

Omnibus Essential Fish Habitat Amendment 2 Draft Management Alternatives

New England Fishery Management Council
Portland, ME
June 19, 2013

OA2 Alternatives – June 19, 2013

This document summarizes management alternatives that could be analyzed in the Omnibus Essential Fish Habitat Amendment 2 draft Environmental Impact Statement, subject to Council approval. They were recommended to the Council for analysis by the jointly convened Habitat and Groundfish Oversight Committees on May 17 and June 11, 2013.

The purpose of this Council meeting is to approve alternatives for analysis in the DEIS; these are not final measures. Alternatives can continue to be refined in terms of both the area boundaries and specific measures in each area. This refinement can occur as the DEIS is being drafted (likely though October for the November Council meeting), and after public hearings occur (currently planned for early 2014).

There are two broad categories of alternatives included in the document – spawning and habitat/juvenile groundfish protection. The spawning alternatives include a no action alternative and a single action alternative. The spawning action alternative includes a subset of existing rolling and year round closures with all areas implemented on a seasonal basis. On May 17, the Joint Committee decided not to recommend additional seasonal spawning areas developed by the Closed Area Technical Team based on the hotspot analysis to the Council for further development.

Alternatives to minimize adverse effects on Essential Fish Habitat, protect juvenile groundfish in their critical habitats, and/or conduct habitat research are presented sub-regionally, specifically for western, central, or eastern Gulf of Maine, Georges Bank, and Great South Channel/Nantucket Shoals/Southern New England. Each alternative represents a combination of areas designed to meet the objectives of the amendment related to adverse effects minimization, protection of critical groundfish life stages and habitats, and identification of research areas. To eliminate confusion, the alternatives have the same numbering as the memo from the CATT and Habitat PDT (Document 2) presented to the Joint Committee on June 11. The left panel of each page shows a map depicting the areas that would be included in the alternative. If an existing/no action area is not shown on the map for one of the action alternatives, that indicates that the area is not included for continued year-round management related to minimizing adverse effects on EFH, protecting juvenile groundfish in their critical habitats, or conducting habitat research. In some cases, these areas are included in spawning Alternative 2 but on a seasonal basis only.

For the draft EIS, it may be appropriate to combine the regional alternatives. This could be done by combining the three Gulf of Maine regions and the Georges Bank/Great South Channel regions, or all five sub-regions could be included in a single management alternative. Or, the Council could continue to make decisions on a sub-regional basis. Note that while the Habitat PDT and CATT developed alternatives for the combined central and eastern GOM regions, the Committees split these regions. In doing so, options for Jeffreys Bank were included in both regions. If these sub-regions are not combined by the Council at this meeting, the Council should specify whether to include the Jeffreys Bank options in the central or eastern GOM alternatives. The pie charts described in the following paragraph combine the central and eastern GOM.

The pie chart for each alternative indicates the combined size (nm²) of the management areas in various categories as compared to the “open” areas in the region, US waters only. The western and central/eastern GOM alternatives are shown in relation to GOM, and the Georges Bank and GSC/NS/SNE alternatives are shown in relation to GB/SNE. Statistical areas 511, 512, 513, 514, and 515 are considered GOM, and statistical areas

521, 522, 525, 526, 533, 534, 537, 538, 539, 541, 542, 543, 561, and 562 are considered GB/SNE. All types of areas are listed on each chart, even if they account for 0% of the total in a particular sub-region. Rolling closures were only included in the WGOM, although there is some overlap with the central GOM and GB regions. For the no action WGOM alternatives, both sector and common pool rolling closures are included. For the action WGOM alternatives, only the sector rolling closures are shown. In both cases, all months of rolling closures are combined. Spatial overlaps between areas were taken into account when developing the charts, and certain types of areas take precedence over others as a rule. Specifically, EFH closures take precedence over groundfish year round closures, such that the area shown for the groundfish closures is the additional area closed. For example, in the WGOM chart on page 14, 221 nm² is the additional area covered by the WGOM groundfish closure that is not included in the EFH closure. All areas besides open areas take precedence over rolling closures, such that the rolling closure value represents the additional area covered by the rolling closures.

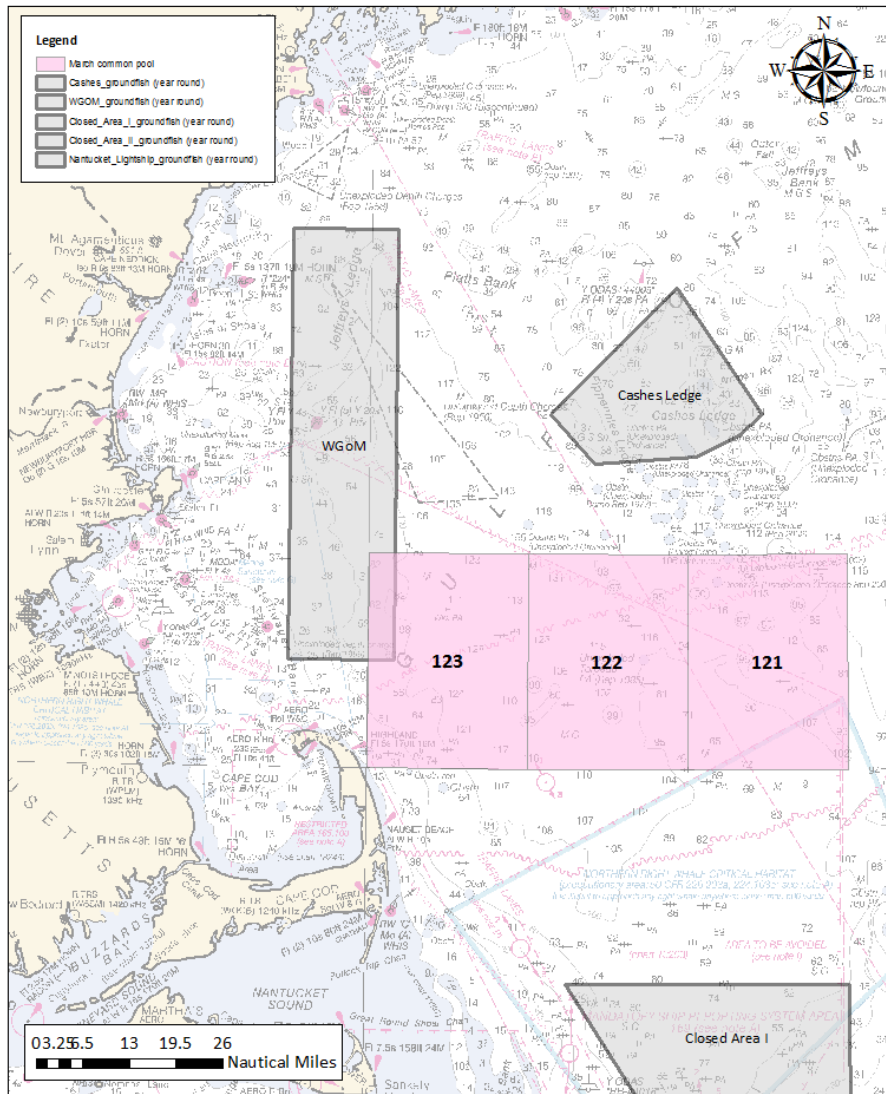
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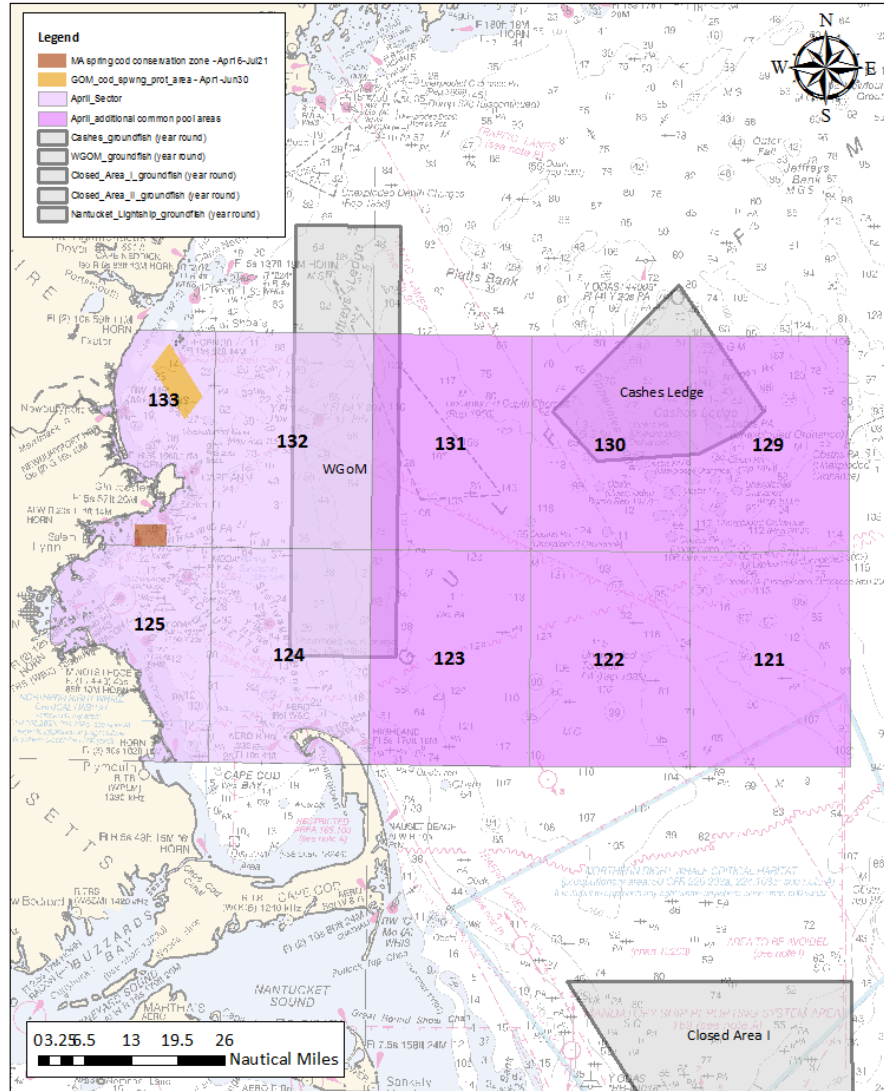
No Action Spawning Closure Areas, March. Generally, gears capable of catching groundfish are restricted.



Includes all existing year round groundfish closures (parts of CAI, CAII, and NLCA not shown) and March common pool rolling closure.

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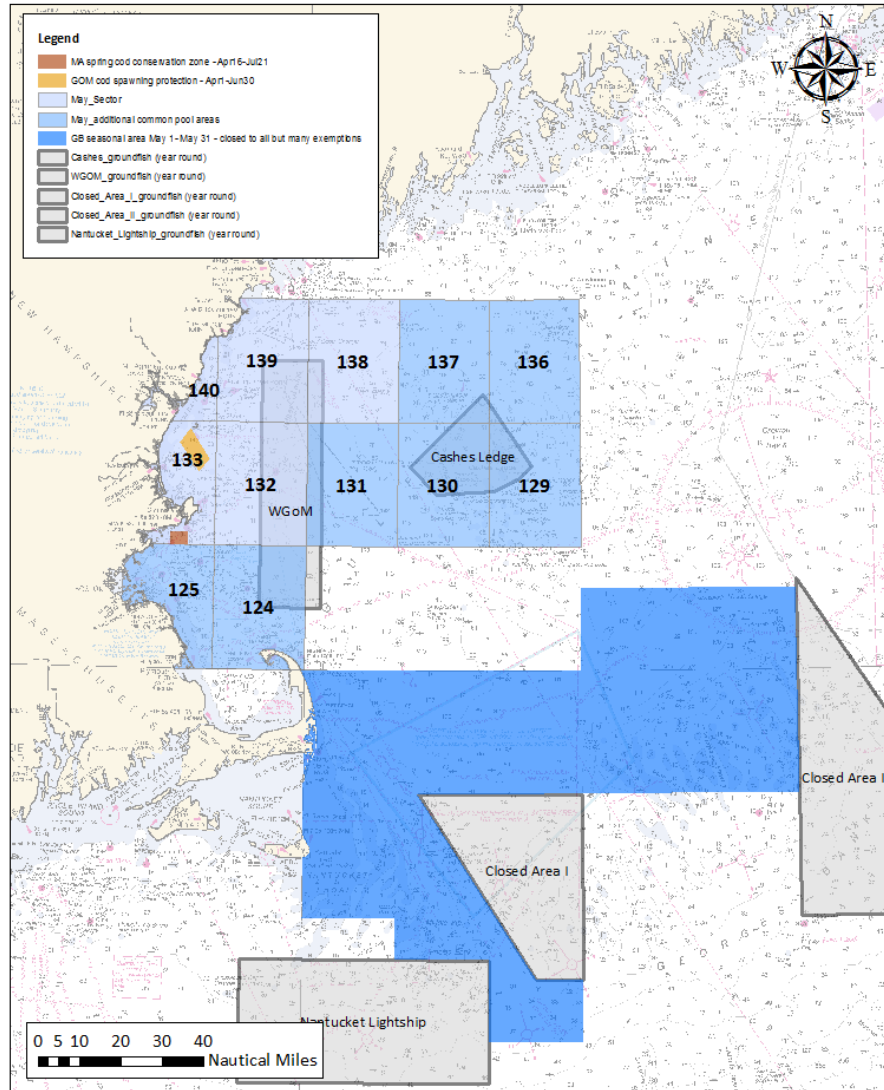
No Action Spawning Closure Areas, April. The Massachusetts spring and winter areas are not Council-managed but are shown for reference. Generally, gears capable of catching groundfish are restricted.



Includes all existing year round groundfish closures (parts of CAI, CAII, and NLCA not shown), GOM cod spawning protection area (Whaleback), and April sector and common pool rolling closures. The common pool rolling closures cover the lighter purple sector areas plus the darker purple areas. All rolling closures extend to the shoreline.

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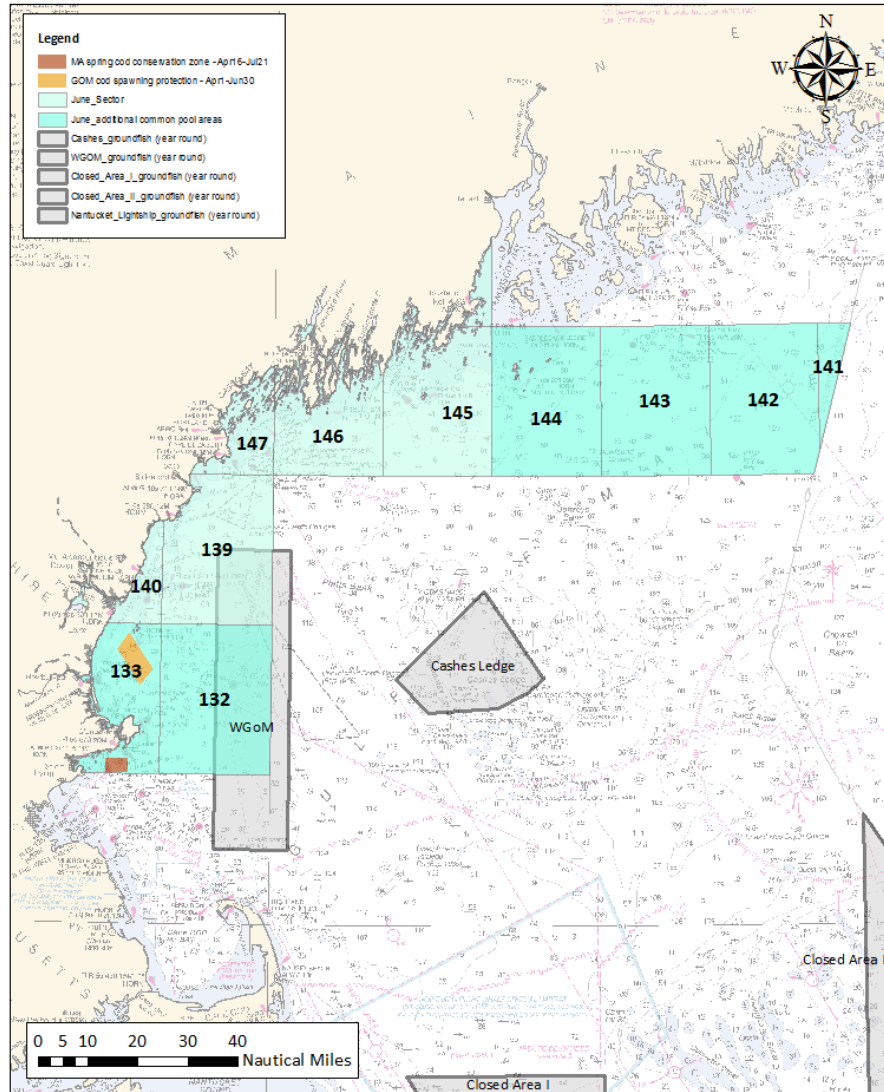
No Action Spawning Closure Areas, May. The Massachusetts spring and winter areas are not Council-managed but are shown for reference. Generally, gears capable of catching groundfish are restricted.



Includes all existing year round groundfish closures, GOM cod spawning protection area (Whaleback), May sector and common pool rolling closures, and the Georges Bank seasonal closure area (darkest shade of blue). The common pool rolling closures cover the lighter blue sector areas plus the darker blue areas. All rolling closures extend to the shoreline.

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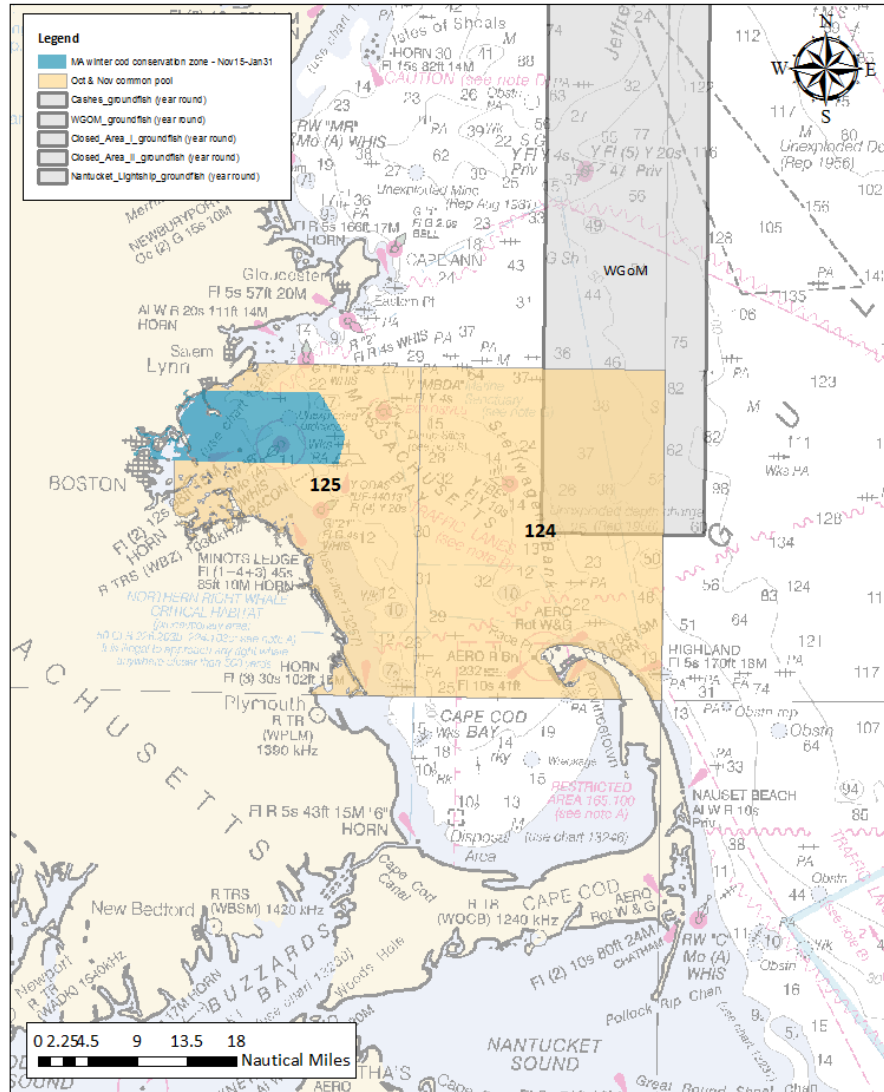
No Action Spawning Closure Areas, June. The Massachusetts spring and winter areas are not Council-managed but are shown for reference. Generally, gears capable of catching groundfish are restricted.



Includes all existing year round groundfish closures (parts of CAI, CAII, and NLCA not shown), GOM cod spawning protection area (Whaleback), and June sector and common pool rolling closures. The common pool rolling closures cover the lighter green sector areas plus the darker green areas. All rolling closures extend to the shoreline.

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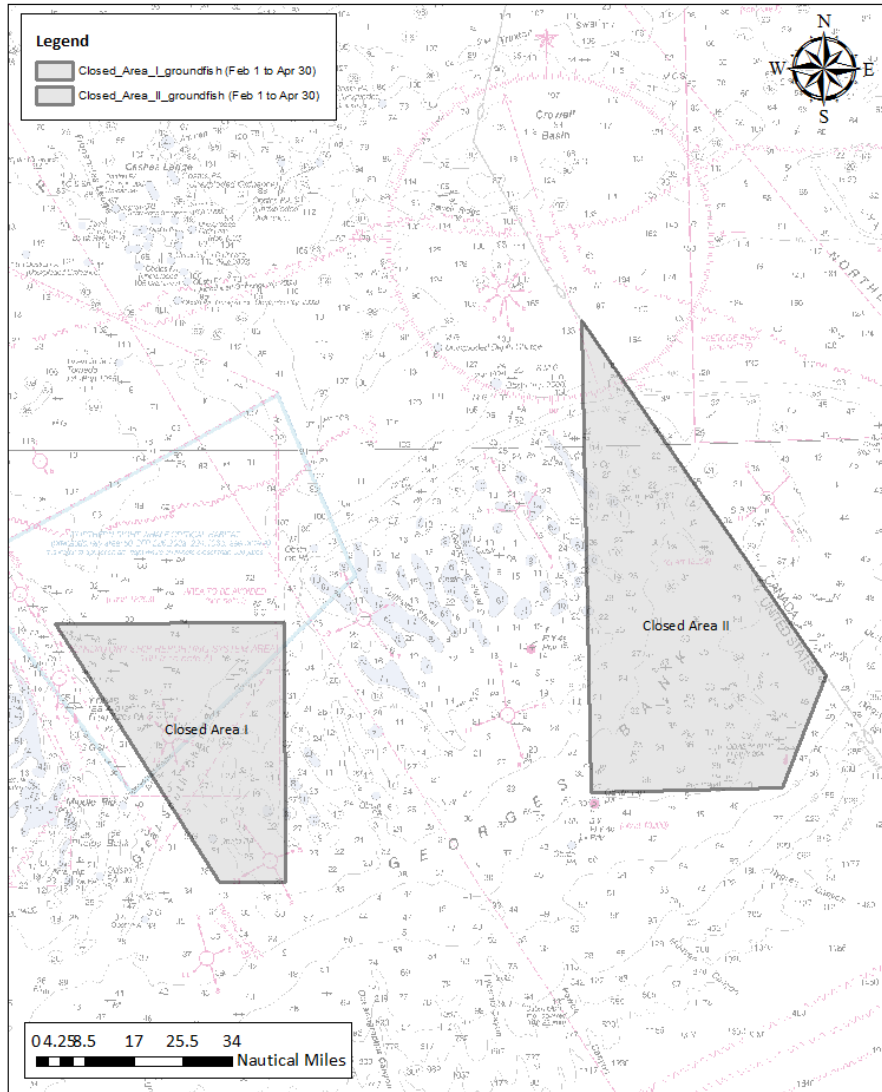
No Action Spawning Closure Areas, Oct 1 to Nov 30. The Massachusetts spring and winter areas are not Council-mana are shown for reference. Generally, gears capable of catching groundfish are restricted.



Includes all existing year round groundfish closures (parts of Cashes Ledge, CAI, CAII, and NLCA not shown), and Oct-Nov common pool rolling closures. All rolling closures extend to the shoreline.

Note that other months of the year not mapped individually (July-Sept, Dec-Jan) would have just the existing year round groundfish closures under this No Action alternative.

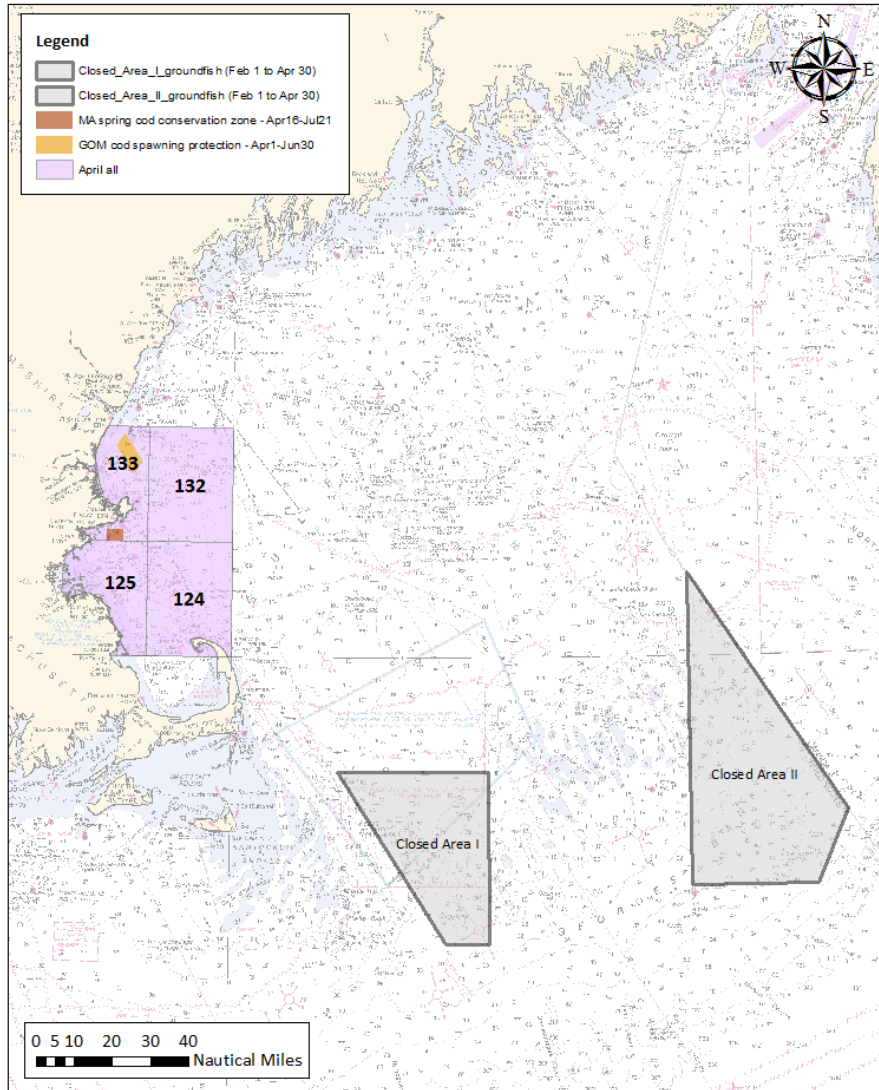
Proposed Spawning Closure Areas, February and March. Generally, commercial and recreational gears capable of catching groundfish would be prohibited.



Includes CAI, CAII.

Current restrictions in all areas assumed, although closure of spawning areas to all gears capable of catching groundfish was discussed at the January Groundfish Committee meeting. This could expand the number of vessels to which these spawning closures apply.

Proposed Spawning Closure Areas, April. The Massachusetts spring and winter areas are not Council-managed but are shown for reference. Generally, commercial and recreational gears capable of catching groundfish would be prohibited.

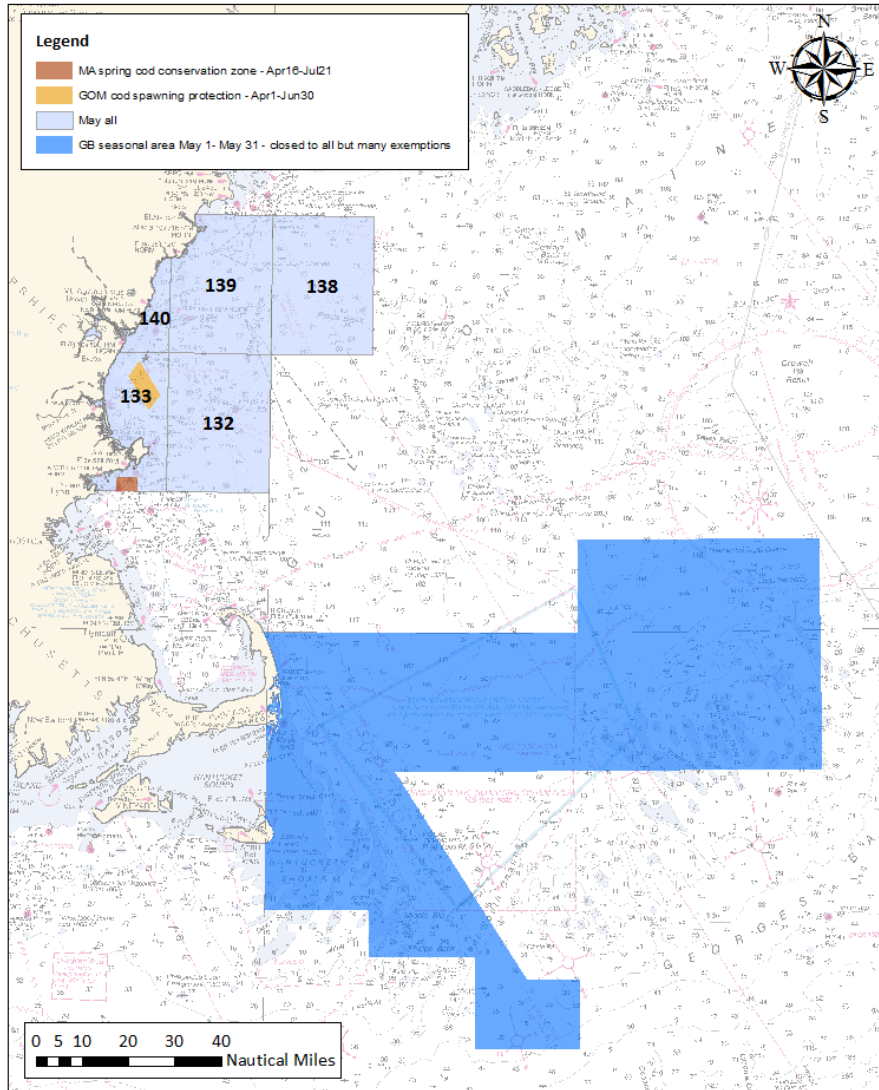


Includes CAI, CAII, April sector rolling closures, and GOM cod spawning protection area (Whaleback).

Sector rolling closures would apply to both sector and common pool vessels, and common pool rolling closures would be eliminated. All rolling closures extend to the shoreline.

Current restrictions in all areas assumed, although closure of spawning areas to all gears capable of catching groundfish was discussed at the January Groundfish Committee meeting. This could expand the number of vessels to which these spawning closures apply.

Proposed Spawning Closure Areas, May. The Massachusetts spring and winter areas are not Council-managed but are shown for reference. Generally, commercial and recreational gears capable of catching groundfish would be prohibited.



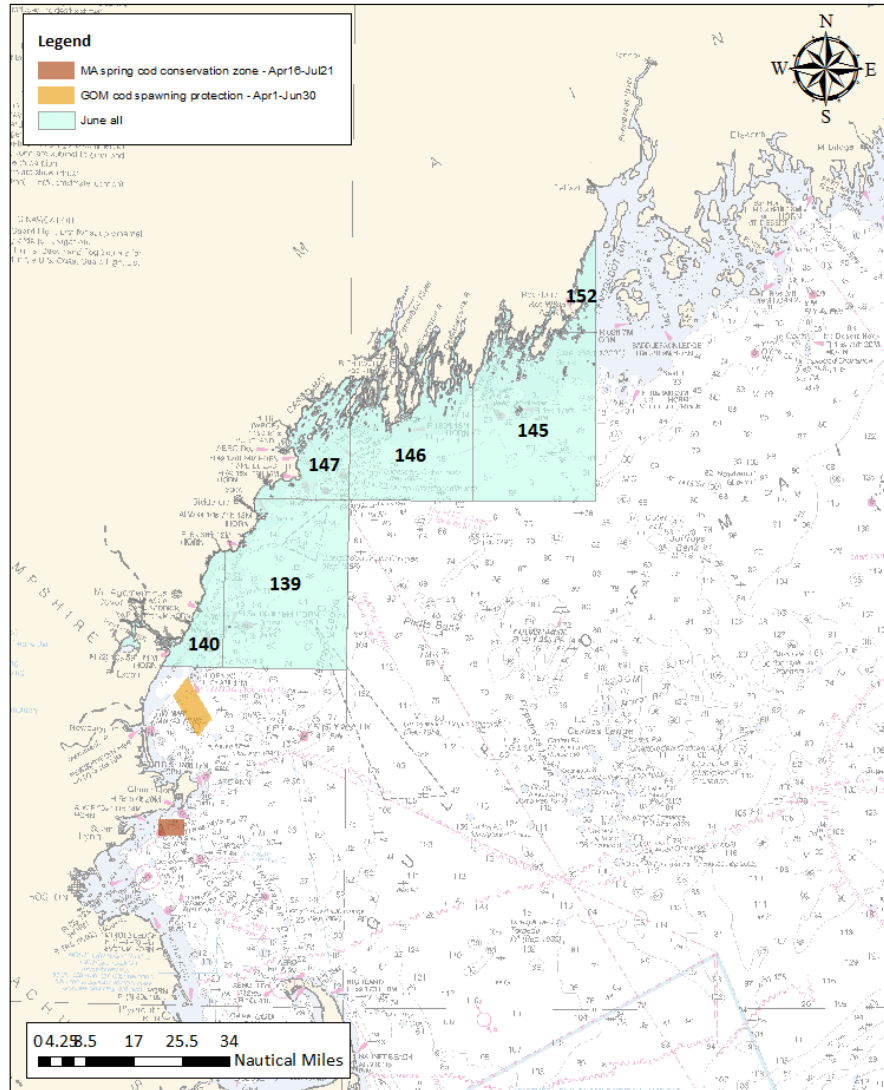
Includes May sector rolling closures, Georges Bank seasonal closure area, GOM cod spawning protection area, Whaleback.

Sector rolling closures would apply to both sector and common pool vessels, and common pool rolling closures would be eliminated. All rolling closures extend to the shoreline.

Current restrictions in all areas assumed, although closure of spawning areas to all gears capable of catching groundfish was discussed at the January Groundfish Committee meeting. This could expand the number of vessels to which these spawning closures apply. At this time, most types of vessels are exempt from the GB area.

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Proposed Spawning Closure Areas, June. The Massachusetts spring and winter areas are not Council-managed but are shown for reference. Generally, commercial and recreational gears capable of catching groundfish would be prohibited.

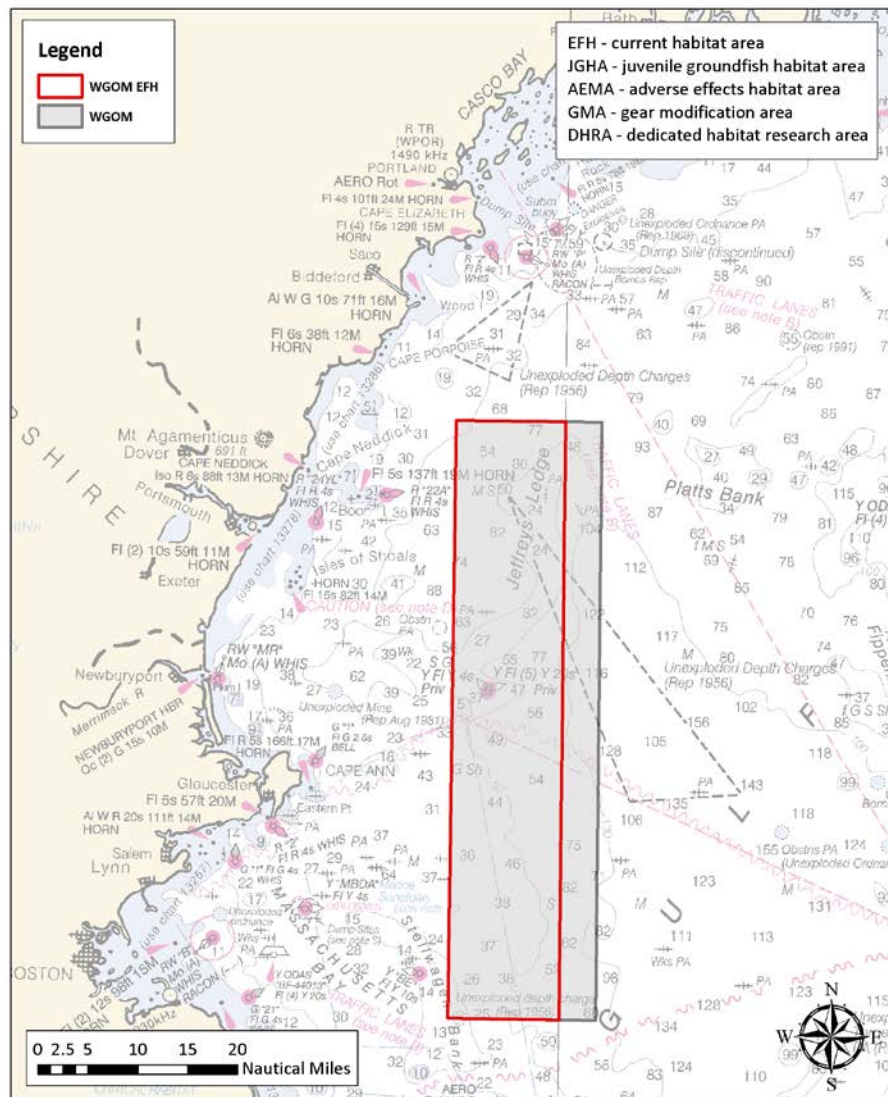


Includes June sector rolling closure, GOM cod spawning protection area (Whaleback).

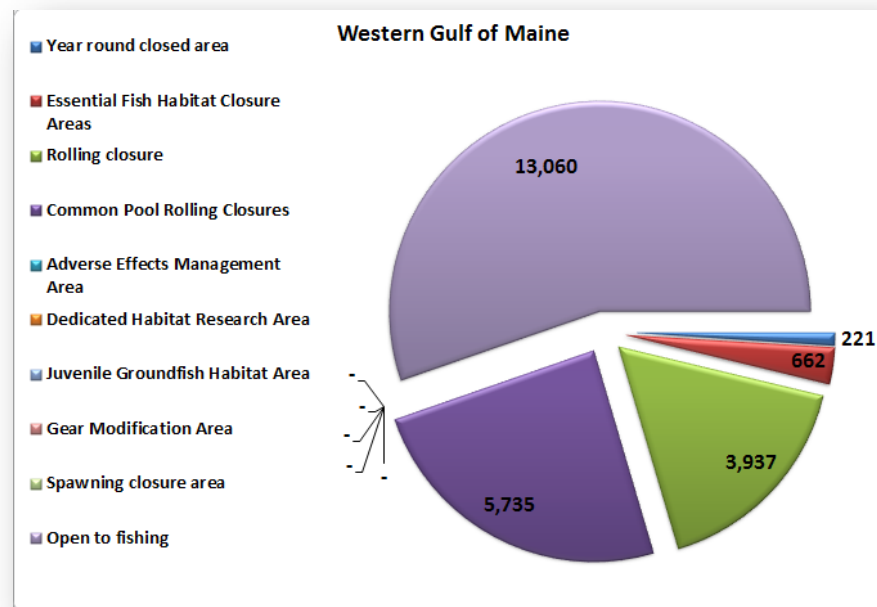
Sector rolling closures would apply to both sector and common pool vessels, and common pool rolling closures would be eliminated. All rolling closures extend to the shoreline.

Current restrictions in all areas assumed, although closure of spawning areas to all gears capable of catching groundfish was discussed at the January Groundfish Committee meeting. This could expand the number of vessels to which these spawning closures apply.

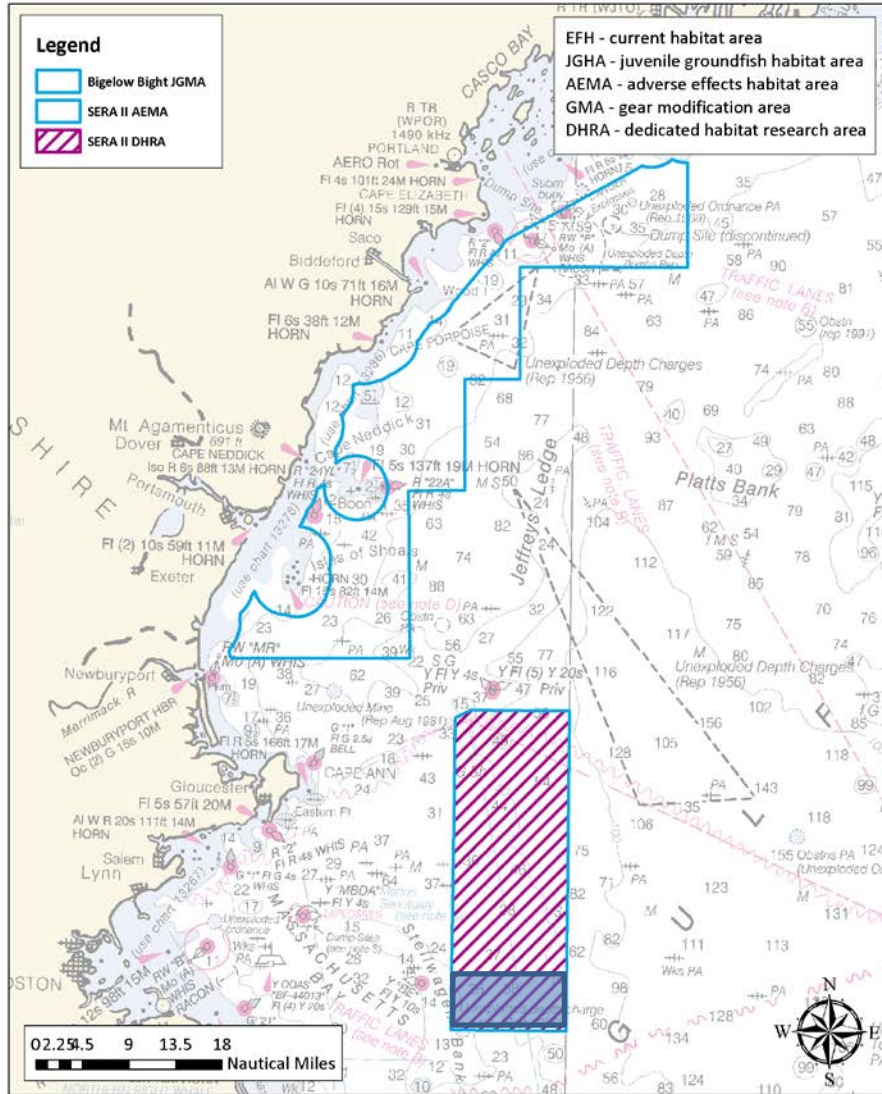
Western Gulf of Maine
Alternative 1 - No Action



Includes the existing WGOM habitat closed area, which is closed to mobile bottom tending gears, and the existing WGOM groundfish closed area, which is generally closed to gear capable of catching groundfish, with various exemptions.



Western Gulf of Maine
Alternative 2

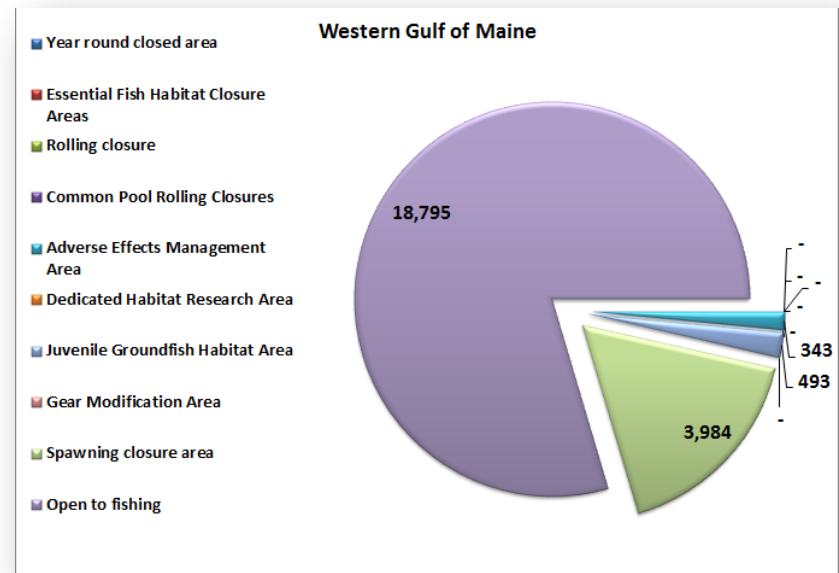


Includes the Bigelow Bight juvenile groundfish habitat area (coastal area) and the Sanctuary Ecological Research Area (SERA) II adverse effects minimization area (overlaps with hatched area). Both would be closed to mobile bottom tending gears.

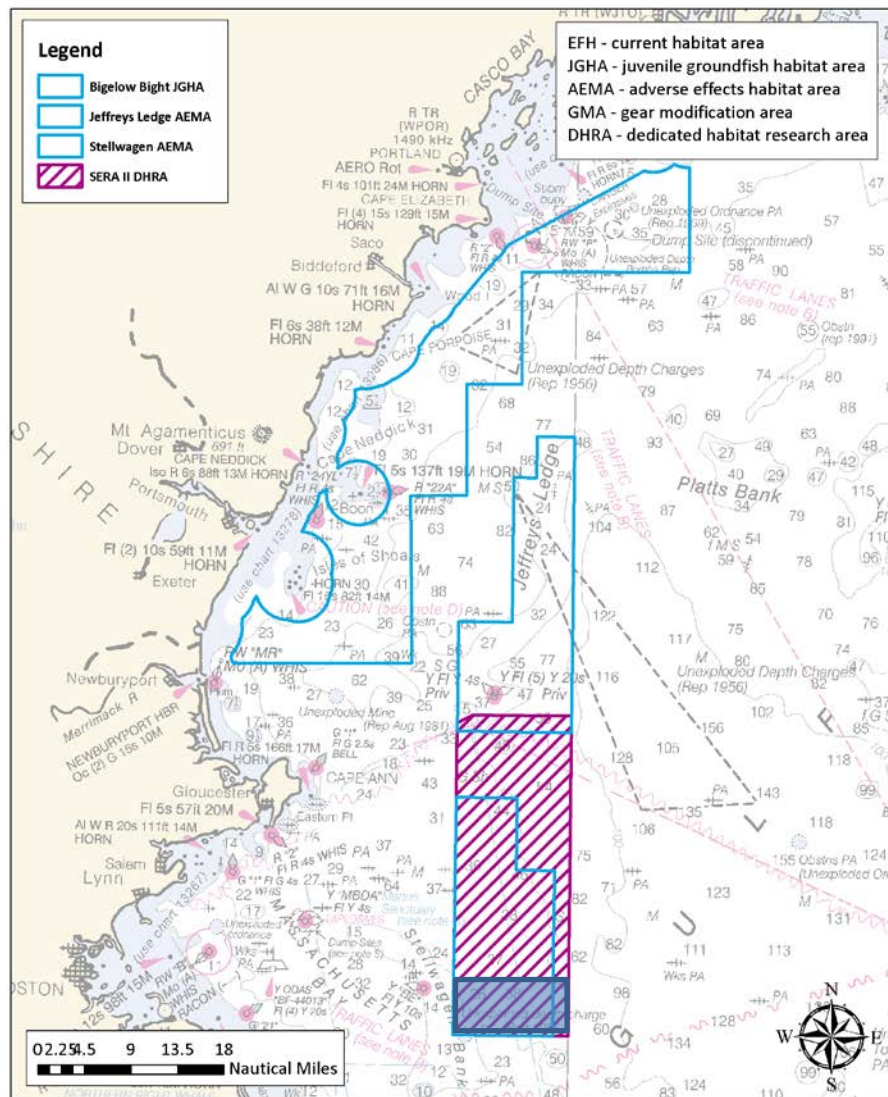
The Committees recommended considering an exemption for surfclam/ocean quahog hydraulic dredges.

The SERA II area would also be designated as a DHRA. DHRAs in general are associated with a specific research agenda, and would be reevaluated after three years to determine whether or not they were being used to address those specific research objectives. If not, the DHRA and any additional fishing restrictions associated with it would sunset. The DHRA designation in the SERA area would include additional restrictions beyond a prohibition on mobile bottom tending gears, specifically no action restrictions on other gears capable of catching groundfish throughout, and restrictions on recreational party and charter vessels that catch groundfish in the southern shaded area (reference area). The northern boundary of the reference area is 42° 20'.

All areas would be designated outside of state waters.



Western Gulf of Maine
Alternative 3

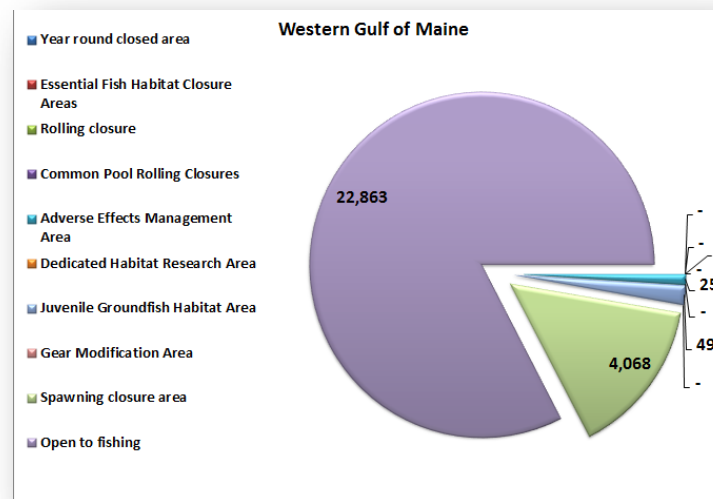


Includes the Bigelow Bight juvenile groundfish habitat area (coastal area) and the Jeffreys Ledge and Stellwagen adverse effects minimization areas. The Jeffreys Ledge area is the northern area that lies within the existing WGOM habitat closure, and the Stellwagen area is outlined in blue in the southern part of the WGOM habitat closure. All three would be closed to mobile bottom tending gears.

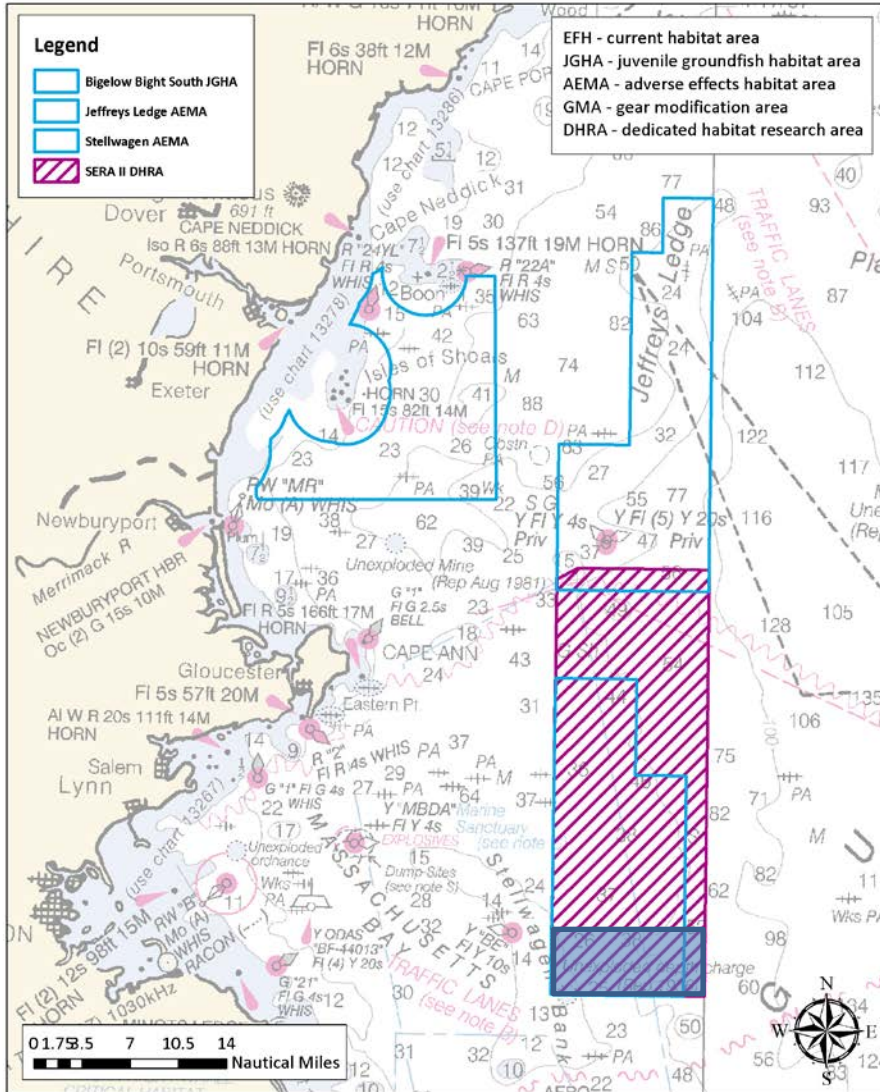
The Committees recommended considering an exemption for surfclam/ocean quahog hydraulic dredges.

The SERA II area would also be designated as a DHRA. DHRAs in general are associated with a specific research agenda, and would be reevaluated after three years to determine whether or not they were being used to address those specific research objectives. If not, the DHRA and any additional fishing restrictions associated with it would sunset. The DHRA designation in the SERA area would include additional restrictions beyond a prohibition on mobile bottom tending gears, specifically no action restrictions on other gears capable of catching groundfish throughout, and restrictions on recreational party and charter vessels that catch groundfish in the southern shaded area (reference area). The northern boundary of the reference area is 42° 20'.

All areas would be designated outside of state waters.



Western Gulf of Maine
Alternative 5

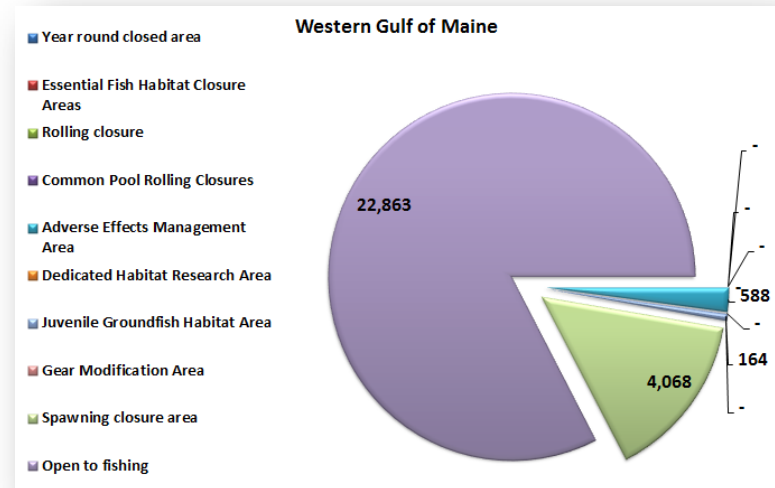


Includes a smaller subset of the Bigelow Bight juvenile groundfish habitat area (coastal area) and the Jeffreys Ledge and Stellwagen adverse effects minimization areas. The Jeffreys Ledge area is the northern area that lies within the existing WGOM habitat closure, and the Stellwagen area is outlined in blue in the southern part of the WGOM habitat closure. All three would be closed to mobile bottom tending gears.

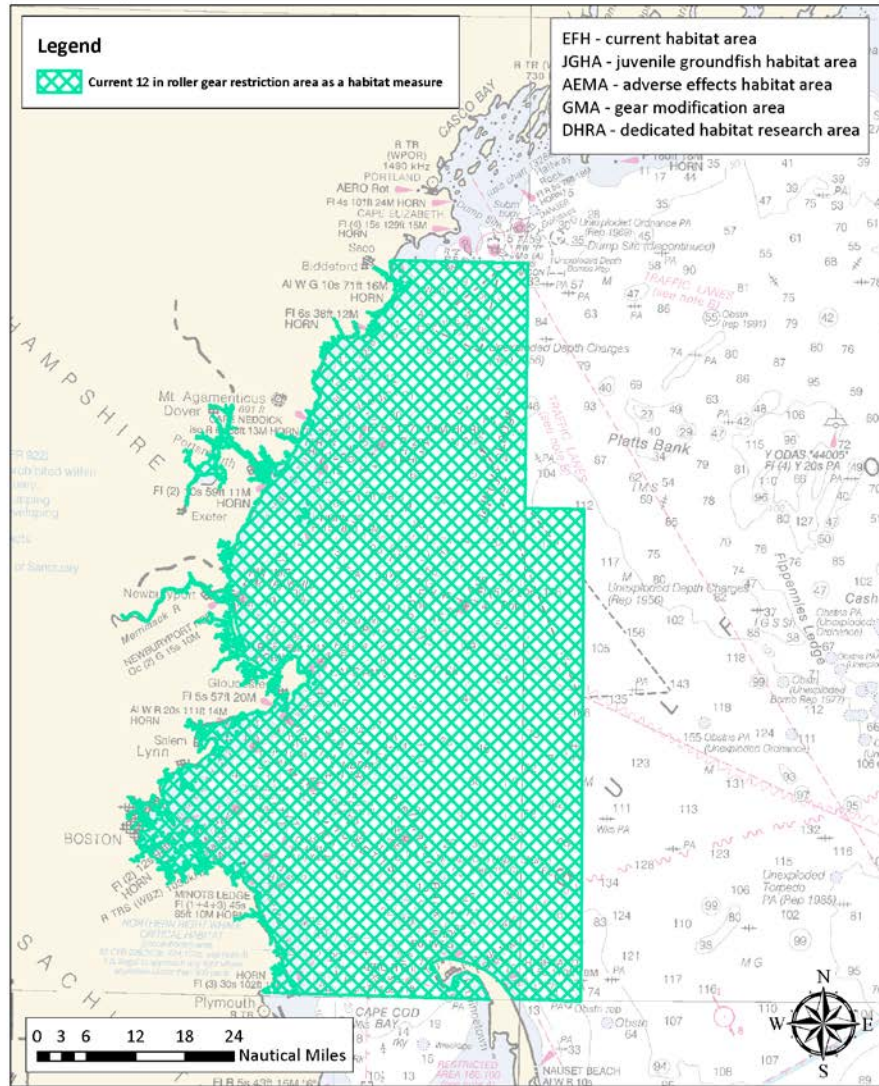
The Committees recommended considering an exemption for surfclam/ocean quahog hydraulic dredges.

The SERA II area would also be designated as a DHRA. DHRAs in general are associated with a specific research agenda, and would be reevaluated after three years to determine whether or not they were being used to address those specific research objectives. If not, the DHRA and any additional fishing restrictions associated with it would sunset. The DHRA designation in the SERA area would include additional restrictions beyond a prohibition on mobile bottom tending gears, specifically no action restrictions on other gears capable of catching groundfish throughout, and restrictions on recreational party and charter vessels that catch groundfish in the southern shaded area (reference area). The northern boundary of the reference area is 42° 20'.

All areas would be designated outside of state waters.

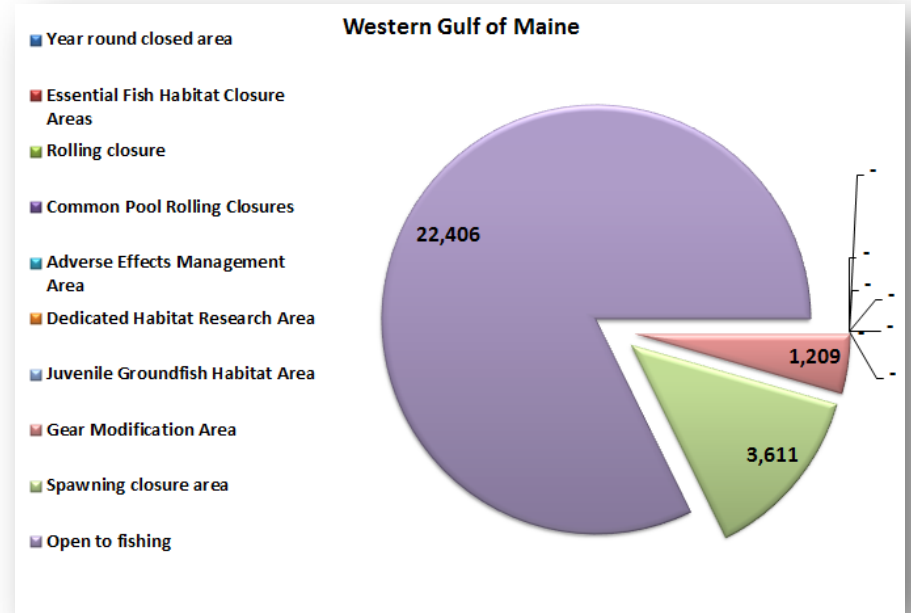


Western Gulf of Maine
Additional option 1 - to be added to Alt 2, 3, or 5

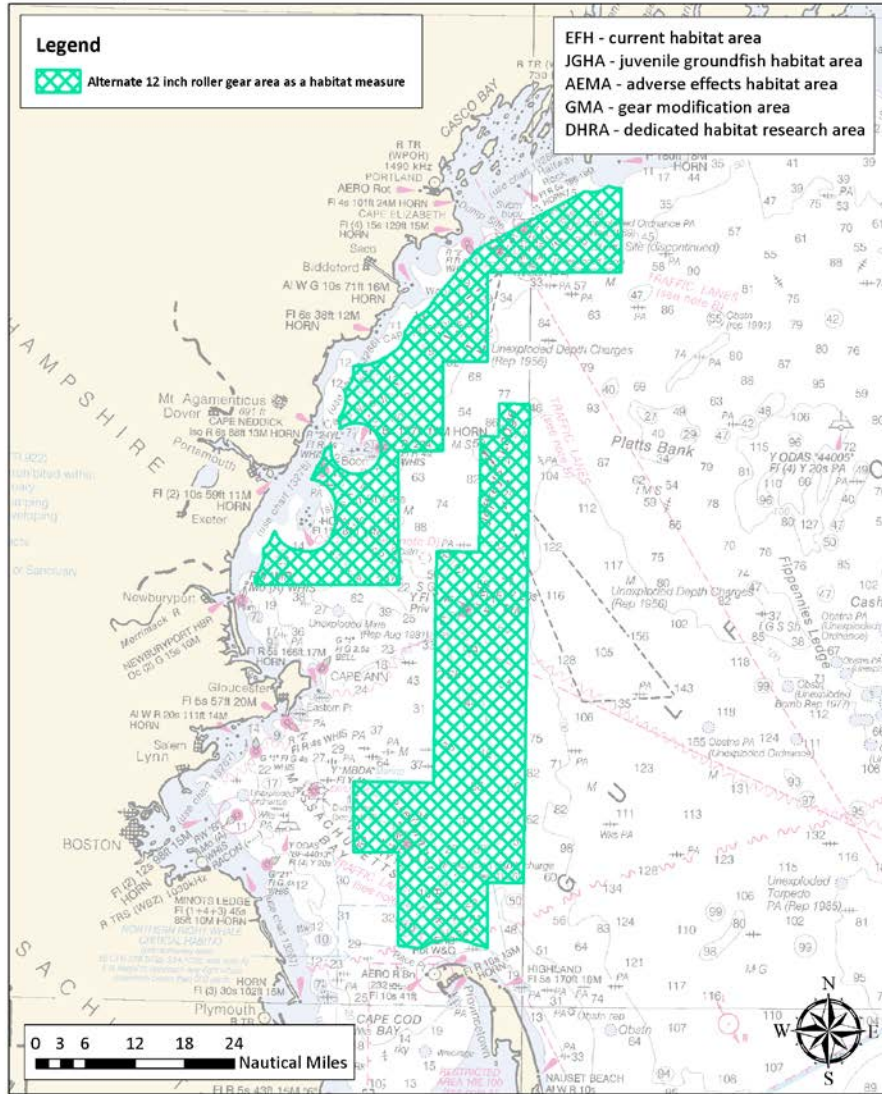


This option would be added onto any of the three action alternatives and would implement a 12 inch roller gear restriction in the shaded areas as a habitat measure (for adverse effects minimization) for all fisheries using trawl gears.

The roller gear restriction for the entire area would remain in place in the groundfish FMP if this option were selected. Operationally, there would be no change to restrictions associated with this area, but administratively the measure would be listed as an adverse effects minimization strategy.



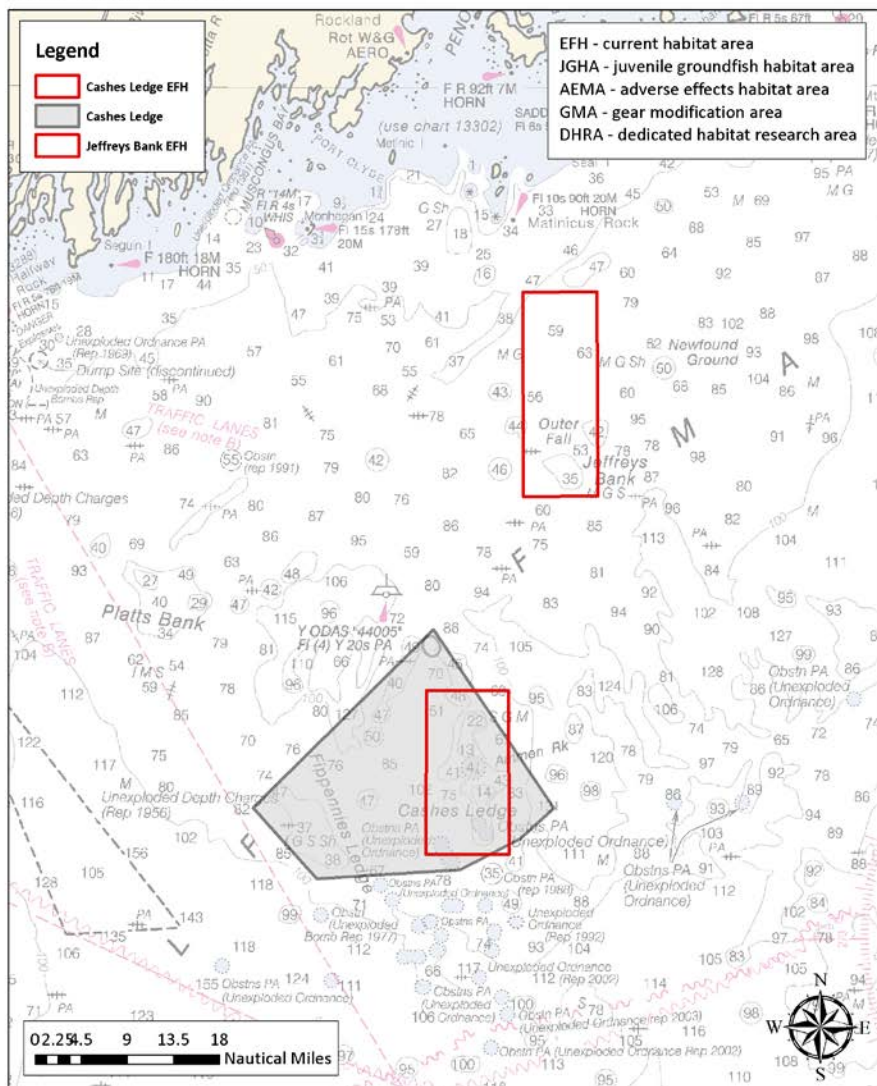
Western Gulf of Maine
Additional option 2 - to be added to Alt 2, 3, or 5



This option would be added onto any of the three action alternatives and would implement a 12 inch roller gear restriction in the shaded areas as a habitat measure (for adverse effects minimization) for all fisheries using trawl gears.

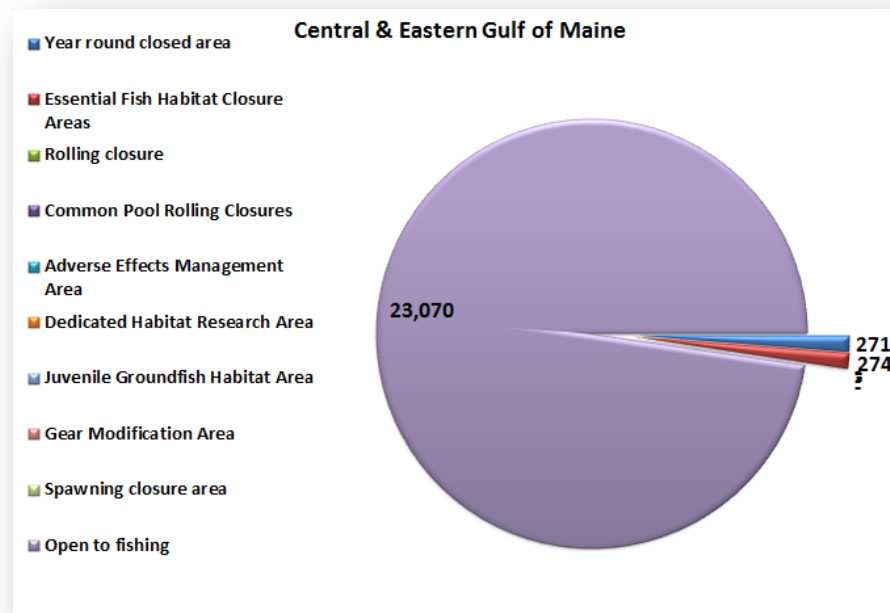
The roller gear restriction for the entire area would remain in place in the groundfish FMP if this option were selected. Operationally, there would be little change to restrictions associated with this area as compared to no action, but administratively the measure would be listed as an adverse effects minimization strategy. The very northern part of the shaded area inshore, which is part of the Bigelow Bight area, goes beyond the footprint of the existing roller gear restriction. The rationale was to target roller gear restrictions as a habitat measure in the full range of juvenile groundfish and adverse effects areas identified by the CATT and Habitat PDT.

Central Gulf of Maine
Alternative 1 - No Action

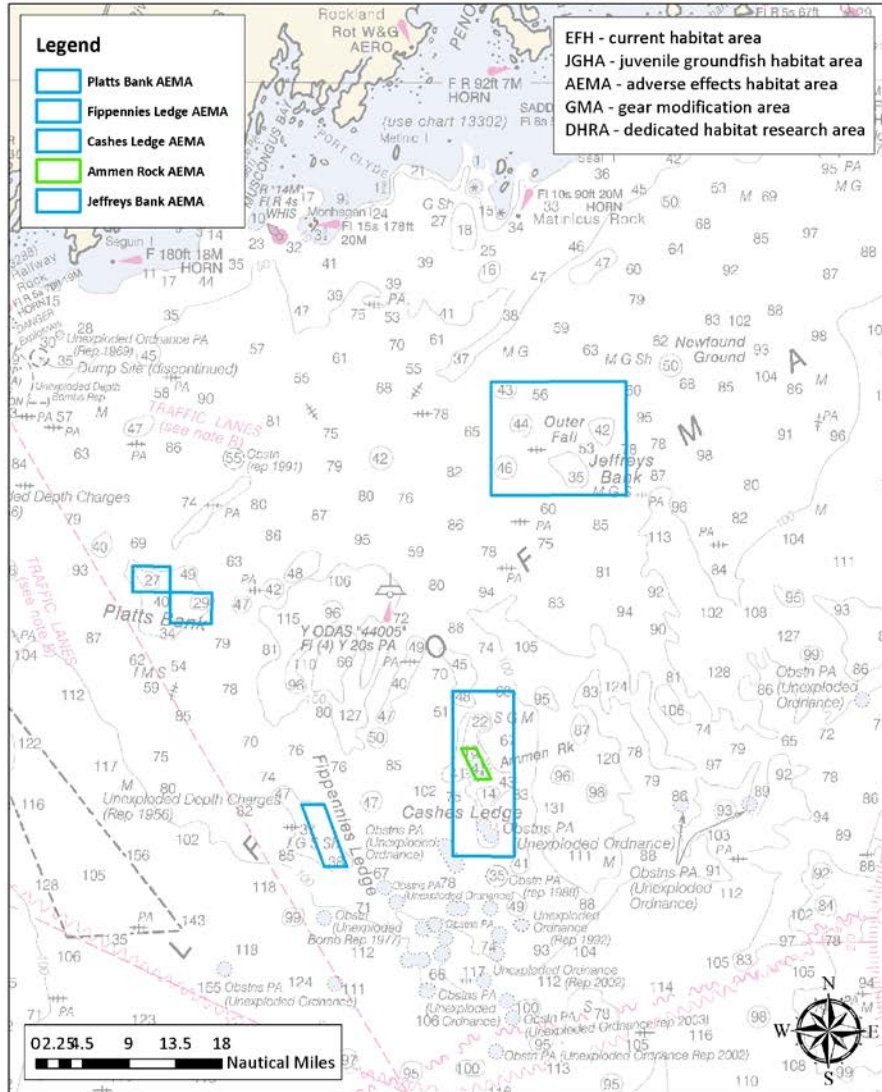


Includes the Cashes Ledge and Jeffreys Bank habitat closed areas, which are closed to mobile bottom tending gears, and the Cashes Ledge groundfish closed area, which is closed to gears capable of catching groundfish, with exemptions.

Note that Jeffreys Bank is also listed with the Eastern Maine alternatives and should be assigned to a single region unless the central and eastern Maine alternatives are recombined.



Central Gulf of Maine
Alternative 2

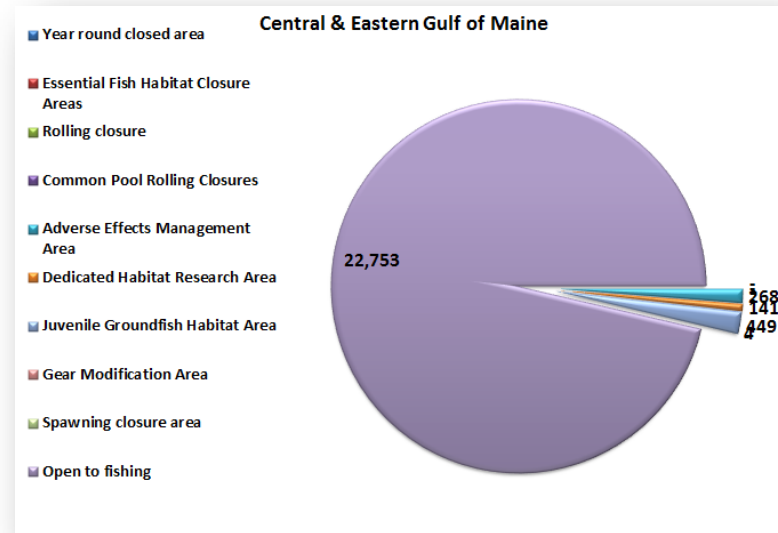


Includes the Cashes Ledge, Fippennies Ledge, Platts Bank, Jeffreys Bank, and Ammen Rock adverse effects minimization areas. The Jeffreys Bank (northernmost) and Cashes Ledge (easternmost) areas would be modifications of existing habitat closures. The Platts Bank (westernmost) and Fippennies Ledge (west of Cashes) would be new habitat management designations. All would be closed to mobile bottom tending gears, with the exception of Ammen Rock which lies entirely with the Cashes Ledge area and would be closed to all fishing gears that can be managed by the Council.

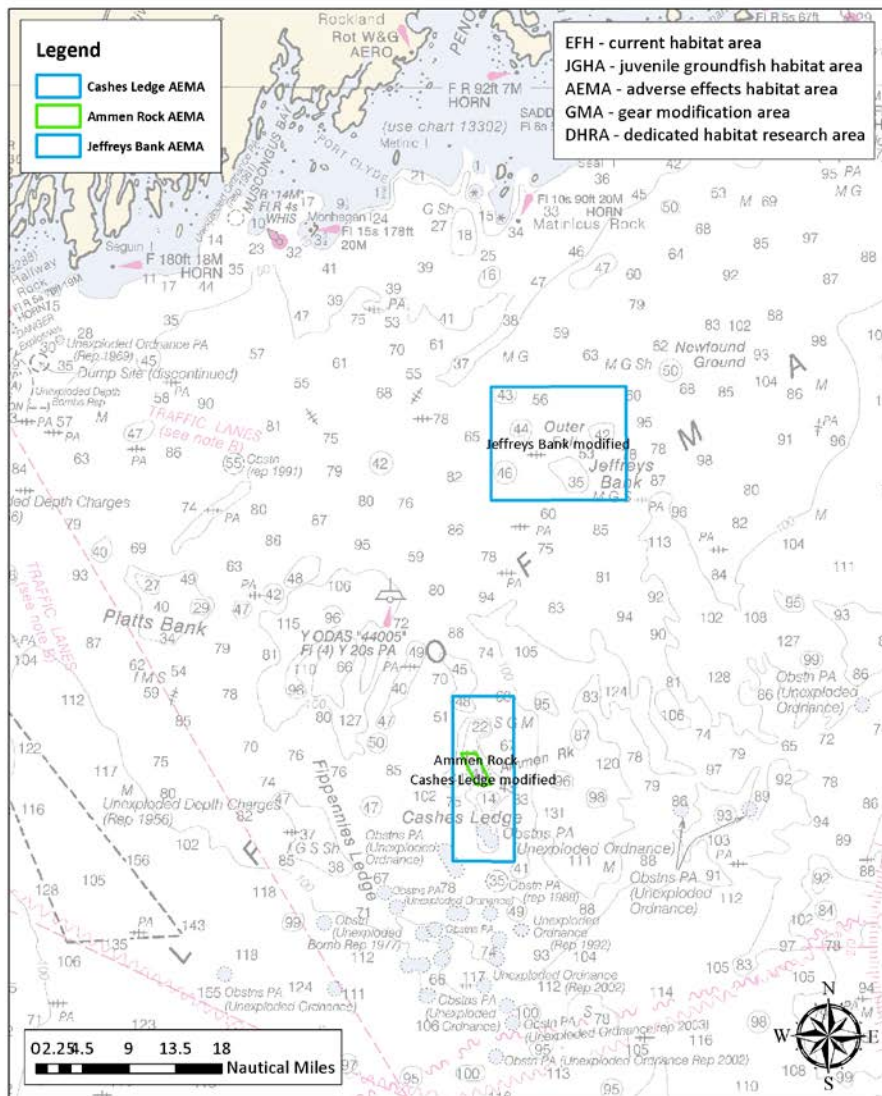
The Committees recommended considering an exemption for surfclam/ocean quahog hydraulic dredges, although there is probably not any effort from this fishery within any of these areas.

Note that Jeffreys Bank is also listed with the Eastern Maine alternatives and should be assigned to a single region unless the central and eastern Maine alternatives are recombined.

The pie chart includes both central and eastern GOM areas described as Alternative 2, with the smaller of the two Eastern Maine JGHA options.



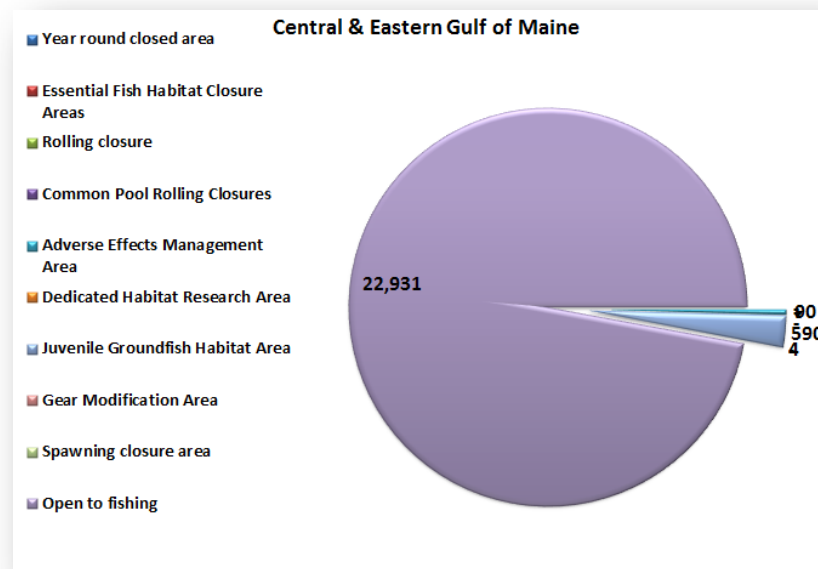
**Central Gulf of Maine
Alternative 3**



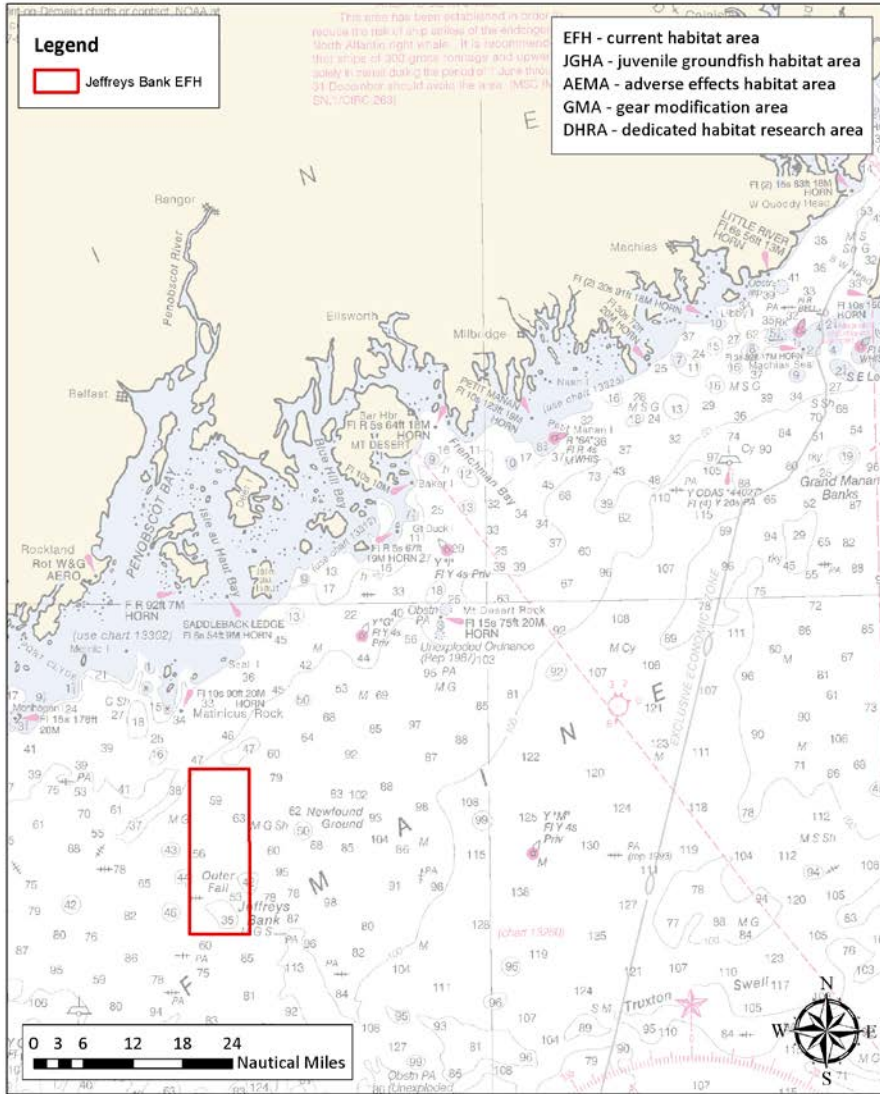
Includes the Cashes Ledge, Jeffreys Bank, and Ammen Rock adverse effects minimization areas. The Jeffreys Bank (northern) and Cashes Ledge (southern) areas would be modifications of existing habitat closures. All would be closed to mobile bottom tending gears, with the exception of Ammen Rock which lies entirely with the Cashes Ledge area and would be closed to all fishing gears that can be managed by the Council. Note that Jeffreys Bank is also listed with the Eastern Maine alternatives and should be assigned to a single region unless the central and eastern Maine alternatives are recombined.

The Committees recommended considering an exemption for surfclam/ocean quahog hydraulic dredges, although there is probably not any effort from this fishery within any of these areas.

The pie chart includes both central and eastern GOM areas described as Alternative 3, with the larger of the two Eastern Maine JGHA options.



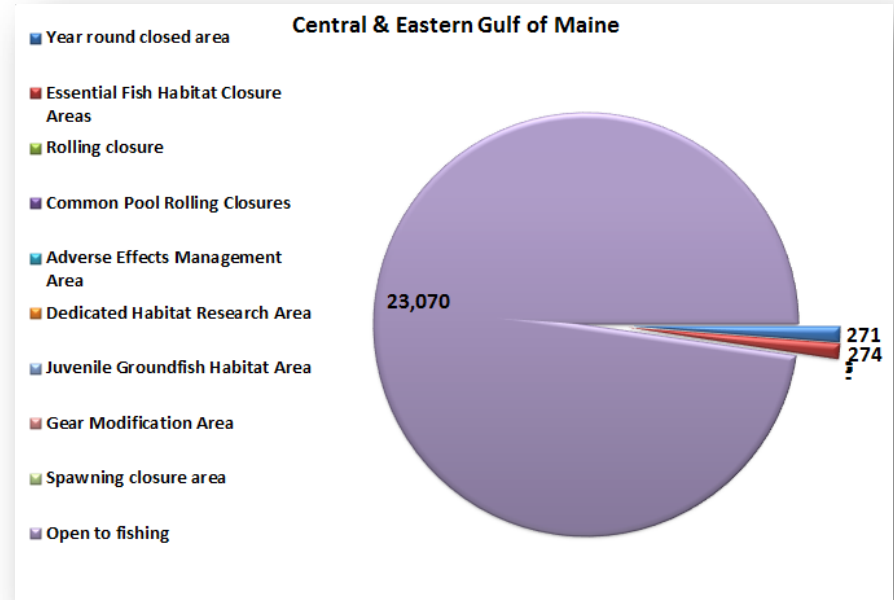
**Eastern Gulf of Maine
Alternative 1 - No Action**



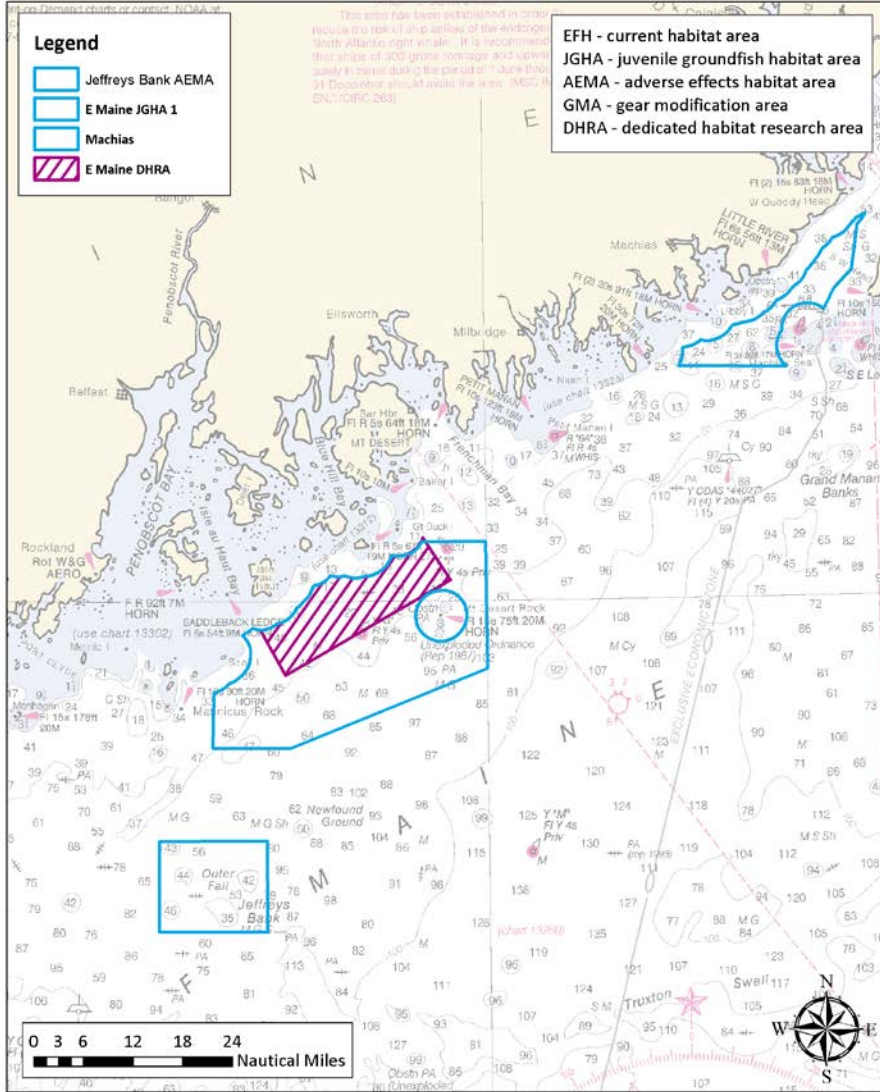
Includes the Jeffreys Bank habitat closure, which is closed to mobile bottom tending gears.

Note that Jeffreys Bank is also listed with the Central Maine alternatives and should be assigned to a single region unless the central and eastern Maine alternatives are recombined.

The pie chart includes both central and eastern GOM areas described as Alternative 1.



**Eastern Gulf of Maine
Alternative 3**

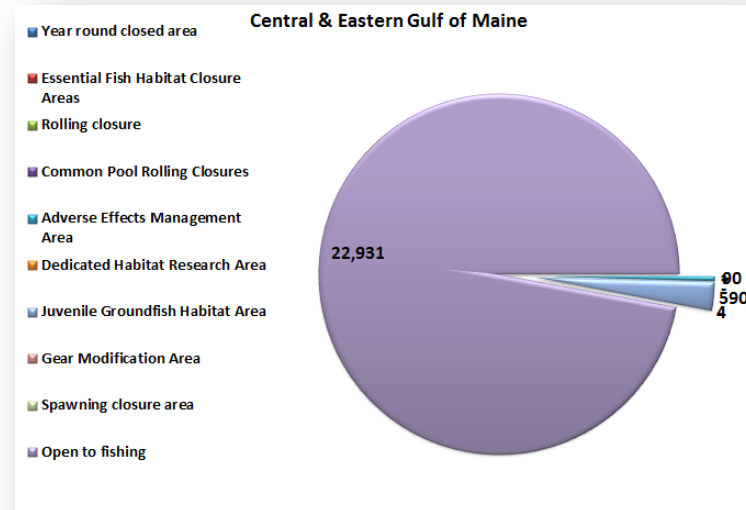


West to east, this alternative includes the Jeffreys Bank adverse effects minimization area and the Eastern Maine and Machias juvenile groundfish habitat areas. All would be closed to mobile bottom tending gears. All areas would be designated outside of state waters. Note that Jeffreys Bank is also listed with the Central Maine alternatives and should be assigned to a single region unless the central and eastern Maine alternatives are recombined.

The Committees recommended considering an exemption for surfclam/ocean quahog hydraulic dredges, which currently operate in parts of the Machias area.

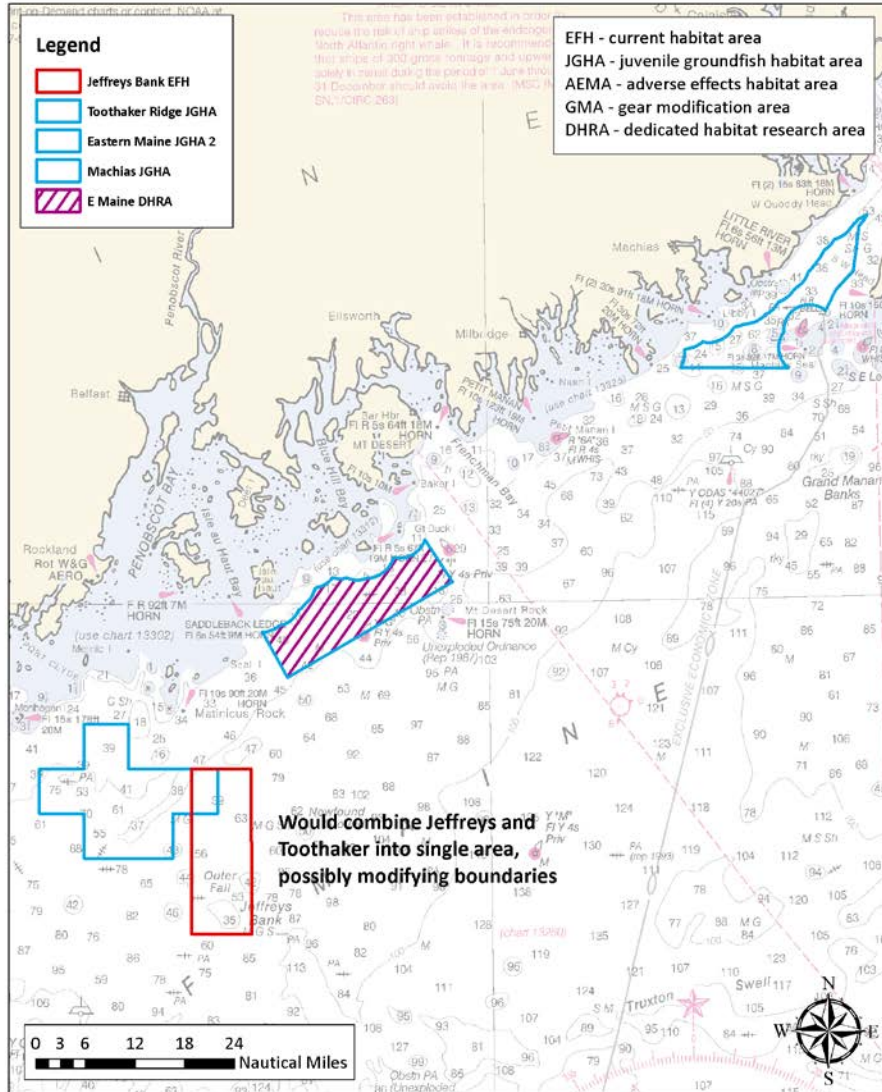
The smaller hatched area within the Eastern Maine JGHA would also be designated as a DHRA. DHRAs in general are associated with a specific research agenda, and would be reevaluated after three years to determine whether or not they were being used to address those specific research objectives. If not, the DHRA and any additional fishing restrictions associated with it would sunset. The DHRA designation in this area could include additional restrictions beyond a prohibition on mobile bottom tending gears, specifically additional restrictions on other gears capable of catching groundfish.

The pie chart includes both central and eastern GOM areas described as Alternative 3, with the larger of the two Eastern Maine JGHA options as shown on the left



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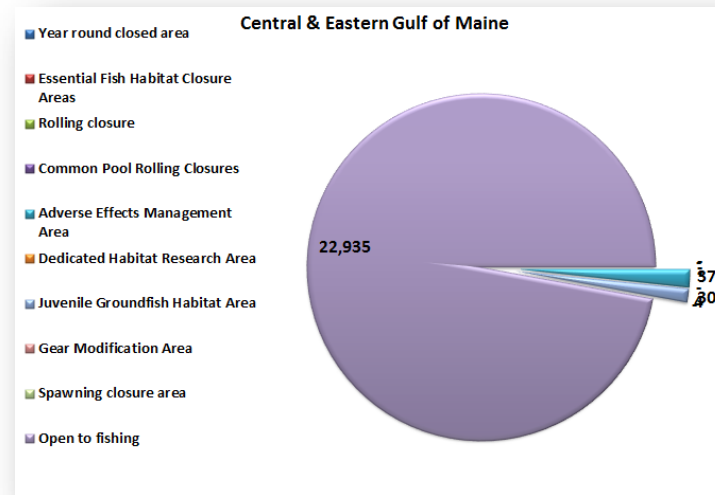
Eastern Gulf of Maine
Alternative 4



West to east, this alternative includes the Jeffreys Bank habitat closed area (red outline) and the Toothaker Ridge, Eastern Maine and Machias juvenile groundfish habitat areas. All would be closed to mobile bottom tending gears. A single Toothaker/Jeffreys Bank area has been discussed but no boundaries have been developed yet. All areas would be designated outside of state waters. Note that Jeffreys Bank is also listed with the Central Maine alternatives and should be assigned to a single region unless the central and eastern Maine alternatives are recombined.

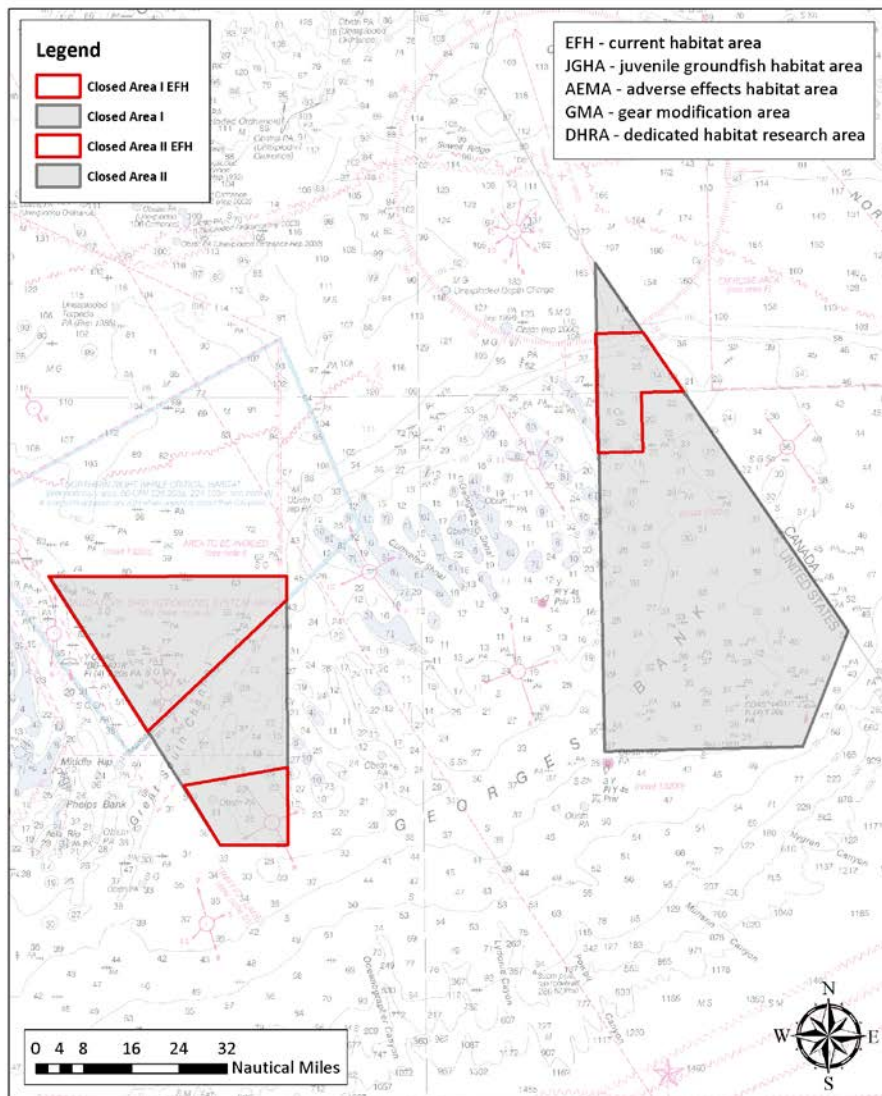
The Committees recommended considering an exemption for surfclam/ocean quahog hydraulic dredges, which currently operate in parts of the Machias area.

The smaller hatched area within the Eastern Maine JGHA would also be designated as a DHRA. DHRAs in general are associated with a specific research agenda, and would be reevaluated after three years to determine whether or not they were being used to address those specific research objectives. If not, the DHRA and any additional fishing restrictions associated with it would sunset. The DHRA designation in this area could include additional restrictions beyond a prohibition on mobile bottom tending gears, specifically additional restrictions on other gears capable of catching groundfish.



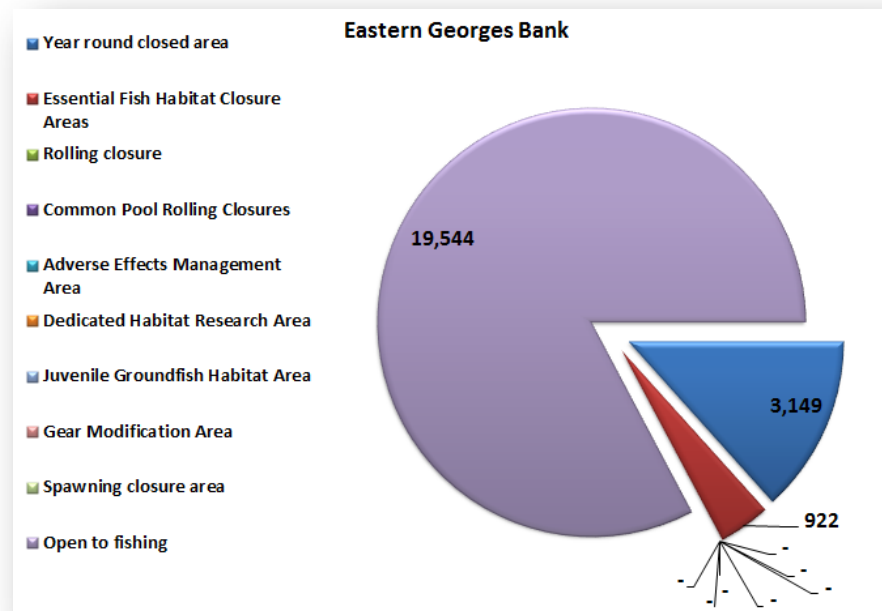
The pie chart includes both central and eastern GOM areas described as Alternative 4, with the smaller larger of the two Eastern Maine JGHA options as shown on the left.

**Georges Bank
Alternative 1 - No Action**

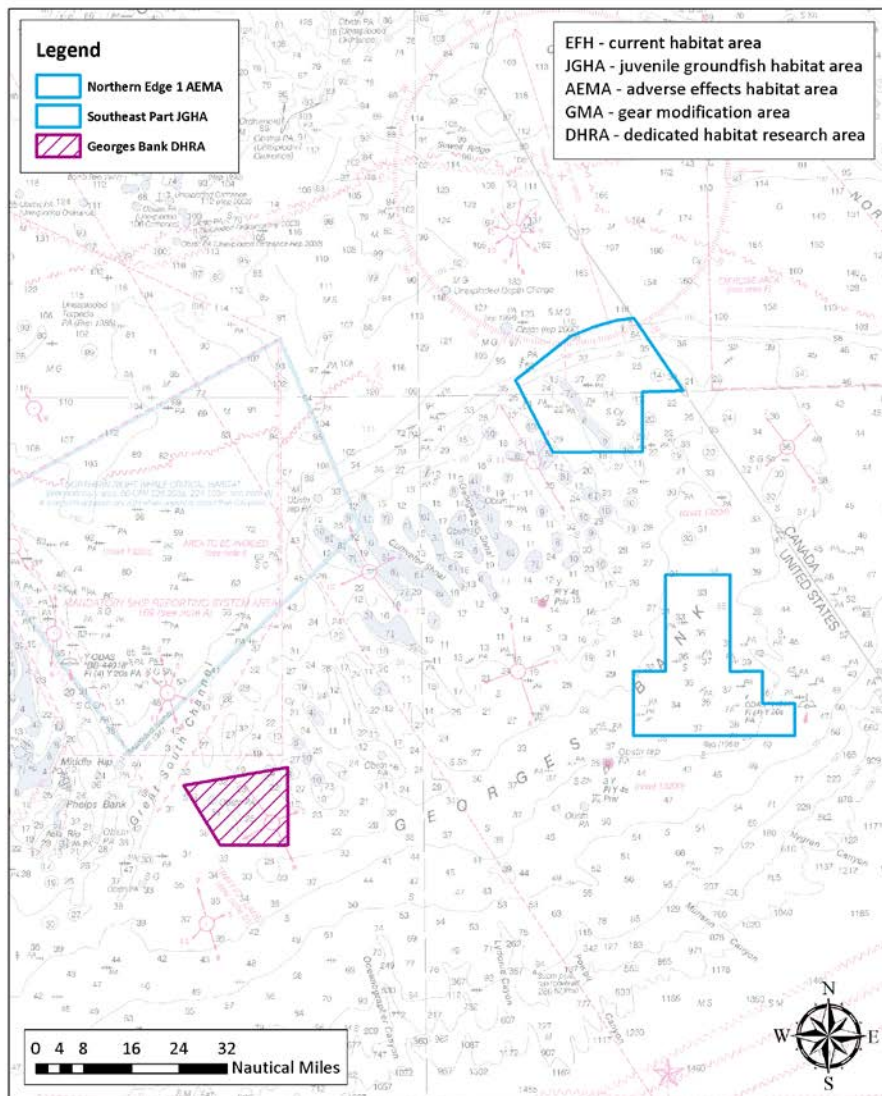


Includes the existing Closed Area I and Closed Area II habitat closed areas, which are closed to mobile bottom tending gears, and the existing Closed Area I and Closed Area II groundfish closed areas, which are generally closed to gear capable of catching groundfish, with various exemptions and access programs.

The GB seasonal closure in May is not shown as it only applies to a small number of vessels.



**Georges Bank
Alternative 2**

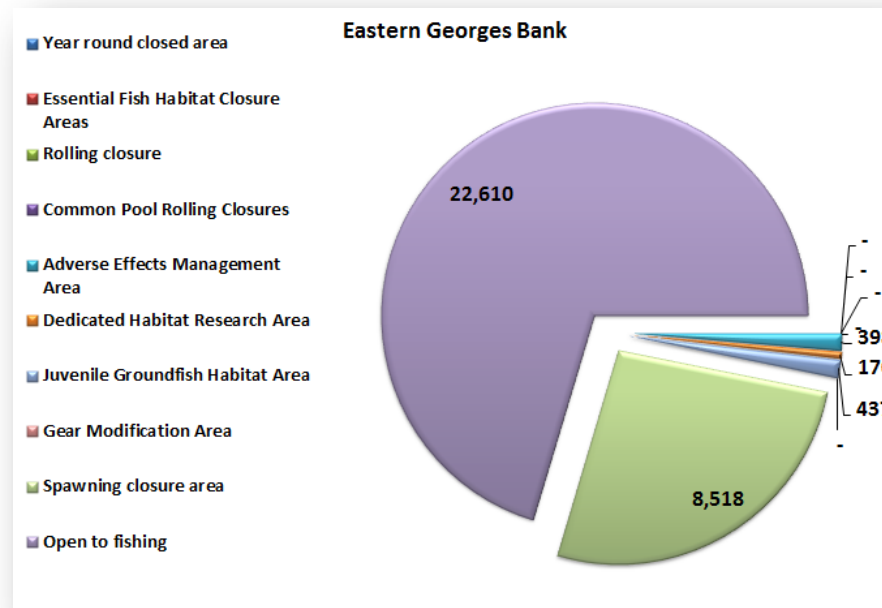


Includes the Northern Edge adverse effects area (north) and the Southeast Part juvenile groundfish habitat area (south). Both would be closed to mobile bottom tending gears.

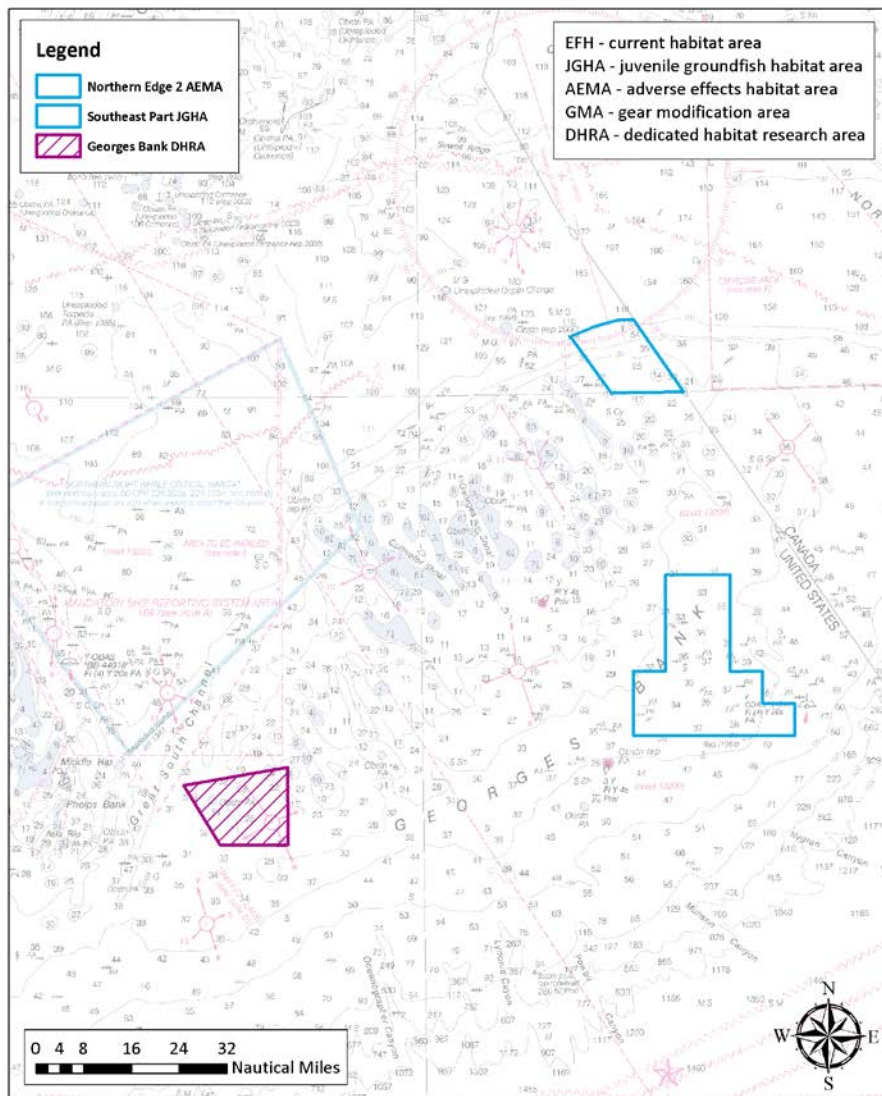
The Committees recommended considering an exemption for surfclam/ocean quahog hydraulic dredges.

The hatched area would be designated as a DHRA. DHRAs in general are associated with a specific research agenda, and would be reevaluated after three years to determine whether or not they were being used to address those specific research objectives. If not, the DHRA and any fishing restrictions associated with it would sunset. The DHRA designation in this area would likely need to restrict mobile bottom tending gears.

The rolling closure shown on the pie chart is the GB seasonal closure area, which applies in May only. While this area only a small number of vessels at present, it could apply to additional vessels under the action alternative.



**Georges Bank
Alternative 3**

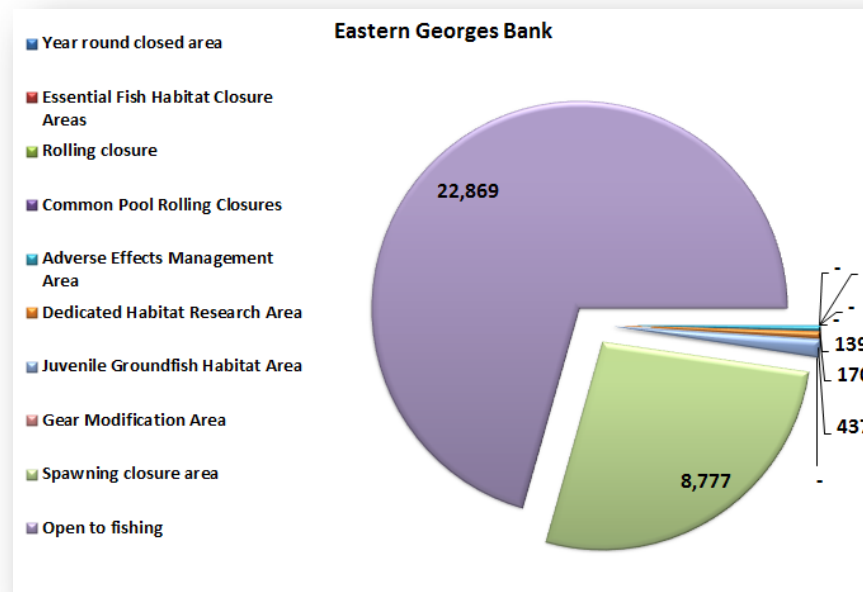


Includes a smaller version of the Northern Edge adverse effects area (north) and the Southeast Part juvenile groundfish habitat area (south). Both would be closed to mobile bottom tending gears.

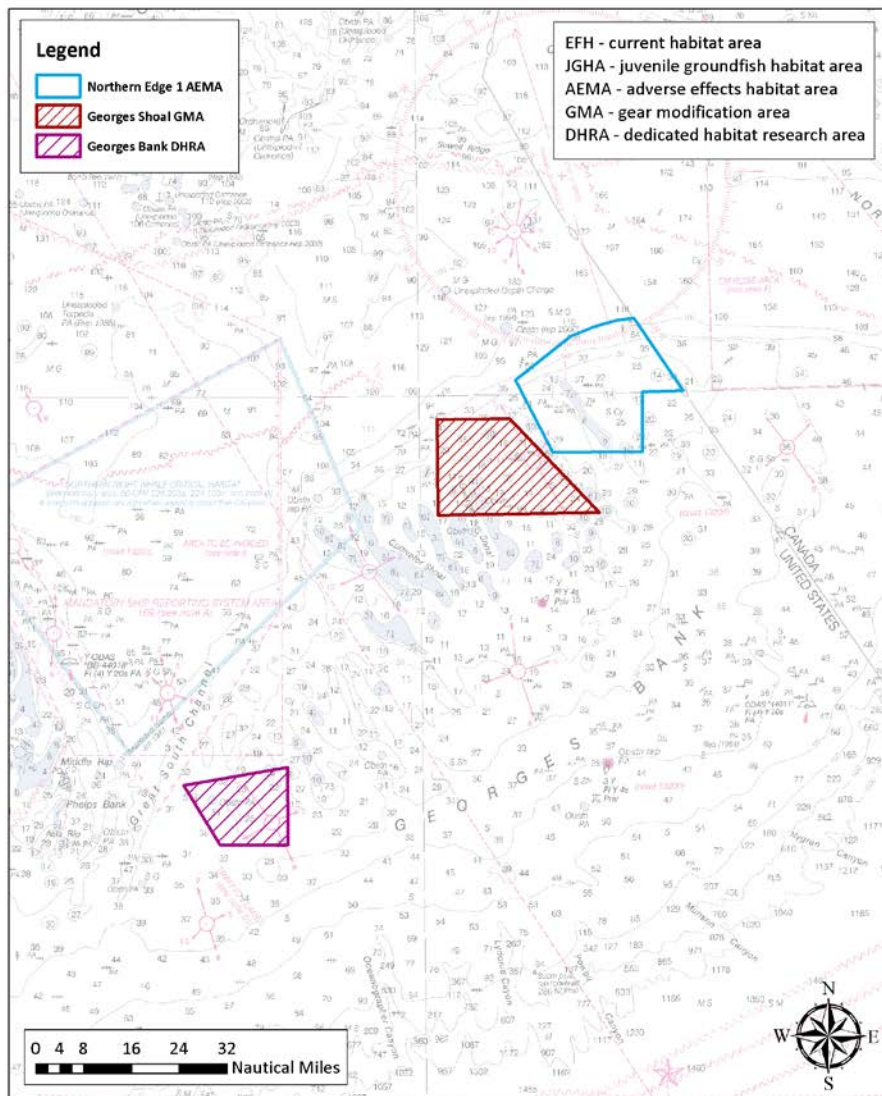
The Committees recommended considering an exemption for surfclam/ocean quahog hydraulic dredges.

The hatched area would be designated as a DHRA. DHRAs in general are associated with a specific research agenda, and would be reevaluated after three years to determine whether or not they were being used to address those specific research objectives. If not, the DHRA and any fishing restrictions associated with it would sunset. The DHRA designation in this area would likely need to restrict mobile bottom tending gears.

The rolling closure shown on the pie chart is the GB seasonal closure area, which applies in May only. While this area only a small number of vessels at present, it could apply to additional vessels under the action alternative.



**Georges Bank
Alternative 4**

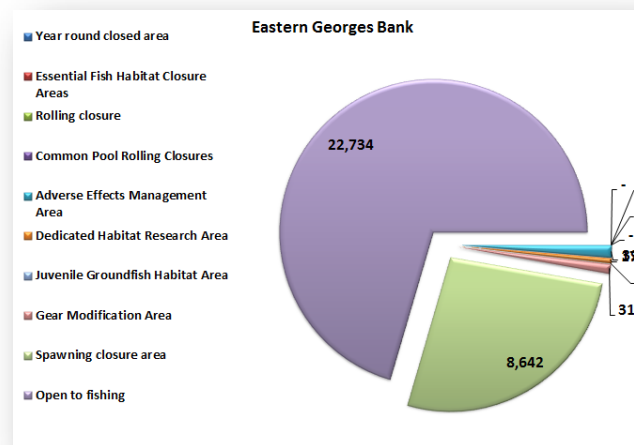


Includes the Northern Edge adverse effects area (east) and the Georges Shoal gear modification area (west). The former would be closed to mobile bottom tending gears, and the latter would include restrictions on trawl gears. These could include a prohibition on ground cables with bridle lengths capped at 30 fathoms, or a requirement to raise ground cables off the seabed with elevating disks at 5 fathom spacing with a cap on ground cable length of 45 fathoms. Measurements are per side.

The Georges Shoal GMA (recommended by the Committee on 5/17) is similar to an area called Georges Shoal West. A potential MBTG area south of this GMA is not included in this alternative by the PDT/CATT, as the habitat types are less vulnerable to impact than those within the Northern Edge area.

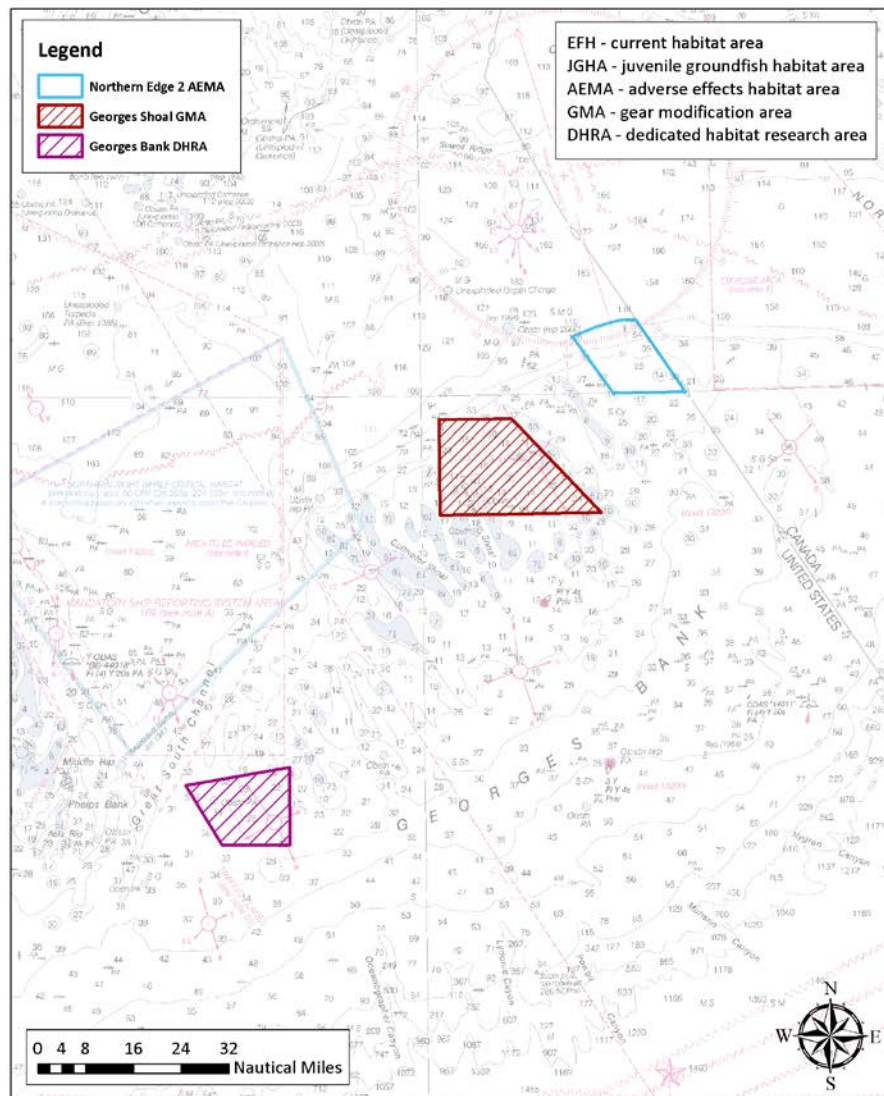
The Committees recommended considering an exemption for surfclam/ocean quahog hydraulic dredges.

The hatched area would be designated as a DHRA. DHRAs in general are associated with a specific research agenda, and would be reevaluated after three years to determine whether or not they were being used to address those specific research objectives. If not, the DHRA and any fishing restrictions associated with it would sunset. The DHRA designation in this area would likely need to restrict mobile bottom tending gears.



The rolling closure shown on the pie chart is the GB seasonal closure area, which applies in May only. While this area only a small number of vessels at present, it could apply to additional vessels under the action alternative.

**Georges Bank
Alternative 5**

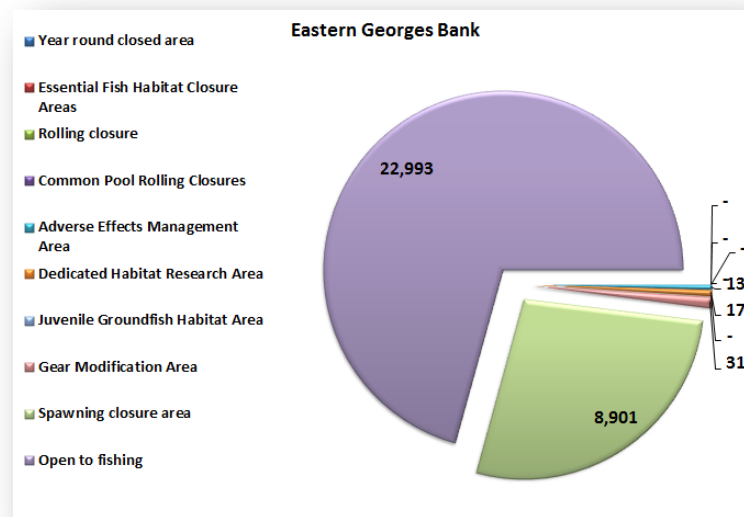


Includes a smaller version of the Northern Edge adverse effects area (east) and the Georges Shoal gear modification area (west). The former would be closed to mobile bottom tending gears, and the latter would include restrictions on trawl gears. These could include a prohibition on ground cables with bridle lengths capped at 30 fathoms, or a requirement to raise ground cables off the seabed with elevating disks at 5 fathom spacing with a cap on ground cable length of 45 fathoms. Measurements are per side.

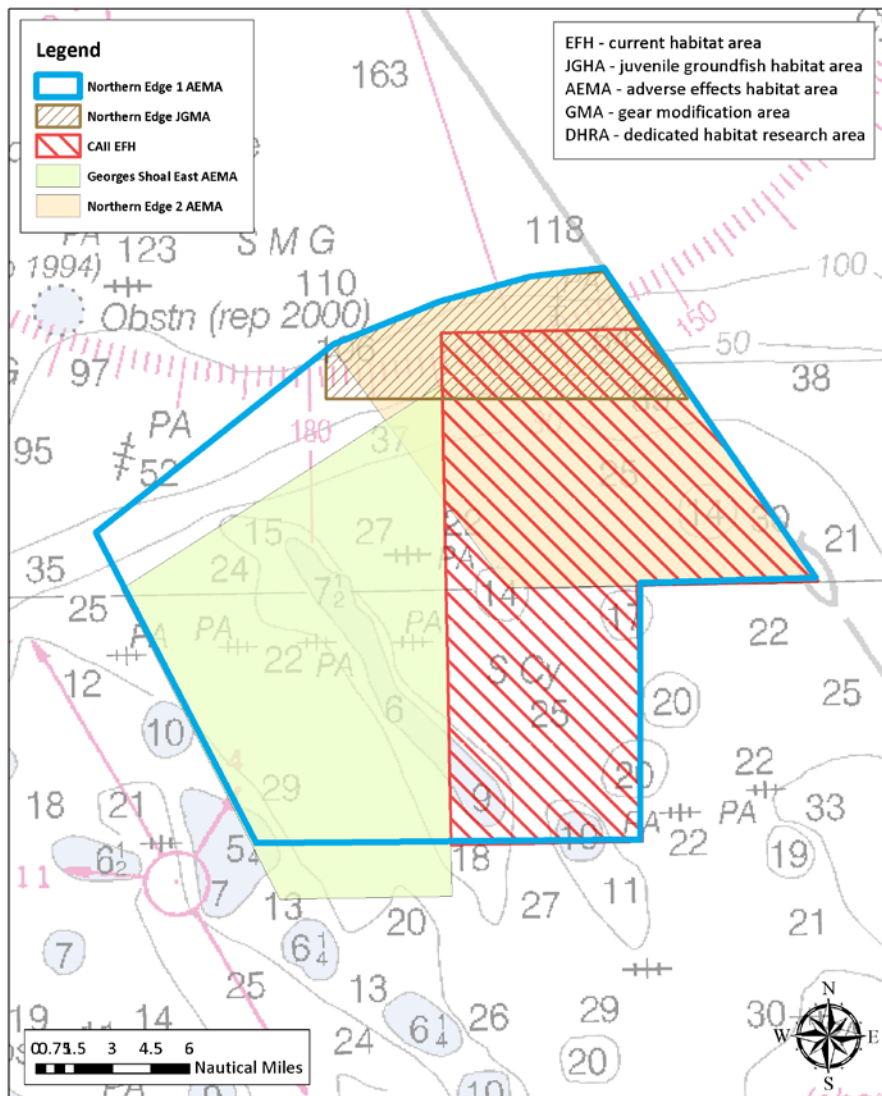
The Georges Shoal GMA (recommended by the Committee on 5/17) is similar to an area called Georges Shoal West. A potential MBTG area south of this GMA is not included in this alternative by the PDT/CATT, as the habitat types are less vulnerable to impact than those within the Northern Edge area.

The Committees recommended considering an exemption for surfclam/ocean quahog hydraulic dredges.

The hatched area would be designated as a DHRA. DHRAs in general are associated with a specific research agenda, and would be reevaluated after three years to determine whether or not they were being used to address those specific research objectives. If not, the DHRA and any fishing restrictions associated with it would sunset. The DHRA designation in this area would likely need to restrict mobile bottom tending gears.



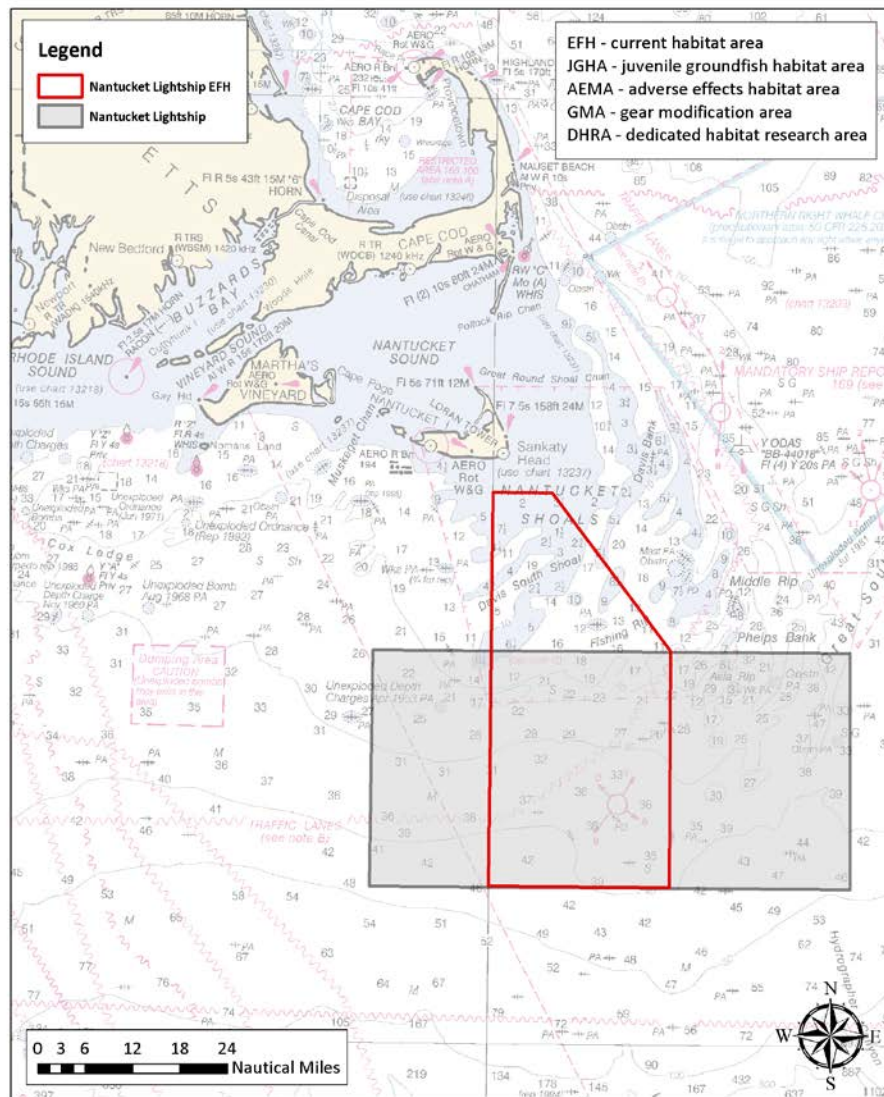
Georges Bank
Northern Edge options comparative map



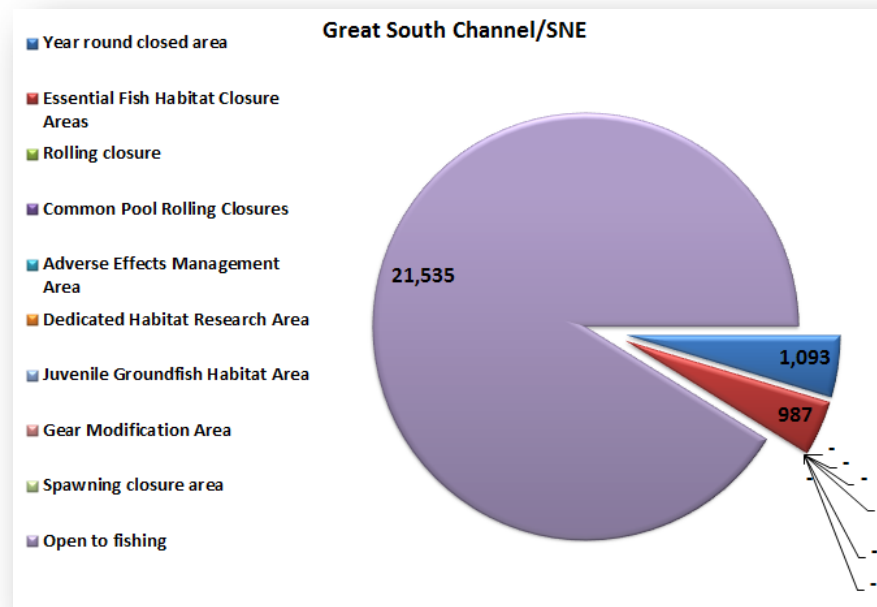
Not a management alternative.

A figure showing the overlap between various areas on the northern edge. The brown, finely hatched area was identified as a juvenile groundfish habitat area. The yellow-green shaded area is the Georges Shoal East area, and the red hatched area is the existing habitat closure and cod HAPC. The blue outlined and orange shaded areas are the larger and smaller versions of an adverse effects minimization area designed to encompass the northern edge JGMA, Georges Shoal east AEMA, and existing habitat area.

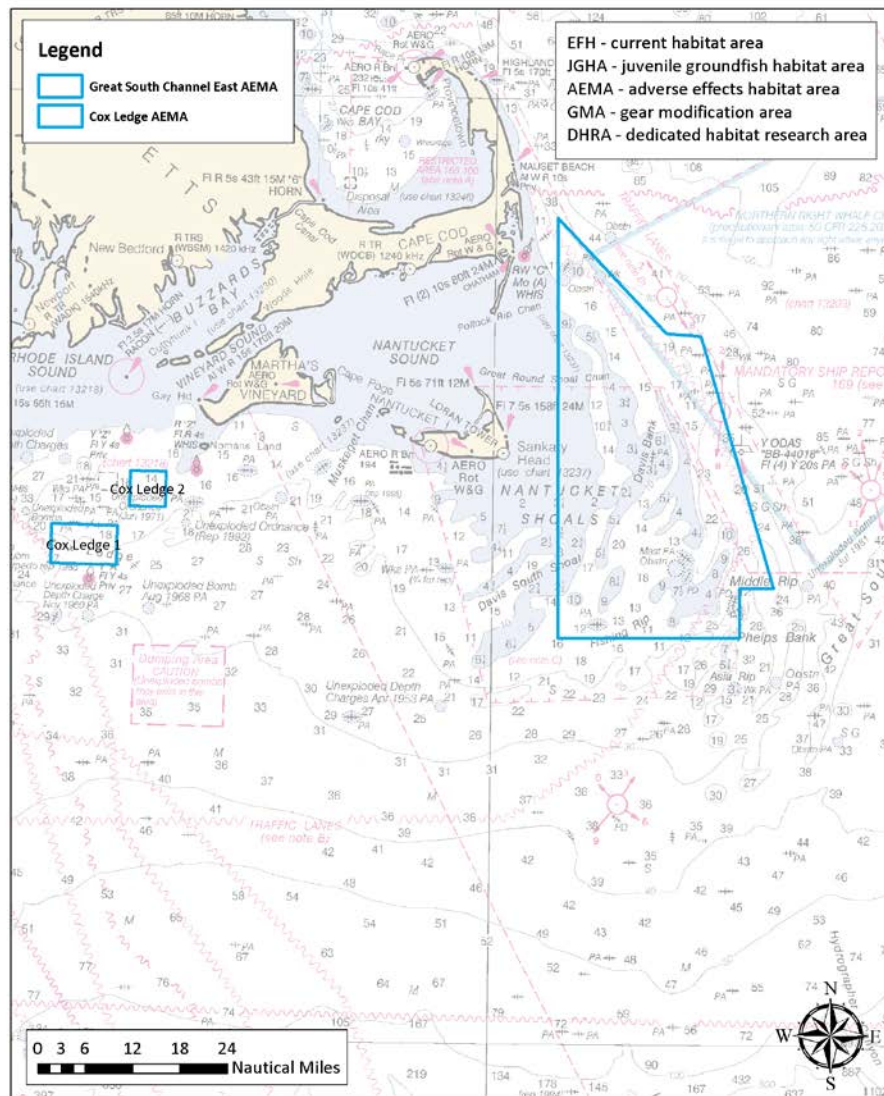
Great South Channel/Nantucket Shoals/Southern New England
Alternative 1 - No Action



Includes the existing Nantucket Lightship habitat closed area, which is closed to mobile bottom tending gears, and the existing Nantucket Lightship groundfish closed area, which is generally closed to gear capable of catching groundfish, with various exemptions.



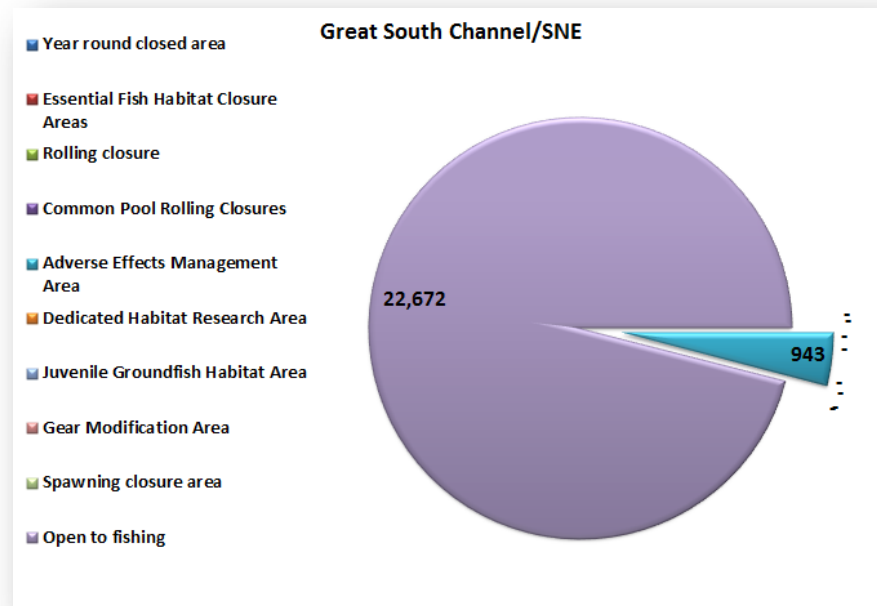
**Great South Channel/Nantucket Shoals/Southern New England
Alternative 2**



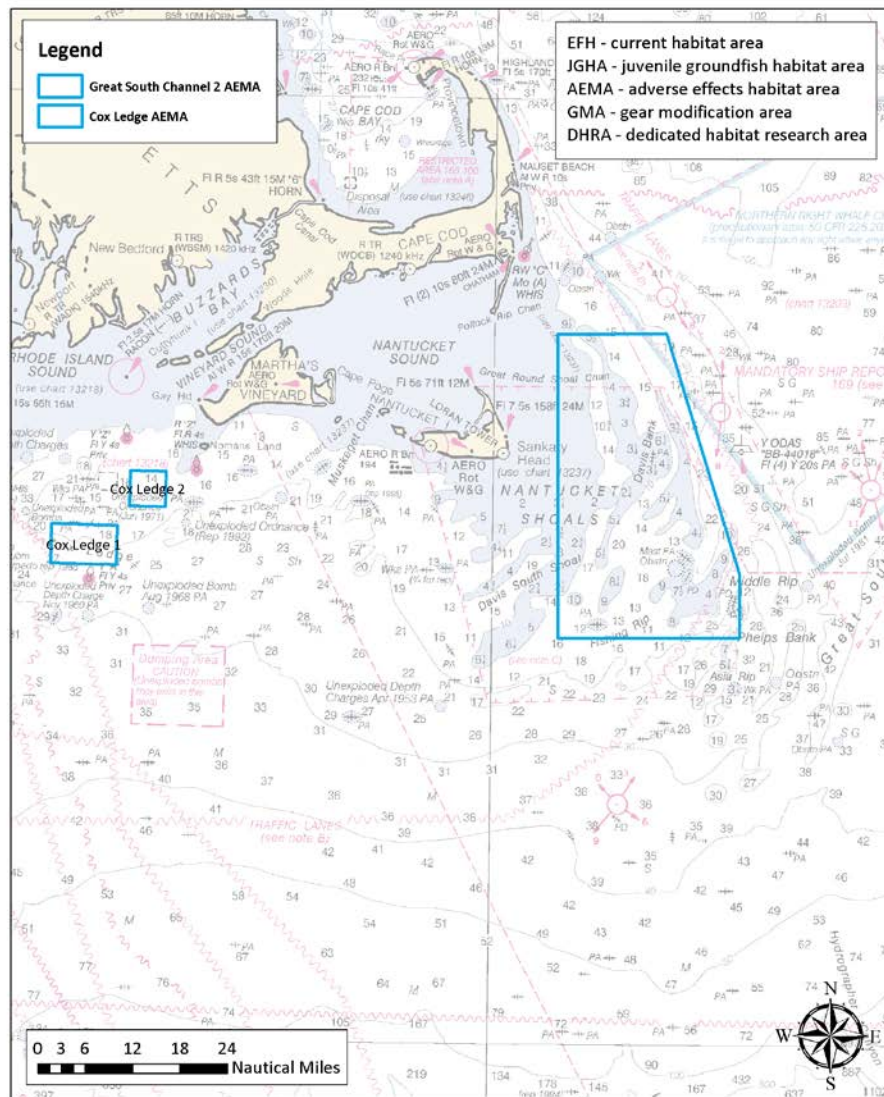
Includes an adverse effects area in the Great South Channel region (east) and the Cox Ledge adverse effects areas (west). The GSC area would either be closed to mobile bottom tending gears, or would have gear restrictions on trawls. These could include a prohibition on ground cables with bridle lengths capped at 30 fathoms, or a requirement to raise ground cables off the seabed with elevating disks at 5 fathom spacing with a cap on ground cable length of 45 fathoms. Measurements are per side. Cox Ledge would be closed to mobile bottom tending gears.

The Committees recommended considering an exemption for surfclam/ocean quahog hydraulic dredges in the case of a MBTG closure.

The boundaries of this particular GSC area include a core area identified by industry members, and six extensions of that area identified by Habitat PDT analysis. However, this area extends further east to encompass additional areas where cod are commonly caught in the trawl surveys. This eastern extension was added by the Committee on 6/11.



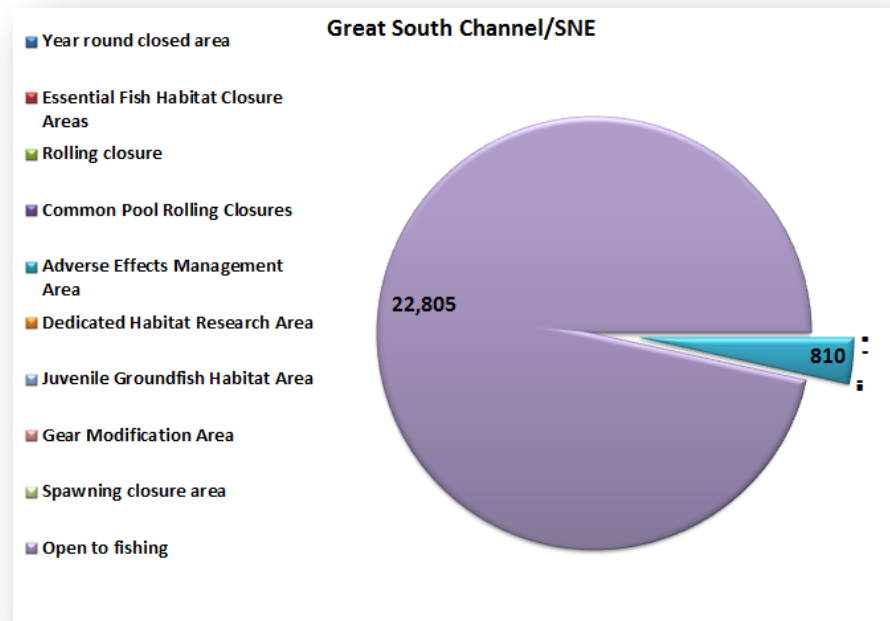
Great South Channel/Nantucket Shoals/Southern New England
Alternative 3



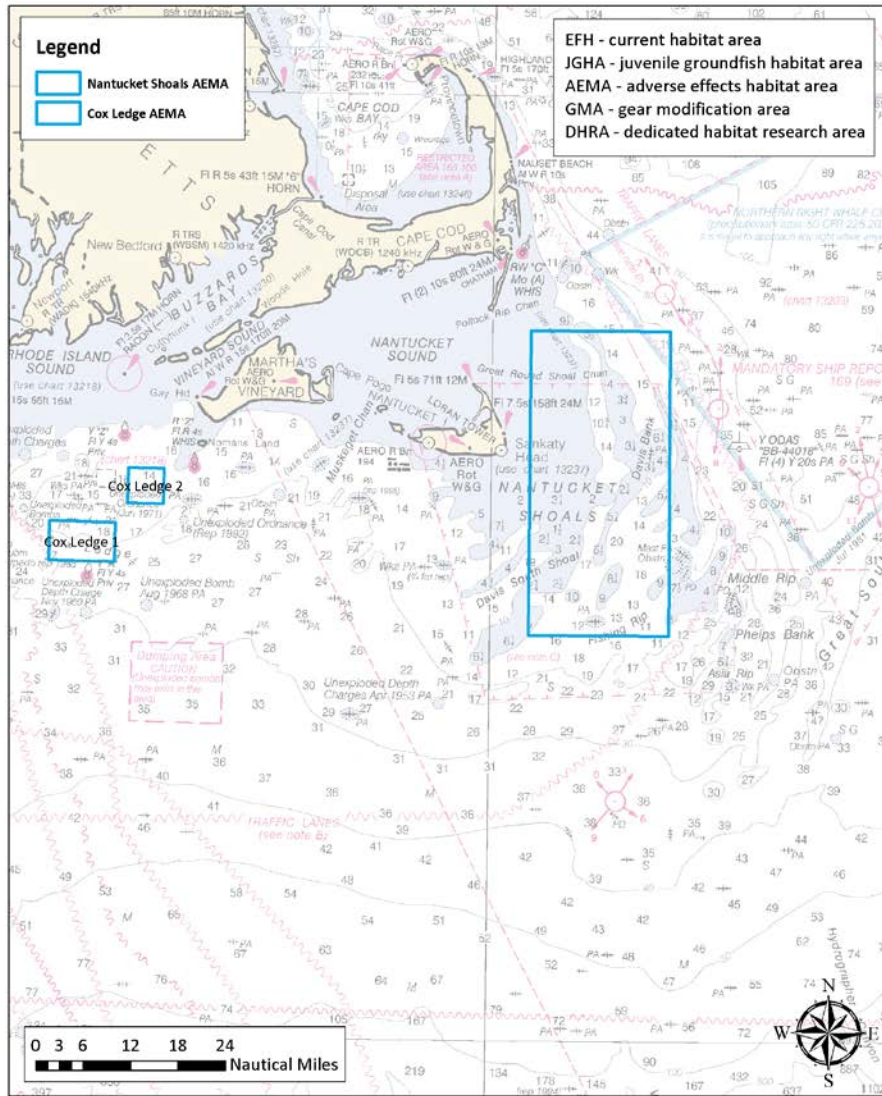
Includes an adverse effects area in the Great South Channel region (east) and the Cox Ledge adverse effects areas (west). The GSC area would either be closed to mobile bottom tending gears, or would have gear restrictions on trawls. These could include a prohibition on ground cables with bridle lengths capped at 30 fathoms, or a requirement to raise ground cables off the seabed with elevating disks at 5 fathom spacing with a cap on ground cable length of 45 fathoms. Measurements are per side. Cox Ledge would be closed to mobile bottom tending gears.

The Committees recommended considering an exemption for surfclam/ocean quahog hydraulic dredges in the case of a MBTG closure.

The boundaries of this particular GSC area include a core area identified by industry members, and four of six extensions of that area identified by Habitat PDT analysis.



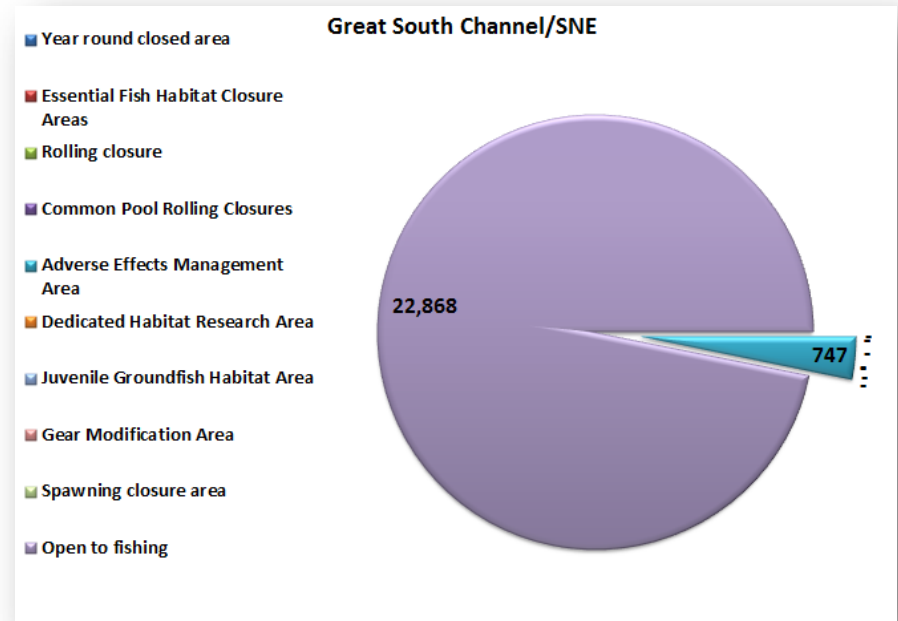
Great South Channel/Nantucket Shoals/Southern New England
Alternative 5



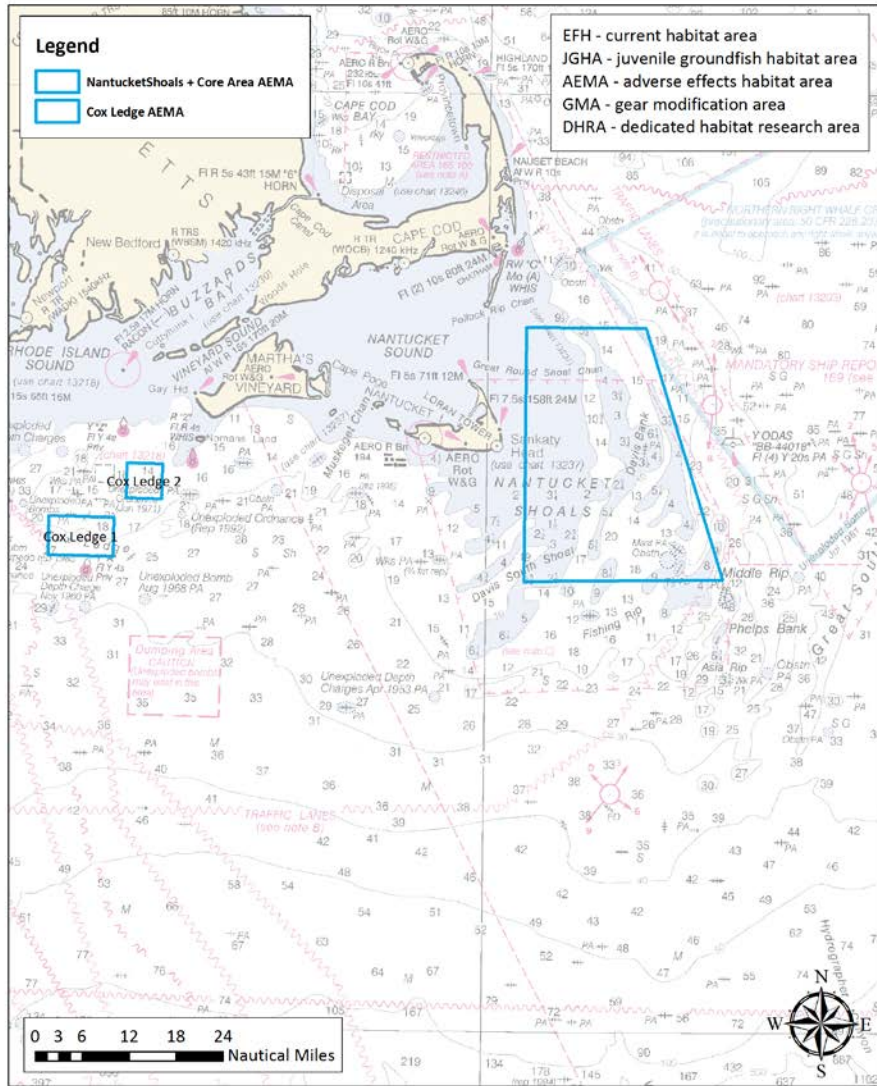
Includes an adverse effects area in the Great South Channel region (east) and the Cox Ledge adverse effects areas (west). The GSC area would either be closed to mobile bottom tending gears, or would have gear restrictions on trawls. These could include a prohibition on ground cables with bridle lengths capped at 30 fathoms, or a requirement to raise ground cables off the seabed with elevating disks at 5 fathom spacing with a cap on ground cable length of 45 fathoms. Measurements are per side. Cox Ledge would be closed to mobile bottom tending gears.

The Committees recommended considering an exemption for surfclam/ocean quahog hydraulic dredges in the case of a MBTG closure.

The boundaries of this particular GSC/Nantucket Shoals area were identified by the Committee on 5/17. They include a western boundary of 69° 50'.



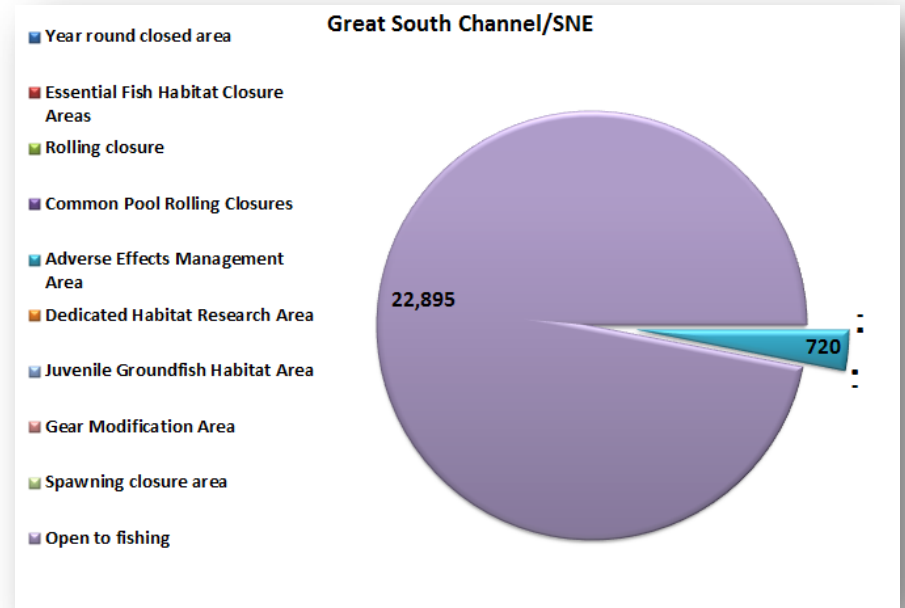
Great South Channel/Nantucket Shoals/Southern New England
Alternative 7



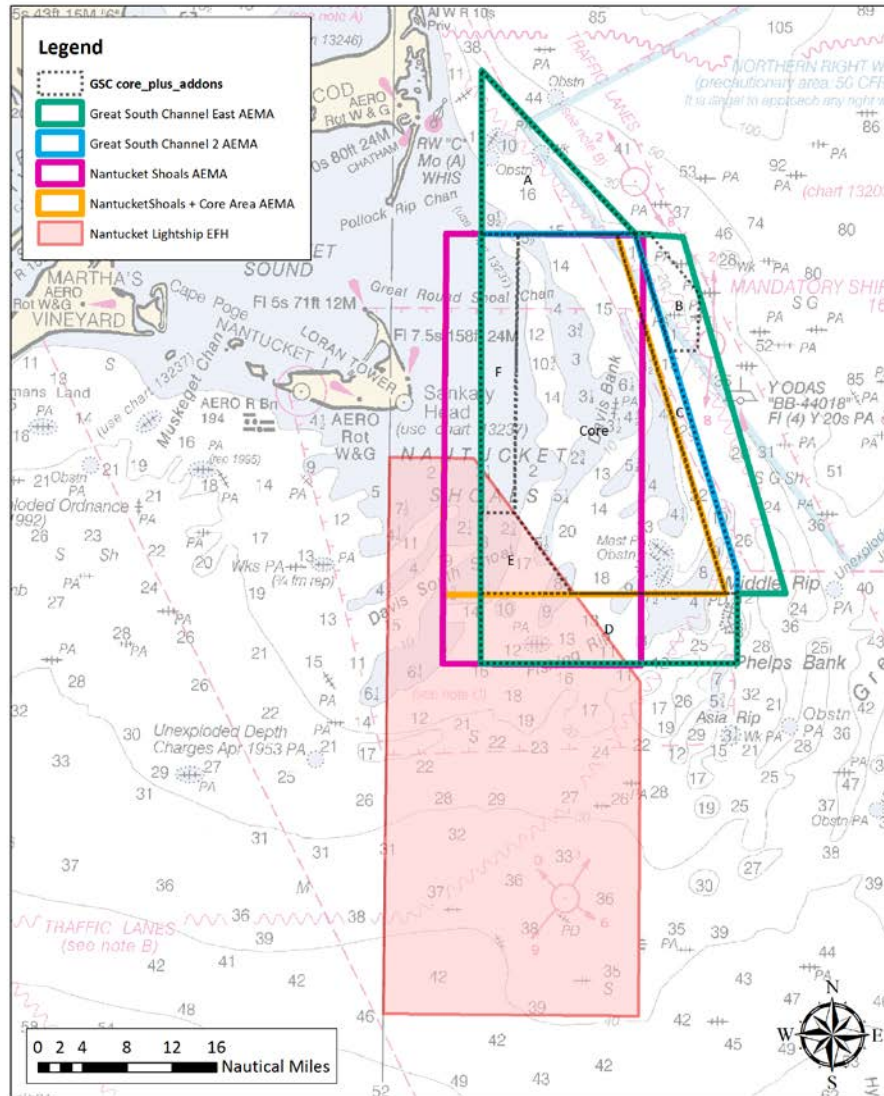
Includes an adverse effects area in the Great South Channel region (east) and the Cox Ledge adverse effects areas (west). The GSC area would either be closed to mobile bottom tending gears, or would have gear restrictions on trawls. These could include a prohibition on ground cables with bridle lengths capped at 30 fathoms, or a requirement to raise ground cables off the seabed with elevating disks at 5 fathom spacing with a cap on ground cable length of 45 fathoms. Measurements are per side. Cox Ledge would be closed to mobile bottom tending gears.

The Committees recommended considering an exemption for surfclam/ocean quahog hydraulic dredges in the case of a MBTG closure.

The boundaries of this particular GSC/Nantucket Shoals area were identified by the Committee on 6/11. They include a western boundary of 69° 50' and an eastern boundary that runs to the edge of the original core area.



Great South Channel/Nantucket Shoals/Southern New England
Comparative map



Not a management alternative.

A figure showing the overlap between various areas in the Great South Channel/Nantucket Shoals region. The dotted lines show the 'core' area developed plus the 'add-on' boxes.