



Decision Document Signed for Wood Island

Marine Corps Air Station (MCAS) Cherry Point and the U.S. Navy, in concurrence with the North Carolina Department of Environmental Quality (NCDEQ), have selected a remedy for old munitions items on and around Wood Island in Bogue Sound, North Carolina.

This fact sheet summarizes the results of previous site investigations and describes the selected remedy, which was chosen because it best balances protecting human safety from explosive risk and meeting established regulatory criteria.

Site History

Former Bomb Target 2 (BT-2) was located near Wood Island in Bogue Sound, approximately ½ mile offshore of 24th Street in the town of Emerald Isle. The target was used for training military pilots in the 1940s and 1950s. Records from that period show that the bomb target coordinates were modified several times during operation of the range, but all target coordinates were located in the immediate vicinity of Wood Island. Surface danger zones (SDZs) associated with those targets extended up to 3 miles in all directions from the former target locations near Wood Island.

BT-2 has not been used as a target since about 1955 and there are no plans to reactivate it. The U.S. Navy has periodically removed munitions from the surface of Wood Island, including in 1957, 1963, 2007, 2010, and most recently, in 2014.

Summary of Site Investigations

The Navy and MCAS Cherry Point have been investigating potential impacts of past training operations conducted at BT-2 as part of a nationwide evaluation of historic military training sites. The Naval Facilities Engineering Command led

the investigation, in partnership with MCAS Cherry Point and NCDEQ. The U.S. Environmental Protection Agency (USEPA) and other federal and state agencies provided technical support.

2008-2009: A Preliminary Assessment (PA)/Site Inspection (SI) began in 2008 with a review of historical records. During site visits to Wood Island, remnants of old munitions were observed on the ground surface, along the shoreline, and partially buried on the island.

In spring 2009, an aerial digital geophysical mapping (DGM) survey was conducted to detect and accurately map metallic items (referred to as geophysical anomalies) within the BT-2 SDZ. The DGM survey identified approximately 10,400 geophysical anomalies, with the highest concentrations clustered within approximately 650 feet of Wood Island.

Samples of soil, surface water, and sediment were collected and analyzed for munitions-related chemicals such as metals and explosives residues. Explosives residues and perchlorate were not detected or were detected at concentrations below regulatory screening levels. The concentrations of metals were consistent with background levels in the area and were determined to be unrelated to the use of munitions.

The July 2010 PA/SI report also included the results of preliminary human health and ecological risk assessment screenings. For a health risk to occur, people or wildlife have to be exposed to chemicals. This is called a complete exposure pathway. Based on the sampling data and potential exposure pathways, the report concluded that there are no unacceptable risks for human or ecological health resulting from exposure to surface soil, sediment, and surface water at BT-2. **However, the report did identify potential explosive hazards that posed a risk to human safety.**

2010: MCAS Cherry Point and the Navy conducted an Expanded SI and surface removal to identify and remove munitions-related items and other metallic items from the



Figure 1 – Investigation area

surface of Wood Island. Approximately 3,900 pounds of material potentially presenting an explosive hazard (MPPEH) were removed from the island, along with 120 pounds of other metallic debris related to recreation and fishing in Bogue Sound. No items were deemed unsafe to move.

2014: In March 2014, MCAS Cherry Point and the Navy conducted another surface removal to identify and safely remove munitions and explosives of concern (MEC)/MPPEH and other metallic items that had accumulated on the surface of Wood Island since the 2010 surface clearance. Approximately 4,600 pounds of MEC/MPPEH were removed from the island. One MEC item, a 100-pound high-explosive general purpose bomb, was detonated in place; all other items were removed from Wood Island. During the controlled detonation, a vibration monitoring survey was conducted and demonstrated that homes in the vicinity were not affected.

Nautical Charts and Warning Signs

The NOAA nautical chart for the area contains a note near Wood Island stating: “Unexploded ordnance has been found in water and on land near this location. Vessels should avoid this area and in no case anchor or ground their vessels on these islands.”

In 2008, 16 warning signs were installed on the shoreline of Wood Island to advise the public about the potential munitions hazard. The 3x3 foot signs read “DANGER, UNEXPLODED ORDNANCE, DO NOT ENTER” in 3-inch-high letters.

In March 2012, MCAS Cherry Point and the Navy installed 20 additional warning signs in the shallow water around Wood Island, approximately 1,200 feet from the shoreline, to warn boaters of the danger of bottom-disturbing activities such as anchoring, dredging, or clamming. These 2x2 foot signs are mounted on poles extending approximately 9 feet above the water and read “DANGER, UNEXPLODED ORDNANCE, NO ANCHORING OR BOTTOM DISTURBING ACTIVITIES.”

Selected Remedy

Site investigations and risk assessment screenings indicated that there is an ongoing risk to island visitors from potential explosive hazards associated with MEC and MPPEH on Wood Island and in the water surrounding the island. To address this risk, MCAS Cherry Point and the Navy evaluated several alternatives for minimizing potential explosive risk.

Investigations indicate that MEC/MPPEH is likely present below ground on Wood Island and in the water surrounding the island. The Navy, in coordination with MCAS Cherry Point and NCDEQ, considered a wide range of available technologies to investigate and remove MEC/MPPEH in an underwater environment. Results of this evaluation concluded that investigation of all underwater anomalies and removal of MEC/MPPEH within Bogue Sound is impractical

due to the anticipated depth of some MEC/MPPEH below the seafloor and the number of anomalies identified.

Three alternatives were considered to remedy the presence of MEC/MPPEH at BT-2, including a “no action alternative” which is required for comparison. The three alternatives were:

Alternative 1, No Action: The site would remain in its current condition. MEC/MPPEH would continue to accumulate on the surface of Wood Island from erosion and tidal action. Warning signs would not be inspected or maintained.

Alternative 2, Institutional Controls: Warning signs on and around the island would be inspected every 3 years or after a named tropical storm or hurricane, and would be maintained as necessary. Nautical chart warning indicators would remain, and the Navy would continue to own Wood Island.

Alternative 3, Inspections, Surface Removals, and Institutional Controls: Wood Island would be inspected every 3 years or after a named tropical storm or hurricane to evaluate surface accumulation of MEC/MPPEH, which would be removed as needed. Warning signs on and around the island would be inspected every 3 years or after a named tropical storm or hurricane, and would be maintained as necessary. Nautical chart warning indicators would remain, and the Navy would continue to own Wood Island.

These alternatives were compared to nine established regulatory criteria, including how effective the remedy is in both the short- and long-term, how implementable it is, and how much it would cost to implement.

Alternative 3 was selected. It was determined to be the most protective of human health and the environment, and best meets and balances the evaluation criteria. The remedy is expected to reduce the potential for direct contact with MEC/MPPEH that pose potential explosive hazards.

Next Steps

A surface clearance is scheduled for February 2017.

Munitions experts will visit Wood Island to identify potential MEC/MPPEH at the surface. Any MEC/MPPEH that is deemed safe to move will be transported by water to Marine Corps Auxiliary Landing Field Bogue for processing. After it is verified that no explosive hazard is present, the metallic debris will be shipped to a recycling facility.

Any MEC/MPPEH found on Wood Island that cannot be moved safely due to a possible explosive hazard will be destroyed onsite by open detonation. Commercial (or “donor”) explosives will be transported by water to Wood Island and placed around the item. The item will be covered with sandbags to contain the explosive force and any fragments. The controlled detonation will detonate the MEC, or split open the MPPEH item and likely destroy any residual explosives, enabling the munitions experts to verify that no explosive hazard remains.

As per the selected remedy, Wood Island will be inspected again in 3 years or after any named tropical storm or hurricane to determine whether additional surface clearance is needed.

For More Information

Points of Contact

Patricia Vanture

Naval Facilities Engineering Command Mid-Atlantic
757-341-0325

patricia.vanture@navy.mil

Will Potter

MCAS Cherry Point
252-466-5376

william.r.potter@usmc.mil

Reports and documents related to BT-2 and Wood Island can be searched and reviewed in the Administrative Record online at: http://www.navfac.navy.mil/products_and_services/ev/products_and_services/env_restoration/installation_map/navfac_atlantic/midlant/cherry_point/admin_records.html

Some documents are also available for review at:

Havelock-Craven County Public Library

301 Cunningham Boulevard
Havelock, NC 28532
252-393-7509

Western Carteret Public Library

230 Taylor Notion Road
Cape Carteret, NC
252-393-6500

Danger – Unexploded Ordnance!

Although MCAS Cherry Point has not used Wood Island as a target for nearly 50 years, explosive hazards make it unsafe for any kind of civilian use.

Wood Island and the waters surrounding it are posted with danger signs. The official nautical chart for this area clearly states "Unexploded ordnance has been found in water and on land near this location. Vessels should avoid this area and in no case anchor or ground their vessels on these islands."

Looks are deceiving when it comes to munitions. Even small items can injure or kill. With age and weather, safety devices may no longer work. Old explosives may become unstable and unusually sensitive. Large or small, new or old, shiny or rusty, clean or dirty; all of it can be dangerous!

For your own safety, please do NOT anchor boats near Wood Island, or go onto the island at any time!

If you find munitions ***ANYWHERE***, contact your local law enforcement. ***DO NOT HANDLE*** any munitions.



CH2M HILL, Inc.
Attn: MCAS Cherry Point Team
5700 Cleveland Street, Suite 101
Virginia Beach, VA 23462