Application for Consent to conduct Marine Scientific Research

Date: ___04/04/2016_____

1. General Information

1.1 Cruise name and/or number:	
CV16031 World War I Shipwrecks	

1.2 Sponsoring Institution(s):	
Name:	Marine Institute
Address:	Rinville, Oranmore, Co. Galway, Galway
Name of Director:	Peter Heffernan

1.3 Scientist in charge of the Project:	
Name:	Ruth Plets / Rory Quinn
Country:	UK
Affiliation:	Ulster University
Address:	School of Environmental Sciences, Coleraine
	BT52 1SA
Telephone:	028701 24961 / 028701 24884
Fax:	02870124911
Email:	r.plets@ulster.ac.uk / rj.quinn@ulster.ac.uk
Website (for CV and photo):	http://www.ulster.ac.uk/es/staff/dr-ruth-plets/
	http://www.ulster.ac.uk/es/staff/dr-rory-quinn/

1.4 Entity(ies)/Participant(s) from coastal State involved in the planning of the project:		
Name:	Ruth Plets, Rory Quinn, Kieran Westley	
Affiliation:	Ulster University	
Address:	School of Environmental Sciences, Coleraine	
	BT52 1SA	
Telephone:	028701 24961 / 028701 24884	
Fax:	02870124911	
Email:	r.plets@ulster.ac.uk; rj.quinn@ulster.ac.uk;	
	kl.westley@ulster.ac.uk	
Website (for CV and photo):	http://www.ulster.ac.uk/es/staff/dr-ruth-plets/	
	http://www.ulster.ac.uk/es/staff/dr-rory-quinn/	
	http://www.ulster.ac.uk/es/resstaff/dr-kieran-	
	westley/	

2. Description of Project

2.1 Nature and objectives of the project:

This year's research cruise intends to do repeat surveys over wreck sites surveyed in September 2015 (CV15021).

The overall scientific goal is to acquire further very high-resolution data over World War I (WWI) wrecks in the Irish Sea which will be used for research into archaeological, biological and physical processes, 3D visualization and cultural heritage management. The acquisition of data will include: multibeam and pinger geophysical data; grab samples for

ground-truthing and the biological/chemical analysis.

2.2 If designated as part of a larger scale project, then provide the name of the project and the Organisation responsible for coordinating the project: N/a

2.3 Relevant previous or future research projects:

Our plan is to resurvey some of the targeted wrecks at a 12-monthly intervals to study how these wrecks are affected by different natural processes. By understanding their current condition and the short-term processes affecting them, we hope to predict their future state.

2.4 Previous publications relating to the project:

Plets, Ruth, Dix, Justin and Bates, Richard (2013) Marine Geophysics Data Acquisition, Processing and Interpretation. English Heritage. English Heritage. 48 pp.

Plets, Ruth (2013) Underwater survey and acoustic detection and characterization of archaeological materials. In: The Oxford Handbook of Wetland Archaeology. Oxford University Press, Oxford, pp. 433-449.

Plets, R., Quinn, R., Forsythe, W., Westley, K., Bell, T., Benetti, S., McGrath, F. and Robinson, R., 2011. Using multibeam echo-sounder data to identify shipwreck sites: archaeological assessment of the Joint Irish Bathymetric Survey data. International Journal of Nautical Archaeology, 40(1): 87-98.

Quinn, R (2011) Acoustic Remote Sensing in Maritime Archaeology. In: The Oxford Handbook of Maritime Archaeology. (Eds: Catsambis, A, Ford, B and Hamilton, DL), Oxford University Press, pp. 68-89. I

Quinn, R and Boland, D (2010) The role of time-lapse bathymetric surveys in assessing morphological change at shipwreck sites. Journal of Archaeological Science, 37(11): 2938-2946.

Smyth, TAG and Quinn, R (2014) The role of computational fluid dynamics in understanding shipwreck site formation processes. Journal of Archaeological Science, 45: 220-225.

3. Geographical Areas

3.1 Indicate geographical areas in which the project is to be conducted (with reference in Latitude and longitude in decimal degrees, including coordinates of cruise/track/way points/sampling stations). Please provide coordinates in a separate excel spreadsheet. Three areas have been highlighted as having high potential for WWI shipwrecks in Northern

Irish waters: PA1: Rathlin Island

PA1: Rathin Island PA2: The approaches to Belfast Lough

CA1: The Outer Ards Peninsula.

The locations and water depths for each shipwreck can be found in the excel spreadsheet provided with this document. The position of the grab samples will be decided after acquisition of the geophysical data. We envisage that the location of such samples will be within a 1km buffer of the wreck's position.

3.2 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 location and depth of sampling Stations, the tracks of survey lines, and the locations of installations and equipment. Charts provided:

Figure 1: Location of general study areas Figure 2: Selected wrecks within PA1 Figure 3: Selected wrecks within PA2 Figure 4: Selected wrecks within CA1

4. Methods and means to be used

4.1 Particulars of vessel:		
Name:	R.V. Celtic Voyager	
Type/Class:	100 A1 Research Vessel, LMC	
Nationality (Flag State):	Irish	
Identification Number (IMO/Lloyds No.):		
Owner:	Marine Institute	
Operator:	P&O Maritime Services	
Overall length (meters):	31.4	
Maximum draught:	4m	
Displacement/Gross Tonnage:	340	
Propulsion:	Wärtsilä UD25M5 (626 kW),	
Cruising & maximum speed:	<= 10 knots	
Call sign:	EIQN	
INMARSAT number and method and	GMDSS A class, E-mail. Mini M SAT C and GSM	
capability		
of communication (including emergency	00 353 91 423396 / 00870 763066755	
frequencies):	00870-7646873257764687326	
Name of Master:	Philip Baugh/Colin McBrearty	
Number of Crew:	7	
Number of Scientists on board:	8 max	

4.2 Particulars of Aircraft:	
Name:	
Make/Model:	
Nationality (flag State):	
Website for diagram & Specifications:	
Owner:	
Operator:	
Overall Length (meters):	
Propulsion:	
Cruising & Maximum speed:	
Registration No.:	
Call Sign:	
Method and capability of communication	
(including emergency frequencies):	
Name of Pilot:	
Number of crew:	
Number of scientists on board:	
Details of sensor packages:	
Other relevant information:	

4.3 Particulars of Autonomous Underwater Vehicle (AUV):		
Name:		
Manufacturer and make/model:		
Nationality (Flag State):		
Website for diagram & Specifications:		
Owner:		
Operator:		
Overall length (meters):		
Displacement/Gross tonnage:		
Cruising & Maximum speed:		
Range/Endurance:		
Method and capability of communication		

(including emergency frequencies):	
Details of sensor packages:	
Other relevant information:	

4.4 other craft in the project, including its use:

4.5 Particulars of methods, full description of scientific instruments to be used (for fishing gear specify type and dimension) and location			
Types of samples and Measurements:	Methods to be used:	Instruments to be used:	To be carried out within 12nm (yes or no):
Bathymetry and backscatter	Hull mounted multibeam echosounder and towed side scan	EM2040 Edgetech 4200	Y
Geophysical	Hull mounted pinger	SES Probe 5000	Y
Biological and chemical sampling	Grab sampling	Day Grab Hammon Grab Shipek Grab	Y

4.6 Indicate nature and quantity of substances to be released into the marine environment: N/A

4.7 Indicate whether drilling will be carried out. If yes, please specify: N/A

4.8 Indicate whether explosives will be used. If yes, please specify type and trade name, Chemical content, depth of trade class and stowage, size, depth of detonation, frequency of Detonation, and position in latitude and longitude: N/A

5. Installations and Equipment

Details of installations and equipment (including dates of laying, servicing, method and Anticipated timeframe for recover, as far as possible exact locations and depth, and Measurements): N/A

6. Dates

6.1 Expected dates of first entry into and final departure from the research area by the research vessel and/or other platforms:

Entry: 4 September 2016 Departure: 10 September 2016

6.2 Indicate if multiple entries are expected: Possibly but unlikely

7. Port Calls

7.1 Dates and Names of intended ports of call:4 September 2016: Belfast/Bangor or Ballycastle

7.2 Any special logistical requirements at ports of call:

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

8. Participation of the representative of the coastal State

8.1 Modalities of the participation of the representative of the coastal State in the research Project:

The lead scientists are from a UK institution (Ulster University).

8.2 Proposed dates and ports for embarkation/disembarkation: Embarkation: 4 September 2016: Belfast/Bangor or Ballycastle Disembarkation: 10 September 2016: Howth (Ireland)

9. Access to Data, Samples and Research Results

9.1 Expected dates of submission to coastal State of preliminary report, which should include The expected dates of submission of the data and research results:
A cruise report will be submitted to the Marine Institute of Ireland and to the Department of the Environment (Marine Division) within a month after the research cruise.

9.2 Anticipated dates of submission to the coastal State of the final report: A cruise report will be submitted to the Marine Institute of Ireland and to the Department of the Environment (Marine Division) within a month after the research cruise.

9.3 Proposed means for access by coastal State to data (including format) and samples: All data will be archived at Ulster University. Access to the data can be requested through the principle scientist.

9.4 Proposed means to provide coastal State with assessment of data, samples and Research results:

All data will be held at Ulster University.

9.5 Proposed means to provide assistance in assessment or interpretation of data, samples And research results:

All analysis and interpretation will be led by UK institutions (Ulster University).

9.6 Proposed means of making results internationally available: Publication in peer-reviewed literature. Presentations at local and international conferences.

10. Other permits Submitted

10.1 Indicate other types of coastal state permits anticipated for this research (received or Pending):

10. List of Supporting Documentation

11.1 List of attachments, such as additional forms required by the coastal State, etc.: Excel spreadsheet with coordinates.

Signature:

Contact information of the focal point: Name: Country: Affiliation: Address: Telephone: Fax: Email: