



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Office of National Marine Sanctuaries
Stellwagen Bank National Marine Sanctuary
175 Edward Foster Road
Scituate, Massachusetts 02066
Tel: 781.545.8026 Fax: 781.545.8036

#5

June 17, 2010

Mr. John Pappalardo
Chairman
New England Fishery Management Council
50 Water Street
Newburyport, MA 01950

RE: Follow-up comments on the SASI model

Dear Chairman Pappalardo:

It was a pleasure seeing you at the Habitat Committee meeting last week. I am pleased with the outcome of the meeting particularly with regard to our concerns: the future of the WGoM Habitat Closed Area and creation of a Dedicated Habitat Closed Area in the SBNMS. I want to commend the council staff and PDT for their excellent presentations at the meeting last week and for the superb work they have done on developing the SASI model which has significantly advanced the debate on reducing the adverse effects of fishing as required by the Magnuson Act.

Now that we have had a chance to review some SASI model output including LISA analyses and EAP analyses, I want to apprise you of some concerns we have about the underlying data in SASI. In the case of the WGoM habitat closed area and the SBNMS, SASI and the subsequent LISA analysis do not do a good job of characterizing adverse effects. This is because the underlying sediment data in SASI is based on US seabed data from the USGS which under-represents large grain sizes (gravel, cobble, boulder) due presumably to sampling devices. SASI is particularly sensitive to adverse effects on gravel and mud. Based on the peer-reviewed USGS multibeam data collected in 1994 and published in 2003, we know that the sanctuary is composed of approximately 34% gravel, 28% sand, and 38% mud (Map 1). The SASI sediment map indicates that the sanctuary is predominantly sand which is not the case (Map 2). In addition, boulder reef habitat is an important and prevalent habitat in the SBNMS that is severely under-represented in SASI, yet it is unclear how SASI can account for critical, small-scale features such as boulder reefs (Map 3).

We are currently working with Michelle Bachman and the PDT (Brad Harris, Chad Demarest, and Kathryn Ford) to develop a methodology for incorporating the multibeam data into the SASI model. Our approach will be to conduct a sensitivity analysis by recoding the SASI grid cells for the SBNMS area based on the multibeam data and rerunning the model for just the SBNMS area to see if the Z (adverse effects) is significantly different. Map 4 shows preliminary results if the 100km² SASI grid cells were coded using the multibeam data. If Z is significantly different, we will advocate for rerunning the SASI base model with the multibeam data incorporated.



cc: Council, MB (6/18)

We feel that SASI should incorporate the best available data. The USGS multibeam data for the SBNMS is a critical dataset that should be utilized in SASI. If you would like to discuss the matter further, please contact me at 781.545.8026, ext. 202.

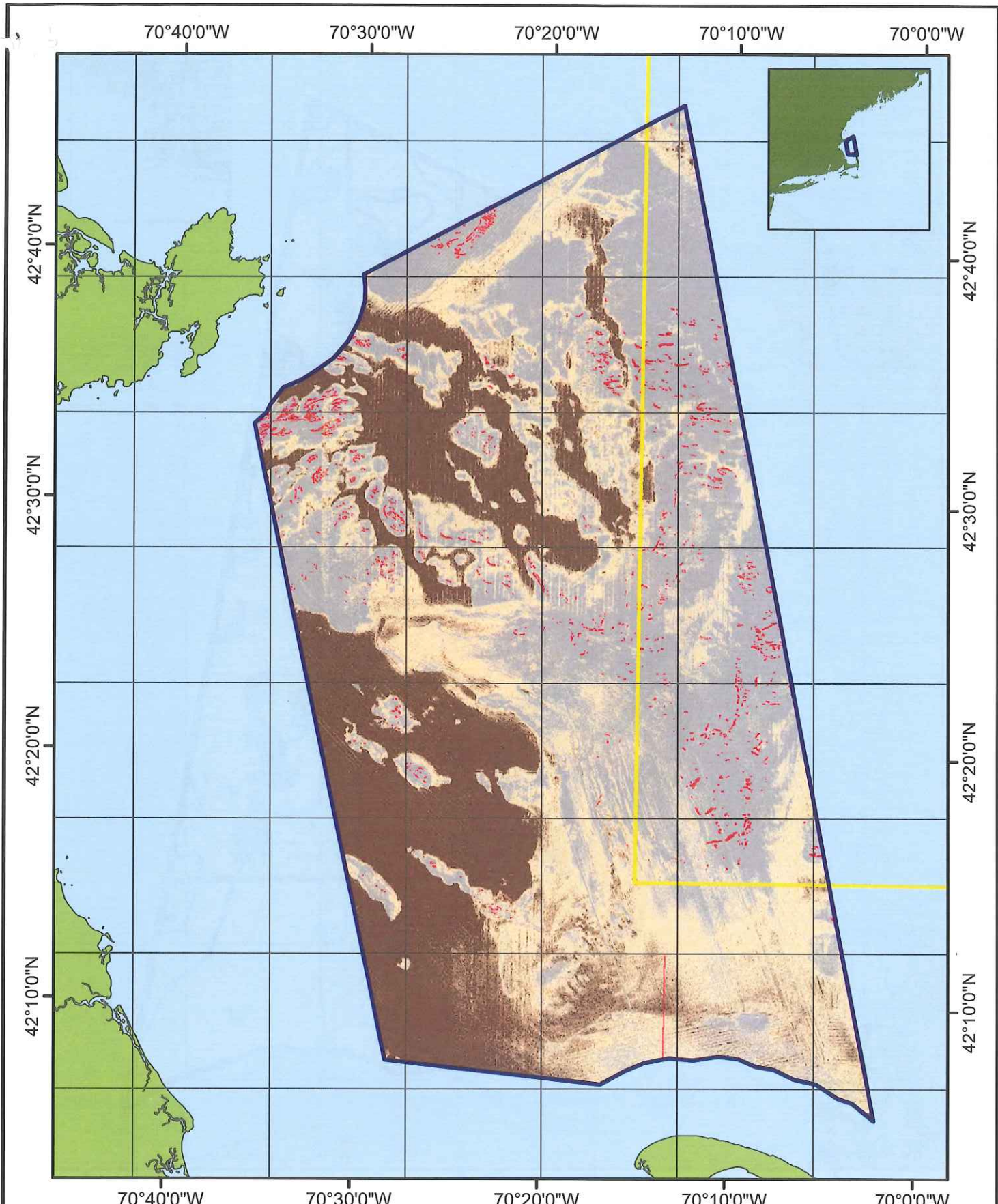
Sincerely,

A handwritten signature in black ink, appearing to read 'Craig MacDonald', written in a cursive style.

Craig MacDonald, Ph.D.
Superintendent

cc: Pat Kurkul, NOAA Fisheries Northeast Region
Paul Howard, New England Fisheries Management Council
David Pierce, MA Division of Marine Fisheries
David Prebble, Habitat Oversight Committee Chair
Margo Jackson, NOAA Office on National Marine Sanctuaries

Enclosures: Maps 1-4



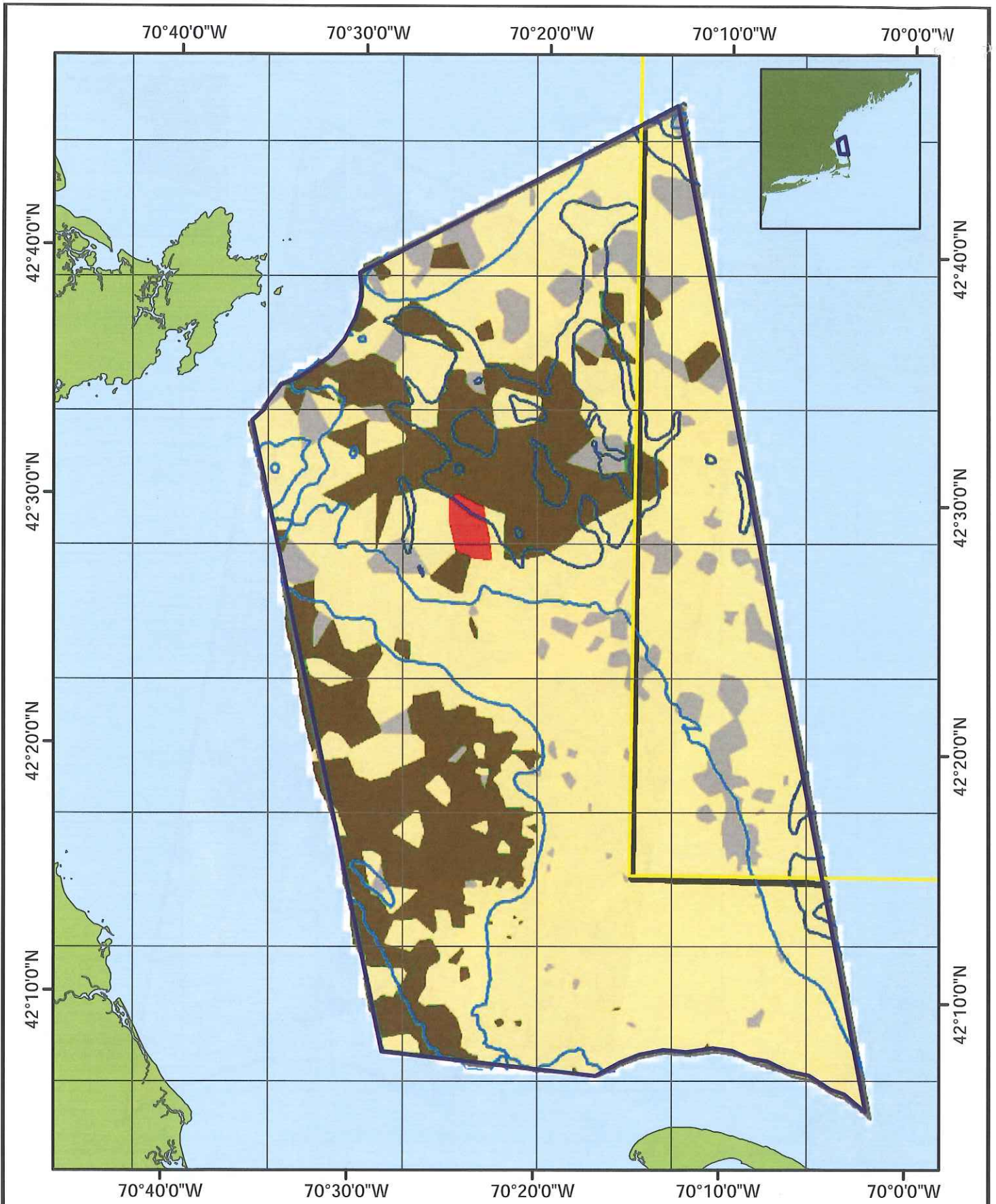
Map 1 - USGS Multibeam 10m Sediment Classification

- Gravel
- Mud
- Boulder
- Sand
- WGOM Closure



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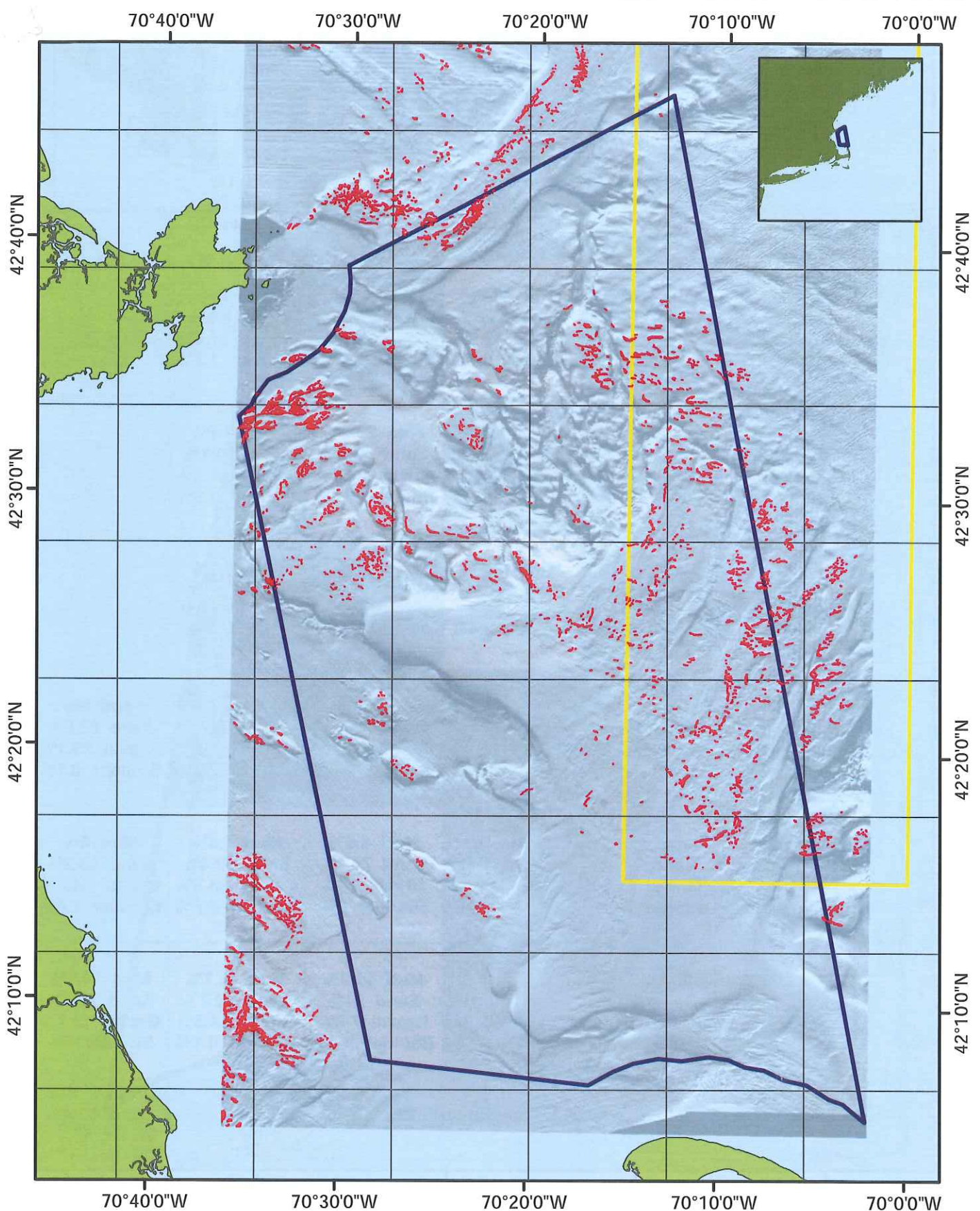
Map 2 - SASI Sediment Classification

- Gravel
- Mud
- Boulder
- Sand
- WGOM Closure



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Map 3 - USGS Boulders

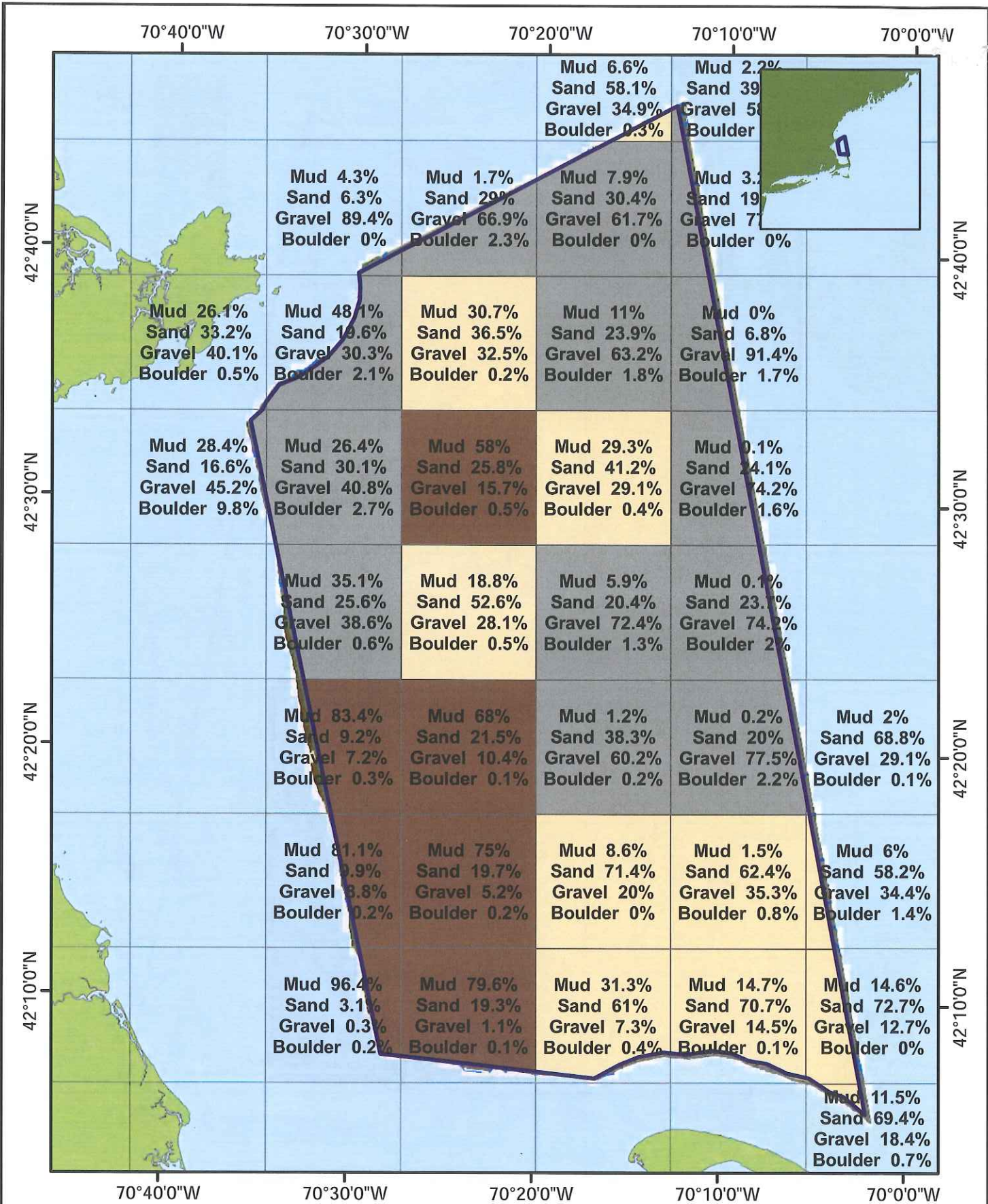
- Boulders
- WGOM Closure

Gray area denotes extent of USGS multibeam survey from 1994



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Map 4 - USGS Multibeam 100km2 Sediment Classification

- Gravel
- Mud
- Boulder
- Sand



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