

BOEM ENVIRONMENTAL STUDIES PROGRAM: Ongoing Studies

Region: Pacific OCS Region

Planning Area(s): Southern California

Title: Nocturnal Surveys for Ashy Storm-Petrels and Xantus's Murrelets at Offshore Oil Production Platforms, Southern California

BOEM Information Need(s) to be Addressed: The BOEM regulates oil and gas activities on platforms off the southern California coast. In addition, BOEM will likely receive renewable energy proposals within this area. A variety of birds may be attracted to artificial lights on these structures, including several species of conservation concern. Using existing facilities, this study will determine if artificial lighting on oil platforms in the Santa Barbara Channel is affecting two special-status seabird species; the Xantus's Murrelet (*Synthliboramphus hypoleucus*) and Ashy Storm-Petrel (*Oceanodroma homochroa*). The BOEM will use the data generated for environmental review of offshore energy projects.

Total BOEM Cost: \$133,000

Period of Performance: FY 2012-2013

Conducting Organization: Hamer Environmental

Principal Investigator: Tom Hamer

BOEM Contact: [Dave Pereksta](#)

Description:

Background: The attraction of seabirds to bright lights and associated light-induced mortality of seabirds has been well-documented (Imber 1975, Reed et al. 1985, Le Corre et al. 2002). The presence of bright lights in the marine environment is recognized as a potential threat to two special-status California seabird species, the Xantus's Murrelet and Ashy Storm-Petrel, although the magnitude and severity of this threat is not known (Carter et al. 2000, U.S. Fish and Wildlife Service (USFWS) 2009, USFWS 2010). Ashy Storm-Petrels have been recovered dead at Platform Hondo, Santa Barbara County, California, and at brightly lit coastal locations in southern California, and light attraction has been reported for Xantus's Murrelet at a coastal location in central California (Carter et al. 2000). In addition, both species have been observed landing on or colliding with brightly lit boats at night off southern California (D. Pereksta, personal observation). Incidental observations like these are the only existing information regarding the effects of artificial lighting on these two species and no directed studies have been conducted to date. The Xantus's Murrelet Technical Committee of the Pacific Seabird Group has identified lighting studies as a need to fill information gaps for that species. Lighting studies were also recommended for the Ashy Storm-Petrel in a recent summary of its status and threats (Carter et al. in Shuford and Gardali 2008).

The Xantus's Murrelet is a candidate for addition to the Lists of Endangered and Threatened Wildlife and Plants under the Endangered Species Act of 1973, as amended (USFWS 2004,

2010). The USFWS determined that listing of the Ashy Storm-Petrel was not warranted, but this decision is currently being legally challenged by the Center for Biological Diversity (USFWS 2009, Center for Biological Diversity 2010).

Offshore oil operations in California are conducted from 24 platforms along the southern coast of the state, well within the marine range of both species (Briggs et al. 1987, McCrary et al. 2003). Lights are present on the platforms to illuminate working areas and make the platforms visible to passing ocean vessel traffic. In addition, offshore renewable energy production will likely be proposed at various locations on the Pacific OCS including the coast of California (USFWS 2009). Marine radar has been used to detect seabirds, including Xantus's Murrelets and Ashy Storm-Petrels, near their breeding locations, generally in low-light situations where the seabirds cannot be easily seen (Hamer et al. 1995, 2005). Hamer et al. (2005) refined species identification of seabirds on radar off southern California using flight speeds and echo sizes while monitoring Xantus's Murrelets. For these reasons, marine radar is a feasible method to use to detect seabirds that may be attracted to bright lights on offshore energy production platforms.

Objectives: The primary objectives of this study are to: 1) Evaluate the extent to which Xantus's Murrelets and Ashy Storm-Petrels interact with bright lights of offshore oil platforms off the coast of southern California; and 2) determine if important rafting and foraging areas exist near offshore platforms.

Methods: Radar and visual surveys will be conducted during spring, summer, and fall of 2012 (preferred) or 2013. Radar/visual surveys for Xantus's Murrelets will occur on one of the oil platforms nearest to Anacapa Island (platforms, from west to east: C, B, A, Hillhouse, Habitat, Henry, Houchin, Hogan, Grace, Gilda, Gail, or Gina). Two surveys will be conducted during 10 days around new moons in the spring (March and April), to coincide with peak breeding activities of adult Xantus's Murrelets at Anacapa Island (20 days total). Four radar/visual surveys for Ashy Storm-Petrels will occur on one of the oil platforms nearest to both San Miguel and Santa Cruz Islands (platforms, from west to east: Heritage, Harmony, or Hondo) during 10 days around new moons in the summer and fall (June, July, September, and October), to coincide with breeding activities of adult Ashy Storm-Petrels and the peak fledging period of Ashy Storm-Petrel chicks at San Miguel and Santa Cruz Islands (40 days total). In addition, the summer surveys may detect Xantus's Murrelets in the vicinity of the platforms as they disperse away from the northern Channel Islands after breeding.

During each of the six 10-day survey periods, a marine radar unit will be mounted on the oil platform in a manner that allows at least one full vertical side of the platform to be adequately surveyed. The radar unit will be removed after each 10-day survey period for maintenance, and to protect the unit from weather during non-survey periods. A biologist experienced in interpretation of radar echoes will monitor the radar screen and record murrelet and storm-petrel detections on a data sheet. Echoes on the radar screen will also be recorded for the duration of each survey using a video camera so that biologists can review survey sessions at a later date. For each radar detection of a murrelet and storm-petrel, the technician will record: species, time, flight behavior, distance between echoes on the radar screen, flight speed, persistence of radar echoes on screen, and the number of radar echoes. The bird surveyor will visually scan the air and sea adjacent to the platform and lights and record all species observed, including time and

flight behavior (e.g., circling around or aggregating at lights, disorientation, etc.), number of individuals, and weather conditions (e.g., wind speed and cloud cover).

Current Status: Awarded September 21, 2012

Final Report Due: September 21, 2014

Publications Completed: None at this time.

Affiliated WWW sites: None at this time.

Revised Date: September 27, 2012