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NEWS RELEASE

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Keeping Whales Safe in Sound

Unique collaboration between oil / gas industry, scientists, conservationists proves way to minimize seismic survey impacts on rare whales, other species

Gland, Switzerland, 20 January 2014 – A step-by-step guide to reducing impacts on whales and other marine species during seismic sea floor surveys has been developed by experts with IUCN's Western Gray Whale Advisory Panel (WGWAP) and Sakhalin Energy Investment Company Ltd.

In the study, published in the journal *Aquatic Mammals*, the authors present the most thorough, robust and practical approach to minimizing and monitoring the risk of harm to vulnerable marine species when intense sounds are used to survey the sea floor primarily in the search for oil and gas.

"This is a valuable tool for oil and gas companies, regulators and others on all aspects of developing and implementing successful environmental monitoring and mitigation programmes that are precautionary, responsible and effective," says lead author **Dr Doug Nowacek, WGWAP Member from Duke University.**

In seismic surveys, air guns towed behind ships repeat powerful bursts of sound. Sensors measure the return echo to reveal details of the sea floor and underlying geologic structure to a depth of several kilometers. Sound is a powerful tool for imaging and investigating the sea floor that is deployed mostly by the energy industry to pinpoint the location of oil or gas. Such surveys are also used for mapping the continental shelf and for finding the best sites for new offshore wind energy projects.

Whales rely on sound for communication, navigation and foraging. Exposure to loud noise from seismic surveys can result in stress and behaviour changes, affect foraging and nursing, or cause direct physical damage.

The study describes the most comprehensive whale protection programme ever developed for a seismic survey, used by Sakhalin Energy Investment Company Ltd – an oil and gas company with Gazprom, Shell, Mitsui and Mitsubishi as shareholders – in a survey close to the main Western Gray Whale feeding area near Sakhalin Island, on the Russian coast, just north of Japan.

"The survey was completed on schedule and all monitoring and mitigation components were successfully implemented. The company obtained the necessary data, while, at the same time, minimizing the risk of disturbance to whales. The approach was so successful that the results of ongoing analysis have not revealed significant direct impact on the whales," says **Mr Carl Gustaf Lundin, Director of Global Marine and Polar Programme at IUCN, which convenes WGWAP.**

The feeding areas near Sakhalin – a region with huge offshore oil and gas deposits – are vital for the survival of Western Gray Whales, listed as Critically Endangered on the IUCN Red List of Threatened Species™. They fast during the breeding season and most of their long migration from feeding to breeding and calving areas. Obtaining enough food, body mass and energy is crucial for their travels, which can cover tens of thousands of kilometers and are known as one of the longest migrations by any mammal..

Based on the experience in developing and conducting Sakhalin Energy's survey and associated mitigation and monitoring programme, the authors propose a broader approach that can be adapted to seismic surveys in any environmentally sensitive area. Each such survey, however, must take into account their specific circumstances – for example, local species, environmental features, the history and nature of other operations in the area.

"Key to minimizing impacts during seismic surveys is advance knowledge of marine life distribution and migrations and timing a survey accordingly," says **co-author Dr Greg Donovan, Chairman of the WGWAP Seismic Survey and Noise Task Forces and Head of Science at the International Whaling Commission.** *"In the Sakhalin case that*

means conducting the survey as early as possible in spring when the ice has melted but most of the whales have not yet arrived."

Recommendations in the study include the need to:

- Obtain baseline ecological data;
- Conduct detailed advance planning, communication and critical review of survey design and mitigation approaches;
- Restrict the survey area and limit estimated noise levels to minimize a survey's "acoustic footprint";
- Employ real-time visual and acoustic monitoring of noise levels, whale locations and behavior, before during and after the survey;
- Halt the survey if the animals are too close or show strong reactions to the seismic activity;
- Conduct systematic analyses of results to inform future planning and mitigation.

Some governments and companies planning seismic surveys around the world have already expressed interest in the experience of Sakhalin Energy's survey and the responsible approach described in the *Aquatic Mammals* paper.

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Expert comments:

"We hope our guidelines on how to reduce the environmental impacts of seismic work in the oceans will find their way into the manuals of energy companies and environmental agencies around the world."

Lead authors **Dr Doug Nowacek, WGWAP Member from Duke University** and **Dr. Brandon Southall, WGWAP Associate Scientist from the University of California, Santa Cruz, and President & Senior Scientist for Southall Environmental Associates, Inc.**

"Our paper draws upon the experience and practical knowledge of the industry as well as rigorous applied science from acousticians and marine mammal scientists to develop a broadly applicable framework for minimizing the potential impacts of seismic surveys and quantitatively assessing the efficacy of mitigation measures used. Our goal was to synthesize Sakhalin lessons learnt and develop an approach to enable seismic surveys to be conducted in an environmentally responsible manner, regardless of purpose or species within the region."

Co-author **Dr. Greg Donovan, Chairman of the WGWAP Seismic Survey and Noise Task Forces and Head of Science at the International Whaling Commission.**

"We are proud of the Panel's and Sakhalin Energy's commitment to responsible energy development that safeguards marine life and call on other companies operating offshore to adopt these valuable recommendations as essential behavior. IUCN believes that the oil & gas sector should not only recognize their impact on the environment, but also become part of the solution on how it can meet the energy needs without sacrificing nature."

Ms Julia Marton-Lefèvre, IUCN Director General

"Indeed, Western Gray Whales and other marine species can only be saved by the combined efforts of all companies operating in the vicinity of their habitats. WGWAP serves as a model of how business, scientists and the conservation community can work together to ensure a sustainable future for our seas and oceans."

"We have been working with Sakhalin Energy already for 10 years. The company's approach for its seismic survey that was developed jointly with WGWAP is just one example of a precautionary approach taken by a responsible oil and gas operator that adheres to the highest environmental standards. We are eager to share these lessons learnt and help other companies in Sakhalin and around the world improve their practices."

Mr. Carl Gustaf Lundin, Director, IUCN Global Marine and Polar Programme

"If we are serious about conservation, we cannot afford to remain aloof and stand apart from discussions with industry. In the case of offshore oil and gas, the risks to nature are huge, and credible science must be brought to bear for both measuring and minimizing these risks."

Dr. Randall Reeves, Chairman of WGWAP and Cetacean Specialist Group of IUCN Species Survival Commission.

"While producing valued and necessary products, companies impact natural resources that are part of global commons. Such production should occur as responsibly as possible by minimizing risks to potentially affected valued public resources. It is in the best interest of all parties to follow responsible practices in the planning, execution and analysis of seismic surveys as we strive for the wise utilization and conservation of valuable natural resources."

Co-author **Dr. Alexander Vedenev, WGWAP Member and Head of the Laboratory on Noises and Sound Fluctuations in the Ocean at P. P. Shirshov Institute of Oceanology of Russian Academy of Sciences.**

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Notes for editors

The authors of the study *Responsible Practices for Minimizing and Monitoring Environmental Impacts of Marine Seismic Surveys with an Emphasis on Marine Mammals* include the following members of the GWAP Seismic Surveys and Noise Task Forces: Dr Doug Nowacek, Duke University (USA); Koen Bröker, Shell Global Solutions (Netherlands); Dr Greg Donovan, International Whaling Commission (UK); Dr Glenn Gailey, Texas A&M University at Galveston (USA); Dr Roberto Racca, JASCO Applied Sciences Ltd (Canada); Dr Randall Reeves, Okapi Wildlife Associates (Canada); Dr Alexander Vedenev, P. P. Shirshov Institute of Oceanology of Russian Academy of Sciences (Russia); Dr David Weller, National Oceanic and Atmospheric Administration (NOAA, USA); Dr Brandon Southall, Southall Environmental Associates and University of California at Santa Cruz (USA).

This study is an outcome of work over the period of 2006-2012 within the context of the Western Gray Whale Advisory Panel (GWAP), convened by the International Union for Conservation of Nature (IUCN) and supported by Sakhalin Energy Investment Company Ltd. A grant to IUCN from the UK Department for Environment, Food and Rural Affairs (DEFRA) was used specifically to enable lead authors Dr. Nowacek and Dr. Southall to devote time to prepare the manuscript.

Terminology used in the paper

Environmentally sensitive areas are regarded as those containing endangered species or critical breeding/feeding habitat for multiple species or large numbers of individual organisms.

Monitoring applies to a program for collecting data both to test for effects after the seismic survey has concluded and to apply the results to the planning of future surveys (e.g., revise exposure criteria).

Mitigation represents the measures designed for and implemented during the survey specifically to eliminate or minimize the impacts on animals in the area; such measures range widely from the implementation of a safety radius to the timing of the survey.

Materials for the media

- Abstract of the paper *Responsible Practices for Minimizing and Monitoring Environmental Impacts of Marine Seismic Surveys with an Emphasis on Marine Mammals* and Figure 1 "Practical roadmap for planning, executing, evaluating, and improving the design of a responsible seismic survey": <https://www.dropbox.com/s/z8jmnab3cdslskb/AM%20Abstract%20%26%20Figure%20-%20for%20the%20media.pdf>
- The full text of the paper *Responsible Practices for Minimizing and Monitoring Environmental Impacts of Marine Seismic Surveys with an Emphasis on Marine Mammals* is available on request from Anete Berzina, IUCN, +41 22 999 0703, +41 79 174 61 86, anete.berzina@iucn.org
- High resolution photos of Western Gray Whales in Sakhalin are available at: <https://www.dropbox.com/sh/9ao76qf4iksp965/Js1mPP-mDm> and http://iucn.org/gwap/publications_and_reports/picture_gallery/ – those can only be used in connection to this news release
- An IUCN brochure *Marine Seismic Surveys: Modern Approaches to Minimizing Risks in Environmentally Sensitive Areas – Sakhalin Case Study* is available at: http://iucn.org/gwap/publications_and_reports/list/
- Detailed GWAP reports, whale monitoring and mitigation plans and other documents can be found at: www.iucn.org/gwap

About IUCN

IUCN, International Union for Conservation of Nature, helps the world find pragmatic solutions to our most pressing environment and development challenges. IUCN's work focuses on valuing and conserving nature, ensuring effective and equitable governance of its use, and deploying nature-based solutions to global challenges in climate, food and development. IUCN supports scientific research, manages field projects all over the world, and brings governments, NGOs, the UN and companies together to develop policy, laws and best practice. IUCN is the world's oldest and largest global environmental organization, with more than 1,200 government and NGO Members and almost 11,000 volunteer experts in some 160 countries. IUCN's work is supported by over 1,000 staff in 45 offices and hundreds of partners in public, NGO and private sectors around the world. www.iucn.org

About GWAP

Since 2004, IUCN has worked with Sakhalin Energy in order to provide advice and recommendations on how the company can minimize risks associated with its operations on the Western Gray Whale population and its habitat. As one part of this broad initiative, in 2006 IUCN created a permanent panel of independent scientists – the Western Gray Whale Advisory Panel (GWAP) – which consists of 11 top Russian and international experts on a range of disciplines. The Panel provides scientific advice and recommendations on the company's operational plans and mitigation measures of its Sakhalin-2 project, one of the world's largest oil and gas operations. Through this positive and effective cooperation a unique holistic set of state-of-art monitoring and mitigation measures has been developed to reduce risks to the whales. The project demonstrates how critically endangered species can coexist with the economic development and aims at the development of better scientific knowledge of the species, as well as international best practices for the environmental management aspects of oil and gas operations in environmentally sensitive habitats such as Sakhalin. www.iucn.org/gwap