M00146.AR.001030
MCAS CHERRY POINT
5090.3a

FACT SHEET FOR MUNITIONS RESPONSE PROGRAM AT FORMER CAT ISLAND BOMB TARGET 2 MCAS CHERRY POINT NC

08/01/2010

NAVFAC MID ATLANTIC

Munitions Response Program
Marine Corps Air Station Cherry Point
Former Bomb Target 2 (BT-2)

August 2010

Removing Munitions from the Surface of Wood Island

Marine Corps Air Station (MCAS) Cherry Point and the U.S. Navy have completed the initial investigation (Site Inspection) of Former Bomb Target 2 (BT-2) at Wood Island, and have prepared a Site Inspection Report to summarize the findings. To reduce potential explosive safety hazards, additional investigation activities are planned to include removing old munitions from the surface of Wood Island. These activities will be performed as an Expanded Site Inspection in the fall/winter of 2010.

This newsletter summarizes the results of the Site Inspection (see page 2) and discusses the planned Expanded Site Inspection activities to remove old munitions from the surface of Wood Island (see page 4). Additionally, this newsletter solicits public comments on the Marine Corps' and Navy's consideration of posting additional signage to restrict bottom-disturbing activities around Wood Island.

An Expanded Site Inspection Work Plan, detailing the specific activities planned for this next phase of work, has been released for public review. The Final Site Inspection Report and the Draft Final Expanded Site Inspection Work Plan are available for viewing at the Western Carteret Public Library, located at 230 Taylor Notion Road in Cape Carteret, North Carolina.

Site History and Investigation

The Navy and MCAS Cherry Point are 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 is leading the investigation in partnership with MCAS Cherry Point and the North Carolina Department of Environment and Natural Resources (NCDENR). The U.S. Environmental Protection Agency (USEPA) and other federal and state agencies are providing technical support.

Upcoming Public Meetings

Interested community members and representatives of the involved agencies are invited to discuss the Site Inspection results, the proposed Expanded Site Inspection effort, and the Marine Corps' and Navy's consideration of posting additional signage to restrict bottom-disturbing activities around Wood Island at either one of these two public meetings:

September 1, 2010
4:00-7:00 p.m.
Emerald Isle Town Board Meeting Room
(next to the police station)
7500 Emerald Isle Drive
Emerald Isle, NC 28594

September 2, 2010
4:00-7:00 p.m.
Croatan High School (cafeteria)
1 Cougar Lane
3355 Highway 24
Newport, NC 28570

If you have questions about these public meetings, or need specialized assistance, please contact:

Jason Williams, Naval Facilities Engineering Command Mid-Atlantic: 757-322-4088, jason.e.williams2@navy.mil

BT-2 was located in the vicinity of Wood Island in Bogue Sound, which is located approximately ½-mile offshore of 24th Street in the town of Emerald Isle (Figure 1). 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. Historical surface danger zones were associated with those targets.

BT-2 has not been used as a target since about 1955 and there are no plans to reactivate it. Military explosive ordnance disposal technicians have removed munitions from the surface of Wood Island since that time. Due to the limitations of technology at that time, no attempt was made to remove subsurface munitions.

In Spring 2009, an aerial digital geophysical mapping (DGM) survey was conducted over the part of Bogue Sound that surrounds Wood Island (Figure 1). The purpose of the survey was to detect and accurately map metallic items, which are referred to as magnetic anomalies, within the Surface Danger

Figure 1 – Investigation area

Zone (SDZ) around BT-2. In addition, samples of soil, surface water, and sediment were collected and analyzed for munitions-related chemicals, such as metals and explosives residues.

The patterns of anomalies identified by the aerial DGM survey are now being used to focus future stages of the investigation.

Site Investigation Results Summary

Aerial Digital Geophysical Mapping (DGM) Survey

During the aerial DGM survey of Bogue Sound, a digital map of magnetic anomalies (metallic objects) around Wood Island was generated (Figures 2 and 3). These anomalies could be munitions submerged under water or buried under the ground surface, or they could be metallic objects related to recreational or commercial use of Bogue Sound: crab pots, for example, or items dropped overboard from boats, such as anchors, engine parts, tools, and fishing gear.

Data from an aerial DGM survey only shows whether or not metal is present. It does not distinguish between munitions and other metallic objects.

Assessing Environmental Risk

Although the obvious public risk on Wood Island is from munitions and explosives of concern (MEC) and material potentially presenting an explosive hazard (MPPEH), the Site Inspection also considered potential environmental risks.

A **Surface Danger Zone (SDZ)** *is an area associated with a training range. It may include land, water, and airspace.*

An SDZ is comprised of three parts:

1. **Weapons Firing Position:** *At BT-2, the aircraft from which munitions were fired*
2. **Impact Area:** *The target(s), where munitions and munitions fragments were expected to land*
3. **Secondary Danger Area:** *A safety buffer, where some fragments from munitions might have landed*

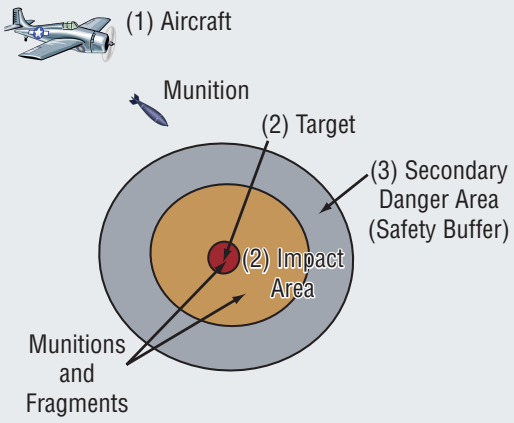

Illustration of a Surface Danger Zone for Munitions Delivered from Aircraft

These figures depict the results of the aerial DGM survey conducted in spring 2009. The yellow to red shading shows higher-density areas (more metallic objects per acre) and the green to blue shading shows low density areas (fewer objects per acre)

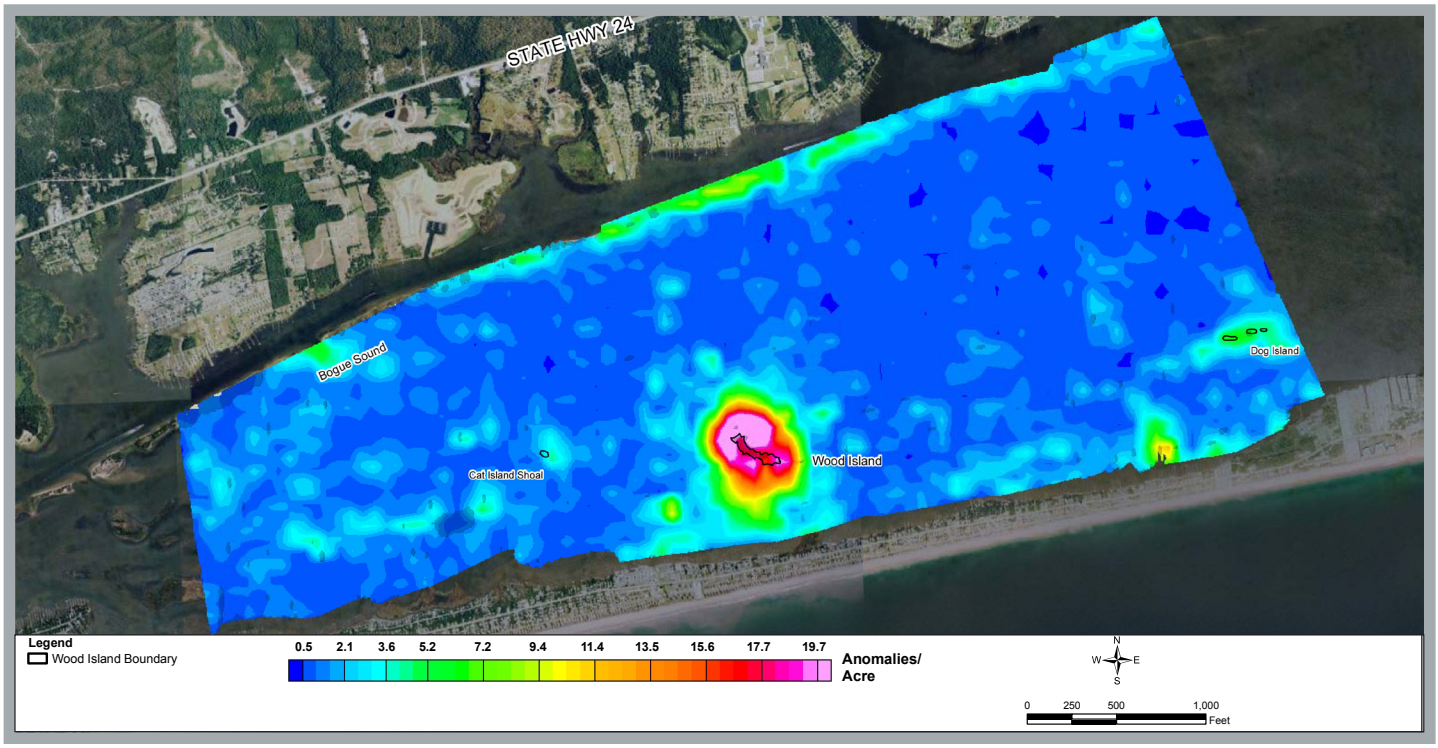

Figure 2 – Aerial DGM results in the investigation area

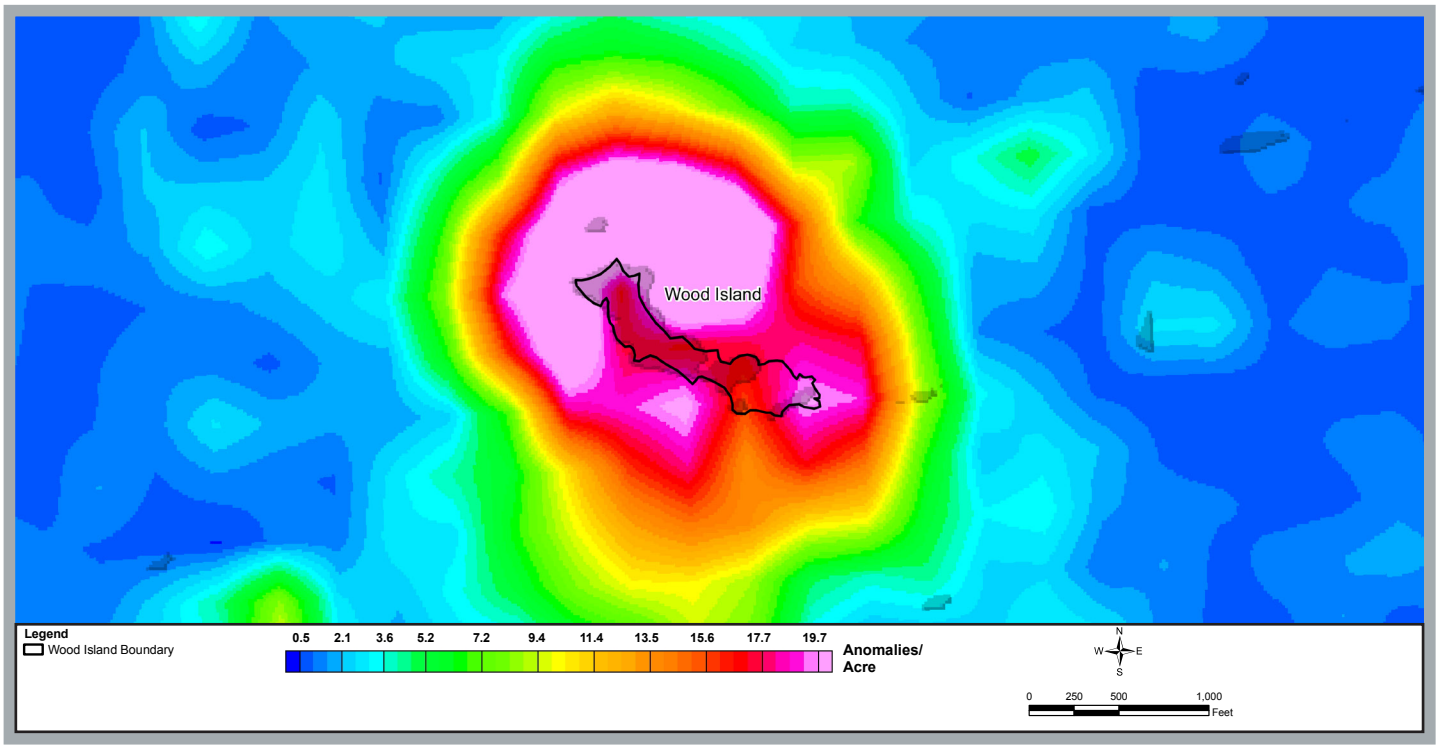

Figure 3 – Aerial DGM results near BT-2

Based on the environmental data collected and analyzed in 2009, no unacceptable risk was identified to human health or to wildlife that is exposed to munitions-related chemicals in the surface soil, sediment, or surface water at BT-2. These findings are summarized in the December 2009 newsletter and are presented in detail in the Site Inspection Report.

Next Steps

Based on the results of preliminary human health and ecological risk screenings, no further evaluation of chemicals in the surface soil, surface water, and sediment is recommended at BT-2 or in Bogue Sound at this time.

MEC and MPPEH, however, are a potential risk to human safety. The remnants of munitions visible on the surface of Wood Island and the high concentration of magnetic anomalies in the waters around the island show that further study is needed, as technology is developed that can effectively and safely address MEC and MPPEH that remain below the surface in this type of environment.

Expanded Site Inspection

An Expanded Site Inspection is planned to remove the MEC and MPPEH from the surface of Wood Island. Metallic debris will be removed from the surface of Wood Island by Unexploded Ordnance (UXO) technicians. During the Expanded Site Inspection, metallic debris on Wood Island will be classified as either:

- MEC – Munitions items that did not function as intended (did not explode) when deployed and still contain explosives
- MPPEH – Fragments of munitions items that may or may not contain residual explosives
- "Other debris" – metallic items unrelated to historical military activities at BT-2

"Other debris" poses no explosive hazard and could include items like soda cans, lawn chairs, anchors, and other items deposited on the island through the years. "Other debris" will be removed from Wood Island for disposal.

Any MPPEH that UXO technicians determine can be safely moved from Wood Island will be transported by water to nearby Marine Corps Auxiliary Landing Field Bogue for processing.

Processing involves a thorough re-inspection of the material to document that there is no explosive hazard present. After

Danger – Unexploded Ordnance!

Although MCAS Cherry Point has not used Wood Island as a target for more than 55 years, explosive hazards make it unsafe for any kind of civilian use.

Wood Island is 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." (See Figure 6 on page 7.)

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.

it is verified that no explosive hazard is present, the metallic debris will be documented as safe and will be shipped to a disposal facility for recycling.

Controlled Detonation Events

MEC and MPPEH that cannot be safely moved from Wood Island due to a possible explosive hazard will be destroyed onsite in controlled detonation events.

Commercial (or "donor") explosives will be transported by water to Wood Island and placed around the MPPEH item. The item will be covered with sandbags to contain the explosive force and any fragments, and the donor explosives will be detonated. This controlled detonation will split open the MPPEH item and likely destroy any residual explosives, allowing the UXO technicians to verify that no explosive hazards remain.

The number of controlled detonations that will occur during the Expanded Site Inspection is not known. The need for controlled detonations will be determined as metallic debris is inspected during the Expanded Site Inspection. Explosives safety operations for the Expanded Site Inspection will be approved by the United States Department of Defense Explosives Safety Board.

To ensure public safety, public access to the portions of Bogue Sound near Wood Island will be restricted at times during the Expanded Site Inspection effort (see Figure 4). The location of the restricted area will be communicated to the public through a Notice to Mariners and by support boats stationed in Bogue Sound to alert boaters. **Engineering controls, such as the use of sandbags, will be used to minimize noise and vibrations; however, residents of Emerald Isle may hear the controlled detonations.**

Future Site Activities

The Navy is currently evaluating methods to investigate metallic anomalies identified in underwater environments. The potential munitions are mainly underwater or buried in the sediment of Bogue Sound and are expected to be in poor condition — weathered or corroded, like the munitions observed on the surface. Those factors make this identification process complicated, as well as potentially dangerous for the investigation team.

MCAS Cherry Point and the Navy are also considering installing additional warning signs (Figure 5) restricting bottom-disturbing activities in the waters adjacent to the island to reduce the chance of exposure to unexploded ordnance that may be present. The public will be consulted during the upcoming public meetings before these actions are implemented.

Figure 4 – Restricted areas during the Expanded Site Inspection effort

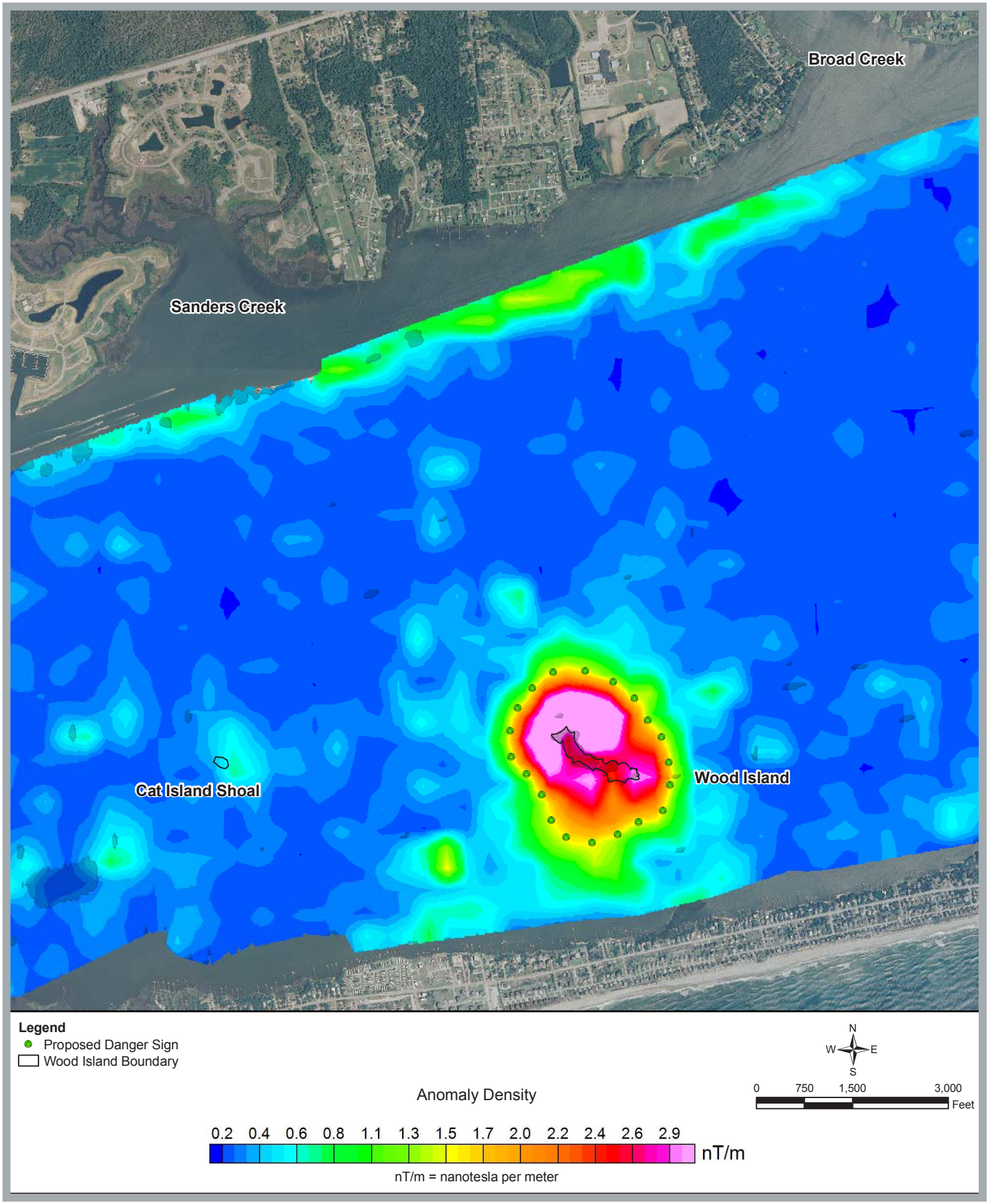

Figure 5 – Potential locations of additional warning signs based on aerial DGM results

How Can I Get More Information?

Work Plan

An Expanded Site Inspection Work Plan, with more details about the upcoming activities, is currently available for public review on our website (see below) and at:

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

Public Meetings

Interested community members, as well as representatives of the involved agencies, are invited to discuss the proposed Expanded Site Inspection effort at two upcoming public meetings. The public meeting dates and locations are on the first and last pages of this newsletter.

Website

Please visit our website. New central address: https://portal.navfac.navy.mil

Select Environmental (on left) ▸ Environmental Restoration (tab) ▸ Click on the interactive map ▸ North Carolina ▸ Cherry Point

Previous fact sheets about BT-2 can be found by selecting the "Community Outreach" tab.

Points of Contact

Questions and comments from interested community members are welcome at any time during the investigation and planning process.

Jason Williams
Naval Facilities Engineering Command Mid-Atlantic
757-322-4088
jason.e.williams2@navy.mil

John Myers
MCAS Cherry Point Environmental Affairs Department
252-466-4903
john.s.myers@usmc.mil

Newsletters

Would you like to continue receiving information about the BT-2 investigation? If you received this newsletter by mail, would you prefer to receive updates by e-mail instead?

If you haven't already done so, please send your e-mail or mailing address (with "BT-2 Wood Island Mailing List" in the Subject line) to: jason.e.williams2@navy.mil, or write to:

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

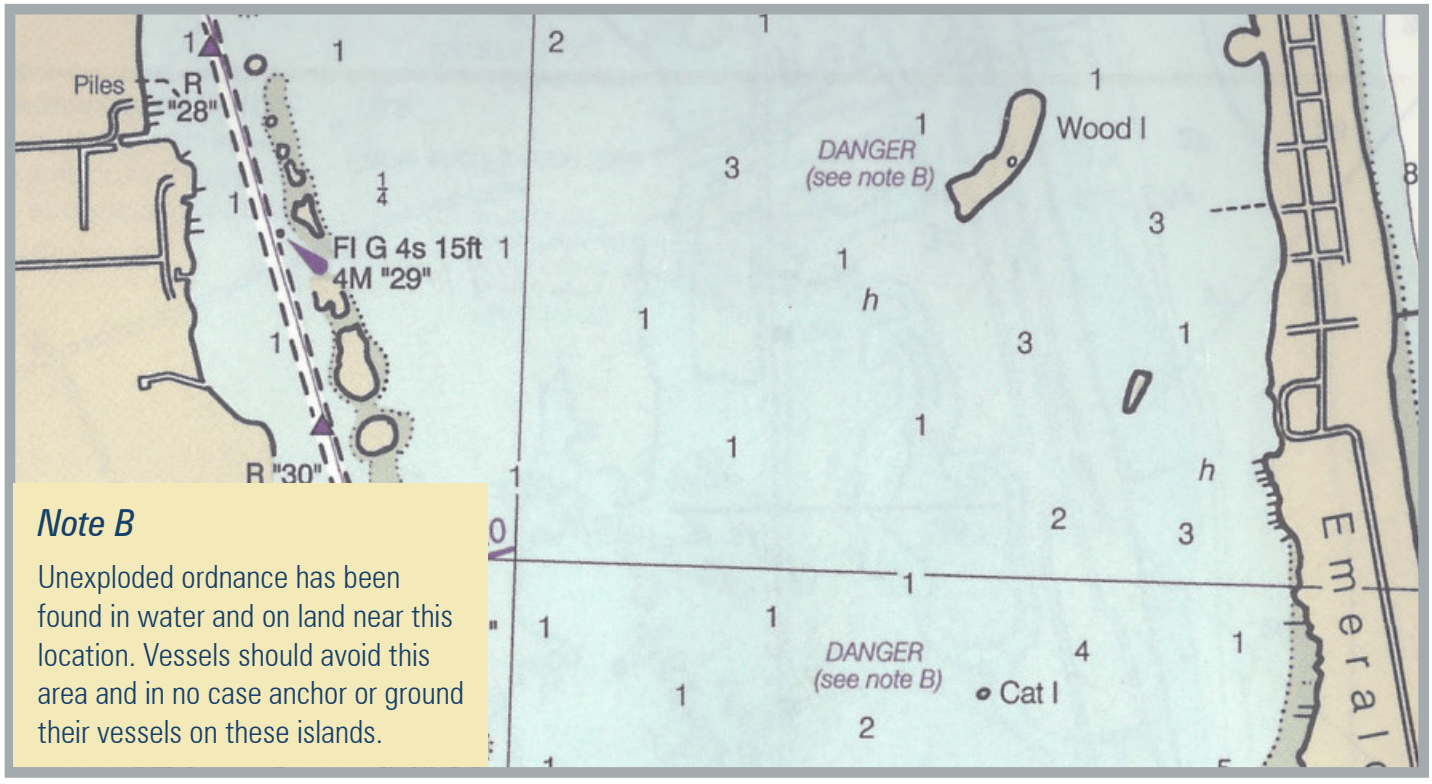

Figure 6 – Nautical chart 11541 around Wood Island

Note B

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.

What's Inside?

This newsletter provides an update on the investigation of munitions at Former Bomb Target 2 (BT-2) in Bogue Sound, where Marine Corps Air Station Cherry Point conducted training in the 1940s–1950s.

Important information for boaters is included – please read and share!

This is the fouth in a series of newsletters about BT-2. Copies of the July 2008, February 2009, and December 2009 newsletters are available in the West Carteret Library, on the public website (see website address on page 7), or by contacting Jason Williams (see below).

Public Meetings

You are invited to discuss the Site Inspection results, the proposed Expanded Site Inspection and scrap munitions removal activities, and the Marine Corps' and Navy's consideration of posting additional signage to restrict bottom-disturbing activities around Wood Island at either of two public meetings:

September 1, 2010
4:00-7:00 p.m.
Emerald Isle Town Board Meeting Room
(next to the police station)
7500 Emerald Isle Drive
Emerald Isle, NC 28594

September 2, 2010
4:00-7:00 p.m.
Croatan High School (cafeteria)
1 Cougar Lane
3355 Highway 24
Newport, NC 28570

If you have questions about these public meetings, or need specialized assistance, please contact:
Jason Williams, Naval Facilities Engineering Command Mid-Atlantic: 757-322-4088, jason.e.williams2@navy.mil

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

Place Stamp Here

ES0805100316MKE