

## **BOEM ENVIRONMENTAL STUDIES PROGRAM: ONGOING STUDIES**

**BOEM OCS Region:** [Gulf of Mexico](#)

**Planning Area:** Mid-Atlantic

**Title:** Battle of the Atlantic Expedition 2010-2015 (AT-10-04)

**Total Cost:** \$100,000

**Period of Performance:** FY 2010-2015

**Conducting Organization:** NOAA Monitor National Marine Sanctuary

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### **Description:**

**Background:** Perhaps the longest military campaign of World War II, the Battle of the Atlantic was waged from the waters off England to the east coast of the United States and into the Gulf of Mexico. From its beginnings in 1939 through the end of the war with Germany hundreds of vessels were lost. Many of these vessels have been relocated on the seafloor. Some in shallow water allowing for exploration and visits from the recreational diving community; others in depths too great for diving, but well within reach of remotely operated vehicles (ROVs). These sites are recognized as non-renewable cultural, historical, and archaeological resources. Given the violent nature of these vessel losses, many are also war graves.

In July 2008 BOEM (formerly MMS) participated in the first effort of a cooperative expedition, led by Monitor National Marine Sanctuary (Monitor NMS), to begin documenting the remains of vessels lost off the North Carolina coast during World War II (<http://sanctuaries.noaa.gov/missions/battleoftheatlantic/>). Three German U-boats, U-85, U-352, and U-701 were the focus of the 2008 expedition. In addition to Monitor NMS, participants in Phase I included NOAA's Maritime Heritage Program, the National Park Service Submerged Resources Center, BOEM (formerly MMS), the University of North Carolina Coastal Studies Institute, and the East Carolina University Maritime Heritage Program.

In August 2009 a second expedition was conducted, which built on partnerships established during the 2008 Battle of the Atlantic Expedition. The primary focus of the 2009 expedition was scientific documentation of the converted British military trawler H.M.T. Bedfordshire, sunk by U-558. In addition to in-depth documentation of this vessel, a one-week remote sensing survey was completed which successfully relocated the remains of the U.S. Navy trawler YP-389, sunk by U-701. With the assistance of two local dive shops, part of the team also returned to the three German U-boats that were investigated during the 2008 expedition in order to carryout corrosion potential studies, which will provide an assessment of the structural integrity of each of these vessels. By documenting the current status of each of these vessels, baseline data was acquired that

can be used for long-term monitoring of the sites.

BOEM's continued participation in this project helps to fulfill our responsibilities under Section 106 of the National Historic Preservation Act and Executive Order 11593 by providing vital information on the current condition of these wrecks in order to determine potential adverse effects from BOEM-permitted activities. The NOAA Monitor NMS and BOEM are committed to a multi-year investigation of vessel losses from the Battle of the Atlantic. Since the German and British governments still claim ownership of these vessels, coordination with these governments has been an important part of this project. Consultations with the British and German Embassies have been conducted to ensure that proper protocols are followed in completing these investigations.

Objectives: This expedition will continue investigation of Allied losses in the Graveyard of the Atlantic including US and British naval vessels, as well as US Merchant Marine ships. Many of these wrecks have undergone illegal salvage, especially those at depths shallower than 130 feet. The deeper Allied shipwrecks are in a much better state of preservation due to the challenges of technical diving and working in strong currents. These shipwrecks lie in a near exact state from when they sank, and as such, truly reflect the battlefield that raged above and below during WWII.

Investigations carried out off North Carolina will be combined with the efforts BOEM has already completed on WW II casualties in the Gulf of Mexico, which serves as the foundation for this project. The objectives of this project are to collect detailed documentation of these vessels. Results from this project will include a cumulative report on fieldwork and historical significance; a joint Battle of the Atlantic nomination with BOEM on the U-166 and Gulf of Mexico WW II merchant vessel losses to the National Register of Historic Places; and outreach products, including a Battle of the Atlantic web site, posters, and educational materials. Additionally, this project will strengthen existing federal, state, and academic partnerships, as well as create new ones.

Methods: Sites will be selected by BOEM and NOAA archaeologists. Fieldwork will include site mapping, photo-mosaics, video/photo documentation, corrosion potential studies, and an evaluation of the artificial reef effect at each of the sites. Testing will be performed by marine archaeologists applying a variety of techniques including remote sensing, diving, and ROV inspection.

Products: Products may include, but are not limited to, archival and historical documentation, special studies, technical reports, site survey forms, "standard National Register forms" in accordance with 36 CFR Part 60, and other forms as may be required under applicable laws, regulations, and guidelines.

Importance to BOEM: Currently, there are over 125 known losses from the WWII Battle of the Atlantic located in federal waters off the North Carolina coast. These consist primarily of Allied losses, but included in this number are at least four, and possibly five, German U-boats (the fifth sub was lost along the Virginia/North Carolina border). These sites are recognized as non-renewable cultural, historical, and archaeological resources.

The BOEM, as a Federal agency, is obligated under Section 106 of the National Historic Preservation Act to consider the effect of its actions on properties deemed important enough to be eligible for the National Register of Historic Places. The increase in interest for development of renewable energy facilities on the Outer Continental Shelf (OCS) will bring more potential impacts to natural and cultural resources on the seafloor. As these operations move into the waters along the Atlantic coast, the BOEM faces new challenges in fulfilling its role as an environmental steward. Not the least of these challenges comes as a result of our responsibility to protect significant archaeological resources on the seabed. Therefore, a current assessment of World War II vessel losses will be crucial for mitigating adverse affects to these resources as required under Section 106 of the National Historic Preservation Act and Executive Order 11593, which require that Federal agencies must apply the National Register Criteria to properties that may be affected by an undertaking. Further survey and research are necessary in order to better understand the resources in which we are responsible for managing.

**Current Status:** An Interagency Agreement between NOAA's Office of National Marine Sanctuaries (ONMS) and BOEM was signed on 15 May 2010. Fieldwork began 8 June, ended on 30 June 2010. The 2010 Expedition focused on Allied Merchant vessels lost during the war. Vessels investigated during the 2010 expedition include: the tanker *Empire Gem*, sunk by U-66 on 23 January 1942 in 145 feet of water; the tanker *E. M. Clark*, sunk by U-124 on 18 March 1942 in 260 feet of water; the freighter *Manuela*, sunk by U-404 on 25 June 1942 in 160 feet of water; the freighter *Malchace*, sunk by U-160 on 9 April 1942 in 210 feet of water; and the U.S. Navy tug *Keshena*, sunk by U-576 on 19 July 1942 in 100 feet of water. The 2011 Expedition focused on remote sensing and wide-area surveys to identify additional WWII vessel losses in the area. The 2012 Expedition conducted additional remote sensing and wide-area surveys and diver investigations of several vessels including: the tankers *Naeco* (sunk by U-124 on 23 March 1942), *Atlas* (sunk by U-552 on 9 April 1942), and *Ashkhabad* (sunk by U-402 on 29 April 1942), and the cargo freighter *Caribsea* (sunk by U-158 on 11 March 1942).

**Final Report Due:** May 2015

**Publications:** None

**Affiliated WWW Sites:** <http://sanctuaries.noaa.gov/missions/battleoftheatlantic/>

**Revised date:** October 2012

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