New England Fishery Management Council
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Ernest F. Stockwell III, *Acting Chairman* | Thomas A. Nies, *Executive Director*

MEMORANDUM

DATE:	September 23, 2013
TO:	Council
FROM:	Staff
SUBJECT:	Northern Edge Habitat Management Alternative in Omnibus Essential Fish Habitat Amendment 2

Background

One of the goals of Omnibus Essential Fish Habitat Amendment 2 (OA2) is to minimize the adverse effects of fishing on EFH to the extent practicable. While practicable is not clearly defined in either the Magnuson Stevens Act or the EFH regulations, the overall intent is to develop habitat conservation measures with economic and social considerations in mind. One ongoing challenge has been the development of a practicable habitat management area alternative for the northern edge of Georges Bank. This region includes structurally complex seabed habitats, locally high abundances of sea scallops, and habitats used by both rebuilt and depleted groundfish stocks. These resources are patchy in their distribution. In theory, this patchiness should allow for development of an area management system that simultaneously protects complex seabed habitats used by juvenile groundfish and allows for harvest of sea scallops. In reality, however, the spatial overlap between these resources has made delimiting areas for habitat protection vs. fishery access rather difficult.

Prior to the September 5, 2013 joint Habitat/Groundfish Committee meeting, the Northeast Regional Administrator communicated his concerns about the range of alternatives approved by the Council in June for this region. His letter encouraged the Committee to recommend an additional alternative for analysis that would “allow for the continued protection of some of the habitat that has been shown to be especially vulnerable to adverse effects of fishing and to be critical for Georges Bank cod as well as other species, while still allowing the scallop industry to access a significant portion of the scallop resource on Georges Bank”.

At their September 5 meeting, the Habitat/Groundfish Committee tasked the staff to “refine the boundaries of the habitat management area identified in the August 30, 2013 correspondence from NERO. Modifications to the area should attempt to provide additional access to the sea scallop resource while protecting habitats vulnerable to fishing gear that are used by juvenile

groundfish, including cod and haddock." This tasking was adopted via a motion that passed the Committee 6 to 4, with one abstention from the acting Council chairman.

Staff met a few days after the meeting and developed the following habitat management alternative for the Council's consideration.

Description of alternative

If adopted, this alternative would be habitat management alternative 6 for the Georges Bank sub-region. The alternative would remove the current CAI and CAII habitat closure areas. The CAI and CAII groundfish closure areas would also be removed as habitat protection measures, although they might remain in place under the spawning alternatives on either a year round (spawning alternative 1) or seasonal (spawning alternative 2) basis. The alternative would establish the Northern Edge HMA as shown on the attached figures, and close it to mobile bottom-tending gears on year-round basis. This alternative Northern Edge HMA would restrict mobile bottom tending gear use in the area shaded on **Figure 1**, but would allow fishing in the central, unshaded area. **Figure 2** overlays the area on a nautical chart.

Version 2 of the Northern Edge HMA differs from the area included in Georges Bank habitat management alternative 3, and is defined by the following coordinates:

Northern Edge HMA version 2 coordinates		
Point	N Latitude	W Longitude
1 (outer shape)	42° 12.0'	67° 11.1'
2 (outer shape)	41° 59.9'	67°0 0.5'
3 (outer shape)	42° 00.0'	67° 24.1'
4 (outer shape)	42° 06.5'	67° 31.4'
5 (outer shape)	42° 10.0'	67° 20.0'
6 (inner shape)	42° 09.4'	67° 10.7'
7 (inner shape)	42° 08.2'	67° 09.6'
8 (inner shape)	42° 06. 4'	67° 17.6'
9 (inner shape)	42° 06.0'	67° 17.6'
10 (inner shape)	42° 05.9'	67° 12.5'
11 (inner shape)	42° 03.0'	67° 12.5'
12 (inner shape)	42° 01.5'	67° 17.0'
13 (inner shape)	42° 01.5'	67° 20.5'
14 (inner shape)	42° 07.2'	67° 23.0'
15 (inner shape)	42° 09.1'	67° 15.1'

Council action and next steps

In order to include this alternative in the DEIS document, which is being prepared for the November meeting, the Council will need to formally adopt this alternative for analysis on September 24. If it is approved for analysis, there will of course be further opportunity for public comment on this area after the DEIS has been drafted during the public hearing phase of this action.

If the Council wishes to develop a different area, it will almost certainly be necessary to extend the timeline for the action, because the technical teams need to move forward quickly with

analysis of the alternatives in order to meet the November deadline. Completion of DEIS and decision documents is going to be difficult to complete and the DEIS will need revisions after the November Council meeting to accommodate identification of a preferred alternative.

<u>If the Council does not wish to include an analysis of this alternative in the DEIS, no action is required at this time.</u>

Whatever the outcome at the September meeting, the Council may elect to make revisions to the alternative after public hearings, which may require additional analysis in the FEIS.
Given the controversial nature of proposals for this important ecological and fishery area, it will however be important to identify viable alternatives in the DEIS so that the public has the opportunity to comment on the actual alternative that could be submitted and approved. If the final alternative is too drastically different than the Council took to public hearing, then it might be determined that a supplemental DEIS is needed.

Staff rationale and data evaluated

This alternative is designed to minimize the adverse effects of fishing on EFH in the Georges Bank region while allowing access to fishery resources, including dense concentrations of scallops that are currently within the CAII Habitat Closure Area.

The proposed Northern Edge HMA encompasses areas of cobble habitat with complex epifauna (**Figure 3**), as well as areas where juvenile groundfish including cod and haddock are caught in fishery-independent surveys. This area is only proposed as a mobile bottom-tending gear closure, and not as a modified trawl area, because the area was designed explicitly to provide access for fishing while still protecting vulnerable habitats. Compared with other alternatives, the boundaries of this "new" proposed area was extended to the west on Georges Bank to encompass complex and vulnerable habitat to achieve similar conservation characteristics, including substrates deemed vulnerable to fishing and juvenile cod and haddock habitat that was not identified by the spring trawl survey when cod and haddock move west during the late spring. It is however important to realize that tradeoffs between habitat that has been protected from fishing since 1994 and habitat that has been intensively fished during this time is not equivalent in the short term because it takes longer for disturbed habitat to recover.

The shape of the area is irregular due to the distribution of habitats and fishery resources in this region. Other simpler areas along the edge of the bank or along the EEZ boundary represented compromises in both regards; without an irregular boundary, it was difficult to include complex habitat areas and juvenile groundfish habitats in the closed area without encompassing the densest aggregations of sea scallops (**Figure 4**).

Compliance and enforcement could be challenging for this configuration. For the sea scallop fishery, access to the inner area has been discussed in an access fishery context, although this access fishery remains to be developed in a future scallop action. Ways to ensure compliance with the area could be explored in that action, including 100% observer requirements, additional VMS polling, or some type of controlled access via a lottery or other mechanism. This management control would be addressed in a scallop action, when it would be appropriate to evaluate the probable compliance and enforcement success. Staff also discussed groundfish fishery access to the inner area, but did not reach any conclusions as to what types of restrictions, if any, might be appropriate, if an open access area is not desired.

Various data sets were reviewed when developing this alternative, including:

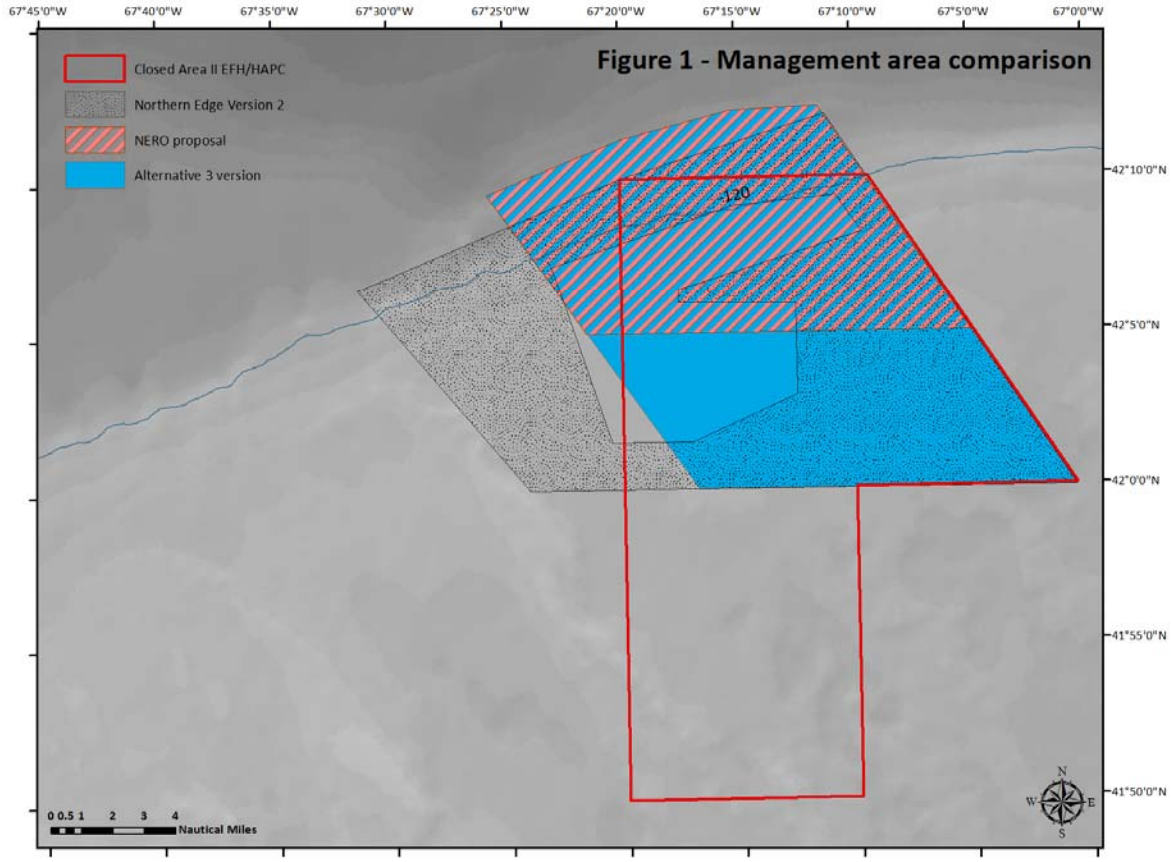
- **Dominant sediment type (Figure 3)**, which classifies areas by grain size into sand, granule-pebble (<1 inch to 2.5 inches), cobble (2.5 to 10 inches), and boulder (> 10 inches). The map shown is based on SMAST video survey data, and was published in in Harris and Stokesbury 2011. In this region, this sediment classification is similar to the foundational data set used in the Swept Area Seabed Impact model base grid. While the SASI grid also includes usSEABED data, in this location, the video survey data predominate. An advantage of the Harris and Stokesbury data layer is that it is mapped at a consistent resolution throughout, whereas the grid size in the layer used in SASI is more irregular, with smaller grids where sampling rates were higher. This makes visual interpretation of the SASI grid somewhat more challenging. The location of an area with **high abundance of epifauna** relative to other cobble-dominated habitats is outlined on the figures; most of this area is to the east of the central open/access area.

- **Predicted scallop biomass (Figure 4)** based on HabCam surveys conducted during summer 2013. The map shows the cumulative percent distribution of sea scallops in the shaded region. The way this symbology works is that each color category represents 10% of the cumulative biomass for the region. There are relatively few grids with the highest biomass density depicted with the reddest coloration, and many squares with the bluest coloration, which indicates the patchiness of the scallop distribution. Specifically, roughly 14% of the observations represent about 50% of the biomass. Two additional scallop distributions from the NMFS summer dredge survey are shown in **Figures 4a** (1982-1994) and **4b** (1982-2012).

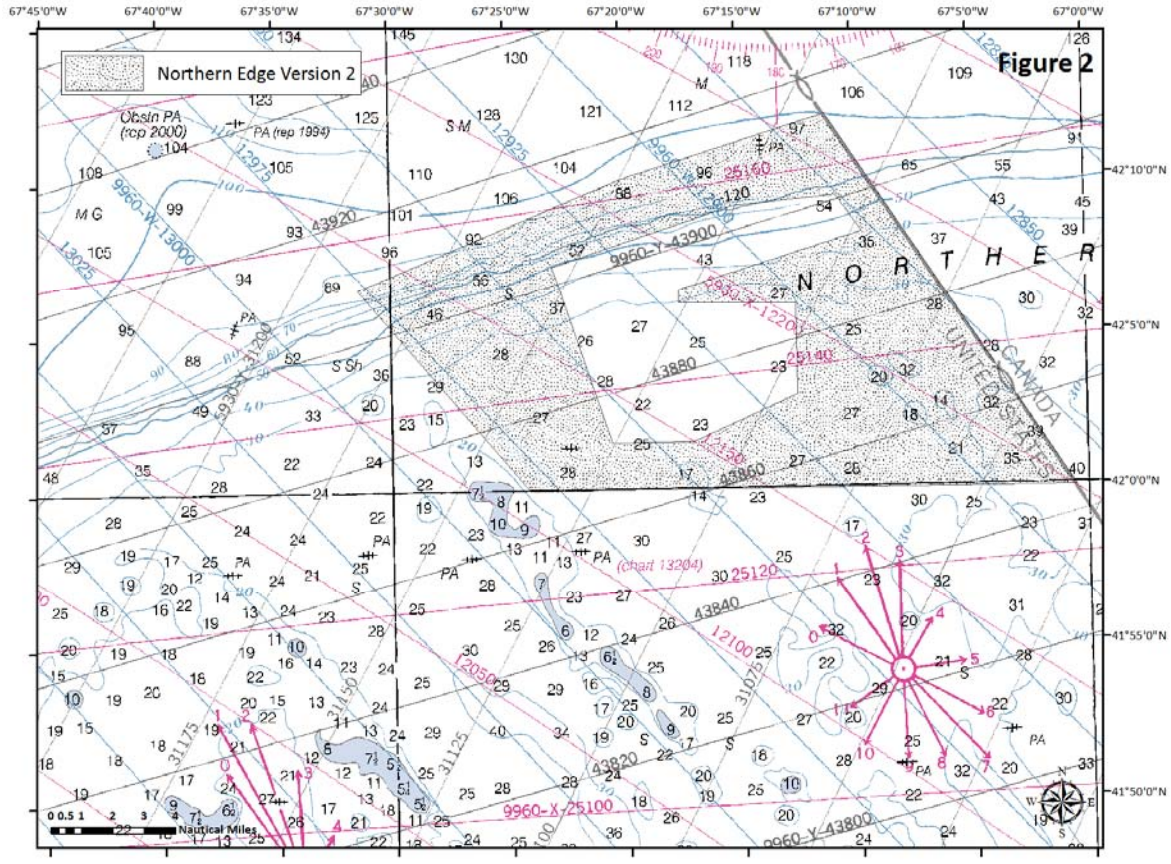
  An alternate classification of the 2013 HabCam data is shown in **Figure 5**. The symbology in this figure presents the predicted values as biomass in metric tons meat weight per grid, with the breaks in the coloration assigned using a natural breaks method[1]. Note that some parts of the management area were not surveyed by the 2013 HABCAM survey; however few scallops in general are expected deeper than 120 meters (contour is shown on both figures).

- **Juvenile groundfish catch per tow and juvenile groundfish hotspots (Figure 6)**. Hotspots are clusters of high catch tows, where 'high' is relative to catch per tow across the entire region, i.e. all of the Gulf of Maine and Georges Bank. Thus, if there is a hotspot for a particular species, it identifies some of the very highest survey catches during the past 10 years, and nearby tows must also be relatively high catch. Data for cod and haddock are shown for the period 2002-2012; zero tows are excluded. Locations of all hotspots for juvenile cod and haddock across all surveys were examined; only the fall haddock hotspots overlap the area suggested management area. The northeast peak and southeast parts of Georges Bank contain many hotspots, but the majority of those on the northeast peak in particular are in Canada. Those hotspots overlapping eastern Georges Bank are shown in **Figure 7**. They come from the spring and fall trawl surveys and the summer dredge survey, years 2002-2012.

[1] Other methods of classifying data are available, which often give different interpretations of the data.



WGS 1984 UTM Zone 19N projection; map updated Sept 23, 2013



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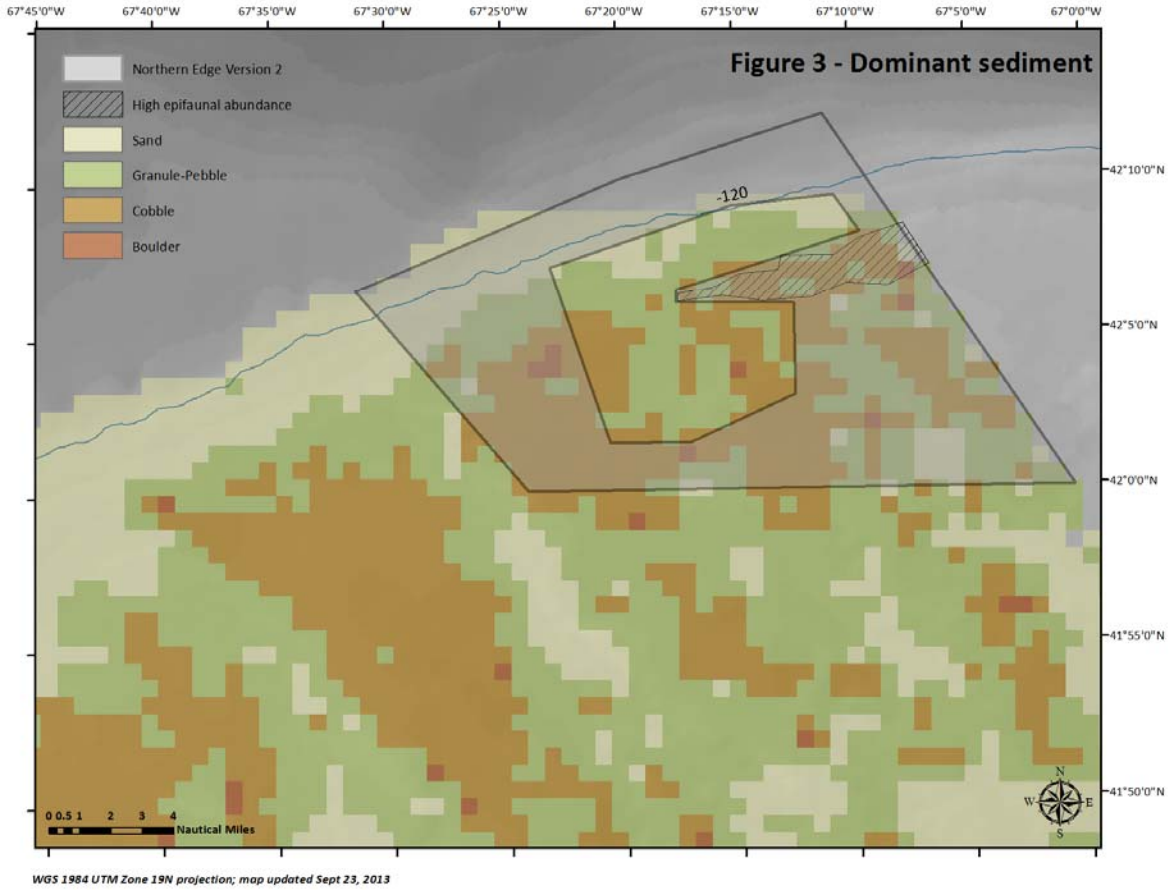

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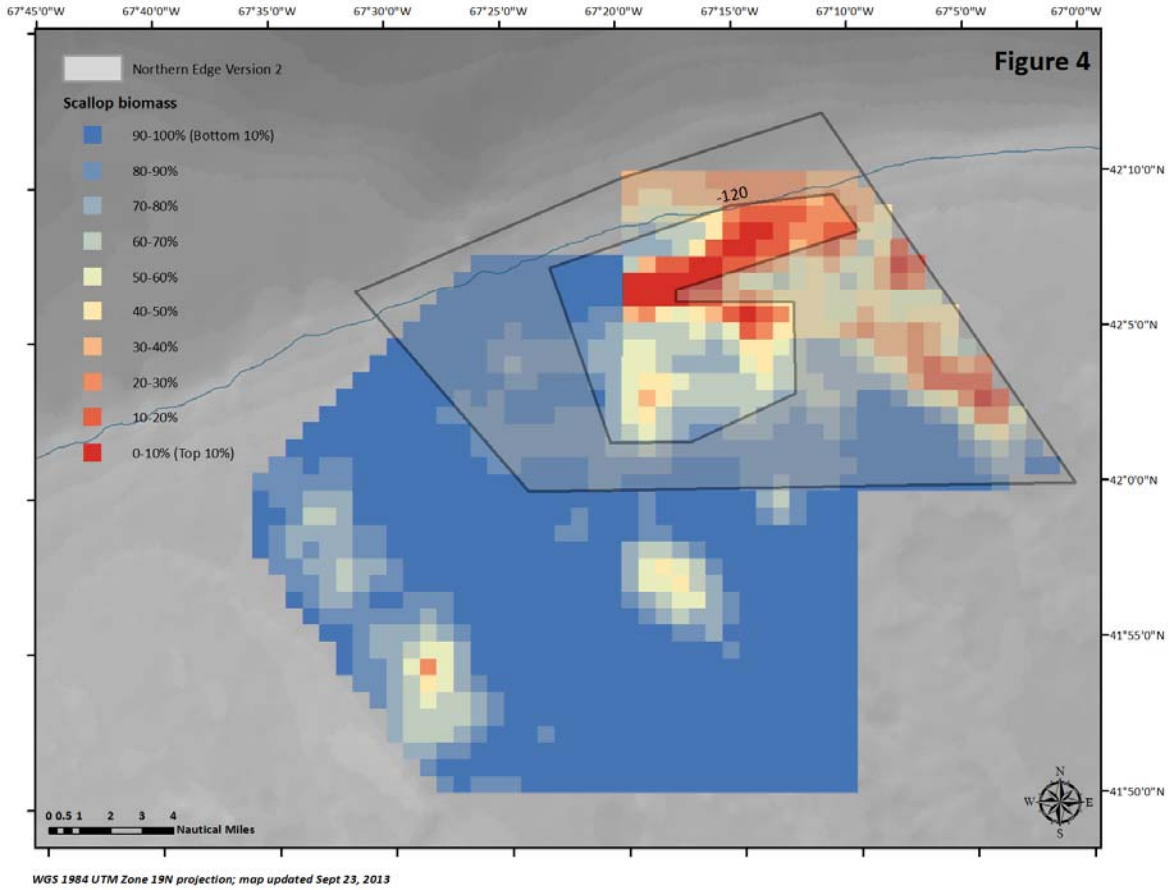

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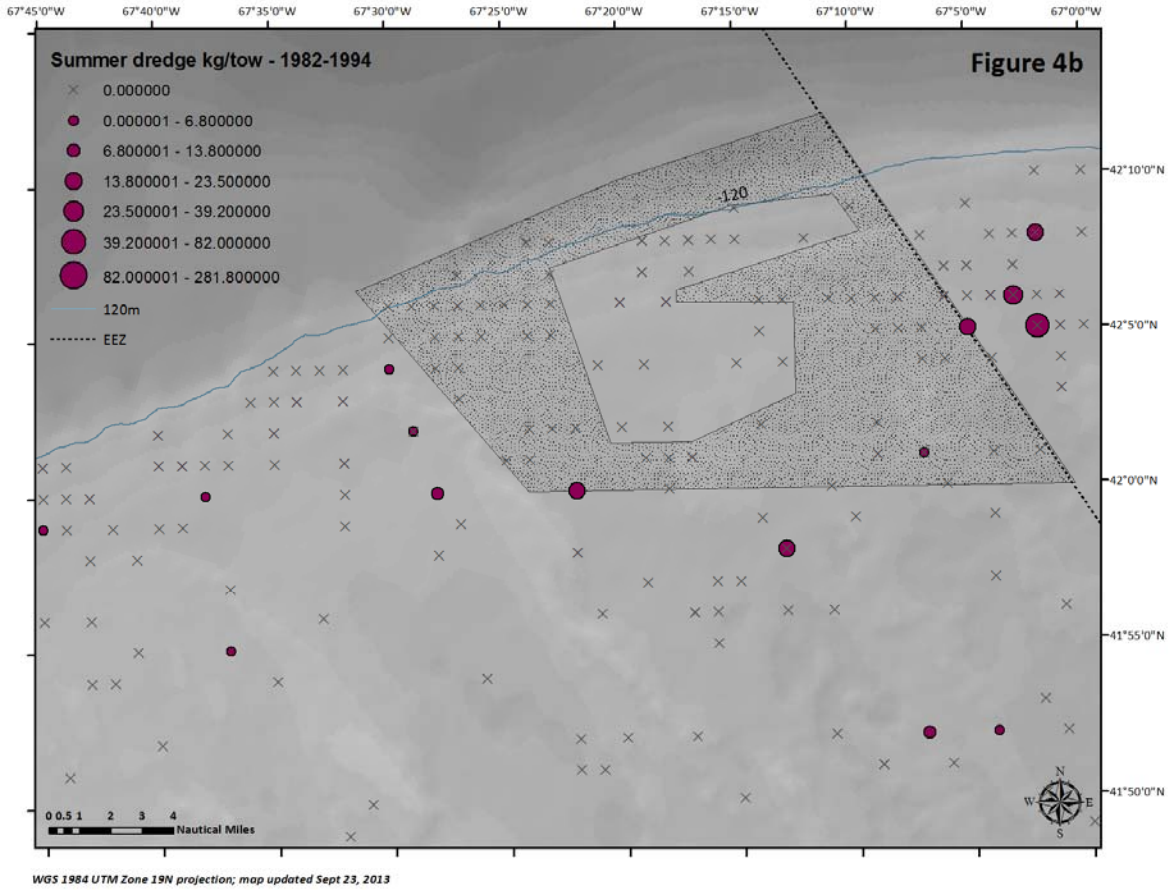

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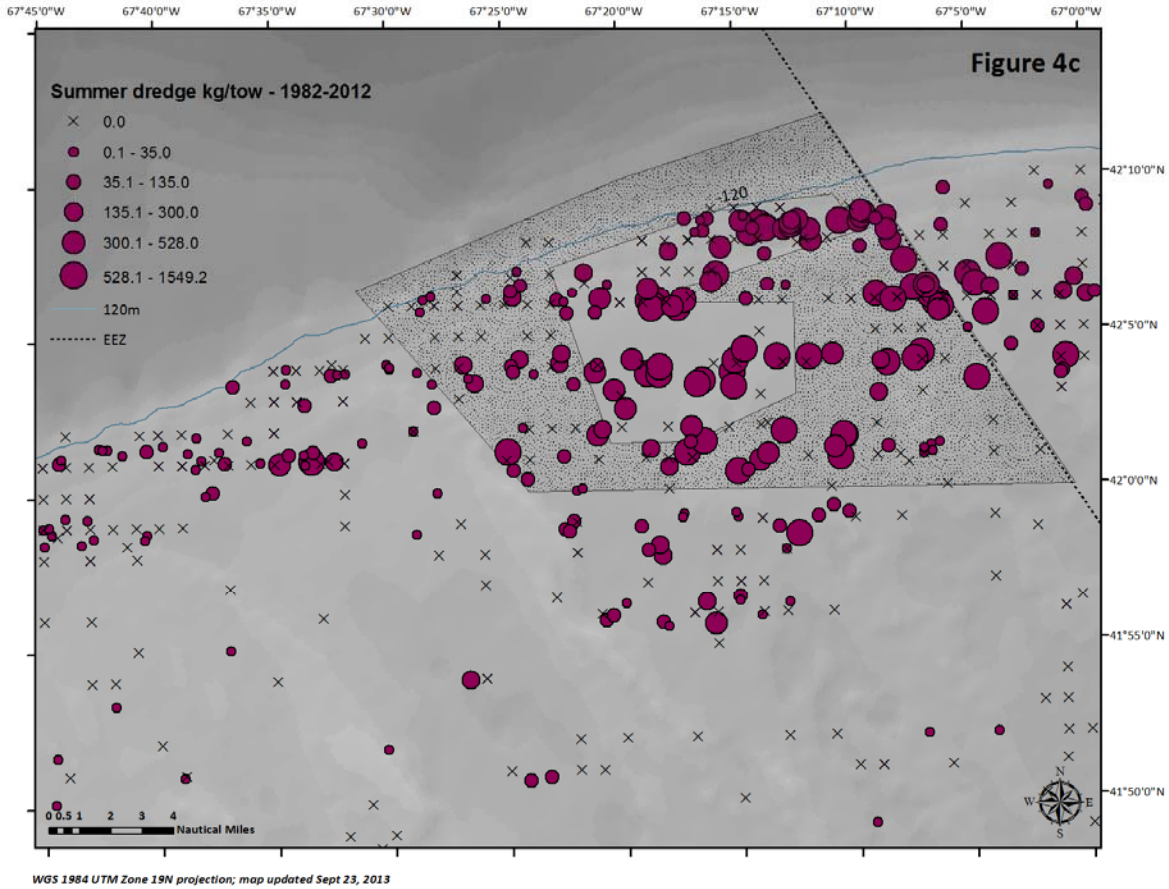

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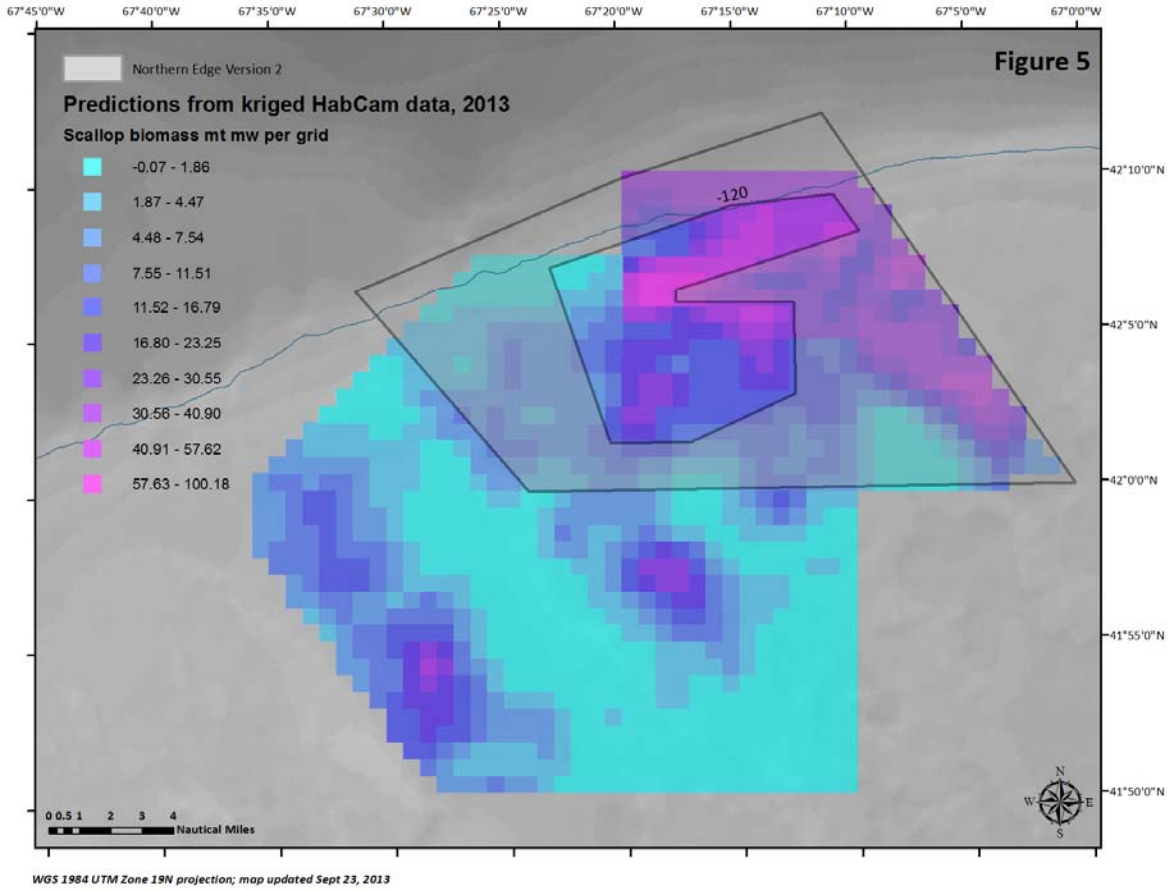

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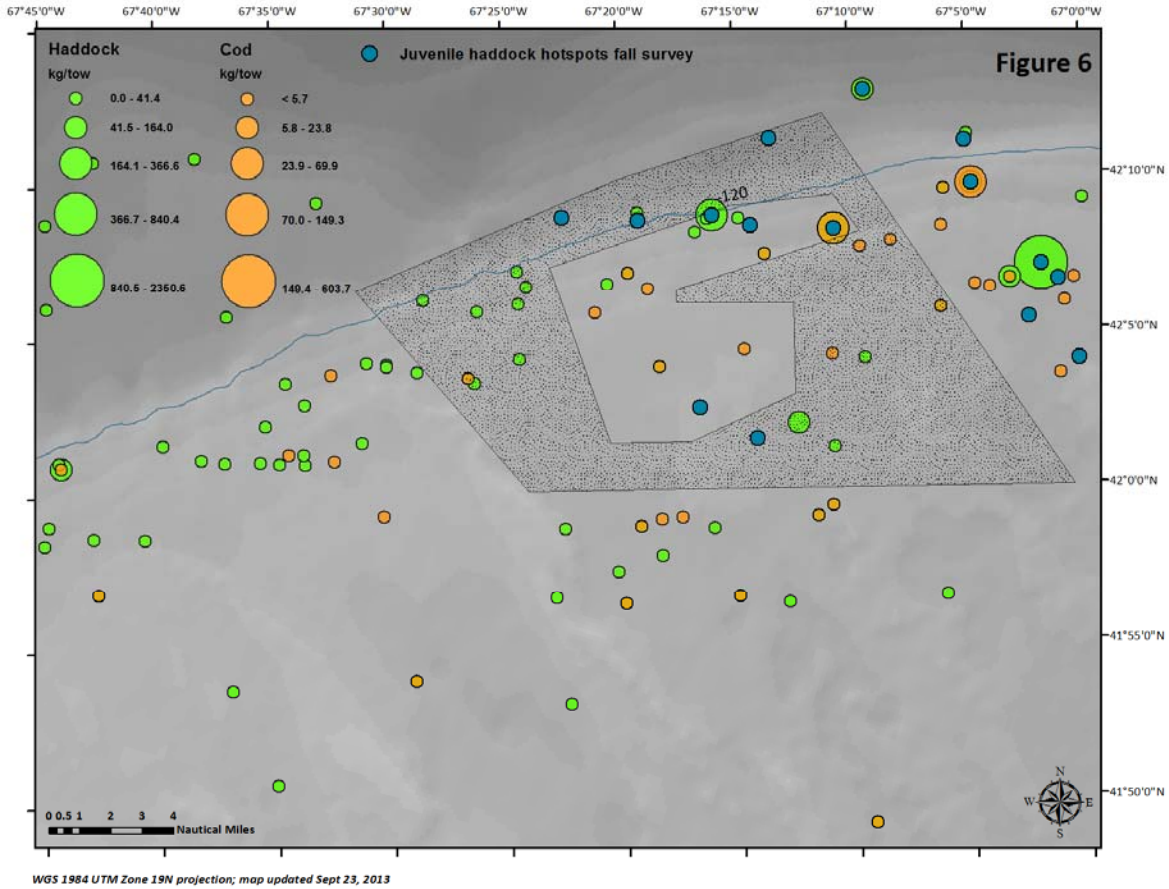

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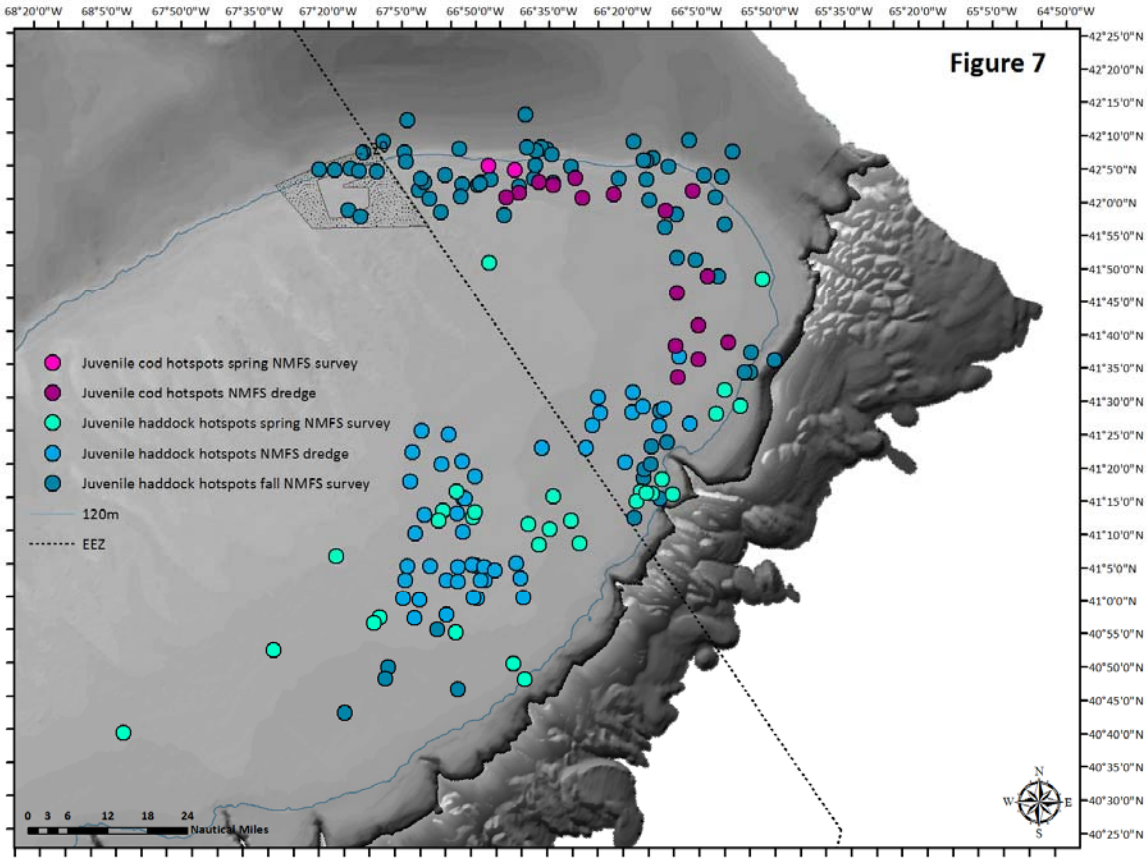

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