

## STATUS OF RECOMMENDATIONS

### Progress Report and Status of Previous Recommendations

#### Submitted by IUCN

## BACKGROUND

This document provides a summary of the status of recommendations made by the Panel at its last meeting. To assist all participants attending WGWAP meetings in the future, to gain an appreciation of the progress made towards addressing and implementing recommendations made by the WGWAP, this will remain a standing item for future Panel meetings.

Annex 1 of this report includes a summary table of WGWAP recommendations, SEIC responses and the status of each of these. The majority of issues highlighted in Annex 1 will be the subject of further discussion at the second meeting of the WGWAP, and will therefore not be elaborated on further in this paper. However, two items of interest to the Panel, namely (i) engagement with other oil and gas companies and (ii) geospatial data, are not specifically addressed on the agenda. As such, a more detailed update is provided below on these two items.

### 1) ENGAGEMENT WITH OTHER COMPANIES

At its first meeting, held between 9-11 November 2006, the Panel noted that, given its mandate and the need to examine cumulative effects on whales, *it is essential that IUCN begin efforts as soon as possible to engage other companies, notably Exxon Mobil and BP, in the WGWAP process, even if initially this does not mean as full partners.*

The Terms of Reference for the WGWAP also recognize the importance of those interested parties potentially having impact on the WGW participating in the WGWAP process.

To address this matter, IUCN has taken initial steps to promote engagement with the WGWAP to other companies working on the Sakhalin shelf, which are detailed below.

#### IUCN Efforts to Engage Oil and Gas Companies

In the first instance, IUCN approached the International Petroleum Industry Environmental and Conservation Association (IPIECA) to seek assistance in approaching their members concerning this issue. IPIECA was able to discuss the matter directly with their relevant members. However, despite attempts to facilitate a meeting between BP, ExxonMobil and IUCN, IPIECA was unable to establish a direct line of communication on this issue. IPIECA were nonetheless able to provide IUCN with the names of the relevant contact people in each organization.

Accordingly, the Director General of IUCN wrote directly to ExxonMobil and BP (30/01/07) extending an invitation to both companies to participate in the project and, as a first step in this engagement, inviting them to observe the next meeting of the WGWAP. Subsequent to this, letters were also sent to Rosneft and Gazprom (06/03/07).

It should also be noted that the Government of the United Kingdom, as a partner in the establishment of the WGWAP, also wrote directly to BP urging them *to give serious consideration to participating in this [WGWAP] initiative*. The letter, sent on 6<sup>th</sup> March 2007, was signed by Richard Cowen, United Kingdom Commissioner to the IWC.

## **Responses Received**

To date, IUCN has received responses from both Exxon Neftgas Ltd (ENL), as operators of the Sakhalin-1 consortium, and Rosneft.

In its response to IUCN, ENL highlighted, as evidence of its ongoing commitment to the gray whale research, the extensive programme that it has funded since 1997. However, ENL respectfully declined the invitation to participate in the project.

Rosneft has signaled its readiness to commence and open dialogue with IUCN and as such has agreed to participate in the second meeting of the WGWAP as an observer.

## **2) GEOSPATIAL DATA**

At its first meeting the Panel made two recommendations regarding the availability of geospatial data (WGWAP 1/030 & 1/031).

### **Recommendation WGWAP 1/030**

*The Panel recommends that IUCN consult with industry (Sakhalin Energy as well as other companies), Russian governmental agencies, NGOs and other sources, as appropriate, to obtain better information on oil and gas activities in the Sakhalin region. Such information needs to be provided to the Panel on a routine basis.*

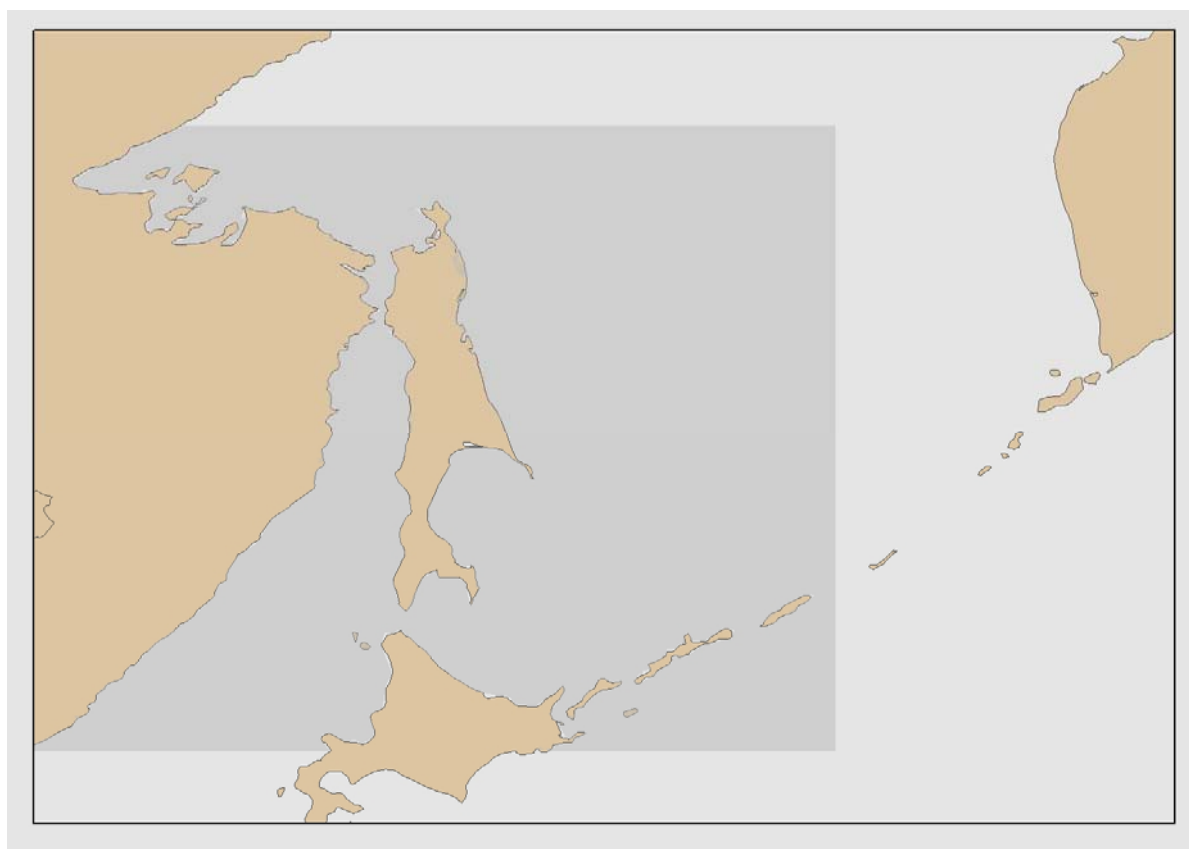
To address this recommendation, IUCN has worked with IHS Energy, a leading provider of technical information and information services to the oil and gas industry. Through IHS, IUCN has been able to gain access to an authoritative geospatial dataset, and has established an in-house GIS capability within the Global Marine Programme. This dataset is up-to-date as of 1 January 2007.

Table 1 lists the individual data layers included in this data set and Figure 1 provides the limits of the spatial coverage for the dataset.

A sample map showing the existing licence blocks off the north-east coast of Sakhalin Island is also included for the Panel's information (Figure 2).

**Table 1: Geospatial layers**

Category	Sub-category	Category	Sub-category
Coastline		Pumping Stations	
Compressor Stations		Rivers	
National Boundaries		Storage Facilities	- <i>Oil</i> - <i>Refined products</i>
Exploratory Wells		Licence Blocks	- <i>Surface exploration</i> - <i>Surface exploration /drilling</i> - <i>Development/producti on</i> - <i>Exploration/production</i>
Oil and Gas Fields	- <i>Oil fields</i> - <i>Gas fields</i> - <i>Oil/gas fields</i>	Bathymetry	
Pipelines	- <i>Oil</i> - <i>Gas</i> - <i>Oil/Gas/water</i> - <i>Refined product</i>		



**Figure 1: Spatial extent of Sakhalin data (highlighted in grey)**

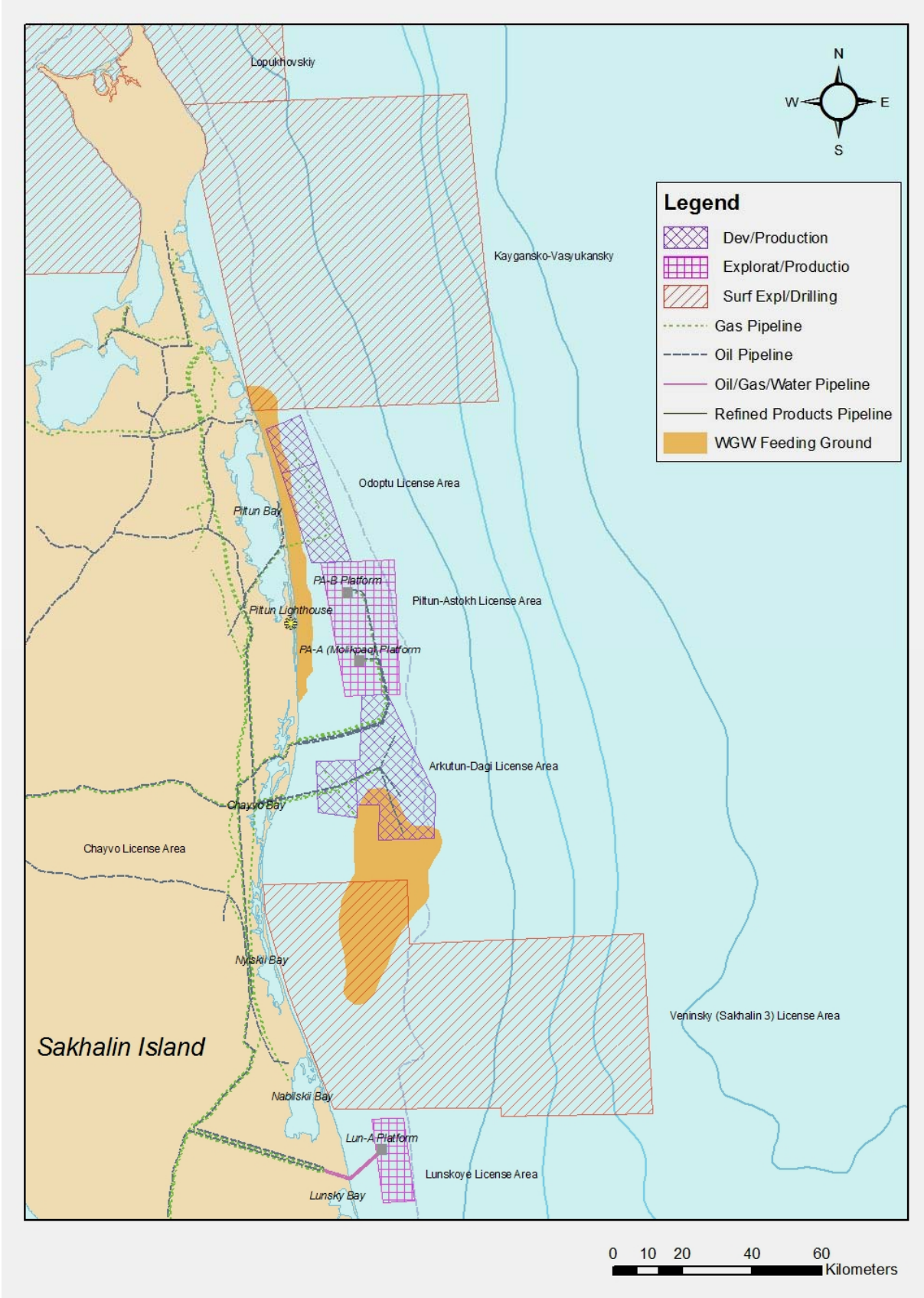
## **Recommendation GWAP 1/031**

*The Panel further noted that it would be useful to obtain access to expertise in spatial data management and modelling (e.g. GIS, 3-dimensional modelling) for assistance in analysing existing and future data and for helping to ensure that such data are archived for future use. The Panel **recommends** that IUCN investigate and pursue this matter with Sakhalin Energy and relevant panel members on an ongoing basis and that a report on progress be provided at the next GWAP meeting.*

As noted above, IUCN has established an in-house GIS capability within the Global Marine Programme (ESRI ArcGIS 9.1). Within IUCN, the GWAP project coordinator has experience in GIS operations and marine spatial data management. This expertise will be sufficient for managing small data sets such as the IHS data and additional expertise could be provided through IUCN's links with IHS Energy. However, if further work is undertaken and the idea of developing a meta-database of relevant spatial data is progressed, there will be a need for additional capacity to support this work.

Further work to access a broader range of data and expertise has not been progressed by IUCN at this stage

**Figure 2: License blocks of the north-east coast of Sakhalin Island**



## ANNEX 1

### Summary of Recommendations and Responses from the 1<sup>st</sup> Meeting of the WGWAP Last Updated 1 February 2007

Reference	WGWAP Recommendation & Requests	Responsible Party	SEIC Response	Status
WGWAP 1/001	<p>The Panel <b>requests</b> that Sakhalin Energy prepare a schedule of its work for at least the next five years – this should include the construction and operations schedule, the research and monitoring plans and the times when decisions will be taken. As well as confirmed activities, it should indicate all anticipated or likely events, such as seismic testing.</p> <p>In addition, the Panel <b>requests</b> that Sakhalin Energy establish a standard practice of keeping it informed of its plans, through IUCN, without the Panel having to request such information repeatedly.</p>	SEIC	Program sent to IUCN	<p>Ongoing</p> <p>Response from SEIC was very high level and lacked detail. Accordingly, WGWAP prepared a follow up request from Vladivostok briefing (WGWAP/Vlad-01), to be addressed at the St Petersburg meeting.</p> <p>This item will be addressed under agenda item 7.</p>
WGWAP 1/002	<p>The Panel <b>recommends</b> that from this year onwards, certain simple statistics from photo-identification studies be reported by Sakhalin Energy as routine information after each field season, including: field effort, number of different whales sighted and identified, number of identified females and males sighted, number of calves, number of 'new' whales, number of mother-calf pairs, number of skinny whales, and any known deaths.</p> <p>The Panel also looks forward to receiving the detailed analysis of the 'skinny' whale issue being undertaken by the Russia-USA team.</p>	SEIC	Such statistics have been provided every year in MNR report. 2006 statistics will be a part of the report due by Mar 31 2007.	<p>Ongoing.</p> <p>This item will be addressed under agenda item 10.</p>
WGWAP 1/003	<p>Time spent by WGWs diving may be an indicator of foraging effort or success and should be explored more carefully. Accordingly, the Panel <b>suggests</b> that reanalysis of behavioural data based on percent of total time spent below the surface would be a useful follow-up to assess possible changes in foraging effort.</p>	SEIC	SEIC approach is to finalize and publish the MVA report and then address any additional proposals made by the WGWAP rather than delaying the publication of the report.	<p>Ongoing.</p> <p>SEIC have indicated their intention to finalise the 2005 MVA and to incorporate Panel and other input into the analysis of the 2006 data.</p> <p>This matter was discussed at the Vladivostok briefing which resulted in a panel recommendation (WGWAP/Vlad-05) requesting that SEIC provide to the Panel, an overview of the methodology to be</p>

Reference	WGWAP Recommendation & Requests	Responsible Party	SEIC Response	Status
				<p>used for analysis of the 2006 data so that this can be discussed and considered during the St. Petersburg meeting.</p> <p>The Panel also requested that the input data used for the 2005 MVA, and the intended input data for the 2006 MVA, be submitted to the Panel.</p> <p>This item will be addressed under agenda item 9.</p>
WGWAP 1/004	In view of the endangered status of this population, the observed offshore displacement, change in diving pattern, and other potential effects warrant additional scrutiny and follow-up. Points to consider include the following:	SEIC	Ditto	<p>Ongoing.</p> <p>SEIC have indicated their intention to finalise the 2005 MVA and to incorporate Panel and other input into the analysis of the 2006 data. Change as above</p> <p>This matter was discussed at the Vladivostok briefing which resulted in a panel recommendations (WGWAP/Vlad-05) requesting that SEIC provide to the Panel, an overview of the methodology it proposes to use for analysis of the 2006 data. so that it can be discussed and considered during the St. Petersburg meeting.</p> <p>The Panel also requested that the input data used for the 2005 MVA, and the intended input data for the 2006 MVA, be submitted to the Panel.</p> <p>This item will be addressed under agenda item 9.</p>
	(1) From a conservation perspective, the objective of the study was to test the null hypothesis that construction noise and associated activities have no impact on the population. The observation of apparent effects on individuals (e.g. offshore displacement) suggests that a population impact may occur and this possibility should be investigated further rather than being dismissed as insignificant		Ditto	

Reference	WGWAP Recommendation & Requests	Responsible Party	SEIC Response	Status
	<p>(2) The study would benefit from an exploration of the relationships among the predictor variables and among the response variables. For example, response variables may be related, given that they depend on the behaviour of an animal (e.g. an animal that is travelling at greater speed spends more time at the surface and moves in a more nearly constant direction). Such possibilities should be explored to provide the best possible understanding of the relationships among the different variables and the most appropriate form of the predictor and response variables. Principal components analysis is one way to examine these relationships and is often used as a preliminary step to explore the data before hypothesis testing is initiated.</p>		Ditto	
	<p>(3) The 'subjects' of the research also warrant reconsideration. In the analysis considered at the meeting, the authors had chosen to pool data for mother-calf pairs and single-whale groups. Unfortunately, this adds a confounding discontinuity in the subject pool because mother-calf pairs behave differently from single whales. Such pooling should always be preceded by comparison of the behaviour of the groups under consideration to confirm their homogeneity before pooling. Homogeneity is highly unlikely given the different distributions and behaviours of the two types of group.</p>		Ditto	
	<p>(4) The results were confounded by extraneous variables, most notably vessel noise from watercraft used for research purposes (photo-id). In future studies, greater effort should be made to avoid the confounding effects of such variables either by eliminating them as part of the research design or developing analytical methods to remove their influence on the analysis. It is also worth noting that this finding provides a clear basis to recommend that duplication of photo-identification research effort be avoided in the future.</p>		Ditto	

Reference	WGWAP Recommendation & Requests	Responsible Party	SEIC Response	Status
	(5) The use of variables that are more-or-less arbitrarily determined (e.g. noise exposure over a 10-minute period) also should be examined to determine the potential effect of the chosen time period on the results. For example, in the case where distance offshore is the response variable, an implicit assumption of using 10-minute noise exposure as an explanatory variable is that whales would move back towards shore during a 10-minute lull in the noise. This assumption is not realistic; it may take much longer for the distribution of whales to return to normal. Use of the 10-minute interval as the explanatory variable could, therefore, seriously underestimate the true effect of noise.		Ditto	
	(6) Finally, during previous reviews of Sakhalin Energy's activities and evaluations of the potential effects of construction noise, the panels have repeatedly indicated that noise level alone may not be the most relevant or the only indicator of the influence of noise on the whales. The analysis apparently did not take into account the total noise energy exposure, duration of exposure, frequency and bandwidth of the noise, amount of variation in noise levels over time, occurrence of noise spikes, etc. In particular, the timescale involved in the whales' response to a stimulus (e.g. movement offshore) and in the subsequent decay of the response (e.g. movement back towards shore) needs to be considered explicitly in an analysis. This and other aspects of the noise exposure ought to be considered and explored before reaching firm conclusions about potential effects.		Ditto	
WGWAP 1/005	The Panel <b>recommends</b> that: (1) The above 'points to consider' be taken into account in the final report on the multivariate analysis of 2005 data. (2) In the final report, and in any other outlet citing its findings (e.g. on Sakhalin Energy's website), the study's limits, as outlined above e.g. in relation to the lack of baseline (pre-disturbance) behavioural data and the failure to collect behavioural data during the two loudest phases of the construction activity, be clearly acknowledged. It should not be	SEIC	Ditto	Ongoing. SEIC have indicated their intention to finalise the 2005 MVA and to incorporate Panel and other input into the analysis of the 2006 data. This matter was discussed at the Vladivostok briefing which resulted in a panel recommendation (WGWAP/Vlad-05) requesting that SEIC provide to the Panel, an overview of the methodology to be used for analysis of the 2006 data so that

Reference	WGWAP Recommendation & Requests	Responsible Party	SEIC Response	Status
	<p>claimed that the extent of the whales' response to noise, such as movement offshore, has been quantified.</p> <p>(3) The foregoing concerns and suggestions be considered in analyses of effects using 2006 data and also in the planning and decision-making process for data collection and analysis in 2007.</p>			<p>this can be discussed and considered during the St. Petersburg meeting.</p> <p>The Panel also requested that the input data used for the 2005 MVA, and the intended input data for the 2006 MVA, be submitted to the Panel.</p> <p>This item will be addressed under agenda item 9.</p>
WGWAP 1/006	The Panel <b>recommends</b> that it be provided with a full analysis using effort-corrected data on distribution, for each year that such data are available, overlaid onto the appropriate acoustic 'footprint' information. The results should be integrated to produce an appropriate multi-year comparison of distribution, particularly for years with and without significant anthropogenic noise	SEIC	<p>Further clarification is required from the WGWAP on this in relation to overlaying with the acoustic footprint. SEIC will produce effort-corrected density analysis this year.</p> <p><a href="#">&lt;See further clarification submitted by the WGWAP&gt;</a></p>	<p>Ongoing.</p> <p>The Panel provided a more detailed clarification to this point dated 25<sup>th</sup> January 2007 (see WGWAP 2/INF.18) and the matter was subsequently discussed at the Vladivostok briefing which issued a follow up recommendation (WGWAP/Vlad-02).</p> <p>This item will be addressed under agenda item 11.</p>
WGWAP 1/007	The Panel <b>recommends</b> that noise exposure criteria developed in the IISG report and intended for application in the 2006 construction season be followed during the 2007 season and thereafter unless, during the interim, sound exposures below the recommended thresholds are found to result in unexpected adverse effects. In addition, the panel <b>requests</b> the following information for its next meeting (spring 2007):	SEIC	<p>SEIC doesn't agree there is a valid scientific reason for changing acoustic criteria proposed by Vedenev in Gland in 2005 and adopted and implemented by the Company. SEIC will provide the reasoning for this.</p> <p><a href="#">&lt;See detailed response from SEIC regarding sound criteria&gt;</a></p>	<p>Ongoing.</p> <p>SEIC provided a more detailed response (see WGWAP 2/INF.18) concerning the application and interpretation of noise exposure criteria.</p> <p>The matter was subsequently discussed at the Vladivostok briefing which issued a follow up recommendation (WGWAP/Vlad-03) and the Panel have provided SEIC with a definitive set of exposure criteria for continuous noise (WGWAP 2/INF.15).</p> <p>This item will be a substantive discussion under agenda item 13.</p>
	(1) All acoustic data from buoys at the edge and inside the feeding area, reported in standard formats, e.g., dB re 1 µPa RMS levels for 1 minute intervals.		Further technical clarification is needed: what frequency band and spectral resolution are required.	
	(2) Actual day-by-day construction activities for each vessel involved in June-August 2006 construction.		The data will be provided.	<p>The matter was subsequently discussed at the Vladivostok briefing which issued a follow up recommendation (WGWAP/Vlad-04) and the Panel have provided SEIC with a definitive set of exposure criteria for continuous noise (WGWAP 2/INF.13).</p> <p>This item will be discussed under agenda item 12.</p>

Reference	WGWAP Recommendation & Requests	Responsible Party	SEIC Response	Status
	(3) Whale distribution data for 2006, corrected for effort, analyzed with respect to noise levels, and compared to appropriate historical data.		SEIC is planning to produce effort-corrected density analysis this year.	
	(4) An analysis of the relationship between the 2006 acoustic data and concurrent behavioural observations.		On the basis of MVA report 2005 and further comments strategy for MVA 2006 will be defined.	
WGWAP 1/008	The Panel emphasises its concern about one major drawback of having multiple research and monitoring teams in the field, which is that it can add to the disturbance from vessel noise or vessel presence on and near the feeding grounds. Therefore, any encouragement of independent initiatives must carry a caveat – that due consideration be given to this concern and that every effort is made to avoid or minimise additional disturbance to the whales.	ALL RESEARCH GROUPS	SEIC confirms that the teams sponsored jointly by ENL and SEIC seek to minimize disturbance to the whales.	Ongoing. Applies to all research groups.
WGWAP 1/009	The Panel <b>agreed</b> that it would provide Sakhalin Energy with a recommended minimum altitude and distance from the shore, for these types of surveys prior to the 2007 construction season.	WGWAP		Ongoing. To date this has not been provided but will be discussed and resolved under agenda item 5. A definitive recommendation addressing this issue is expected at the conclusion of WGWAP 2.
WGWAP 1/010	The Panel <b>recommends</b> that the northern areas should be surveyed by helicopter monthly during the open-water season. Although these areas may be observed by research groups as they move into and out of the region, ground vehicles are not sufficient for complete coverage because the beach zone is not always visible from the road.	SEIC	Will be implemented in 2007	To be implemented by SEIC.
WGWAP 1/011	The Panel endorses the relatively detailed protocols and advice given in the IISG report under the heading 'Carcass Detection, Salvage and Necropsy'. It also <b>recommends</b> that as a minimal response to the finding of a gray whale carcass, Sakhalin Energy make sure that it is photographed promptly and that IUCN is notified by phone or e-mail as soon as possible. Then, based on the condition of the carcass (as inferred from the photographs), the Panel will make recommendation concerning what materials should be collected etc.	SEIC	SEIC has a procedure that requires that it first contacts relevant Russian authorities and then if permitted will provide information to external parties. This is a legal requirement.	Procedures in place to address this.

Reference	WGWAP Recommendation & Requests	Responsible Party	SEIC Response	Status
WGWAP 1/012	In terms of DNA and other biological sampling, the Panel refers Sakhalin Energy to the IISG report where detailed advice was provided. Here, it <b>recommends</b> that a tissue sample (preferably skin or bone) be collected as soon as possible if any carcass of a baleen whale is found and there is any possibility that it could be a gray whale.	SEIC	In case of a gray whale carcass found SEIC will make every effort possible to obtain relevant samples in close cooperation with Russian authorities. Necropsy form is a part of MMO manual that is to be presented for the panel review.	Procedures in place to address this.
WGWAP 1/013	The Panel <b>requests</b> that a report on tagging work undertaken on gray whales off Chukotka in the summer of 2006 be made available to it as soon as possible.	SEIC	This was on Eastern Gray Whales and will be made available as soon as it's complete.	To be discussed under agenda item 14. The report is expected to be submitted as WGWAP 2/INF.22.
WGWAP 1/014	The Panel agreed that in principle, telemetry work on western gray whales should be carried out provided that:	Joint responsibility	Conceptually SEIC sees this as a good idea but would like to consider first the associated risk.	Ongoing. No telemetry work concerning WGWs is planned or envisaged for 2007.
	(a) It be under the direction of Bruce Mate using his tags;			
	(b) It be restricted to 'non-skinny' males and take into account the occurrence of males with rare and common haplotypes when the final tagging protocol is adopted;			
	(c) Bruce Mate submits to the Panel, for review, a detailed experimental protocol including measures to be taken to minimise the possibility of accidental injury or stress to the animals, and a proposal on sample size in terms of attempts as well as successful attachments;			To date this document has not been submitted to the Panel
	(d) A formal report is submitted to the Panel by the vet who determined the cause of death of the gray whale in Bruce Mate's Mexican study (see WGWAP 1/INF.12);			To date this document has not been submitted to the Panel

Reference	WGWAP Recommendation & Requests	Responsible Party	SEIC Response	Status
	(e) The Panel receives and considers the report of the Marine Mammal Commission's workshop on whale tagging;			<p>Following some discussions, the Panel agreed that there were considerable synergies between this item and the next item (f) and that for this reason a combined approach would be appropriate. As such both IUCN and MMC have agreed to work together to prepare a single document which would:</p> <p>(1) summarize discussions and findings of the MMC's workshop on tagging effects at the 2005 biennial conference of the Society for Marine Mammalogy, and</p> <p>(2) review the implications of that information in the context of proposed tagging of WGWs.</p> <p>A progress report will be presented as Document WGWAP 2/INF.19. To be discussed under agenda item 14.</p>
	(f) Experience from around the world on safeguards for the process (e.g. number of approaches allowed per day or other unit of time, total time spent with a particular animal) has been reviewed by the Panel;			<p>Refer to (e) above. Document WGWAP 2/INF.19. To be discussed under agenda item 14.</p>
	(g) Efforts have been made by the Panel to arrange contacts with appropriate range-state scientists for possible follow-up work;			
	(h) A final recommendation on protocols, time in the season to attempt tagging and sample size is not made until after consideration of the results of (c) – (g) and taking into account the view of the IWC Scientific Committee at its forthcoming meeting in Anchorage in May 2007; and			The IWC meeting will take place after the WGWAP 2 meeting. The outcome will therefore be considered at the WGWAP 3 meeting.
	(i) Weekly positional updates from transmitting tags are made available to the Panel (while maintaining the usual rights of data owners).			
WGWAP 1/015	In view of the provisos listed in Recommendation WGWAP 1/014, the Panel <b>recommends</b> that the tagging work does		Agree	

Reference	WGWAP Recommendation & Requests	Responsible Party	SEIC Response	Status
	not take place until the 2008 season, noting that this has the additional advantage of an anticipated lower level of industrial activity in the Sakhalin region (at least with respect to Sakhalin-II).			
WGWAP 1/016	The Panel recognizes the spatial separation of Piltun Lagoon from Sakhalin II activities, but nevertheless continues to <b>recommend</b> studies of the linkage of Lagoon biota and detrital output with WGW feeding areas.	SEIC	In 2005 and 2006 SEIC benthic program included sampling inside and outside Piltun lagoon to investigate detritus transport and its influence on Piltun feeding ground. In light of the large number of publications available on Piltun lagoon biota and the fact that the Company is not planning any activity inside the lagoon SEIC sees little reasons for further studies there.	Ongoing. This item will be discussed under agenda item 4.
WGWAP 1/017	The Panel recognizes the logistical challenges and potential costs of maintaining an effective LTMP in Piltun Lagoon, given its size and physical complexity and the spatial variation in within the lagoon ecosystem. It is <b>recommended</b> that Sakhalin Energy focus on measurements of quality and quantity of detrital transport from the Lagoon to whale feeding areas. Primary goals for study of detrital transport should be: identification of source species contributing to detrital mass, stable isotope signatures for detritus transported from the Lagoon to whale feeding areas, and interannual variation in quality and quantity of transported detritus.	SEIC	Ditto	Ongoing. This item will be discussed under agenda item 4.
WGWAP 1/018	The Panel <b>suggests</b> that data on the abundances of mobile epifauna may be significant in understanding whale feeding behaviour, and <b>recommends</b> that Sakhalin Energy researchers work towards identification and application of an appropriate and efficient method for sampling mobile epifauna.	SEIC	Epifauna sampling is planned for 2007 with the intention of quantitative analysis of it in the feeding areas. Samples of epifauna taken in 2006 will allow for composition to be analyzed. This will be included in the final report due by Mar 31 2007.	Ongoing. This item will be discussed under agenda item 4. Refer also to WGWAP 2/INF.2.
WGWAP 1/019	The Panel <b>recommends</b> that Sakhalin Energy researchers continue to assess the potential value of sidescan methods in the context of benthic studies on the NE Sakhalin shelf.	SEIC	Side scan sonar value for the benthic study will be additionally assessed.	IUCN has no information to update this issue. This item will be discussed under agenda item 4.
WGWAP 1/020	The Panel was asked to consider a proposal from WWF-Russia for sampling benthos in Severnaya Bay on the NW Sakhalin shelf, given recent observations of foraging gray whales there. It <b>notes</b> that such studies could be valuable and concludes that this work should be pursued. The	ALL RESEARCH GROUPS	First samples were taken in Severnaya Bay in 2005. More sampling was carried out in 2006 and that allowed for delimiting of the area available for whale feeding. The same methodology used in the	

Reference	WGWAP Recommendation & Requests	Responsible Party	SEIC Response	Status
	Panel emphasises that methods for assessing benthos should be the same as those employed in Sakhalin Energy studies of benthos in the two known whale feeding areas on the NE Sakhalin shelf.		feeding areas was applied. Prey stock is planned to be estimated in 2007.	
WGWAP 1/021	The Panel <b>recommends</b> that Sakhalin Energy researchers take the following concepts into account as they proceed to develop LTMPs of benthic communities in the whale feeding areas:	SEIC		Ongoing. This item will be discussed under agenda item 4.
	(1) LTMP design should reflect consideration of possible spatial and temporal separations in processes important to benthic community structure, dynamics and productivity. Detrital transport connections between Piltun Lagoon and the whale feeding areas are an example of spatially distinct processes that could be important to whale food availability. Effects of winter and spring sea ice cover and movement on subsequent patterns and productivity of benthos provide examples of potentially important processes that are temporally disjunct.		In 2007 plans are to start sampling program earlier in the season to be able to estimate prey distribution and development prior to the feeding season.	
	(2) Continued monitoring of benthic communities in the whale feeding areas, using sampling approaches employed in previous years, is essential as a long-term commitment. Sampling effort should continue to focus on target variables identified in the IISG report. To maximise the potential both for large-scale inference and for discerning trends, sampling should continue in three categories: 1) a stratified random sample placement; 2) sampling of a grid of spatially fixed study sites; and 3) sampling in proximity to identified whale feeding locations.		The approach proposed was extensively used in previous years and will be employed again in 2007.	

Reference	WGWAP Recommendation & Requests	Responsible Party	SEIC Response	Status
	<p>(3) The development of effective methods for summarizing data on benthic communities and placing them in the contexts of spatially explicit time series is highly desirable. Such an approach is suggested because of the potential value in understanding connections between food availability and other time-varying patterns, such as annual calf production and the 'skinny whale' phenomenon (see item 4).</p> <p>(4) Geographic information system (GIS) technology should be applied to the management and presentation of benthic community data. This approach facilitates the characterisation and communication of patterns in the data, and will contribute to understanding the linkages between community patterns and various physical, biological and anthropogenic processes on the NE Sakhalin shelf.</p>		GIS system is a part of the data management plan and is planned to be designed and implemented for the whole benthic dataset.	
WGWAP 1/022	The Panel further <b>recommends</b> that it receive at its next meeting an integrated analysis and overview of results so far, with special attention to the observed annual difference in calf production.	SEIC	Calf production will be reported in Photo-ID report. Additionally calf feeding points benthic sampling analysis will be presented in the Benthic report. Due by Mar 31 2007.	Ongoing. The Panel believes that SEIC have misunderstood the purpose of this recommendation. The matter was discussed at the Vladivostok briefing and will be discussed at the upcoming meeting under agenda item 4.
WGWAP 1/023	Concerning the issue of reducing collision risks associated with crew change vessels, the Panel notes some positive changes in the Sakhalin Energy approach. However, it believes that further work in this area is important and should be pursued. Therefore, it is <b>recommend</b> that:	SEIC		
	(a) Both crew change vessels have 2 MMOs onboard on a <i>permanent</i> basis, as recommended by the IISG, instead of 'whenever possible', as reported by Sakhalin Energy at this meeting;		This was Implemented in 2006 and is planned for 2007	
	(b) Further measures be taken to avoid deviations of crew change vessels from the prescribed route;		SEIC has a procedure in place and follows up on all deviations.	
	(c) Serious consideration continue to be given by Sakhalin Energy to the issue of collision risk associated with number and frequency of crew change vessel trips; a solution to this problem must be found.		Helicopters will be primary crew change vehicle and will be used whenever the weather permits.	

Reference	WGWAP Recommendation & Requests	Responsible Party	SEIC Response	Status
WGWAP 1/024	Taking into account previously raised concerns with regard to the effectiveness of the MMO programme, the Panel <b>looks forward</b> to reviewing details of the MMO training protocol to examine its effectiveness prior to the 2007 construction season.	SEIC	MMO training programme will be presented	Ongoing. The training protocol is included in the MMO manual which has been submitted to the Panel (WGWAP 2/INF.3). This item will be discussed under agenda item 6.
WGWAP 1/025	As a way of helping to assess the risk of ship-whale collisions during poor visibility conditions, it is <b>recommended</b> that, at a minimum, the following information be provided to the next meeting of the WGWAP:	SEIC	These will be incorporated into MMO close-out report 2006. This will be made available to the WGWAP early in 2007.	Ongoing. The close out report will be presented to the Panel (WGWAP 2/INF.4). This item will be discussed under agenda item 6.
	(a) Amount of MMO effort under conditions with visibility $\leq 1$ km;		Ditto	
	(b) Number of crew change vessel trips conducted in conditions with visibility $\leq 1$ km or at night;		Ditto	
	(c) Number of whales detected during poor weather conditions (e.g. visibility $\leq 1$ km, Beaufort sea state $\geq 3$ , or after sunset);		Ditto	
	(d) Number of whales detected during good weather and good visibility conditions.		Ditto	
WGWAP 1/026	The Panel <b>recognises</b> the effort invested by the company towards improving MMO effectiveness. Nevertheless, a meaningful evaluation of the MMO programme will be feasible only after a detailed report has been made available to the Panel on MMO observations and measures taken in response to them in the 2006 season. The Panel <b>recommends</b> that such a report be submitted for consideration at the next WGWAP meeting and emphasises that the report must be more than a collation of observer data and should include appropriate analyses.	SEIC	The report will be presented to the panel by next meeting.	Ongoing. Both the close out report (WGWAP 2/INF.4) and the MMO Manual (WGWAP/2INF.3) will be presented to the Panel. This item will be discussed under agenda item 6.
WGWAP 1/027	Additionally, the Panel <b>requests</b> that Sakhalin Energy submit for review its protocol for allocating MMOs to the various vessels in the fleet.	SEIC	There is no formal assignment protocol. SEIC has a pool of trained MMO that are assigned to vessels as required.	This item will be discussed under agenda item 6.
WGWAP 1/028	Finally, the Panel <b>recommends</b> that Sakhalin Energy share its traffic rules, its scheme of vessel navigation corridors and its MMO programme plan with other oil and gas companies operating on the Sakhalin Shelf, regardless of whether those companies are obligated to implement such rules, protocols and programmes.	SEIC	SEIC encourages IUCN to provide this information to other operators with whom IUCN has contact. SEIC has shared this with ENL.	IUCN has not taken steps to do this yet.

Reference	WGWAP Recommendation & Requests	Responsible Party	SEIC Response	Status
WGWAP 1/029	The Panel <b>affirms</b> its continued interest in knowing more about the oil spill that occurred in the vicinity of Hokkaido in January 2006 (and considered by the IISG) and <b>requests</b> that both Sakhalin Energy and IUCN make further inquiries and report on progress at the next WGWAP meeting.	IUCN / SEIC	IUCN is currently following this up with the Japan Coast Guard and will also be writing to the Ministry for Foreign Affairs and the Japanese IUCN Committee. A progress report will be provided to the WGWAP at its next meeting.	IUCN has followed this up as requested by the Panel. IUCN have prepared a brief update of progress on this matter (WGWAP 2/INF. 23). The item will be discussed under agenda item 15.
WGWAP 1/030	It was agreed that there was a need for access to an authoritative, up-to-date and more detailed map showing the spatial boundaries (including latitudes/longitudes) of the existing (and proposed) oil and gas lease areas on the Sakhalin Shelf. The Panel <b>recommends</b> that IUCN consult with industry (Sakhalin Energy as well as other companies), Russian governmental agencies, NGOs and other sources, as appropriate, to obtain better information on oil and gas activities in the Sakhalin region. Such information needs to be provided to the Panel on a routine basis.	IUCN	IUCN will establish an in house GIS capability within the Global Marine Programme. IUCN is exploring options for gaining access to an authoritative data set of offshore oil and gas data for the Sakhalin region. Once this is finalised, an update (with maps as appropriate) will be provided to the Panel and a progress report will be presented to the next WGWAP meeting.	IUCN has followed this up as requested by the Panel. IUCN has prepared a brief update of progress on this matter (WGWAP 2/INF. 25). The item will be discussed under agenda item 3.
WGWAP 1/031	The Panel further noted that it would be useful to obtain access to expertise in spatial data management and modelling (e.g. GIS, 3-dimensional modelling) for assistance in analysing existing and future data and for helping to ensure that such data are archived for future use. The Panel <b>recommends</b> that IUCN investigate and pursue this matter with Sakhalin Energy and relevant panel members on an ongoing basis and that a report on progress be provided at the next WGWAP meeting.	IUCN	Once IUCN has established the GIS system in house, it will liaise with other data holders/providers in order to identify relevant data sets and discuss with those data providers the most effective way of making these available to the Panel. IUCN will present a progress report to the next WGWAP meeting.	IUCN has taken limited steps to follow this up. IUCN has prepared a brief update of progress on this matter (WGWAP 2/INF. 25). The item will be discussed under agenda item 3.
WGWAP/Mad-01	<b>Works Schedule for Sakhalin 2</b> The WGWAP has reviewed the General Timeline (Work Schedule) for 2007-2011 provided by Sakhalin Energy after WGWAP-I. Although this document represents a start, it falls short of meeting the need for advance information, as described in the report of WGWAP-I. The Panel therefore recommends that the following concerns be addressed by the company, in documentation for the St. Petersburg meeting:	SEIC		This item will be addressed under agenda item 7.

Reference	WGWAP Recommendation & Requests	Responsible Party	SEIC Response	Status
	(1) It appears that Sakhalin Energy does not intend to continue monitoring and studying whale behaviour past the 2007 season. This would mean truncation of a valuable time series of data. The Panel requests clarification on whether the decision to end such work after 2007 is final or contingent, and if the latter, on what?			
	(2) No mention of seismic testing is indicated in the schedule. Does this mean that the operational phase of Sakhalin-II can and will proceed (through 2008-2011) without accompanying seismic work? If seismic testing is necessarily associated with particular aspects of future operations (e.g. drilling), this should be noted in the schedule where appropriate, perhaps with caveats or provisos regarding uncertainty (e.g. stating that plans are only tentative and timing may not be exact). A thorough discussion of this issue, with associated recommendations, should be expected at the St. Petersburg meeting.			
	(3) No reference is made to satellite tagging of western gray whales. Again, the Panel requests clarification on whether this reflects a final decision by Sakhalin Energy not to pursue this important aspect of research, or instead is contingent on the outcome of further discussions and analyses.			
	(4) Although the "2007 Details" section of the document provides an indication of the time window within which each activity (for PA-A, PA-B and Lun-A) is to be completed, at least some of the activities will involve noise production only sporadically or for a portion of the time window while others may involve noise during the entire period. The Panel requests more details in regard to actual timing and duration of noise-producing activities. For each activity, we wish to know specific work planned (steps involved such as, for the PA-B topsides installation, the setting of dead anchors, movement of the topsides barge from offshore, etc.), numbers and types of vessels involved (names if possible), and noise footprint of the activity (including nature and intensity of the sound produced).			

Reference	WGWAP Recommendation & Requests	Responsible Party	SEIC Response	Status
	<p>(5) The Panel recognizes that the early start of construction activities reflects, at least in part, the company's effort to respond to previous recommendations concerning spatial and temporal separation of noisy operations from areas and times of peak whale density. A drawback of such early start-up, however, is that due to SEIC's policies and priorities with regard to logistics, manpower etc., there is no assurance that monitoring equipment and personnel will be in place and functioning well in advance of construction in order to collect baseline information. Such baseline information is essential for "real time" assessment and mitigation of the potential effects of industrial activities related to oil and gas development, as well as for post-hoc analyses. The Panel therefore recommends that the company take whatever actions are necessary to ensure that observers and equipment (including acoustic buoys) are on-site and functioning at least two weeks prior to the start of construction activities in 2007.</p> <p>(6) On a minor note, it would be helpful if abbreviations or acronyms were either not used, or explained (e.g. in a footnote). The Panel would then be able to grasp readily that, for example, MTI = Molikpaq Tie-In, PVS = Piltun Supply Vessel, etc.</p>			
WGWAP/Vlad-02	<p><b>Follow-up on WGWAP 1/006 regarding effort-corrected data on distribution</b></p> <p>(Note that the third bullet point under WGWAP 1/007 is essentially equivalent to WGWAP 1/006)</p> <p>The Panel recommends that the integrated, effort-corrected data on western gray whale distribution for <u>all years available</u> and for all platforms (shore, vessel, aerial) be calculated on a weekly basis and provided as a document for the St. Petersburg WGWAP meeting. These distribution data should then also be overlain on the acoustic footprint for the corresponding periods (see Recommendation 3).</p>	SEIC		<p>Following the Vladivostok briefing, SEIC have agreed to provide the Panel with effort corrected distribution data for its St Petersburg meeting. (WGWAP 2/INF.11). This item will be discussed under agenda item 11.</p>

Reference	WGWAP Recommendation & Requests	Responsible Party	SEIC Response	Status
WGWAP/Vlad-03	<p><b>Follow-up on WGWAP 1/007 regarding 2006 acoustic data</b></p> <p>The Panel recommends that for every recorder available, Sakhalin Energy provides the following:</p>	SEIC		This item will be the focus of a substantive discussion under agenda item 13.
	<p>(1) Spectrograms and amplitude levels for all recordings from all recorders, both real-time data from T-AUARs and sonobuoys <u>and</u> the post-season analysis of the recorders. These plots should take the form of those from a previous MNR report, for example, figure 1.8 from the following document prepared for the second Vancouver meeting (i.e., IISG) – ‘WGWAP_13E_MNR_Report_Acoustics_Volume_1_2005.pdf’. This is a traditional presentation of acoustic data, and some completed analyses were shared at the Vladivostok briefing. Frequency analysis should be in 1 Hz steps, and time steps should be ≤1 min. We would make two recommendations regarding changes in the display of these data:</p> <ul style="list-style-type: none"> <li>i) the frequency axis should be linear, not logarithmic, and need only cover the range from 1-1000 Hz; and</li> <li>ii) the plots for the levels should be expanded so that the axis for the levels is larger and more readable.</li> </ul>			
	<p>(2) <b>90th, 50th and 10th percentile</b> amplitude levels calculated for <b>1/3 octave bands up to 5 kHz</b> every <b>half-hour</b> based on <b>≤ 30 sec time window analysis</b>, i.e., for every recorder, again both the real-time recordings <u>and</u> the post-season analysis, we should see plots of at least the 90th, 50th, and 10th percentile levels for 1/3 octave bands, with the levels calculated every half-hour based on ≤ 30 sec windows. So, the levels are taken for every 30 sec time window, averaged over one half-hour, then the 10th, 50th, and 90th percentile levels for 1/3 octave bands are calculated.</p>			
	<p>(3) correlations between different hydrophones, e.g., how do the recordings of a particular event compare between a hydrophone at the edge of the feeding area and one inside the area?</p>			

Reference	WGWAP Recommendation & Requests	Responsible Party	SEIC Response	Status
	(4) These data should be provided in documentation for the St. Petersburg meeting.			
WGWAP/Vlad-04	<p><b>Follow-up on WGWAP 1/007 regarding 2006 Daily Construction Activities, by Vessel</b></p> <p>The Panel recommends that information on day-by-day construction activities <u>and locations</u> for each vessel be provided as a document for the St. Petersburg WGWAP meeting (per the SEIC response to WGWAP 1/007). There should be at least three sources of such information – satellite-linked tracking data for each vessel, vessel logbooks, and MMO data (recorded at half-hourly intervals).</p>	SEIC		SEIC have agreed to submit this data in document WGWAP 2/INF.13. This item will be discussed under agenda item 12.
WGWAP/Vlad-05	<p><b>Follow-up on WGWAP 1/005 regarding MVA of 2006 data</b></p> <p>The Panel was advised at the Vladivostok briefing that although the 2005 MVA will be completed by the time of the St. Petersburg meeting, the 2006 MVA will not be ready for review. At a minimum, in the absence of a full 2006 analysis to review, the Panel recommends that SEIC scientists make available an outline of the methodology planned for the 2006 MVA. This outline should be provided prior to WGWAP-II so that it can be discussed and considered during the St. Petersburg meeting. The Panel also requests that the input data used for the 2005 MVA, and the intended input data for the 2006 MVA, be submitted to the Panel.</p>	SEIC		Ongoing. SEIC have indicated their intention to finalise the 2005 MVA and to incorporate Panel and other input into the analysis of the 2006 data. This item will be addressed under agenda item 9.
	<p><b>Additional Comment</b></p> <p>In addition to the above recommendations, the Panel notes that it is working on a response to Sakhalin Energy's "final" document on noise exposure criteria. Specifically, the Panel intends to present a document on this subject in advance of the St. Petersburg meeting (ca. 2 weeks) so that the company can consider it and prepare for a constructive discussion during the meeting. It is hoped that this will be the final discussion of this matter before the 2007 construction season, and beyond.</p>			This document has been finalised and provided to SEIC (WGWAP 2/INF 15). This item will be discussed under agenda item 13.