CCNPP3COLA PEmails

From: Steckel, James
Sent: Wednesday, June 22, 2011 10:58 AM
To: CCNPP3COLA PEmails
Subject: FW: NMFS Concurrence on Tidal Mitigation Strategy
Attachments: E-Mail 12-22-10 NMFS Approval of Mtg Minutes.pdf; Nichols Meeting 12-15-2010 rev3.pdf

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From: Lutchenkov, Dimitri [mailto:dimitri.lutchenkov@unistarnuclear.com]
Sent: Monday, January 03, 2011 3:39 PM
To: 'Anderson, Kathy NAB02'; 'Francis, Woody NAB02'
Cc: Burkman, Jim; Gibson, Gregory T; Massie, Wayne A; Quinn, Laura
Subject: NMFS Concurrence on Tidal Mitigation Strategy

At the request of USACE a meeting was held on 12/15/10 between UNE and National Marine Fisheries Service (NMFS) to identify the mitigation strategy for tidal impacts. NMFS was identified by USACE as the resource agency, subject matter experts, for USACE on tidal issues. The attached e-mail shows NMFS concurrence/approval of the December 15, 2010 meeting minutes (second attachment). These meeting minutes discretely specify the tidal mitigation that is recommended to be implemented for the CC3 project. Specifically, NMFS is seeking 4.5 acres (1:1 mitigation ratio) of sand/coarse substrate habitat in an oyster reef area to provide forage for fish with a 5 year monitoring plan and corrective actions as needed to ensure that the site met the tidal mitigation goals. NMFS agreed that a description of a mitigation concept and outline of steps to finalize the design and implement the project would satisfy the current needs of the permitting process.

Regards,

Dimitri Lutchenkov

Director | Environmental Affairs |
UniStar Nuclear Energy
410-470-5524 | m 410-370-9090

Hearing Identifier: CalvertCliffs_Unit3Cola_Public_EX
Email Number: 2225

Mail Envelope Properties (0AA17736E4C4154CA37233EEBFC8DEB27400C0E08E)

Subject: FW: NMFS Concurrence on Tidal Mitigation Strategy
Sent Date: 6/22/2011 10:58:26 AM
Received Date: 6/22/2011 10:58:29 AM
From: Steckel, James

Created By: James.Steckel@nrc.gov

Recipients:
"CCNPP3COLA PEmails" <CCNPP3COLA.PEmails@nrc.gov>
Tracking Status: None

Post Office: HQCLSTR02.nrc.gov

Files	**Size**	**Date & Time**
MESSAGE	1729	6/22/2011 10:58:29 AM
E-Mail 12-22-10 NMFS Approval of Mtg Minutes.pdf	51577	
Nichols Meeting 12-15-2010 rev3.pdf	1550002	

Options
Priority: Standard
Return Notification: No
Reply Requested: No
Sensitivity: Normal
Expiration Date:
Recipients Received:

Lutchenkov, Dimitri

From: McCormick, Kaitlin [kmccormick@eaest.com]
Sent: Wednesday, December 22, 2010 3:47 PM
To: Lutchenkov, Dimitri; Burkman, Jim; Miller, Edward A; Logan, Carla
Cc: Papageorgis, Christine
Subject: FW: Calvert Cliffs Unit 3 - Tidal Mitigation

From: John Nichols [mailto:John.Nichols@noaa.gov]
Sent: Wednesday, December 22, 2010 3:38 PM
To: McCormick, Kaitlin
Subject: Re: Calvert Cliffs Unit 3 - Tidal Mitigation

I reviewed the summary this afternoon, and it is fine.

McCormick, Kaitlin wrote:
John,

Have you had a chance to review the meeting summary? Could you let us know if you think this is an accurate reflection of the discussion?

Thanks!

Kaitlin

From: McCormick, Kaitlin
Sent: Friday, December 17, 2010 11:13 AM
To: 'John.Nichols@noaa.gov'
Cc: Lutchenkov, Dimitri; 'Logan, Carla'; Miller, Edward A; Papageorgis, Christine
Subject: Calvert Cliffs Unit 3 - Tidal Mitigation

John,

I have attached the meeting summary of our meeting Wednesday to discuss UniStar's tidal mitigation. Please review and provide comments or concurrence to the attached meeting summary document. Please reply with concurrence directly to Dimitri Lutchenkov (Dimitri.lutchenkov@unistarnuclear.com).

Have a good day,

Kaitlin

Kaitlin McCormick
EA Engineering, Science, and Technology
15 Loveton Circle
Sparks, MD 21152
ph: 410-771-4950 x5989
fax: 410-771-4204
kmccormick@eaest.com

MEETING SUMMARY

EA Engineering, Science, and Technology

Meeting Date: **December 15, 2010**

Meeting Attendees: John Nichols (NMFS), Dimitri Lutchenkov (UniStar), Jim Burkman (UniStar), Ed Miller (UniStar), Carla Logan (UniStar), Christine Papageorgis, Ph.D. (EA), Kaitlin McCormick (EA)

Subject: Tidal Wetland Mitigation; Calvert Cliffs Nuclear Power Plant Unit 3

Summary:

Mr. Miller began the meeting by laying out the meeting objectives: 1) to discuss additional information regarding the tidal mitigation option recommended by Mr. Nichols at the November Joint Evaluation Committee (JE) meeting and 2) to discuss UniStar's proposed approach to provide tidal mitigation.

NMFS is seeking 4.5 acres (1:1 mitigation ratio) of sand/coarse substrate habitat in an oyster reef area to provide forage for fish. Initially, NMFS requested 9 acres (2:1 mitigation ratio) of mitigation via letter to the U.S. Army Corps of Engineers dated 20 August 2010, but the mitigation requested was been reduced to 4.5 acres after discussions at the September and November 2010 JE meetings. At the November JE meeting, Mr. Nichols recommended consideration of two areas identified by the Maryland Geological Survey (MGS) in their 2008 survey of NOB 19-2 as not having such substrate. MGS reported some evidence of anoxic conditions from grab samples in those areas and Mr. Nichols proposed placing material and bringing the area to a depth that would not have seasonal hypoxia.

Figure 1 (attached) shows the two areas (A and B) suggested by Mr. Nichols and a depth analysis completed by EA. Ms. McCormick explained that the depth in these areas is currently less than 25 feet, which is the depth at which MGS indicated areas would not be seasonally hypoxic or anoxic (MGS 2008). Ms. McCormick further explained that site bathymetry data (EA 2006) do not indicate any channels or depressions in areas A and B.

Figure 2 (attached) presents the MGS substrate data for areas outside A and B. MGS' data do not include mapped substrate type for areas A and B. A Maryland Department of Natural Resources (MDNR) dataset for areas A and B is shown on the figure. MDNR data indicate that area B currently has suitable substrates for benthic habitat and that at least a portion of area A also has suitable substrates. These two areas do not seem to be suitable for substrate enhancement projects. In addition to habitat conditions not warranting restoration, Mr. Miller

and Ms. Logan indicated that there were some operational concerns about placement of material near the intake channel and the potential for turbidity to affect operations of Units 1 and 2 at Calvert Cliffs.

As an alternative for potential restoration sites, Ms. McCormick then presented Figure 3 (attached), which shows MDNR substrate data for the remaining area of NOB 19-2. Ms. McCormick noted that there was a large area at the northern edge of the oyster bar that has degraded habitat (mud). Mr. Nichols indicated that the area is a potential restoration opportunity, but that he would want additional information on the site. Mr. Nichols indicated that UniStar should characterize the substrate of this area to determine if it would support the required material to create viable benthic habitat.

Mr. Miller pointed out to Mr. Nichols that coordination with Maryland Department of the Environment (MDE) had indicated that the dredged material from the project would not be suitable for placement. MDE's placement criteria for beneficial use of dredged material in an unconfined manner is that not more than 10 percent of the material can pass through a 100 point sieve. UniStar provided Mr. Nichols with a copy of the grain size results, which shows that 28 percent or more of the material, depending on the sample, would pass through a 100 point sieve. Mr. Nichols noted that he had also spoken to Jonathon Stewart at MDE and noted that this project is being held to Maryland's very high standard. From NMFS perspective, a material of 70 percent sand would be allowable for this use. Mr. Nichols would like to see the dredged material used, if possible, or suitable portions used and the rest disposed of in other areas. Mr. Miller noted that at this time the disposal site for the dredged material was on Calvert Cliffs Nuclear Power Plant property at Lake Davies.

Mr. Miller asked Mr. Nichols if he would be amenable to coarser material than sand being placed, such as gravel. Mr. Nichols noted that this would be better material than sand, if the substrate in the area would support it. Mr. Miller asked if it was possible to place less than 3 feet of material, because of the high cost of material from an upland source. Mr. Nichols stated that he would be willing to allow 1 foot of placement, if coarser material, such as gravel was used, and the underlying substrate was suitable (e.g., hard pan clay). Mr. Nichols would like to see:

- More specific identification of an area, based on site investigations
- Field investigations of the specific site, including:
    - Substrate characterization
    - Bathymetry
    - If areas are near or below -20 feet mean sea level (MSL), seasonal oxygen monitoring data

Mr. Nichols indicated that he did not want to see a net loss of hard bottom with suitable benthic substrate on oyster bars. He indicated that scoured hard pan clay would be an ideal substrate to improve. He wants to make sure that substrate enhancement occurs in an area that is suitable for the enhancement and that monitoring is critical. If there is not at least one foot of material left during the monitoring period, Mr. Nichols would want material to be augmented to allow a permanent substrate change.

Ms. McCormick explained that UniStar is also willing to look at other sites on oyster bars and had mapped MDNR substrate data over oyster bars in the region, shown on Figure 4 (attached). Ms. McCormick also confirmed that Mr. Nichols would be amenable to work on an area of NOB 19-2 that did not currently have substrate mapping, if sufficient data were collected to verify the suitability of the site. He also noted that if a project was done in shallower areas (<20 ft), then seasonal oxygen studies would not be needed.

Mr. Nichols noted that his understanding is that he and the Corps of Engineers are requesting 4.5 acres of benthic mitigation, rather than the 9.0 acres originally contemplated in the 20 August 2010 NMFS letter to satisfy the tidal mitigation requirements of the project. He would want monitoring a period of 5 years, and corrective actions as needed to ensure that the site met the tidal mitigation goals.

Mr. Miller noted that UniStar's goal is to meet the requirements, but that the identification of a specific area with supporting investigations could not be completed in time to meet the current timing requirements of the Final Environmental Impact Statement (FEIS) for the project and for the Corps permit decision. He inquired as to whether or not there was a way to come to an understanding of a conceptual tidal mitigation plan and process that would allow for development of a sound detailed plan and would meet the permitting and approvals schedule. Mr. Lutchenkov further noted that resolution of tidal mitigation was the critical path for finalizing the FEIS. Mr. Lutchenkov then asked whether or not it would be possible for the permit to be worded to allow 4.5 acres of substrate enhancement to be completed with the mitigation site to be finalized, based on NMFS approval, after studies were completed. Mr. Nichols noted that there have been several cases where the permit conditions have identified a process or a project to be completed with some flexibility based on project development process, funding processes, and other needs. Mr. Miller indicated that this is what UniStar was hoping for, because it is willing to commit to a concept plan, but the time to complete the studies does not support the current FEIS schedule. He also noted that it is not in NMFS or UniStar's interest to have an unsuccessful tidal mitigation project that would require substantial corrective management or development of a new project.

Mr. Nichols agreed that a description of the mitigation concept and outline of steps to finalize the design and implement the project would satisfy the current needs of the permitting process. UniStar agreed to develop a meeting summary for Mr. Nichols' review and comment or concurrence that could be forwarded onto the Corps and other project stakeholders summarizing the next steps. Further, both Mr. Burkman and Mr. Nichols will follow up with Mr. Woody Francis of the Corps to make him aware of the discussions.

UniStar and Mr. Nichols agreed upon the following process to identify a suitable mitigation site for placing coarse substrate on mud/silt bottom or scoured hardpan clays:

1. Determine the suitability of the dredged material from the project for use in the substrate enhancement project. It must be technically feasible and cost effective to use the on-site material or material from an upland source will be used.
2. Complete substrate and bottom mapping of the proposed mitigation site

    a. Complete a desktop study of available data to select one or more potential sites
    b. Complete field investigations to confirm the substrate suitability to support sand/gravel/dredged material
    c. Complete a bathymetric survey
3. Complete seasonal studies of dissolved oxygen to determine viability of habitat at the proposed mitigation site if a site with depths greater than 20 feet is proposed.
4. Develop a project schedule to complete the surveys and studies for site identification and mitigation project implementation.

These tasks will be included in the concept plan.

Ms. McCormick asked how Mr. Nichols would want material placed. Mr. Nichols indicated that bottom dumping of the material from a scow was acceptable to him and that he did not think additional grading would be required, because the material would settle into place with the water currents.

Mr. Miller and Ms. Logan asked whether Mr. Nichols believes a silt curtain would be required during placement if coarse material, such as gravel, was placed. Mr. Nichols indicated that placement of coarse material would not necessarily require silt curtains and noted that silt curtains were not as successful in open water conditions as in more sheltered areas. However, since the action would occur on an oyster bar, silt curtains could be required especially if placement were within 500 yards of cultch. Mr. Nichols also noted that there may be time-of-year (TOY) restrictions for oysters. Mr. Nichols stated that both the winter and summer TOY periods would likely be implemented, but that a waiver could be requested from the state and Corps.

Mr. Burkman inquired as to whether or not this mitigation could potentially conflict with any submerged aquatic vegetation (SAV) habitat. Mr. Nichols indicated that the depths for oyster bars were greater than the 2 meter depths that would support SAV.

Mr. Lutchenkov requested confirmation that this approach and creation of 4.5 acres of benthic habitat (coarse substrate one foot deep) would meet NMFS requirement for tidal mitigation. Mr. Nichols indicated that this would satisfy the NMFS tidal mitigation requirement.

Figure 1
Depth Analysis based on MGS 2008 Grab Samples and Side Scan Sonar and EA's 2006 Bathymetric Survey

Calvert Cliffs Nuclear Power Plant
Sediment Characterization
2010

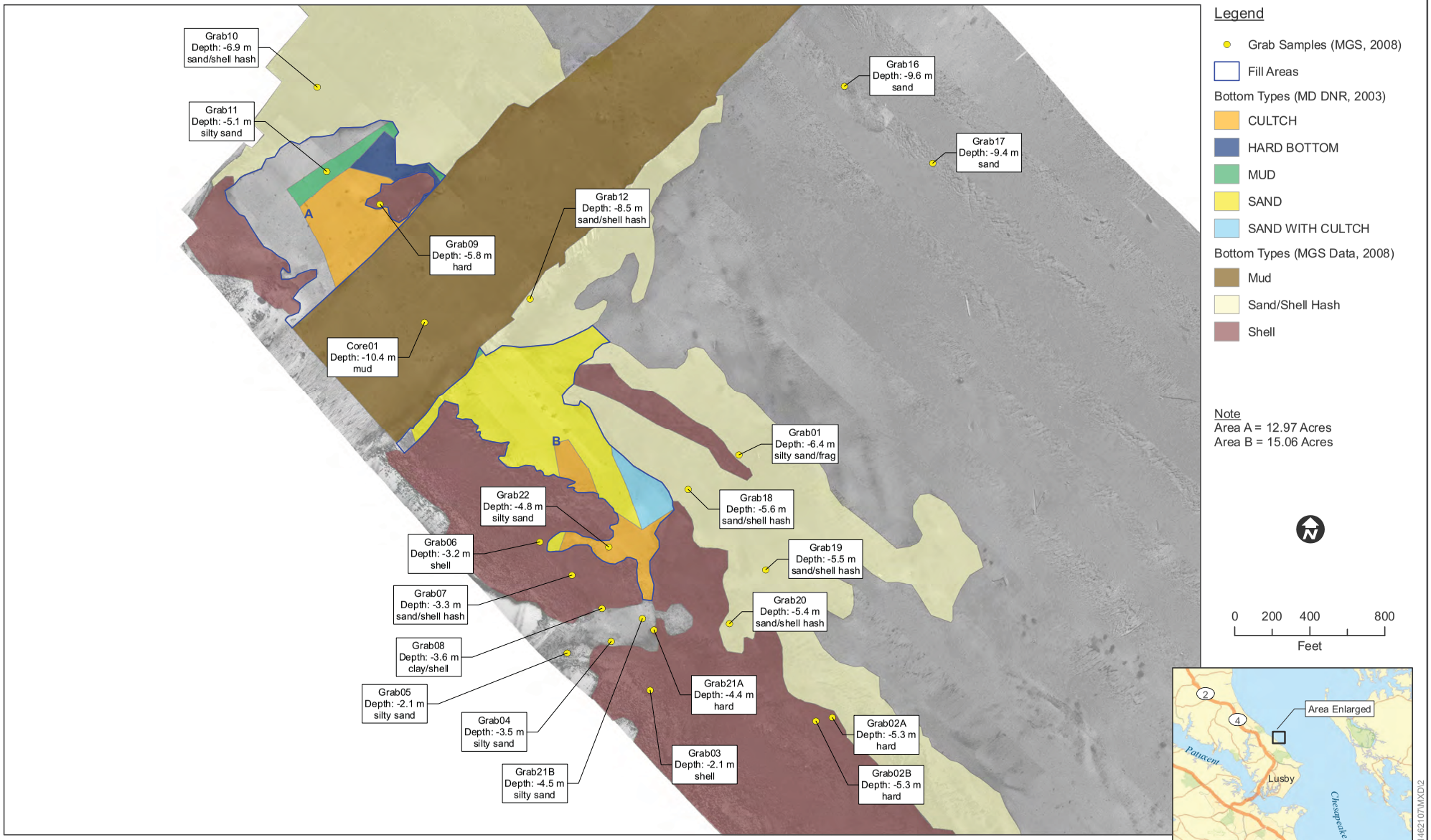

Figure 2 – Bottom Types within Study Area as Identified by MGS and MD DNR

Calvert Cliffs Nuclear Power Plant
Sediment Characterization
2010

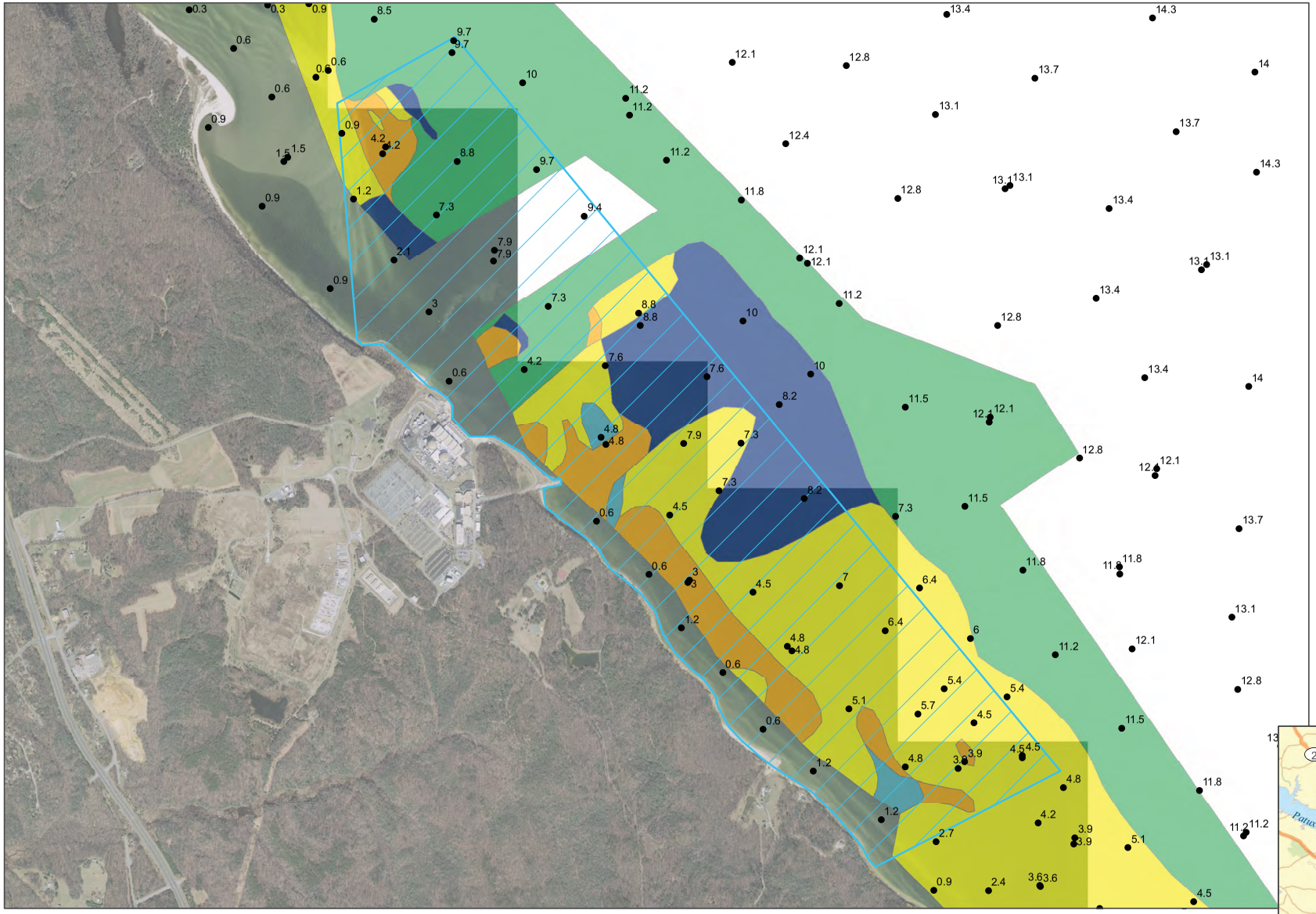

Figure 3 – Bottom Types within Oyster Bar NOB 19-2 as Identified by MD DNR

Calvert Cliffs Nuclear Power Plant
Sediment Characterization
2010

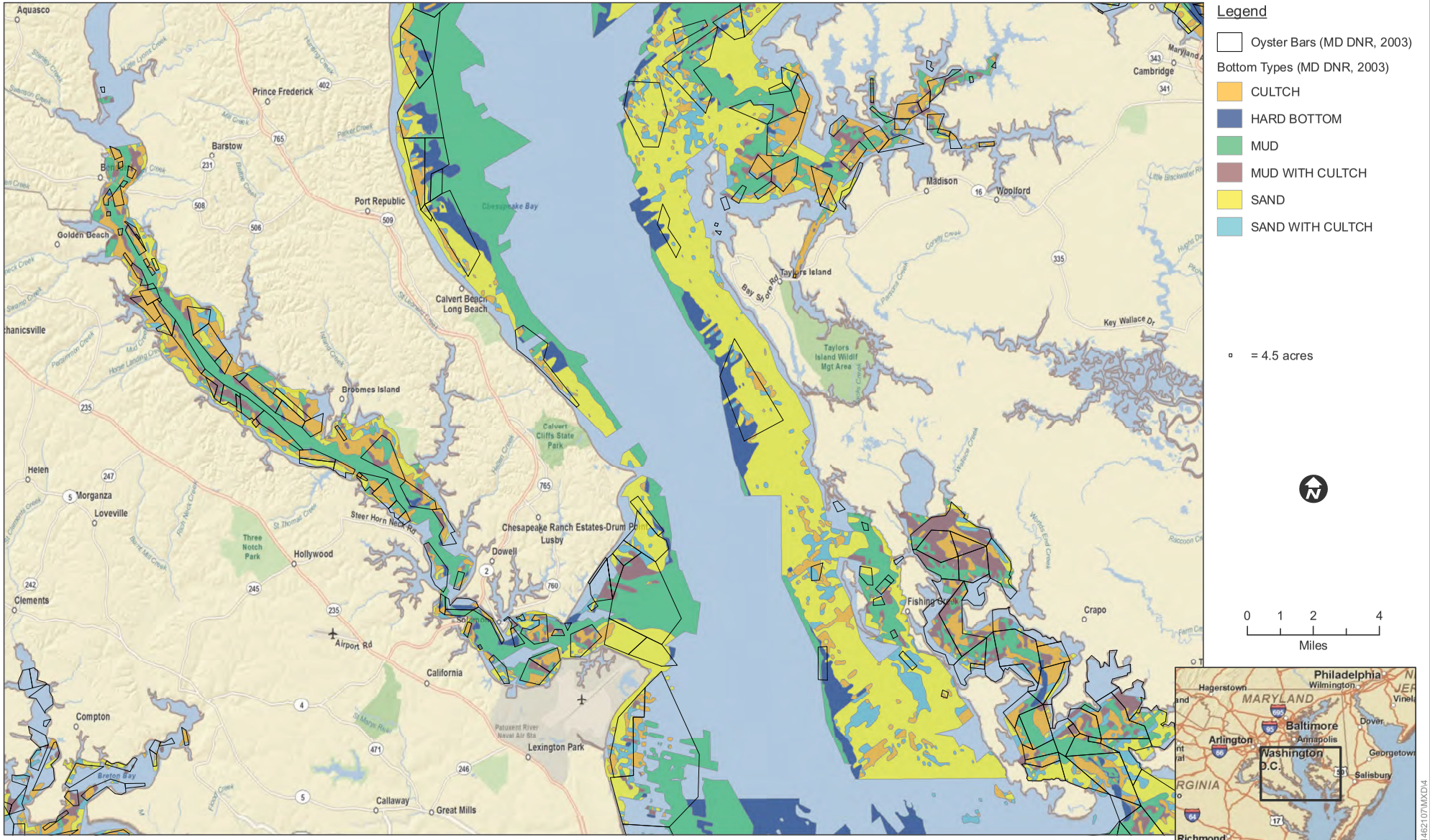

Figure 4 – Bottom Types within the Vicinity of the Patuxent River as Identified by MD DNR

Calvert Cliffs Nuclear Power Plant
Sediment Characterization
2010