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Monitor National Marine Sanctuary
April 11, 2013

WWII Offshore: Monitor National Marine Sanctuary’s Battle of the Atlantic Expedition
Our National Marine Sanctuaries

- Olympic Coast
- Cordell Bank
- Gulf of the Farallones
- Monterey Bay
- Channel Islands
- Papahānaumokuākea (Northwestern Hawaiian Islands)
- Hawaiian Islands Humpback Whale
- Fagatele Bay
- Stellwagen Bank
- Monitor
- Gray's Reef
- Flower Garden Banks
- Florida Keys

Map Source: NASA

- National Marine Sanctuary
- Marine National Monument
America’s First National Marine Sanctuary: 
Shipwreck of the USS Monitor

-The Monitor National Marine Sanctuary was established by Congress on January 30, 1975, on the 113th Anniversary of the Monitor’s launching at Greenpoint, NY.
World War II Naval History
Significance of North Carolina

- Shipping Lanes
- Oceanic Currents
- Continental Shelf
- Water Depth
- Water Temperatures
Analysis of Battle-Related Events
Battle of the Atlantic Expedition
Promoting the Protection of Maritime Heritage in North Carolina
2008-2013
Year One: Examining Damages to German U-boats and Developing Baseline Data

Sites Surveyed:
- U-85
- U-352
- U-701
U-85 Shipwreck

Lost April 14, 1942
U-352 Shipwreck

Lost May 9, 1942
U-701 Shipwreck

Lost July 7, 1942
Baseline Offset Recording
Year Two: Documenting US and Allied Military Losses
Stage One: Deep Water Multibeam Sonar Survey

Site Surveyed:
• USS YP-389
Multibeam sonar survey during which USS YP-389 was relocated and identified.
Researchers Deploying the ROV above the site of USS YP-389
How did we determine the vessel found was YP-389?

- Archival Research (photos and documents)
- Location
- Vessel Type and Size
- Armament
3-inch .23-caliber boat gun
Stage Two: Diving Survey

Site Surveyed:
- HMT Bedfordshire

Lost May 12, 1942
Wreckage at the HMT *Bedfordshire* Site

**HMT Bedfordshire**
Royal Naval Patrol Service
Sunk by the U-558 on 12 May 1942
Cape Lookout, North Carolina
Monitoring U-boats: Corrosion Potential Analysis
Year Three: Documenting US and Allied Merchant Marine Losses
Stage One: Technical Diving Photographic and Videographic Survey as well as Biological Transects

Sites Surveyed:
- City of Atlanta
- Dixie Arrow
- E. M. Clark
- Manuela

Locations Verified
- Ciltvaira
- Empire Gem
- Australia
- Kassandra Louloudis
Stage Two: Archaeological Mapping of Shallower Wrecks

Site Surveyed:
- *Keshena*
Year Four: Continued Documentation of US and Allied Merchant Marine Losses and Survey for the Battle of Convoy KS-520

(3 Months of Field Work!!!)
Stage One: Wide Area Sonar Assessment
Probability Analysis for Shipwrecks Lost During Convoy KS-520 Battle
Wide Area Surveys

University of Texas: Applied Research Laboratory
Wide Area Survey Sonar Anomalies
Stage Two: Targeted Survey with High Resolution Multibeam Sonar
Targeted Survey –
High Resolution Multibeam Sonar
Stage Three: Ultra High Resolution Multibeam Sonar Documentation of Significant Sites

Sites Surveyed:
- Atlas
- Australia
- Byron Benson
- Caribsea
- Chilore
- City of Atlanta
- Dixie Arrow
- Kassandra Louloudis
- Lancing
- Manuela
- Tamaulipas
- U-85
- U-352
- U-701
- CSS Florida (Civil War)
- USS Cumberland (Civil War)
3D Acoustic Imaging with ADUS
Stage Four: 3D Video Survey With Woods Hole Oceanographic Institute’s Advanced Imaging and Visualization Laboratory

Sites Surveyed:
- *Dixie Arrow*
- *E.M. Clark*
- *Lancing*
- *U-701*
- *USS Monitor (Civil War)*
E.M. Clark Mosaic
Year Five: Continuing the Survey for Convoy KS-520 Shipwrecks and Documenting Additional Merchant Marine Shipwrecks
Stage One: Resumed Targeted Survey with High Resolution Multibeam Sonar
Stage Two: Diving Photographic and Videographic Survey

Sites Surveyed:
- Ario
- Ashkhabad
- Atlas
- Caribsea
- HMT Senator Duhamel
- Naeco
- U-352
- W. E. Hutton
Year Six: Continued Photographic and Videographic Inventory of Merchant Marine Shipwrecks, Site Recording of Soviet Tanker Ashkhabad, and Remote Sensing (Magnetometer and Side-Scan Sonar) Surveys
May/June 2013: Site Recording of Soviet Tanker Ashkhabad
July/August 2013: Remote Sensing Surveys and Diving Photographic and Videographic Surveys
Today, these sites are important dive locations for Heritage Tourism
**Outreach Products**

**Befordshire**
Royal Naval Patrol Service

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**ADVISORY**

This wreck is federally protected by the Marine Protection, Research and Sanctuaries Act of 1972. Visit http://sanctuaries.noaa.gov/maritime for more information. For additional information, please contact the nearest NMFS office.

**Vessel History**

**Launched:** July 1935

Commander: Lt. Russell G. Davis, Royal Naval Reserve.

**Actions:** A veteran of the Battle of the Atlantic, this converted former conducted ASW operations as part of the Royal Naval Patrol Service around the British Isles. While on loan to the U.S., Befordshire performed essential escort service between Cape Lookout and Hatteras.

**Loss:** In the early morning hours of 12 May 1942. Befordshire was returning from an escort detail to Hatteras. While preparing to round Cape Lookout, a torpedo from the U-558 slammed into her port side. The vessel sank in seconds, sending no distress signal.

** Fate:** The entire 37-man crew was lost as a result of this attack. Shortly after the sinking, several bodies began washing up on the shores of North Carolina. A total of six bodies were recovered and buried near Hatteras and Ocracoke. The graves are honored by the British Navy and the U.S. annually. This site is war grave for the remainder of the crew.

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**HMT Bedfordshire**
Archaeological Site Plan

**GPS Coordinates:** N35° 54.816

Depth: 95 ft

**Site Plan:**

1. Sacrificial Zinc Anode
2. Stern Post
3. Liver Boiler Deck Combining
4. Exposed Depth Charge
5. Depth Charge Support
6. Stern Depth Charge Rack
7. Buried Depth Charge
8. Wiring Harness for Vessel
9. Starboard Side High Point
10. Exposed Deck Plating
11. Port High Point/Deck Level
12. Main Towed Winch
13. Starboard Outer Hull
14. Deck Support Stanchions
15. Original Deck Level
16. Reinforced Boiler room Wall
17. Port Side Outer Hull Plate
18. Disarticulated Machinery
19. Exposed Main Boiler
20. Likely Torpedo Strike Area
21. Forward Bulkhead
22. Forward Deck Gun Mount
23. Towing or Docking Bit
24. Bow Fairleads.

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**Dive Site Conditions:**

This site is located in a gradient on variable, mobile and currents. Unpredictable shifting winds may result in periods of the wreck being exposed or submerged at any time in the year. Please check with the site guide before diving. (See Bottom)
Monitor NMS Outer Banks Maritime Heritage Trail

- U-85
- Ecology of the OBX
- WWI & WWII
- U-701 & YP-389
- Cape Hatteras Lighthouse
- National Marine Sanctuaries
- USS Monitor
- Chicamacomico Life Saving Service
PARTNERS

- NOAA/ Office of National Marine Sanctuaries
- NOAA’s Office of Exploration and Research
- NOAA/National Centers for Coastal Ocean Science -NCCOS
- National Parks Service
- US Navy
- Bureau of Ocean Energy Management
- East Carolina University
- UNC Coastal Studies Institute
- Mariners’ Museum
- National Undersea Research Center (UNCW)
- State of North Carolina
- Georgia Aquarium
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