

**Application for Consent to Conduct Marine Scientific Research
in Areas Under National Jurisdiction of**

Iceland
(name of coastal state)

Date: 20th April 2016

1. General Information

1.1 Cruise name and/or #:	MCR cetacean expedition and research project in Icelandic and adjacent waters of the Denmark Strait, summer 2016.
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1.2 Sponsoring institution:	* please see attached information for full list of sponsors/funders
Name:	Marine Conservation Research Ltd.
Address:	94 High Street, Kelvedon, CO5 9AA, UK
Name of Director:	Mr Richard McLanaghan

1.3 Scientist in charge of the project (include CV and passport photo):	
Name:	Dr Oliver Boisseau
Address:	Marine Conservation Research International 94 High Street Kelvedon, Essex, CO5 9AA, UK
Telephone:	+44(0)1376 573071
Fax:	+44 (0)1376 573071
Email:	oboisseau@mcr-team.org

1.4 Scientist(s) from coastal state involved in the planning of the project:	
Name(s):	Dr Marianne Helene Rasmussen and team/students
Address:	University of Iceland, Reykjavík, Iceland

1.5 Submitting officer:	
Name and address:	Richard McLanaghan Marine Conservation Research Ltd 94 High Street Kelvedon, Essex, CO5 9AA, UK
Nationality:	British
Telephone:	+44 (0)1376 573071
Fax:	
Email:	rmclanaghan@mcr-team.org

2. Description of Project (Attach additional pages as necessary)

2.1 Nature and objectives of the project:	Research on cetaceans with the aim of further developing the use of passive acoustic techniques for the study of cetaceans, particularly baleen whales. Previous projects off Iceland in 2004, 2006 and 2012 focused on the acoustics of fin and blue whales and the behavior of minke whales in Faxaflói bay. In 2016 we plan to continue studying and collecting acoustic recordings of fin, blue and minke whales, in addition to searching for the presence of North Atlantic right whales in the Denmark Strait, during passages between Iceland and Greenland. Acoustic recordings and
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photo-identification images of all cetacean species will also be collected and the data shared with the University of Iceland and any other interested parties.

2.2 Relevant previous or future research cruises:

The *Song of the Whale* team has carried out passive acoustic surveys over the last 25 years on a variety of cetacean species around the world. The team previously conducted visual and passive acoustic research on cetaceans around Iceland in 2004, 2006 (see Boisseau *et al.* 2008) and 2012, and have also studied N Atlantic right whales off the USA and Canada for many years between 1997 and the present, sperm whales in the Mediterranean (2003, 2004, 2007, and 2013), Azores (1995, 2008, 2012), Canary Islands (1993, 2008), Caribbean Sea (1995, 1998, 2000, 2006) and beaked whales in the Canary Island and the Azores (2008) and off Scotland and Ireland (2010 and 2015). The team has conducted extensive work on the development and use of passive acoustic detection systems for various species of cetaceans, including harbour porpoises, sperm whales and N Atlantic right whales (see references below). The team has also developed techniques for visually tracking the movements of whales using video cameras and these methods were used to track minke whale movements and dive patterns in Faxaflói in 2012.

2.3 Previously published research data relating to the project:

The team has extensive knowledge and experience in the field of marine mammal acoustics and survey design. The group has produced a body of work relating to surveys of marine mammals, particularly using acoustics, including:

Boisseau, O., Lacey, C., Lewis, T., Thorne, T. Moscrop, A., Gillespie, D. and Aguilar de Soto, N. In prep. Mid-Atlantic surveys for beaked whales: The potential for acoustic prediction of critical habitats.

Boisseau, O. J., Gillespie, D., Leaper, R. & Moscrop, A. 2008. Blue (*Balaenoptera musculus*) and fin (*B. physalus*) whale vocalisations measured from northern latitudes of the Atlantic Ocean. *J. Cetacean Res. Manage.* 10(1): 23-30.

Boisseau, O., Matthews, J., Gillespie, D., Lacey, C., Moscrop, A. & El Ouamari, N. 2007. A visual and acoustic survey for harbour porpoises off North-West Africa: further evidence of a discrete population. *African Journal of Marine Science* 29(3): 403-410.

Boisseau, O., Lacey, C., Lewis, T., Matthews, J., Moscrop, A., Danbolt, M. and McLanaghan, R. 2010. Sighting rates from cetacean surveys in the Mediterranean Sea and contiguous regions. *J. Mar. Biol. Ass. U.K.* 90: 1589-1599.

Chappell, O. P., Leaper, R. & Gordon, J. 1996. Development and performance of an automated harbour porpoise click detector. *Rep. Int. Whal. Commn.* 46: 587-593.

Cucknell, A-C., Frantzis, A., Boisseau, O., Romagosa, M., Ryan, C., Tonay, A. M., Alexiadou, P., Öztürk, A. A. and Moscrop, A., 2016. Harbour porpoises in the Aegean Sea, Eastern Mediterranean; the species' presence is confirmed. *Marine Biodiversity Records*, in press.

Cucknell, A-C., Boisseau, O., Leaper, R., McLanaghan, R. and Moscrop, A. Under review. Harbour porpoise (*Phocoena phocoena*) presence, abundance and distribution over the Dogger Bank, North Sea, in winter. *Journal of the Marine Biological Association of the United Kingdom*.

Gillespie, D. & Chappell, O. 2002. An automatic system for detecting and classifying the vocalisations of harbour porpoises. *Bioacoustics* 13: 37-61.

Gillespie, D., Berggren, P., Brown, S., Kulik, I., Lacey, C., Lewis, T., Matthews, J., McLanaghan, R., Moscrop, A. & Tregenza, N. 2005. The relative abundance of harbour porpoises *Phocoena phocoena* from acoustic and visual surveys in Baltic waters during 2001 and 2002. *Journal of*

Cetacean Research and Management 7(1): 51-57.

Leaper, R. and Gordon, J. 2001. Application of photogrammetric methods for locating and tracking cetacean movements at sea *J. Cetacean Res. Manage.* 3(2):131-141

Lewis, T., Gillespie, D., Lacey, C., Matthews, J., Danbolt, M., Leaper, R., McLanaghan, R. & Moscrop, A., 2007. Sperm whale abundance estimates from acoustic surveys of the Ionian Sea and Straits of Sicily in 2003. *J. Mar. Biol. Ass. U.K.* 87(1): 353-358.

Lewis, T., Matthews, J., Boisseau, O., Danbolt, M., Gillespie, D., Lacey, C., Leaper, L., McLanaghan, R. and Moscrop, A. Under review. Abundance estimates for sperm whales in the south western and eastern Mediterranean Sea from acoustic line-transect surveys. *Journal of Cetacean Research and Management.*

Matthews, J. N., Brown, S., Gillespie, D., Johnson, M., McLanaghan, R., Moscrop, A., Nowacek, D., Leaper, R., Lewis, T. & Tyack, P. 2001. Vocalisation rates of the North Atlantic right whale (*Eubalaena glacialis*). *Journal of Cetacean research and management* 3: 271-282.

Moscrop, A., Matthews, J., Gillespie, D., & Leaper, R. 2004. Development of passive acoustic monitoring systems for northern right whales. *Canadian Acoustics* 32 (Special Issue on Detection and Localisation of Marine Mammals): 17-22.

3. Methods and Means to be Used

3.1 Particulars of vessel:	
Name:	R.V. <i>Song of the Whale</i>
Nationality (Flag state):	British
Owner:	Marine Conservation Research International.
Overall length (meters):	22m
Maximum draught (meters):	3m
Displacement/Gross tonnage:	51.58
Propulsion:	Auxiliary sailing vessel
Cruising & Maximum speed:	8 knots, 10 knots
Call sign:	MDSX7
Method and capability of communication (including emergency frequencies):	The vessel is fully equipped with GPS, AIS, SSB & VHF radio and Inmarsat in accordance with MCA for a vessel of this type. Contact details to be provided to permitting body as required.
Name of master:	Mr Brian Morrison
Number of crew:	The vessel is operated by a dedicated crew of 3 or 4 (including a skipper, 1 st mate engineer and deckhand.
Number of scientists on board:	Variable (up to 7)

3.2 Aircraft or other craft to be used in the project:
None

3.3 Particulars of methods and scientific instruments		
Types of samples and data	Methods to be used	Instruments to be used
Visual		Binoculars
Passive acoustic recordings		Towed and dipping hydrophones

Photographs	Photo-identification	Digital cameras and high-definition video recorder
Tracking of minke whale movement and diving patterns	Visual observations combined with video	Combined video and binocular mount with bearing measurement system

3.4 Indicate whether harmful substances will be used:
None

3.5 Indicate whether drilling will be carried out:
None

3.6 Indicate whether explosives will be used:
None

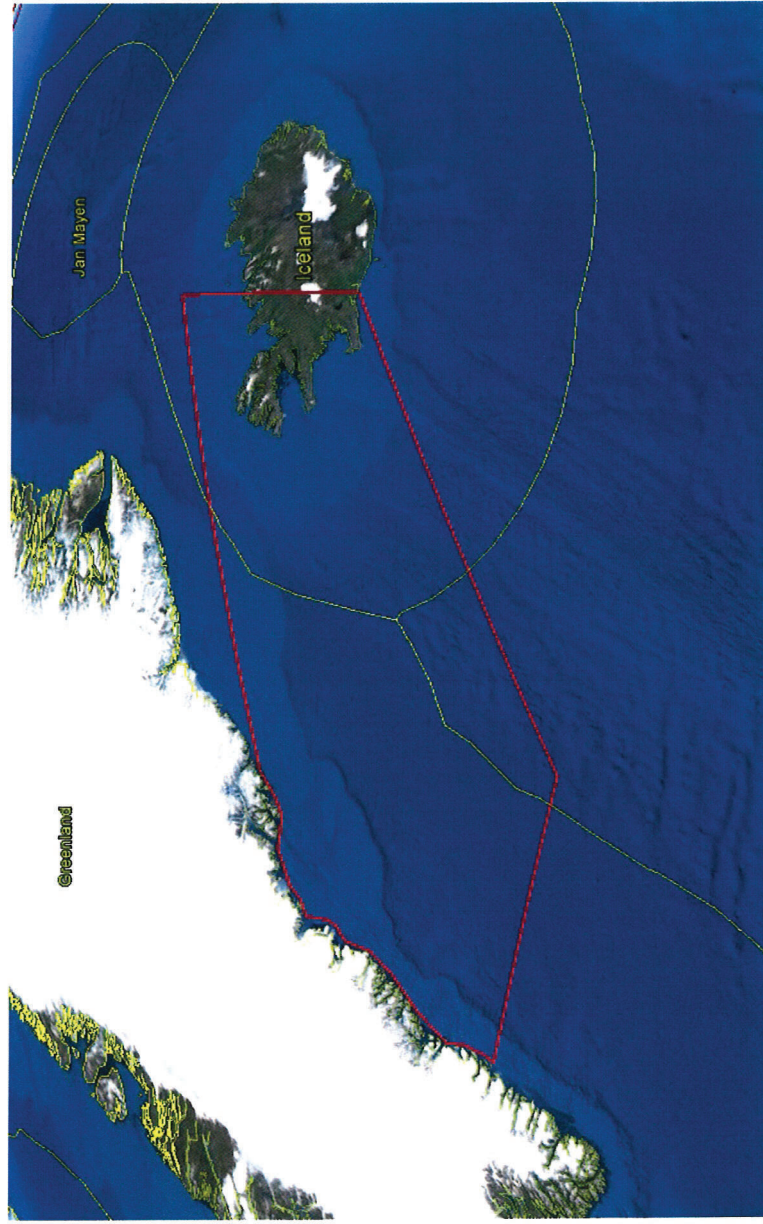
4. Installations and Equipment

Details of installations and equipment (dates of laying, servicing, recovery; exact locations and depth):
None

5. Geographical Areas

5.1 Indicate geographical areas in which the project is to be conducted (with reference in latitude and longitude):
The research expedition will transit between Reykjavik, Iceland, offshore into the territorial waters of Greenland in order to research the presence of cetaceans, especially baleen whales in the Denmark Strait. Further research will be undertaken around Iceland to build on the data collected on previous projects.

5.2. Attach chart(s) at an appropriate scale (1 page, high-resolution) showing the geographical areas of the intended work and, as far as practicable, the positions of intended stations, the tracks of survey lines, and the locations of installations and equipment.



The area outlined in red shows the study area. Yellow line marks Iceland /Greenland EEZ. Permission is also being sought from the authorities in Greenland for permission to conduct research there (map from Google Earth).

6. Dates

6.1 Expected dates of first entry into and final departure from the research area of the research vessel:

1 July 2016 – 15 September 2016

6.2 Indicated if multiple entry is expected:

The vessel will make landfall in Greenland, multiple entries in Iceland will be required.

7. Port Calls

7.1 Dates and names of intended ports of call:

Dates of port calls are still to be confirmed but may include Ísafjörður, Sandgerði, Garður/Keflavík, Reykjavík, Akranes and Ólafsvík

7.2 Any special logistical requirements at ports of call:

None

7.3 Name/Address/Telephone of shipping agent (if available):

NESSKIP, Seltjarnarnes (Reykjavík) Iceland
Tel: +354 563 9900 Fax: +354 563 9919

8. Participation:

8.1 Extent to which coastal state will be enabled to participate or to be represented in the research project:

Visiting scientists and students are invited to take part in the project. The number of available spaces will be confirmed asap. Members of Dr Rasmussen's team are expected to take part in the project.

8.2 Proposed dates and ports for embarkation/disembarkation:

To be confirmed

9. Access to data, samples and research results

9.1 Expected dates of submission to coastal state of preliminary reports, which should include the expected dates of submission of the final results:

A preliminary cruise report would be submitted on the 15th November 2016 and a final report by 30th March 2017

9.2 Proposed means for access by coastal state to data and samples:

Data will be made available to interested parties

9.3 Proposed means to provide coastal state with assessment of data, samples and research results or provide assistance in their assessment or interpretation:

Databases can be provided to the coastal state in digital format

9.4 Proposed means of making results internationally available:

Results will be made available through releasing reports on the MCR website and published as appropriate in scientific journals.

(Revised June 5, 2002)