



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Washington, D.C. 20240



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In Reply Refer To:
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FWS 2014-1-0006

Mr. David Applegate
Pacific Coastal and Marine Geology Science Center
U.S. Geological Survey Mail Stop 999
345 Middlefield Road
Menlo Park, California 94025

Subject: Informal Consultation on the 2-D Seismic Reflection Scientific Research Surveys During 2014 and 2015 in Support of Mapping the U.S. Atlantic Seaboard Extended Continental Margin and Investigating Tsunami Hazards

Dear Mr. Applegate:

This letter is in response to your April 4, 2014 email, requesting the U.S. Fish and Wildlife Service's (Service) concurrence that the proposed 2-D seismic reflection scientific research surveys during 2014 and 2015 is not likely to adversely affect the endangered roseate tern (*Sterna dougallii*) and Bermuda petrel (*Pterodroma cahow*), pursuant to section 7 of the Endangered Species Act of 1973 (16 U.S.C. 1531 -1544), as amended (ESA). This consultation is based on the submitted document entitled a "Draft Environmental Assessment for Seismic Reflection Scientific Research Surveys During 2014 and 2015 in Support

of Mapping the U.S. Atlantic Seaboard Extended Continental Margin and Investigating Tsunami Hazards."

The proposed action is to conduct a seismic survey program that involves using a 36-airgun array with a total discharge volume of 6,600 cubic inches. The survey program is planned to occur over two years, for three weeks or fewer between August and September, 2014, and for a similar amount of time as yet unscheduled between April and August, 2015. The 2014 and 2015 surveys are planned with track lengths of 3,165 and 3,105 kilometers, respectively, and because they are within 1.5 % of each other in length, are considered to have identical impacts on the environment. The proposed action is in water depths greater than 1,000 meters, mostly in international waters outside the U.S. Atlantic continental margin, but partly within the deep water portions of the U.S. exclusive economic zone. The proposed survey area would be bounded by the following geographic coordinates:

40.5694° N and -66.5324° W
38.5808° N and -61.7105° W

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29.2456° N and -72.6766° W
33.1752° N and -75.8697° W
39.1583° N and -72.8697° W

The goal of the proposed research is to: 1) establish the outer limits of the U.S. continental shelf, also referred to as the Extended Continental Shelf, and; 2) study the sudden mass transport of sediments down the continental shelf as submarine landslides that may pose tsunami-genic hazards to the Atlantic and Caribbean coastal areas.

The surveys would involve one source vessel, the *RN Langseth*. The proposed survey design consists of approximately nine sub-parallel, northwest to southeast lines (perpendicular to the margin) across the study area, with end-line transits and several northeast to southwest tie or strike lines. The airgun array would operate continuously during the survey, except for power/shut downs, equipment repair or weather issues. Data would continue to be acquired between line changes. Seismic airgun sources send sound waves through the water, and formations beneath the seafloor reflect the sound waves back to hydrophone streamers trailing behind the vessel. The components of the 2-D survey would include a seismic vessel, the source towed array (consisting of 36 airguns) and the receiver (hydrophone streamer). The vessel would be at sea during the entire survey operations. There would be no crew changes planned and no additional support vessel or helicopter service anticipated.

Although unlikely to be encountered, the listed roseate tern or Bermuda petrel could occur at or near the ocean-based project site.

The roseate tern breeds on islands along the northeast coast of the U.S from New York to Maine and north into Canada, and historically as far south as Virginia. During the breeding season, roseate terns forage over shallow coastal waters, especially in water depths less than 5 meters, sometimes near the colony and at other times at distances of over 30 kilometers away. They usually forage over shallow bays, tidal inlets and channels, tide rips, and sandbars. Because of its distribution during the breeding season, the roseate tern likely would not be encountered at the proposed survey site.

The Bermuda petrel is a rare bird with approximately 100 nesting pairs. Currently, all known breeding pairs breed on islets in Castle Harbour, Bermuda. In the non-breeding season (mid June–mid-October), it is thought that birds move north into the Atlantic and following the warm waters on the western edges of the Gulf Stream.

In the rare event one of these species is in the vicinity of the survey area, there is the potential that the bird might be affected slightly by seismic sound from the proposed study. The impact would not be expected to be significant to the individual bird because the majority of observed sound levels are below the water surface. Additionally, the proposed action includes precautionary measures of powering or shutting down the airguns if a listed bird is seen diving in the area.

Based upon the unlikely chance a bird of these species will be in the action area as well as the precautionary measure of shutting down the airguns if a roseate tern or Bermuda petrel

Mr. David Applegate

3

are observed diving, we concur with your determination that this action will not adversely affect these two avian species.

We are pleased that USGS and its contractors are committed to applying proactive protective measures in order to minimize effects on listed species. We appreciate the collaboration your staff has provided. If you have any question please contact Dr. Collette Thogerson of my office at (703) 358-2103.

Sincerely,

A handwritten signature in blue ink that reads "Larry Bright". The signature is written in a cursive, flowing style.

Larry Bright
Acting Chief, Division of Environmental Review,
Ecological Services