

## APPLICATION FOR CONSENT TO CONDUCT MARINE SCIENTIFIC RESEARCH

### 1. General Information

1.1 Cruise name and/or number:	C254-254A Historic Seaports - F2014-007
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1.2 Sponsoring institution(s):		
Name	Address	Name of Director
Sea Education Association	PO Box 6 Woods Hole, MA 02543	Peg Brandon

1.3 Scientist in charge of the project:	
Name:	Deb Goodwin
Country:	US
Affiliation:	Sea Education Association
Address:	P.O. Box 6 Woods Hole , 02543 US
Telephone:	508-540-3954 x526
Email:	dgoodwin@sea.edu

1.4 Entity(ies) /Participant(s) from coastal State involved in the planning of the project:	
Name:	See Section 6.2.
Country:	
Affiliation:	
Address:	
Telephone:	
Fax:	
Email:	
Website (for CV and photo):	

### 2. Description of Project

2.1 Nature and objectives of the project:
The primary purpose of our scientific research is to teach oceanography and oceanographic sampling techniques to college undergraduate students. Each student must design a research project ashore and carry out that research project during the cruise. In addition, some data is collected for long-term research projects carried out by staff scientists at the Sea Education Association. These projects include studies of the abundance and distribution of plankton, floating tar and plastic, the biology of thermal fronts, the geology of carbonate banks and islands, and the comparative ecology of shallow productive banks.

2.2 Relevant previous or future research projects:
SEA has been training young oceanographers and working with Coastal States for almost 30 years in the Atlantic Ocean. Our vessels have routinely sailed through the waters claimed by nearly every coastal state in the Caribbean and Bahamian region, and we always secure permission to conduct oceanographic research from each of these countries before the cruises begin.

2.3 Previous publications relating to the project:
The fact that we sail areas of the ocean not frequently covered by other research vessels has allowed us to contribute to the research of a number of outside investigators as vessels of opportunity, resulting in the publication of at least 40 articles on topics in physics, chemistry, geology, biology, meteorology, and pollution. In addition, SEA oceanographers occasionally publish results of data collected with student help. Four representative articles (including those by SEA oceanographers) are cited below. Joyce, P. 1998. Floating tar in the western North Atlantic and Caribbean Sea, 1982-1996. <i>Baseline</i> 36:167-171. Bower, A., E. Zettler, and G. Gawarkiewicz. 2004. Science under sail. <i>Oceanography</i> 17:42-51. Moret-Ferguson, S., K. L. Law, G. Proskurowski, E. K. Murphy, E. E. Peacock, C. M. Reddy. 2010. The size, mass, and composition of plastic debris in the western North Atlantic Ocean. <i>Mar.Poll.Bull.</i> doi:10.1016/j.marpolbul.2010.07.020. Law, K. L., S. Moret-Ferguson, N. A. Maximenko, G. Proskurowski, E. E. Peacock, J. Hafner, C. M. Reddy. 2010. Plastic accumulation in the North Atlantic subtropical gyre. <i>Science</i> 329: 1185-1188.

### 3. Geographical Areas

3.1 Indicate geographical areas in which the project is to be conducted (with reference in latitude and longitude, including coordinates of cruise track/ way points):
***Please Note: Entry and dates from research areas can vary significantly since we are a sailing research vessel and thus our schedule is weather dependent. If requested, we can provide a progress report and a more detailed schedule for the vessel as the cruise progresses through the waters of individual coastal states.***The cruise will sail South from Cork, Ireland, along the coast of Western Europe through French, Spanish, and Portuguese waters before ending in Cadiz, Spain. Due to our educational mission, we seldom have exact locations where we need to sample. Generally samples are taken daily along the cruise track. However, some tentatively planned sampling locations are: Proposed Leg 1 Station Locations: 1) 51.12N x 7.88W Ireland 1 2) 50.33N x 7.13W United Kingdom 1 3) 49.25N x 6.55W United Kingdom 2 4) 48.54N x 5.75W France 1 5) 45.95N x 6.66W France 2 6) 44.97N x 8.07W Spain 1 7) 43.12N x 10.39W Spain 2 8) 41.13N x 10.23W Portugal 1 9) 36.85N x 9.75W Portugal 2 Proposed Leg 2 Station Locations: 1) 36.11N x 5.16W United Kingdom 3 (Gibraltar) 2) 36.53N x 1.76W Spain 3 3) 38.22N x 0.28E Spain 4

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.  
 Chart provided - see Section 10.1.

4. Methods and Means to be Used

4.1 Particulars of vessel:	
Name:	CORWITH CRAMER
Type/Class:	Ship
Nationality (Flag state):	United States
Identification Number (IMO/Lloyds No.):	
Owner:	Sea Education Association
Operator:	Sea Education Association
Overall length (meters):	41.00
Maximum draught (meters):	4.00
Displacement/Gross tonnage:	280.00
Propulsion:	Sail; auxiliary 500 horsepower (370 kW) Cummins diesel
Cruising:	
Maximum speed:	
Call sign:	WTF 3319
INMARSAT number and method and capability of communication (including emergency frequencies):	VHF 16
Name of master:	Elliot Rappaport
Number of crew:	6
Number of scientists on board:	4

4.2 Other craft in the project, including its use:

One 15 foot (5 m) hard bottom inflatable boat with 25 HP outboard engine

4.3 Particulars of methods and scientific instruments:

Types of samples and measurements	Methods to be used	Instruments to be used
1: Temperature, salinity, nutrients 2: Plankton 3: Benthic organisms 4: Sediments	1: Chemical analyses 2: Net tows and microscope counts 3: Diversity and abundance counts 4: Sieving, microscope observation	1: CTD, spectrophotometer, fluorometer, titration 2: Plankton nets 3: Small research otter trawl (5m opening) 4: Sediment grab, gravity corer, rock dredge

4.4 Indicate nature and quantity of substances to be released into the marine environment:

No

4.5 Indicate whether drilling will be carried out. If yes, please specify:

No

4.6 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:

No

4.7 Indicate whether protected species be studied. If yes, please specify:

No

5. Installations and Equipment

Details of installations and equipment (including dates of laying, servicing, method and anticipated timeframe for recovery, locations and depth, and measurements):

No

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:

Project Start Date: Jul 04, 2014

Project End Date: Aug 14, 2014

6.2 Coastal State-specific details:

Coastal Area	Estimated Entry Date	Estimated Departure Date
France	Jul 04, 2014	Aug 14, 2014

<b>Explanation of multiple entries:</b> N/A		
<b>Research will be performed:</b> within 12 nm		
<b>Extent to which France will be enabled to participate or to be represented in the research project:</b> Entry and exit dates from research areas can vary since we are a sailing research vessel and thus our schedule is weather dependent. If requested, we can provide a progress report and a more detailed schedule for the vessel as the cruise progresses through the waters of individual coastal states.*** SEA routinely cooperates with coastal states by offering one berth to a visiting scientist. Because of our educational mission, we prefer that the participant be a researcher or educator who can benefit from the experience and contribute their expertise to the students. SEA will pay all reasonable round-trip airfare expenses to the point of departure, with a return to home. SEA will also provide room and board to the participant during his/her time aboard, however we cannot provide a per diem or any other remuneration to the individual. Our schedules and cruise tracks are not flexible enough to allow for the vessel to make special port calls in order to pick up or drop off the observer. Please note that because our ships are generally full we request that the participant be identified at least one month before the trip commences (by 04 June 2014), so that we can make travel and onboard arrangements.		
<b>Name, affiliation and contact information for all participants from coastal state France:</b>		
Coastal Area	Estimated Entry Date	Estimated Departure Date
<b>Ireland</b>	Jul 04, 2014	Aug 14, 2014
<b>Explanation of multiple entries:</b> N/A		
<b>Research will be performed:</b> within 12 nm		
<b>Extent to which Ireland will be enabled to participate or to be represented in the research project:</b> Entry and exit dates from research areas can vary since we are a sailing research vessel and thus our schedule is weather dependent. If requested, we can provide a progress report and a more detailed schedule for the vessel as the cruise progresses through the waters of individual coastal states.*** SEA routinely cooperates with coastal states by offering one berth to a visiting scientist. Because of our educational mission, we prefer that the participant be a researcher or educator who can benefit from the experience and contribute their expertise to the students. SEA will pay all reasonable round-trip airfare expenses to the point of departure, with a return to home. SEA will also provide room and board to the participant during his/her time aboard, however we cannot provide a per diem or any other remuneration to the individual. Our schedules and cruise tracks are not flexible enough to allow for the vessel to make special port calls in order to pick up or drop off the observer. Please note that because our ships are generally full we request that the participant be identified at least one month before the trip commences (by 04 June 2014), so that we can make travel and onboard arrangements.		
<b>Name, affiliation and contact information for all participants from coastal state Ireland:</b>		
Coastal Area	Estimated Entry Date	Estimated Departure Date
<b>United Kingdom</b>	Jul 04, 2014	Aug 14, 2014
<b>Explanation of multiple entries:</b> N/A		
<b>Research will be performed:</b> within 12 nm		
<b>Extent to which United Kingdom will be enabled to participate or to be represented in the research project:</b> Entry and exit dates from research areas can vary since we are a sailing research vessel and thus our schedule is weather dependent. If requested, we can provide a progress report and a more detailed schedule for the vessel as the cruise progresses through the waters of individual coastal states.*** SEA routinely cooperates with coastal states by offering one berth to a visiting scientist. Because of our educational mission, we prefer that the participant be a researcher or educator who can benefit from the experience and contribute their expertise to the students. SEA will pay all reasonable round-trip airfare expenses to the point of departure, with a return to home. SEA will also provide room and board to the participant during his/her time aboard, however we cannot provide a per diem or any other remuneration to the individual. Our schedules and cruise tracks are not flexible enough to allow for the vessel to make special port calls in order to pick up or drop off the observer. Please note that because our ships are generally full we request that the participant be identified at least one month before the trip commences (by 04 June 2014), so that we can make travel and onboard arrangements.		
<b>Name, affiliation and contact information for all participants from coastal state United Kingdom:</b>		
Coastal Area	Estimated Entry Date	Estimated Departure Date
<b>Portugal</b>	Jul 04, 2014	Aug 14, 2014
<b>Explanation of multiple entries:</b> N/A		
<b>Research will be performed:</b> within 12 nm		
<b>Extent to which Portugal will be enabled to participate or to be represented in the research project:</b> Entry and exit dates from research areas can vary since we are a sailing research vessel and thus our schedule is weather dependent. If requested, we can provide a progress report and a more detailed schedule for the vessel as the cruise progresses through the waters of individual coastal states.*** SEA routinely cooperates with coastal states by offering one berth to a visiting scientist. Because of our educational mission, we prefer that the participant be a researcher or educator who can benefit from the experience and contribute their expertise to the students. SEA will pay all reasonable round-trip airfare expenses to the point of departure, with a return to home. SEA will also provide room and board to the participant during his/her time aboard, however we cannot provide a per diem or any other remuneration to the individual. Our schedules and cruise tracks are not flexible enough to allow for the vessel to make special port calls in order to pick up or drop off the observer. Please note that because our ships are generally full we request that the participant be identified at least one month before the trip commences (by 04 June 2014), so that we can make travel and onboard arrangements.		
<b>Name, affiliation and contact information for all participants from coastal state Portugal:</b>		
Coastal Area	Estimated Entry Date	Estimated Departure Date
<b>Spain</b>	Jul 04, 2014	Aug 14, 2014
<b>Explanation of multiple entries:</b> We plan to sail along the coast of Western Europe starting in Ireland before moving into French waters and heading south. We will thus enter Spanish waters briefly before entering the coastal waters of Portugal and then returning to Spanish waters where we will be ending our cruise.		
<b>Research will be performed:</b> within 12 nm		
<b>Extent to which Spain will be enabled to participate or to be represented in the research project:</b>		

Entry and exit dates from research areas can vary since we are a sailing research vessel and thus our schedule is weather dependent. If requested, we can provide a progress report and a more detailed schedule for the vessel as the cruise progresses through the waters of individual coastal states.\*\*\* SEA routinely cooperates with coastal states by offering one berth to a visiting scientist. Because of our educational mission, we prefer that the participant be a researcher or educator who can benefit from the experience and contribute their expertise to the students. SEA will pay all reasonable round-trip airfare expenses to the point of departure, with a return to home. SEA will also provide room and board to the participant during his/her time aboard, however we cannot provide a per diem or any other remuneration to the individual. Our schedules and cruise tracks are not flexible enough to allow for the vessel to make special port calls in order to pick up or drop off the observer. Please note that because our ships are generally full we request that the participant be identified at least one month before the trip commences (by 04 June 2014), so that we can make travel and onboard arrangements.

**Name, affiliation and contact information for all participants from coastal state Spain:**

7. Port Calls

Port	Arrival Date	End Date	Special Logistical Requirements	Shipping Agent
Lisboa	7/25/2014	7/28/2014	none; SEA vessels are self-sufficient	none; SEA vessels don't generally require the use of an agent
Cadiz	8/2/2014	8/7/2014	none; SEA vessels are self-sufficient	none; SEA vessels don't generally require the use of an agent
Douarnenez	7/11/2014	7/14/2014	none; SEA vessels are self-sufficient	none; SEA vessels don't generally require the use of an agent

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:

See Section 6.2.

8.2 Proposed dates and ports for embarkation/disembarkation:

See Section 6.2.

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:

No more than 60 days from the end date of the research as provided in Section 6.1.

9.2 Anticipated dates of submission to the coastal State of the final report:

No more than 2 years from the end date of the research as provided in Section 6.1.

9.3 Proposed means for access by coastal State to data (including format) and samples:

Data will be provided through official channels at no cost to the coastal State(s). Samples will be provided upon request.

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

Assessment of data, samples and research results will be provided at no cost to the coastal State(s).

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

Assistance in further assessment or interpretation will be provided upon request.

9.6 Proposed means of making results internationally available:

Some results are published in international scientific journals. Unpublished data can be made available by arrangement with the SEA archivist by contacting: SEA Data Archivist, Sea Education Association, P.O. Box 6, Woods Hole, MA 02543, U.S.A. 508-540-3954 x529, fax 508-457-4673, email: dataarchivist@sea.edu, website: www.sea.edu

10. List of Supporting Documentation

10.1 List of attachments, such as additional forms required by the coastal State, etc.:

Attachment Type	Description	Attachment	Submission Date
Supplemental Material	Chief Scientist Deb Goodwin's CV	5795156250_DGoodwin_CV_Oct2013.pdf	Jan 10, 2014
Supplemental Material	Chief Scientist (for leg 2) Erik Zettler's CV	6121718750_Zettler CV 201310.pdf	Jan 10, 2014

Proposed Cruise Track	Cruise Prospectus for Historic Seaports of Western Europe Cruise C254-C254A	6998125000_C254-C254A Cruise Prospectus.pdf	Jan 10, 2014
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