

SUMMARY OF RECOMMENDATIONS FROM THE 9TH MEETING OF GWAP WITH FORMAL RESPONSES FROM SAKHALIN ENERGY

Recommendation Number	Cross-Reference	GWAP Recommendations & Requests	Responsible Party/ Parties	Target Completion Date	Sakhalin Energy Response
Item 1.5: Status of recommendations from previous meetings					
WGWAP-9/001	Item 1.5.1	Whilst recognising that these units [autonomous acoustic recorders] require servicing, the Panel recommends that servicing be scheduled such that no two adjacent buoys are out of commission at the same time.	Sakhalin Energy	WGWAP-10	The buoy's technology has been updated and the need to service buoys during the season mitigated. For this reason SEIC don't anticipate a need for servicing buoys during the 2011 field season at all.
WGWAP-9/002	Item 1.5.1	The Panel requests that for WGWAP-10 an analysis of whale density for the period 15 August–15 October 2009 be calculated and presented (<i>e.g.</i> as a 1- or 2-week moving average) specifically to determine whether the observed change in distribution was statistically significant.	Sakhalin Energy	WGWAP-10	Whereas a basic analysis of moving averages of whale density at different spatial scales could be produced, the determination of statistical differences isn't trivial. These data don't have a normal distribution and are zero-inflated. Consequently, the design of an adequate statistical analysis will take more time to complete. As the main focus for WGWAP 10 is the completion of the annual reports, this analysis will probably be completed after WGWAP 10.
WGWAP-9/003	Item 1.5.1	The Panel also requests that Sakhalin Energy provides for WGWAP-10 a final report on activities on or near the PA-A platform that could have caused the recorded noise.	Sakhalin Energy	WGWAP-10	Sakhalin Energy will look further into activities on or near PA-A in the period August–15 October 2009, and report back at WGWAP 10 if possible. Analysis to date has not shown a link to SEIC activities and the noise recorded.
WGWAP-9/004	Item 1.5.1	Finally, the Panel requests that a presentation be made at WGWAP-10 of the acoustic data for the period 15 August–15 September 2009 for buoys X-Z, in the format specified in recommendation WGWAP-7/002	Sakhalin Energy	WGWAP-10	Sakhalin Energy can process this data in the format requested, and provide it to the panel at WGWAP 10.

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		for continuous noise.			
GWAP-9/005	Item 1.5.1	Reeves emphasized that there is an implicit assumption that Sakhalin Energy will keep the Panel advised on any aspects of the company's operations that could significantly change the acoustic environment or otherwise affect western gray whales. Therefore, the Panel requests that Sakhalin Energy report on this issue at GWAP-10 by updating and clarifying information on recent changes with acoustic implications at either platform.	Sakhalin Energy	GWAP-10	During each GWAP meeting Sakhalin Energy provides an outlook on future SEIC activities. During GWAP 10 Sakhalin Energy will do this as well.
Item 2: Reports on field activities in 2010					
GWAP-9/006	Item 2.1.1.2	Regarding the sightings of whales beyond the eastern end of the 2009 and 2010 offshore survey transects, the Panel recommends that future transect lines be extended east to provide adequate coverage of that region.	Sakhalin Energy	GWAP-10	Sakhalin Energy believes this is a valuable recommendation and plans to extend the transect lines further east.
GWAP-9/007	Item 2.1.4	The Panel requests that its members responsible for reviewing the acoustics data (Vedenev and Nowacek) be provided with the full 2010 acoustics data set (in the form of a CD) no later than two weeks before the start of GWAP-10.	Sakhalin Energy	2 weeks before GWAP-10	As in previous years Sakhalin Energy plans to provide the annual reports including the usual acoustic data set in the timeframe agreed with the panel.
GWAP-9/008	Item 2.1.6	... in November 2007 ..., the company had indicated not only that it would undertake dedicated surveys covering the coast from Nogliki to Okha, but also that it would 'investigate the possibility of carrying out the Island length surveys...'. The Panel requests that Sakhalin Energy provide a clear, updated statement of its plans so that the matter can be resolved at GWAP-10.	Sakhalin Energy	GWAP-10	Sakhalin Energy made it clear at GWAP-9 that due to increased safety risks with rotary wing aircraft they were reducing all but essential flights. Consequently in 2011 it will not be possible to run the survey flights as designated sorties.
GWAP-9/009	Item 2.1.7	Therefore, the Panel recommends that Sakhalin Energy reconsider its decision to terminate the collection and analysis of data on gray whale behaviour	Sakhalin Energy	GWAP-10	Sakhalin Energy will look at the feasibility of conducting behavioural monitoring as part of company specific

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		at Sakhalin (also see GWAP-2 report, section 8, including recommendation GWAP 2/011) and that it provide a clear scientific rationale for any further reduction (<i>i.e.</i> to a level below the minimal effort in 2010) in this component of the joint programme.			activities. This depends on trained personnel being available. Behavioural monitoring is not included in the joint program 2011 scope.
Item 3: Review of information on relevant activities by other companies in 2010					
GWAP-9/010	Item 3.1	Specifically, the Panel requests that Sakhalin Energy makes acoustic data from recording buoys 'A-10', 'Odoptu-N-20' and 'Odoptu-N-10' available for GWAP-10 for the following time periods: 21h 30m on 20 August to 01h 20m on 21 August, 25-31 August, 1-4 September and 11-21 September. These data should be in the format specified in recommendation GWAP-7/002 for pulsed noise.	Sakhalin Energy	GWAP-10	Sakhalin Energy is unable to provide the acoustic data set in the format requested as these are not SEIC-specific activities.
GWAP-9/011	Item 3.1	Also, the Panel requests that data from distribution stations 1-8 be included for the same periods, and that these data are analysed statistically to determine whether there were significant changes in whale distribution.	Sakhalin Energy	GWAP-10	Sakhalin Energy is unable to provide this analysis as these are not SEIC-specific activities.
GWAP-9/012	Item 3.1	Finally, the Panel encourages the group of NGOs (<i>i.e.</i> the authors of GWAP-9/19) to submit a final report that includes the complete data set.	NGOs	GWAP-10	
GWAP-9/013	Item 3.1	Therefore, the Panel recommends that IUCN make every effort to obtain the report or reports on these acoustic data as they become available either via Rosneft directly or via the Interdepartmental Working Group (MNR).	IUCN	GWAP-10	
GWAP-9/014	Item 3.2	To support efforts to interpret information on whale distribution and density throughout the 2010 season, the Panel requests that Sakhalin Energy provide in advance of GWAP-10 data from all acoustic sensors in the area for the period 15 August–10 September, in the format described in recommendation GWAP-	Sakhalin Energy	GWAP-10	Sakhalin Energy is unable to provide the acoustic data set in the format requested as these are not SEIC-specific activities.

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		7/002 for pulsed noise.			
Item 4: Briefing by Sakhalin Energy on work in 2011 and beyond					
WGWAP-9/015	Item 4.3.1	Therefore, while recognising that Sakhalin Energy may view the construction of a third platform as necessary at some point during the lifetime of the project in order to meet its petroleum recovery targets, the Panel recommends that construction not begin until there is better understanding of the effects of noise disturbance on the whales (<i>e.g.</i> a more thorough analysis of the potential effects of PA-B construction) and appropriate mitigation measures are in place.	Sakhalin Energy	Progress report at WGWAP-10	Sakhalin Energy is preparing to conduct an overall analysis of the impact of the Companies' activities on the WGW population. This should enhance the understanding of the effect of noise disturbance of the whales. Obviously lessons learned from the PA-B construction will be used for the development of a MMP aimed a reducing impact of construction on the whale population to as low as reasonable practical. Also, Sakhalin Energy plans to continue its work as a part of programme on 3 core items of Acoustics, Benthos and Distribution. However, this view is not supported by MNR who informed SEIC that they considered the 2011 acoustic programme to be unnecessary.
WGWAP-9/016	Item 4.3.2	The Panel recommends that before making any decision on whether and how to proceed with this proposed new construction (PA-C), Sakhalin Energy should provide for the Panel's consideration at WGWAP-10: A document describing the feasible options considered in reaching the current tentative decision to proceed with a new platform. This document should include, in particular, an indication of how the risks to western gray whales and their habitat posed by the various options have been accounted for and compared.	Sakhalin Energy	WGWAP-10	The Company have stated that "whether and how to proceed with the proposed future development..." is dependent on meeting a number of criteria that will be considered ahead on Final Investment Decision. The purpose of engaging with WGWAP on the issue is precisely to allow consultation to have taken place. Two feasible options were presented at WGWAP-9 and more details on these will be discussed at WGWAP-10
WGWAP-9/017	Item 4.3.2	The Panel recommends that before making any decision on whether and how to proceed with this	Sakhalin Energy	WGWAP-10	The Company have stated that "whether and how to proceed with the proposed

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		proposed new construction (PA-C), Sakhalin Energy should provide for the Panel's consideration at GWAP-10: A document describing and comparing options under consideration for transporting oil and gas from the new platform, again specifying how the risks to western gray whales and their habitat posed by the various options have been assessed and compared.			future development..." is dependent on meeting a number of criteria that will be considered ahead on Final Investment Decision. The purpose of engaging with GWAP on the issue is precisely to allow consultation to have taken place.
GWAP-9/018	Item 4.3.2	The Panel recommends that before making any decision on whether and how to proceed with this proposed new construction (PA-C), Sakhalin Energy should provide for the Panel's consideration at GWAP-10: A general operations plan which includes all of the company's foreseeable and foreseen activities for 2011-2015 with the potential to disturb or otherwise harm western gray whales and their habitat (e.g. seismic surveys).	Sakhalin Energy	GWAP-10	SEIC will provide the SEIC journey book, which is a 5 year look ahead at SEIC plans, focus areas and activities..
GWAP-9/019	Item 4.3.2	The Panel agrees on the value of such an exercise and recommends that Sakhalin Energy prepare for consideration at GWAP-10 a document that summarises progress made since 2004 towards resolving uncertainties and filling data gaps highlighted in past western gray whale panel reports.	Sakhalin Energy	GWAP-10	SEIC has agreed (with ENL) that there is value in taking all the learnings from WGW mitigation & monitoring programmes into account, so as to manage the business risk WGW pose. The document requested here will not be available in the timeframe requested, as it is a significant piece of work.
GWAP-9/020	Item 4.3.2	In addition, Sakhalin Energy has already agreed , and the Panel recommends , that the company provide a comprehensive overview of the issues and risks that need to be addressed for a new development such as South Piltun, including <i>inter alia</i> oil spills, continuous noise, vessel collisions, disturbance of benthos and cumulative impacts. This overview should include a risk matrix that makes clear how Sakhalin Energy would prioritise the various elements, as well as how the company assesses each issue in terms of potential short-, medium- and long-term effects on the western	Sakhalin Energy	GWAP-10	Sakhalin Energy will now address this recommendation as part of the Impact Assessment, which will be prepared for the project.

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		gray whale population.			
Item 5: 4-D seismic survey					
WGWAP-9/21	Item 5.1.3.1	The Panel recommends that analyses of the uncertainties in determining geographic positions when using reticle binocular methods are conducted and the results presented at WGWAP-10.	Sakhalin Energy	WGWAP-10	SEIC intends to conduct this analysis as soon as possible, taking into consideration other priorities as well.
WGWAP-9/22	Item 5.1.3.3	The Panel recommends that these analyses [of the effects of noise on gray whales, see Annex 5B] are initiated and that a progress report is presented at WGWAP-10.	Sakhalin Energy	WGWAP-10	SEIC intends to analyse the available data set obtained during the 4D seismic, as soon as possible, taking into consideration other priorities as well.
WGWAP-9/23	Item 5.1.4.4	The Panel specifically recommends that in future, survey contractors be required to demonstrate in advance their preparedness for Sakhalin conditions, including low water temperatures, so that acquisition can begin without delay once the ice clears.	Sakhalin Energy	Before future surveys [statement of intent at WGWAP-10]	Sakhalin Energy acknowledges that contractual readiness was an issue for 2010 4D Seismic. The point is well made by WGWAP.
WGWAP-9/24	Item 5.1.4.6	Given the acknowledged need for future geophysical profiling, the Panel reiterated the importance of continuing to review developing technologies (and their potential impacts), including electromagnetic profiling. In the light of this, the Panel recommends that IUCN should commission a formal review for the Panel's consideration within the next two years.	IUCN	December 2012	
WGWAP-9/25	Item 5.2	The Panel endorses the SSTF-6 report and its recommendations. In particular, it confirms the view that given the huge investment by the company and the Panel in designing the MMP and in collecting data during the Astokh 4D survey, it would be false economy if a shortage of resources were to preclude efforts to maximise the information obtained. The Panel therefore strongly urges Sakhalin Energy to find	Sakhalin Energy	Progress report and statement of intent at WGWAP-10	SEIC intends to analyse the available data set obtained during the 4D seismic, as soon as possible, taking into consideration other priorities as well.

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		the necessary funding to complete the recommended analyses (described in Annex 5 [of the WGWAP-9 report]) as quickly as possible.			
WGWAP-9/26	Item 5.2	The most appropriate way to review the results of those analyses will be to hold a further meeting or meetings of the SSTF – the timing will need to be evaluated at future WGWAP meetings in the light of progress reported by Sakhalin Energy. The Panel recommends that Sakhalin Energy present a progress report and an expected timeline for completion of the analyses at WGWAP-10.	Sakhalin Energy	WGWAP-10	Sakhalin Energy will prepare a timeframe for completion of analysis by WGWAP 10. It will provide progress report in presentation format, but will not provide a progress report as priorities are focussed on annual reporting and planning for data analysis.
WGWAP-9/27	Item 5.2	The Panel ... agreed that the present MMP [monitoring and mitigation programme] provides a baseline for similar surveys off Sakhalin and elsewhere, whilst recognising that different circumstances (<i>e.g.</i> seismic surveys farther offshore) may render parts of the programme inoperable or in need of modification. It recommends that the MMP be given prominence and made easily available on the IUCN website.	IUCN	February 2011	
WGWAP-9/28	Item 5.2	[Regarding D-tags] the Panel agreed that Vedenev and Nowacek should provide for consideration at WGWAP-10 a detailed outline of potential objectives, survey area and timing, data that would become available, numbers of tags, etc.	WGWAP	WGWAP-10	
WGWAP-9/29	Item 5.4	The Panel reiterates the extreme importance of starting (and completing) any 2D survey as early in the season as possible and ensuring that the appropriate equipment is available and ready for deployment in the expected environmental conditions. Further, it recommends that an explicit requirement in this regard be included in any contract for the 2D survey and requests that Sakhalin Energy provide the Panel with an update on this as soon as possible.	Sakhalin Energy	2D seismic survey	SEIC agrees with this recommendation, noting it is entirely dependent on contractor availability.

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WGWAP-9/30	Item 5.4.1	The Panel recommends that for the 2D survey, the exclusion zone for western gray whales be 1000 m (provided that this does not conflict with relevant regulations, guidelines or precedents).	Sakhalin Energy	2D seismic survey	SEIC understands the desire for the 1000 m exclusion zone for western gray whales. However, if foggy conditions limit the visibility to 500 -1000 meters, we will continue acquiring seismic until the visibility is limited to ≤ 500 meters.
WGWAP-9/31	Item 5.4.2	The Panel agreed it was essential that archival acoustic monitoring take place along with shore-based behavioural monitoring. Based on the results of discussions in a subgroup chaired by Donovan and including Panel members and Sakhalin Energy, the Panel recommends that the monitoring programme outlined in Annex 6 [of the WGWAP-9 report] be implemented during the 2D seismic survey if and when it occurs.	Sakhalin Energy	2D seismic survey	Sakhalin Energy is planning to implement the suggested MMP involving a combination of archival buoys (and if possible a behavioural team – personnel dependent as explained elsewhere).
WGWAP-9/32	Item 5.4.3	The Panel recommends that Sakhalin Energy conduct a thorough evaluation of the options of a single airgun versus an array, from the perspective of sound footprints, practicality of operation (including technical factors) and contractual issues. It requests that the company present the results of that review to the Panel for its consideration.	Sakhalin Energy	WGWAP-10	The contractor proposes a 4x4 gun array (4x40 cu. in. or 2 x80 cu. in.) in line with this recommendation. Depending on the outcome of the technical audit Sakhalin Energy will choose the appropriate source, taking this recommendation into consideration. The sound propagation of these various array combinations will have been modelled by Jasco
Item 6: Photo-ID					
WGWAP-9/33	Item 6.1	The Panel recommends that the annual cross-matching exercise be continued as long as both teams are operating.	Sakhalin Energy, Russia-US team	Statements of intent and schedule to be agreed at WGWAP-10	SEIC agrees with continuation of this exercise and seeks the WGWAP support in making this happen.
WGWAP-9/34	Item 6.2	On behalf of the IWC, Donovan granted permission for the two photo-ID teams to match the whales identified during the tagging effort with their catalogues,	Sakhalin Energy, Russia-US	WGWAP-10	Due to the large numbers of photographs taken by the tagging team, there is insufficient time to process this data set

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		although publication priority will be given to those who collected the data. The Panel recommends that the two teams include matches with the tagging photo-ID results in their reports of data collected in 2010.	team		prior to preparing the annual report. Instead we propose to include the tagging results in the annual US-Russian / SEIC catalogue crossmatching to determine the total number of whales observed in 2010.
WGWAP-9/35	Item 6.3	The Panel emphasises the crucial role played by the Russia-US team's data in estimating trends in the population.... The Panel strongly urges that a means be found to continue the Russia-US photo-ID programme, which has been running for 15 years.	NGOs and others	Before June 2011	
WGWAP-9/36	Item 6.3	The Panel recommends that every effort be made to ensure that biopsies are obtained each year from the calves of the year.	Sakhalin Energy, Russia-US team	Statements of intent/ feasibility at WGWAP-10	Sakhalin Energy/ENL has submitted the 2011 joint program to MNR for approval, it does not include taking biopsies of calves. Neither Company foresee doing this in the proximate future as there is a programme from which it is believed adequate data has been collected but not shared.
WGWAP-9/37	Item 6.3	To facilitate this [biopsy sampling of calves of the year], the Panel requests that the relevant Federal and Oblast authorities view permit applications to collect biopsies from the calves of the year favourably.	Russian Federal and Oblast authorities	Not relevant	
Item 7: Population assessment					
WGWAP-9/38	Item 7	The Panel drew attention to a recent paper (Bradford <i>et al.</i> 2011) that explains how calves can be distinguished visually from older animals with high confidence, based on examination of barnacle and pigmentation characteristics in the head region. The Panel recommends that this approach be used by the IBM team.	Sakhalin Energy, Russia-US team	Statement of intent at WGWAP-10	Sakhalin Energy and Olga Tyurneva will review this paper and if deemed useful it might be included in the calf scoring system, which was designed in 2009 jointly with Vicky Rowntree.
WGWAP-9/39	Item 7	Every effort will be made to ensure that the review [of the Cooke model] is completed by WGWAP-10. If the outcome of the review is favourable, a version of the	IUCN and Panel (Cooke)	May 2011	

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		analysis can be submitted for publication in a peer-reviewed journal. The Panel recommends that it also be submitted to the May-June 2011 IWC Scientific Committee meeting.			