of the stranded whales at Macquarie Harbour and ruled out any possible unnatural causes. They attribute the Macquarie Harbour strandings to a combination of prey movement, the shallow seabed and shape of the coastline near the harbour entrance, and strong tidal currents. See: https://www.theguardian.com/environment/2022/sep/24/tasmanias-whale-stranding-what-caused-it-and-can-it-be-stopped-in-the-future</p> <p>The commenter also references a research paper (Gordon et al. 2003) and a news article in relation to potential effects of seismic sound on marine mammals and areas of scientific uncertainty in their submission. The research paper and variable findings regarding the effects of seismic sound on marine mammals are acknowledged. However, INPEX refers the commenter to the broader body of literature referenced in Section 7.1.7 of the EP, which includes more recent publications that review many of the same studies referenced in Gordon et al. (2013) and provide internationally recognised recommendations for impact assessment.</p>

#	Comments received (in general terms)	Titleholder response
		<p>The commenter also queries the effects of seismic sound on zooplankton and subsequent impacts to marine mammal populations, and references a research article (McCauley et al. 2017). INPEX refers the commenter to the body of literature referenced in Section 7.1.4 in the EP, which includes the McCauley et al. (2017) paper, among other studies. In the context of natural mortality rates and turnover, plankton communities will recover quickly and limited impacts to the food web or to species recruitment is expected in the context of natural variability.</p> <p>It is further emphasised that the area where the proposed activity will be undertaken is not known to provide unique or significant habitat for any cetacean species. Only short-term behavioural impacts to transient animals are likely to occur. Precautionary assessment and inclusion of controls for species not listed as threatened/migratory (i.e. Omura’s whale) have been included in recognition of uncertainties around their life history in the NWMR.</p> <p>No changes have been made to the EP.</p>
10	<p>One matter was raised that did not relate to the EP or the activity:</p> <p>With an eye to the longer term, I encourage INPEX to consider that multiple seismic surveys during the period of carbon dioxide injection into this permit may not be ALARP and acceptable.</p>	<p>The comment relates to potential future activities that may be required in the event a carbon capture storage project is realised. Due to the irrelevancy of the comments received, these have not been considered further in preparing the EP. INPEX notes that any other future seismic surveys will be assessed by the regulator, and any such surveys would be managed by an accepted EP.</p>

3 REFERENCES

Gordon, J., Gillespie, D., Potter, J., Frantzis, A., Simmonds, M., Swift, R. and Thompson, D. 2003. A Review of The Effects of Seismic Surveys on Marine Mammals. Marine Technology Society Journal. 37. 16-34. 10.4031/002533203787536998.

McCauley, R.D., Day, R.D., Swadling, K.M., Fitzgibbon, Q.P., Watson, R.A. and Semmens, J.M. 2017. *Widely used marine seismic survey air gun operations negatively impact zooplankton*. Nature Ecology & Evolution 1, Article 0195.