Discussion Questions:

1. Is the draft map representative of the life stage's distribution throughout the year? Are there any areas missing? Are there any areas that should be removed?
2. Does the text capture other notable life history traits that influence habitat use, especially spawning information or seasonal differences/migrations?
3. Does the text capture preferred habitat characteristics and types? For life stages that occur on the continental slope, does the maximum continental slope depth[1] seem reasonable?
4. Are there other individuals, datasets, or sources of information we should engage with?

[1]*Continental slope areas are added manually using these slope depths because the fishery-independent trawl surveys rarely sample beyond 400 m depth. These slope depths are based on literature and verified via outreach.*

Legend:

[[*yellow-highlighted, italicized text*]] = planned changes

Cyan-highlighted text = Text from No-action designation (Omnibus Habitat Amendment 2) to confirm via feedback and literature review.

Green-highlighted text = Map numbers to be updated as live cross-reference links in Framework.

4.2.1 Acadian redfish - DRAFT

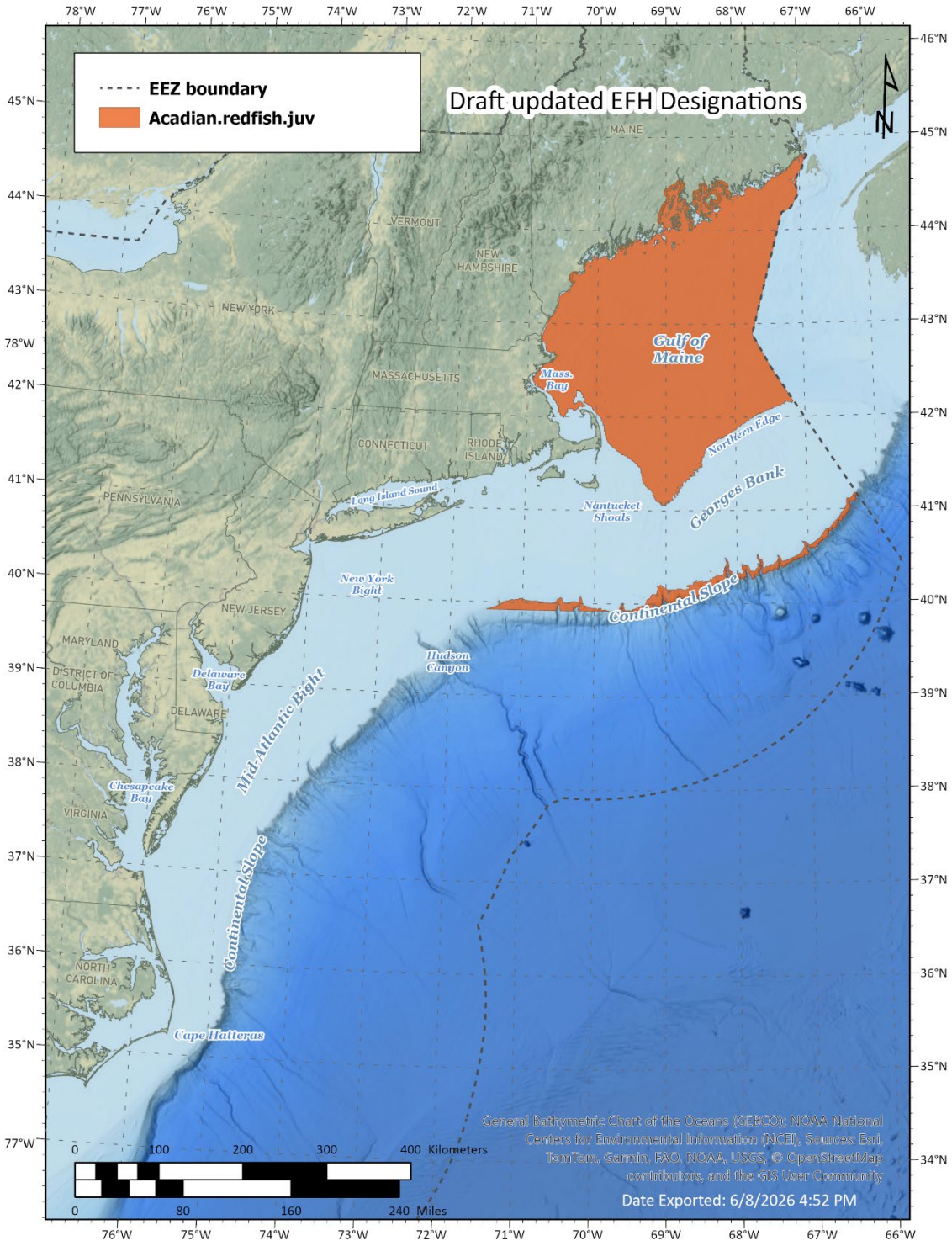
Essential fish habitat for Acadian redfish (*Sebastes fasciatus*) is designated anywhere within the geographic areas that are shown on the following maps and meets the conditions described below. There is no egg designation for redfish because the species is ovoviviparous, meaning that live young hatch from eggs brooded internally.

Larvae: [[*Pending review of EcoMon ichthyoplankton data*]]

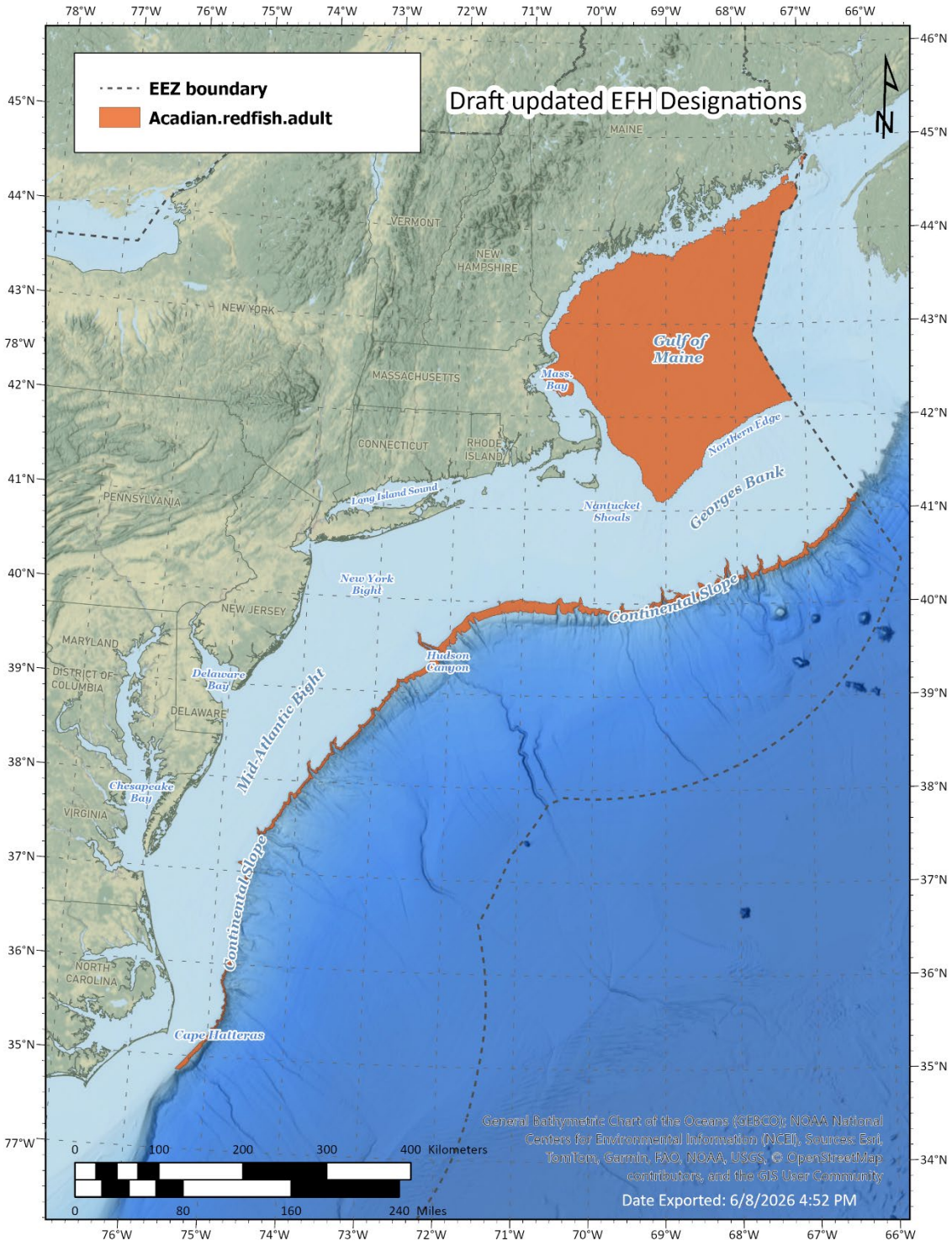
Juveniles: Essential fish habitat (EFH) for juvenile Acadian redfish (TL < 22 cm) consists of the principal habitat area and includes subtidal coastal and offshore benthic habitats in the Gulf of Maine as well as continental slope habitats on the southern edge of Georges Bank (Map 1). Within the principal habitat area, juvenile EFH ranges from 30-244 meters depth, but juveniles most commonly occur between 74-209 meters depth (Appendix B, Table 14). On the continental slope, they can be found to maximum depth of 600 meters (Appendix B, Table 15). Juvenile EFH also includes bottom temperatures between 3-12°C and marine waters between 31-36 ppt (Appendix B, Table 14). Bottom habitats of complex rocky reef substrates with associated structure-forming epifauna (e.g., sponges, corals), and soft sediments with cerianthid anemones are EFH for juvenile redfish. Young-of-the-year juveniles are found on boulder reefs, while older juveniles are found in dense cerianthid habitats. Juvenile redfish expand their distribution to adjacent gravel habitats when local abundance on reefs is high. They do not use unstructured mud habitat. Areas of hard bottom in the deep basins are also good habitat for juveniles.

Adults: Essential fish habitat (EFH) for adult Acadian redfish (TL ≥ 22 cm) consists of the principal habitat area and includes offshore benthic habitats in the Gulf of Maine and on the continental slope as far south as Hudson Canyon (Map 2). Within the principal habitat area, adult EFH ranges from 48-355 meters depth, but adults most commonly occur between 106-230 meters depth (Appendix B, Table 14). On the continental slope, they can be found to maximum depth of 600 meters (Appendix B, Table 15). Adult EFH also includes bottom temperatures between 3-11°C and marine waters between 32-36 ppt (Appendix B, Table 14). EFH for adult Acadian redfish occurs on finer grained bottom sediments and variable deposits of clays, silts, gravel, and boulders with associated structure-forming epifauna (e.g. corals, sponges, cerianthid anemones, sea pens).

Map 1. Acadian redfish juvenile EFH draft updated designation.



Map 2. Acadian redfish adult EFH draft updated designation.



Discussion Questions:

1. Is the draft map representative of the life stage's distribution throughout the year? Are there any areas missing? Are there any areas that should be removed?
2. Does the text capture other notable life history traits that influence habitat use, especially spawning information or seasonal differences/migrations?
3. Does the text capture preferred habitat characteristics and types? For life stages that occur on the continental slope, does the maximum continental slope depth[1] seem reasonable?
4. Are there other individuals, datasets, or sources of information we should engage with?

[1]*Continental slope areas are added manually using these slope depths because the fishery-independent trawl surveys rarely sample beyond 400 m depth. These slope depths are based on literature and verified via outreach.*

Legend:

[[*yellow-highlighted, italicized text*]] = planned changes

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Green-highlighted text = Map numbers to be updated as live cross-reference links in Framework.

4.2.2 American plaice - DRAFT

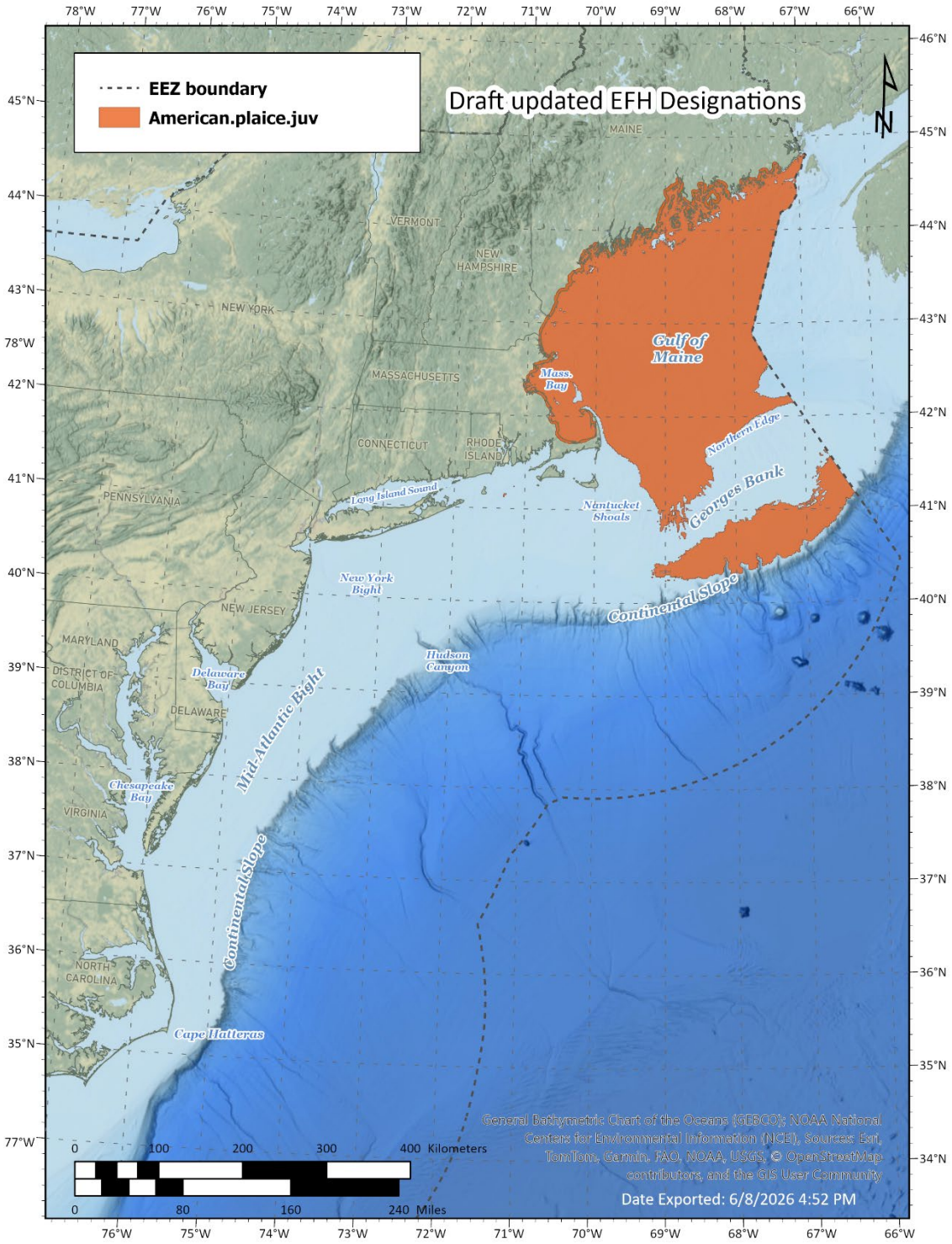
Essential fish habitat for American plaice (*Hippoglossoides platessoides*) is designated anywhere within the geographic areas that are shown on the following maps and meets the conditions described below.

Eggs / Larvae: [[*Pending review of EcoMon ichthyoplankton data*]]

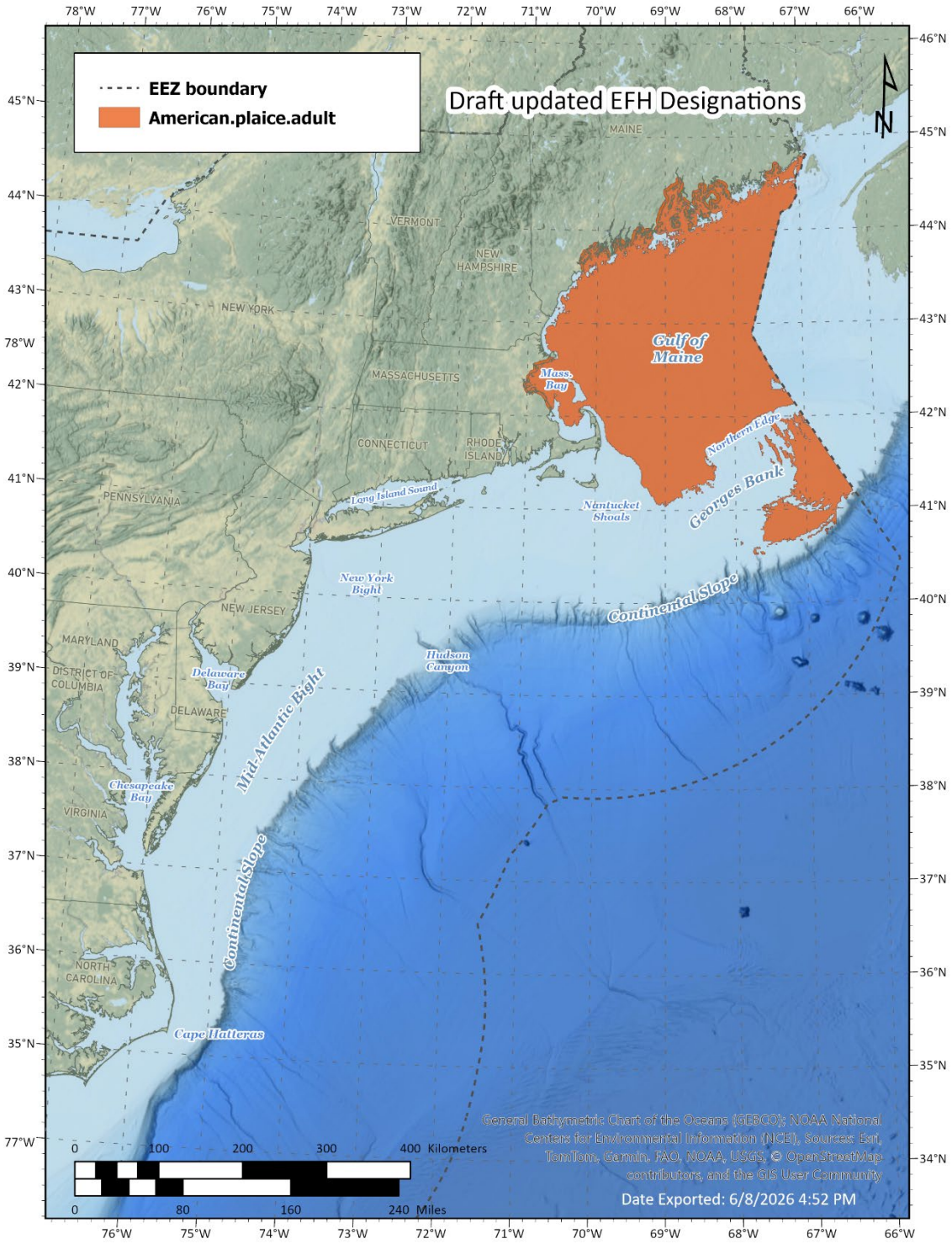
Juveniles: Essential fish habitat (EFH) for juvenile American plaice (TL < 24 cm) consists of the principal habitat area and includes subtidal benthic habitats in the Gulf of Maine and on the western and southern portions of Georges Bank (Map 3). Inshore juvenile EFH typically includes marine zones of bays and estuaries; specific portions of these inshore areas can be identified from Map 3. Within the principal habitat area, juvenile EFH ranges from 23-273 meters depth, but juveniles most commonly occur between 48-179 meters depth (Appendix B, Table 14). Juvenile EFH also includes bottom temperatures between 3-12°C and marine waters between 31-35 ppt (Appendix B, Table 14). EFH for juvenile American plaice consists of soft bottom substrates (mud and sand), but they are also found on gravel and sandy substrates bordering bedrock.

Adults: Essential fish habitat (EFH) for adult American plaice (TL ≥ 24 cm) consists of the principal habitat area and includes subtidal benthic habitats in the Gulf of Maine and on the western and eastern portions of Georges Bank (Map 4). Inshore adult EFH typically includes marine zones of bays and estuaries; specific portions of these inshore areas can be identified from Map 4. Within the principal habitat area, adult EFH ranges from 26-313 meters depth, but adults most commonly occur between 53-200 meters depth (Appendix B, Table 14). Adult EFH also includes bottom temperatures between 3-12°C and marine waters between 31-35 ppt (Appendix B, Table 14). EFH for adult American plaice consists of soft bottom substrates (mud and sand), but they are also found on gravel and sandy substrates bordering bedrock.

Map 3. American plaice juvenile EFH draft updated designation.



Map 4. American plaice adult EFH draft updated designation.



Discussion Questions:

5. Is the draft map representative of the life stage's distribution throughout the year? Are there any areas missing? Are there any areas that should be removed?
6. Does the text capture other notable life history traits that influence habitat use, especially spawning information or seasonal differences/migrations?
7. Does the text capture preferred habitat characteristics and types? For life stages that occur on the continental slope, does the maximum continental slope depth[1] seem reasonable?
8. Are there other individuals, datasets, or sources of information we should engage with?

[1]*Continental slope areas are added manually using these slope depths because the fishery-independent trawl surveys rarely sample beyond 400 m depth. These slope depths are based on literature and verified via outreach.*

Legend:

[[*yellow-highlighted, italicized text*]] = planned changes

Cyan-highlighted text = Text from No-action designation (Omnibus Habitat Amendment 2) to confirm via feedback and literature review.

Green-highlighted text = Map numbers to be updated as live cross-reference links in Framework.

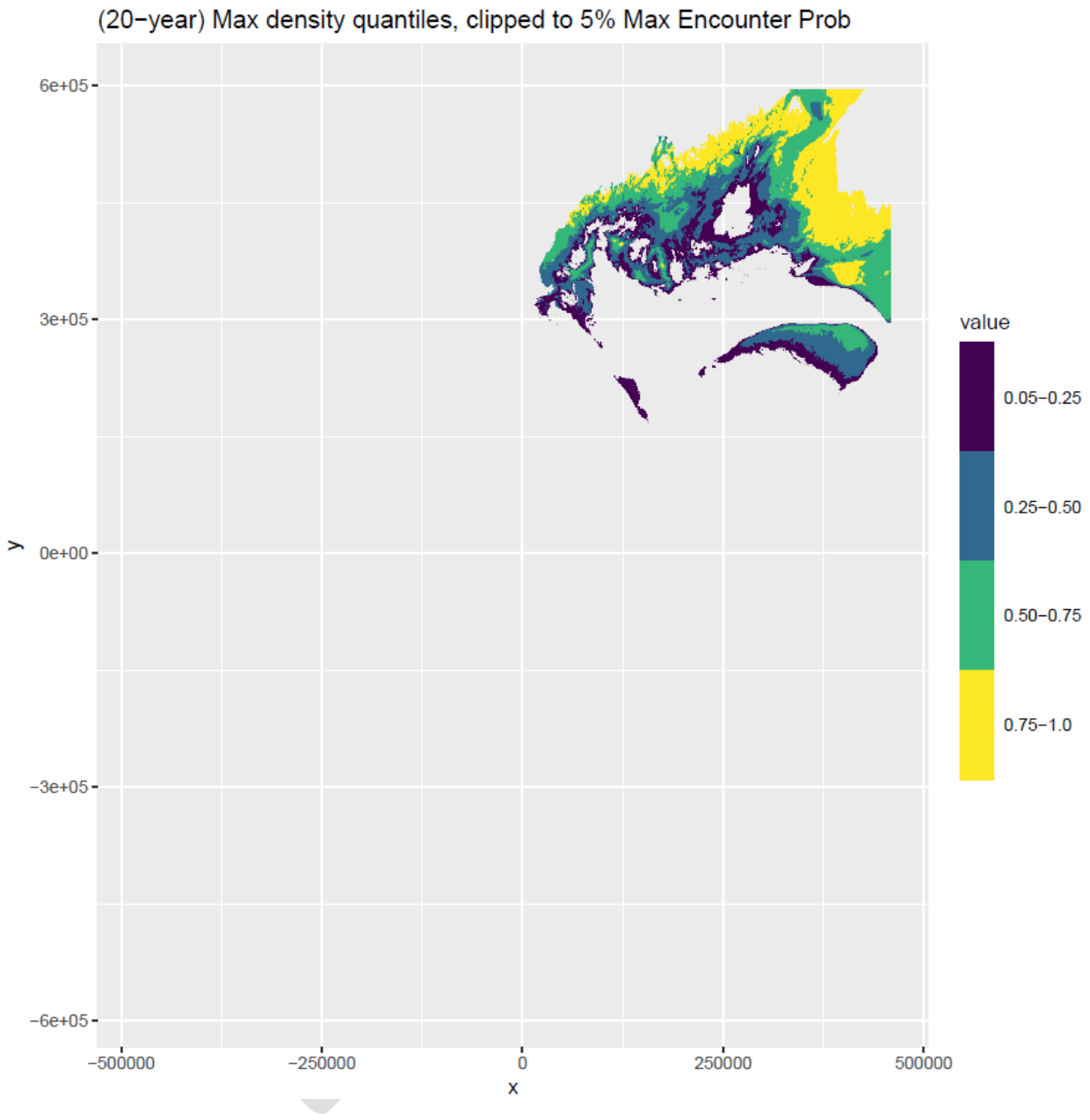
4.2.3 Atlantic halibut - DRAFT

Essential fish habitat for Atlantic halibut (*Hippoglossus hippoglossus*) is designated anywhere within the geographic areas that are shown on the following maps and meets the conditions described below.

Eggs / Larvae: [[*Pending review of EcoMon ichthyoplankton data*]]

Juveniles and Adults: Essential fish habitat for juvenile (TL < 75 cm) and adult (TL ≥ 75 cm) Atlantic halibut consists of the principal habitat area and includes subtidal and coastal offshore benthic habitats in the Gulf of Maine and on Georges Bank (Map X). Nearshore juvenile and adult EFH typically includes marine zones of coastal areas, which can be identified from Map X. Within the principal habitat area, juvenile EFH ranges from 13-214 meters depth, but juveniles most commonly occur between 42-125 meters depth (Appendix B, Table 14). On the continental slope, they can be found to a maximum depth of 900 meters (Appendix B, Table 15). Juvenile EFH also includes bottom temperatures between 3-13°C and marine waters between 31-35 ppt (Appendix B, Table 14). Adults occupy similar conditions but are typically found deeper. Adult EFH ranges from 30-255 meters depth, but adults most commonly occur between 70-175 (Appendix B, Table 14). Like juveniles, adults can be found on the continental slope to 900 meters (Appendix B, Table 15). Adult EFH also includes bottom temperatures between 3-12°C and marine waters between 31-35 ppt (Appendix B, Table 14). Generally, EFH for Atlantic halibut consists of sand, gravel, or clay substrates. Juvenile nursery grounds are in waters 20-60 meters deep in apparently well-defined coastal areas with sandy bottoms. Spawning generally occurs over rough or rocky bottom on offshore banks and on the continental slope, but not in the Gulf of Maine.

Map 5. Atlantic halibut pooled juvenile and adult EFH draft updated designation. *This max density quantile map is a placeholder pending inshore areas analysis; draft EFH map will resemble the top 75% quantiles and encompass the yellow, green, and turquoise areas.*



Discussion Questions:

9. Is the draft map representative of the life stage's distribution throughout the year? Are there any areas missing? Are there any areas that should be removed?
10. Does the text capture other notable life history traits that influence habitat use, especially spawning information or seasonal differences/migrations?
11. Does the text capture preferred habitat characteristics and types? For life stages that occur on the continental slope, does the maximum continental slope depth[1] seem reasonable?
12. Are there other individuals, datasets, or sources of information we should engage with?

[1]*Continental slope areas are added manually using these slope depths because the fishery-independent trawl surveys rarely sample beyond 400 m depth. These slope depths are based on literature and verified via outreach.*

Legend:

[[*yellow-highlighted, italicized text*]] = planned changes

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Green-highlighted text = Map numbers to be updated as live cross-reference links in Framework.

4.2.4 Atlantic sea scallop - DRAFT

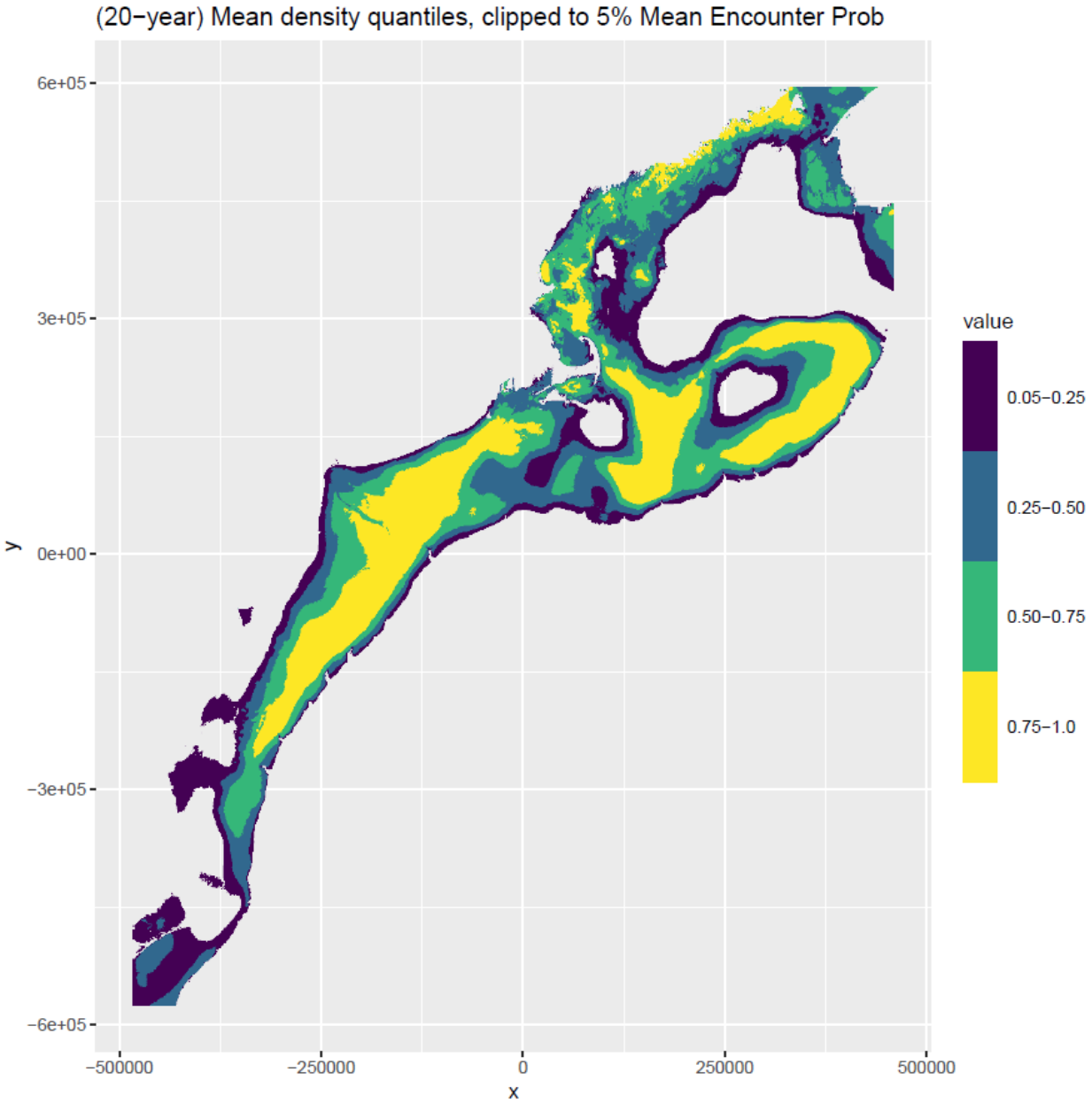
Essential fish habitat for Atlantic sea scallop (*Placopecten magellanicus*) is designated anywhere within the geographic areas that are shown on the following map and meets the conditions described below.

Eggs / Larvae: [[*Pending review of available data / information sources*]]

Juveniles: [[*Pending SDM outputs*]]

Adults: Essential fish habitat (EFH) for adult Atlantic sea scallop (> 75 mm) consists of the principal habitat area and includes subtidal and coastal offshore benthic habitats in the Gulf of Maine, on Georges Bank, and in the Mid-Atlantic region as far south as Cape Hatteras. Inshore adult EFH typically includes the marine zones of bays and estuaries; specific portions of these inshore areas can be identified from Map X. Within the principal habitat area, adult EFH ranges from 18 to 110 meters depth, but they are also found in shallower water and as deep as 180 meters in the Gulf of Maine. In the Mid-Atlantic, they are found primarily between 45-75 meters and on Georges Bank they are more abundant between 70-90 meters. Adult EFH consists of sand and gravel substrates, where scallops often form aggregations called beds. These beds may be sporadic or essentially permanent, depending on how suitable the habitat conditions are (temperature, food availability, and substrate) and whether oceanographic features (fronts, currents) keep larval stages in the vicinity of the spawning population. Bottom currents stronger than 25 cm/sec (half a knot) inhibit feeding. Growth of adult scallops is optimal between 10 and 15°C and they prefer full strength seawater.

Map 6. Atlantic sea scallop adult EFH draft updated designation. ***This mean density quantile map is a placeholder pending inshore areas analysis; draft EFH map will resemble the top 75% quantiles and encompass the yellow, green, and turquoise areas. A separate map for juveniles is in development.***



Discussion Questions:

13. Is the draft map representative of the life stage's distribution throughout the year? Are there any areas missing? Are there any areas that should be removed?
14. Does the text capture other notable life history traits that influence habitat use, especially spawning information or seasonal differences/migrations?
15. Does the text capture preferred habitat characteristics and types? For life stages that occur on the continental slope, does the maximum continental slope depth[1] seem reasonable?
16. Are there other individuals, datasets, or sources of information we should engage with?

[1]*Continental slope areas are added manually using these slope depths because the fishery-independent trawl surveys rarely sample beyond 400 m depth. These slope depths are based on literature and verified via outreach.*

Legend:

[[*yellow-highlighted, italicized text*]] = planned changes

Cyan-highlighted text = Text from No-action designation (Omnibus Habitat Amendment 2) to confirm via feedback and literature review.

4.2.5 Atlantic wolffish

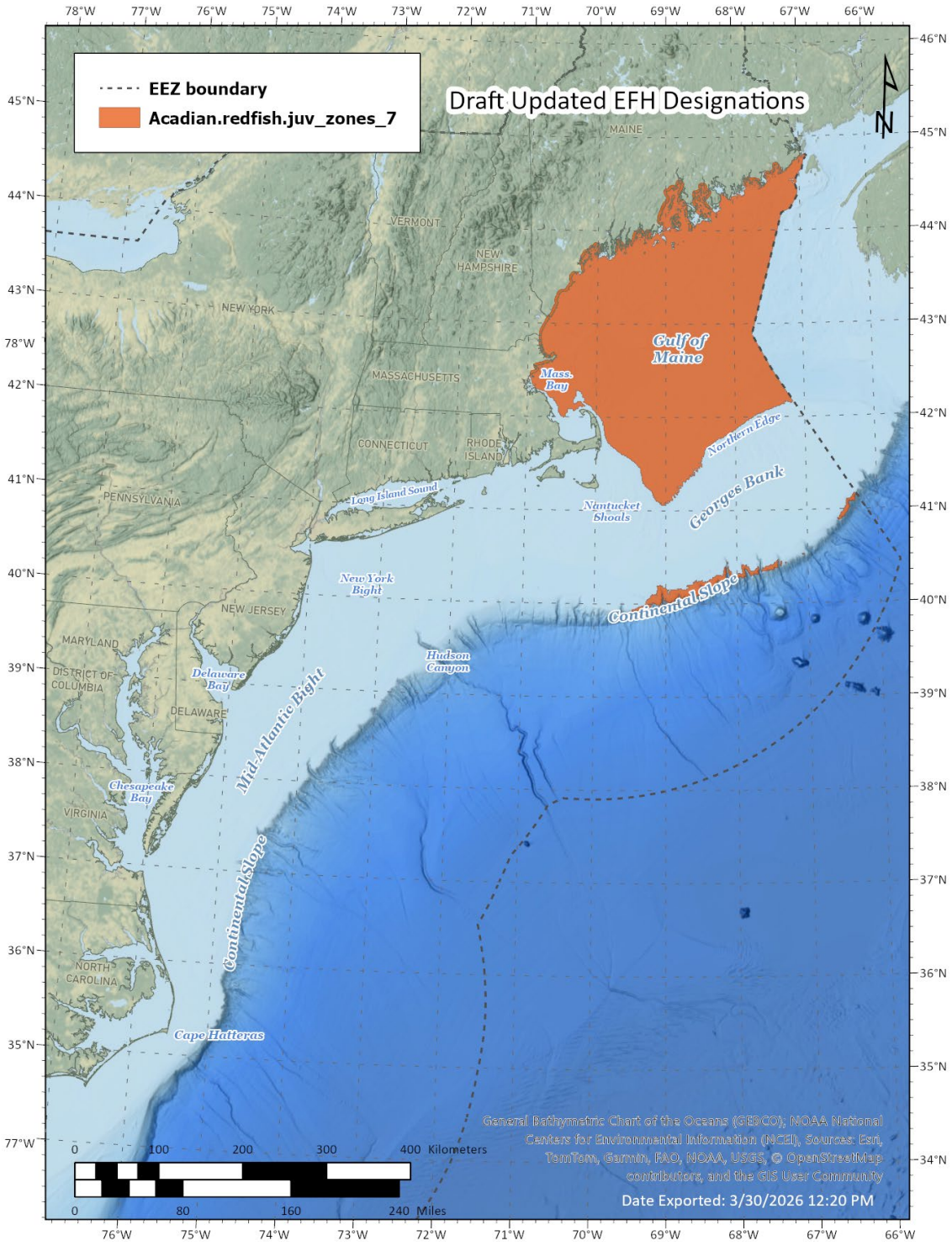
Essential fish habitat for Atlantic wolffish (*Anharichus lupus*) is designated anywhere within the geographic areas that are shown on the following map and meets the conditions described below.

Eggs / Larvae: [[*Pending review of EcoMon ichthyoplankton data*]]

Juveniles: [[*Pending SDM outputs*]]

Adults: [[*Pending SDM outputs*]]

Map 7. Atlantic wolffish EFH draft updated designation (all life stages). [[placeholder]]



Discussion Questions:

17. Is the draft map representative of the life stage's distribution throughout the year? Are there any areas missing? Are there any areas that should be removed?
18. Does the text capture other notable life history traits that influence habitat use, especially spawning information or seasonal differences/migrations?
19. Does the text capture preferred habitat characteristics and types? For life stages that occur on the continental slope, does the maximum continental slope depth[1] seem reasonable?
20. Are there other individuals, datasets, or sources of information we should engage with?

[1]*Continental slope areas are added manually using these slope depths because the fishery-independent trawl surveys rarely sample beyond 400 m depth. These slope depths are based on literature and verified via outreach.*

Legend:

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4.2.6 Haddock - DRAFT

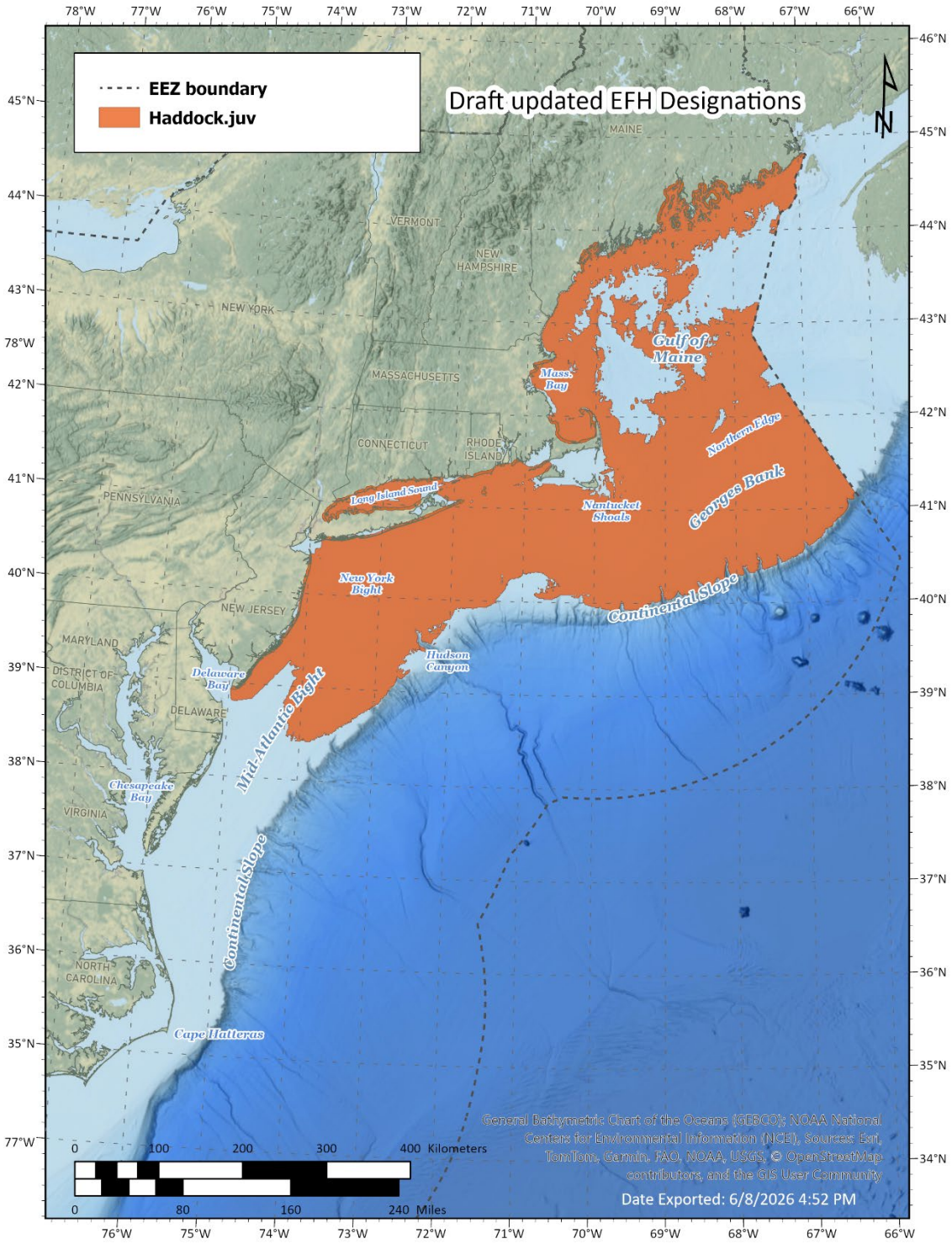
Essential fish habitat for haddock (*Melanogrammus aeglefinus*) is designated anywhere within the geographic areas that are shown on the following maps and meets the conditions described below.

Eggs / Larvae: [[*Pending review of EcoMon ichthyoplankton data*]]

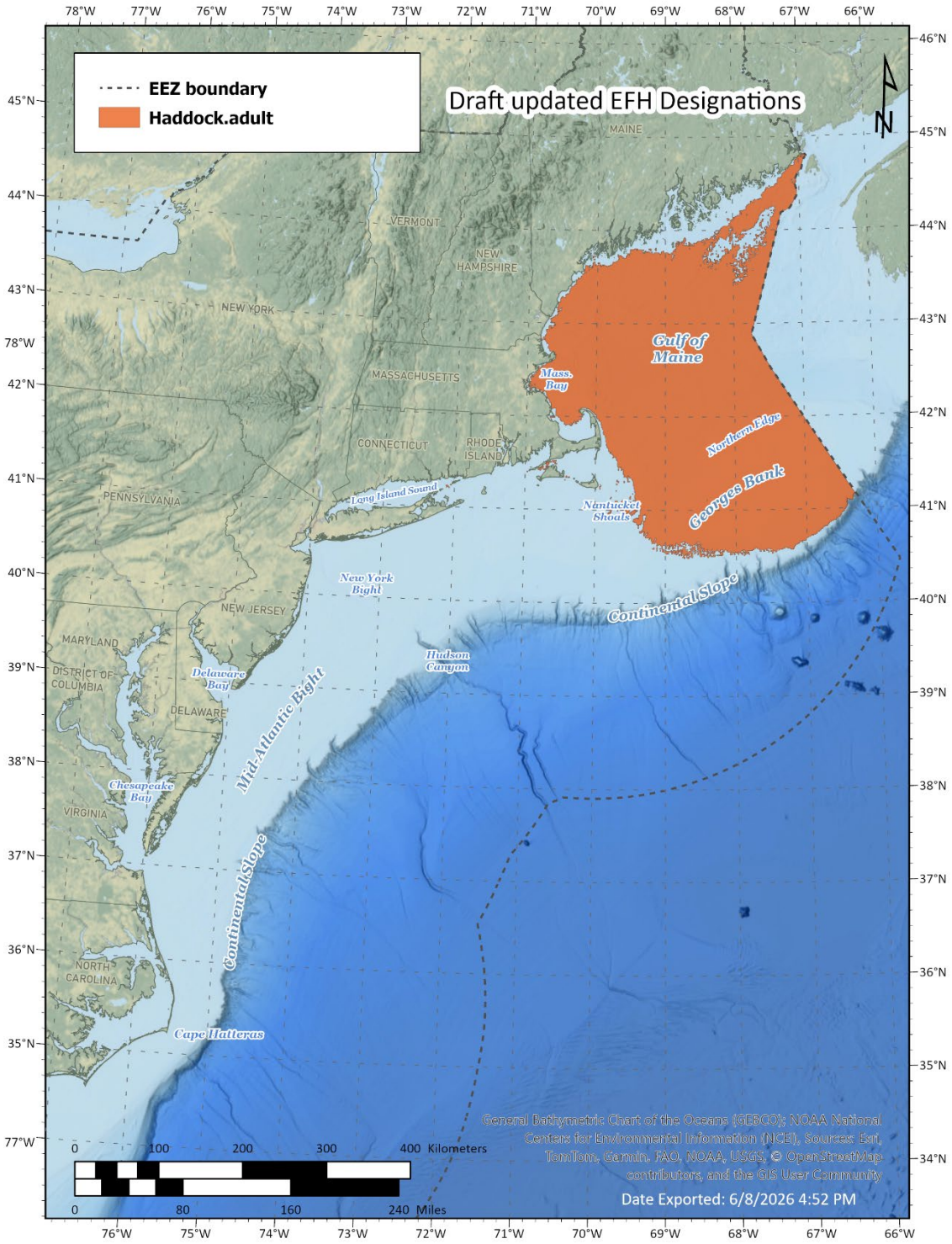
Juveniles: Essential fish habitat (EFH) for juvenile haddock (TL < 32 cm) consists of the principal habitat area and includes coastal and subtidal benthic habitats in the Gulf of Maine, on Georges Bank, and in coastal and continental shelf waters in southern New England including the Long Island Sound, and in the Mid-Atlantic region as far south as Delaware (Map X). Inshore juvenile EFH typically includes the marine zones of bays and estuaries; specific portions of these inshore areas can be identified from Map X. Within the principal habitat area, juvenile EFH ranges from 14-271 meters depth, but juveniles most commonly occur between 44-159 meters depth (Appendix B, Table 14). Juvenile EFH also includes bottom temperatures between 3-15°C and marine waters between 31-36 ppt (Appendix B, Table 14). EFH for juvenile haddock occurs on hard sand (particularly smooth patches between rocks), mixed sand and shell, gravelly sand, and gravel. Young-of-the-year juveniles settle on sand and gravel on Georges Bank, but are found predominantly on gravel pavement areas within a few months after settlement. As they grow, they disperse over a greater variety of substrate types on the bank. Young-of-the-year haddock do not inhabit shallow, inshore habitats.

Adults: Essential fish habitat (EFH) for adult haddock (TL ≥ 32 cm) consists of the principal habitat area and includes subtidal benthic habitats in the Gulf of Maine, including coastal waters in Massachusetts Bay, and on Georges Bank (Map X). Nearshore adult EFH typically includes the marine zones of coastal areas, which can be identified from Map X. Within the principal habitat area, adult EFH ranges from 32-338 meters depth, but adults most commonly occur between 62-205 meters depth (Appendix B, Table 14). Adult EFH also includes bottom temperatures between 3-13°C and marine waters between 32-36 ppt (Appendix B, Table 14). EFH for adult haddock occurs on hard sand (particularly smooth patches between rocks), mixed sand and shell, gravelly sand, and gravel substrates. They also are found adjacent to boulders and cobbles along the margins of rocky reefs in the Gulf of Maine.

Map 8. Haddock juvenile EFH draft updated designation.



Map 9. Haddock adult EFH draft updated designation.



Discussion Questions:

21. Is the draft map representative of the life stage's distribution throughout the year? Are there any areas missing? Are there any areas that should be removed?
22. Does the text capture other notable life history traits that influence habitat use, especially spawning information or seasonal differences/migrations?
23. Does the text capture preferred habitat characteristics and types? For life stages that occur on the continental slope, does the maximum continental slope depth[1] seem reasonable?
24. Are there other individuals, datasets, or sources of information we should engage with?

[1]*Continental slope areas are added manually using these slope depths because the fishery-independent trawl surveys rarely sample beyond 400 m depth. These slope depths are based on literature and verified via outreach.*

Legend:

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Green-highlighted text = Map numbers to be updated as live cross-reference links in Framework.

4.2.7 Ocean pout - DRAFT

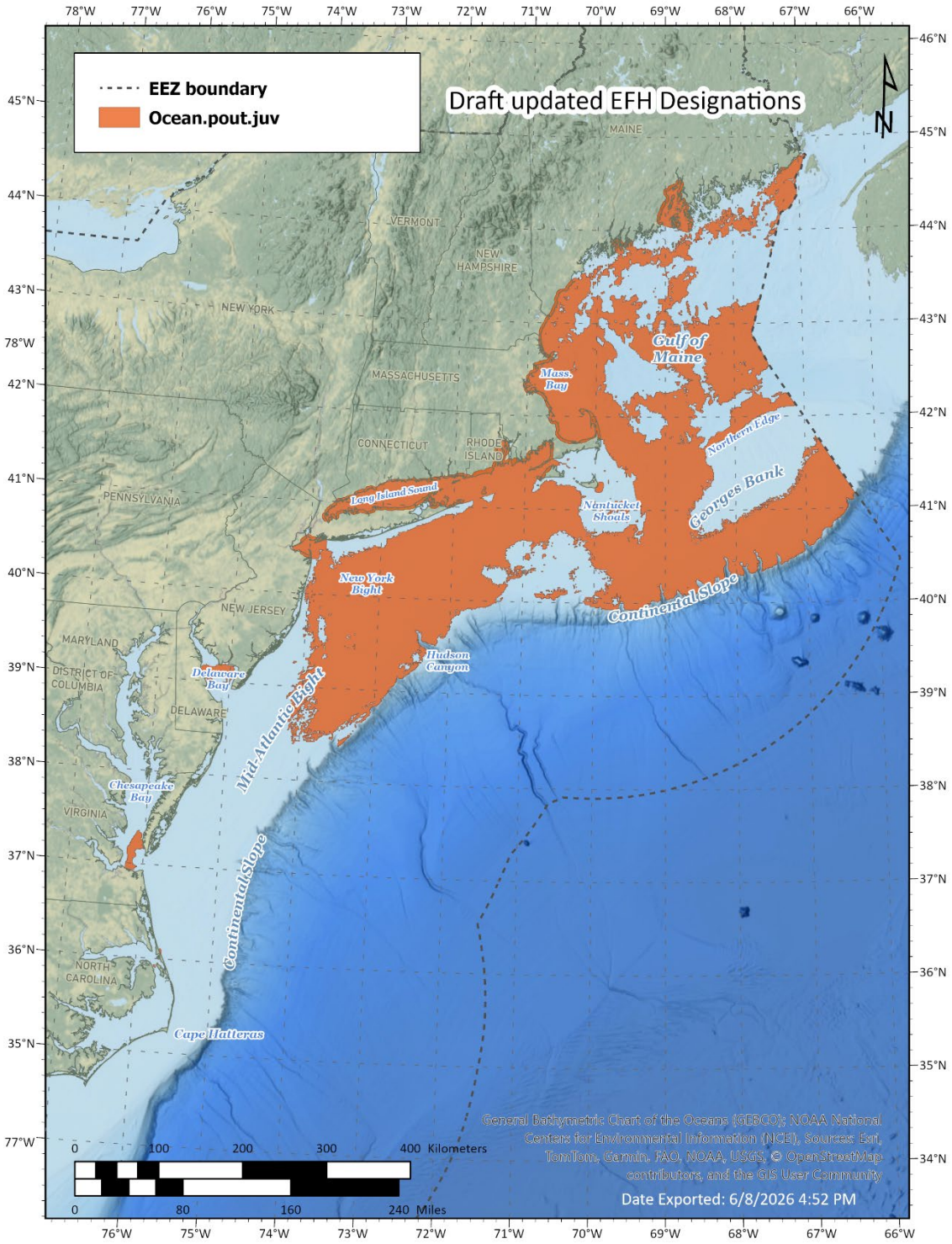
Essential fish habitat for ocean pout (*Macrozoarces americanus*) is designated anywhere within the geographic areas that are shown on the following maps and meets the conditions described below.

Eggs / Larvae: [[*Pending review of EcoMon ichthyoplankton data*]]

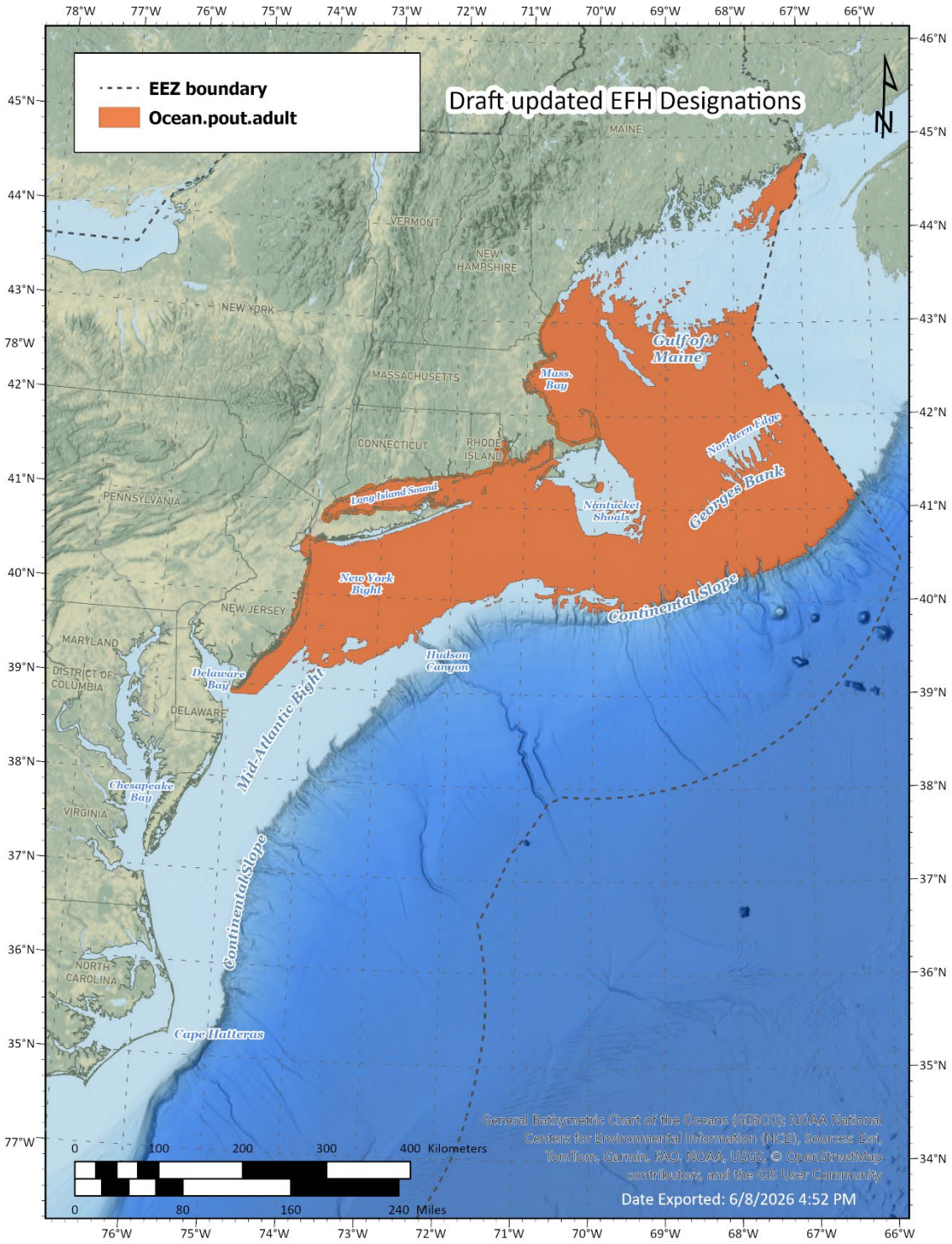
Juveniles: Essential fish habitat (EFH) for juvenile ocean pout (TL < 29 cm) consists of the principal habitat area and includes intertidal and subtidal benthic habitats in the Gulf of Maine, on the western and southern portion of Georges Bank, and in coastal and continental shelf waters in southern New England extending into the Mid-Atlantic region as far south as Delaware. Juvenile EFH is relatively patchy in the Gulf of Maine (Map X). Inshore juvenile EFH typically includes the polyhaline and marine zones of bays and estuaries; specific portions of these inshore areas can be identified from Map X. Within the principal habitat area, juvenile EFH ranges from intertidal areas out to 243 meters depth, but juveniles most commonly occur between 30-144 meters depth (Appendix B, Table 14). Juvenile EFH also includes bottom temperatures between 3-14°C and polyhaline and marine waters between 30-36 ppt (Appendix B, Table 14). EFH for juvenile ocean pout occurs on a wide variety of substrates, including shells, rocks, algae, soft sediments, sand, and gravel.

Adults: Essential fish habitat (EFH) for adult ocean pout (TL ≥ 29 cm) consists of the principal habitat area and includes subtidal benthic habitats in the Gulf of Maine, on Georges Bank, and in coastal and continental shelf waters in southern New England and the Mid-Atlantic region as far south as the mouth of Delaware Bay (Map X). Inshore adult EFH typically includes the polyhaline and marine zones of bays and estuaries; specific portions of these inshore areas can be identified from Map X. Within the principal habitat area, adult EFH ranges from 8-239 meters depth, but adults most commonly occur between 23-115 meters depth (Appendix B, Table 14). Adult EFH also includes bottom temperatures between 3-13°C and polyhaline and marine waters between 29-36 ppt (Appendix B, Table 14). EFH for adult ocean pout includes mud and sand, particularly in association with structure-forming habitat types, i.e. shells, gravel, or boulders. In softer sediments, they burrow tail-first and leave a depression on the sediment surface. Ocean pout congregate in rocky areas prior to spawning and frequently occupy nesting holes under rocks or in crevices in depths less than 100 meters.

Map 10. Ocean pout juvenile EFH draft updated designation.



Map 11. Ocean pout adult EFH draft updated designation.



Discussion Questions:

25. Is the draft map representative of the life stage's distribution throughout the year? Are there any areas missing? Are there any areas that should be removed?
26. Does the text capture other notable life history traits that influence habitat use, especially spawning information or seasonal differences/migrations?
27. Does the text capture preferred habitat characteristics and types? For life stages that occur on the continental slope, does the maximum continental slope depth[1] seem reasonable?
28. Are there other individuals, datasets, or sources of information we should engage with?

[1]*Continental slope areas are added manually using these slope depths because the fishery-independent trawl surveys rarely sample beyond 400 m depth. These slope depths are based on literature and verified via outreach.*

Legend:

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4.2.8 Offshore hake

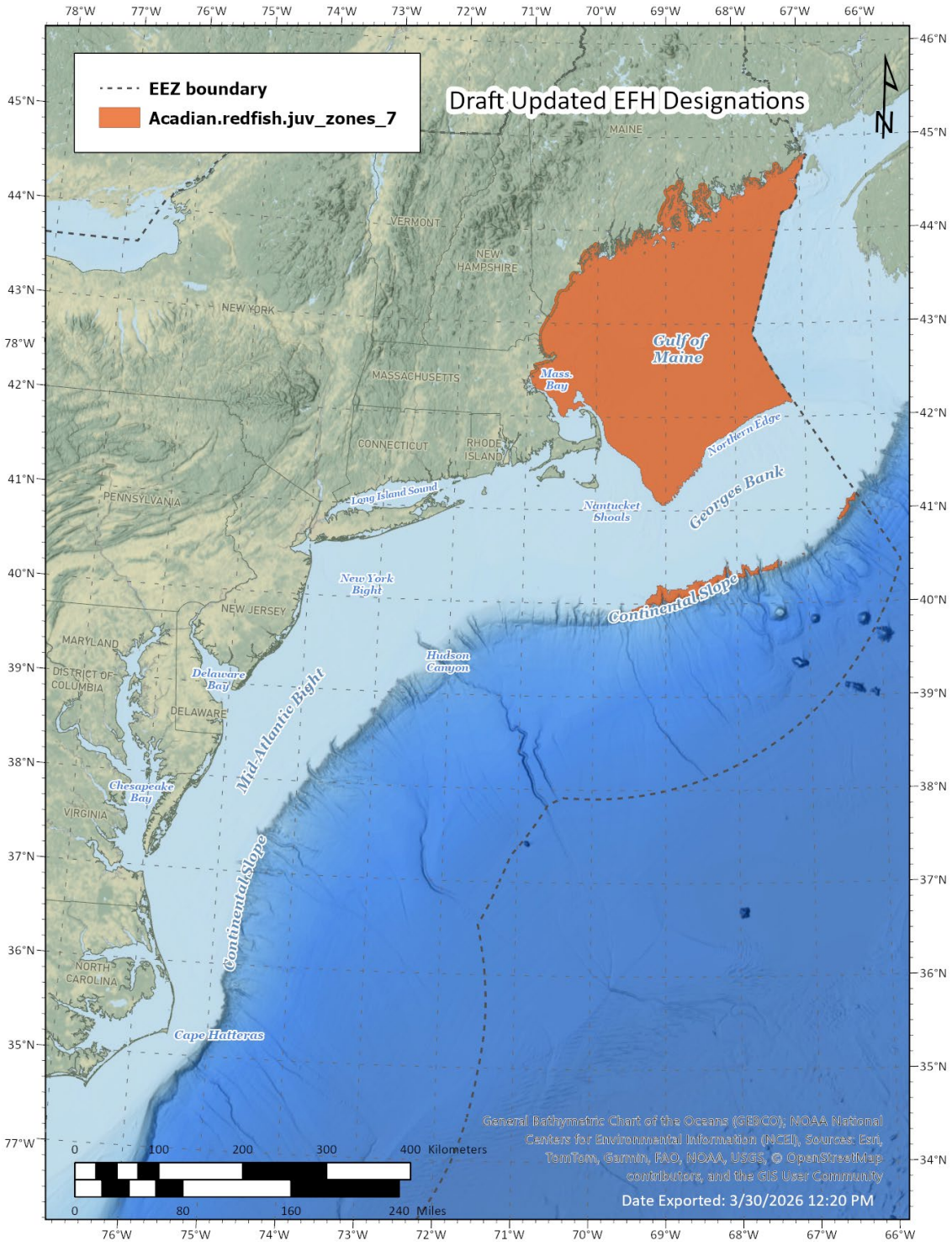
Essential fish habitat for offshore hake (*Merluccius albidus*) is designated anywhere within the geographic areas that are shown on the following map and meets the conditions described below.

Eggs / Larvae: [[*Pending review of EcoMon ichthyoplankton data*]]

Juveniles: [[*Pending SDM outputs*]] To 750 m on continental slope.

Adults: [[*Pending SDM outputs*]] To 750 m on continental slope.

Map 12. Offshore hake EFH draft updated designation (all life stages). [[placeholder]]



Discussion Questions:

29. Is the draft map representative of the life stage's distribution throughout the year? Are there any areas missing? Are there any areas that should be removed?
30. Does the text capture other notable life history traits that influence habitat use, especially spawning information or seasonal differences/migrations?
31. Does the text capture preferred habitat characteristics and types? For life stages that occur on the continental slope, does the maximum continental slope depth[1] seem reasonable?
32. Are there other individuals, datasets, or sources of information we should engage with?

[1]*Continental slope areas are added manually using these slope depths because the fishery-independent trawl surveys rarely sample beyond 400 m depth. These slope depths are based on literature and verified via outreach.*

Legend:

[[*yellow-highlighted, italicized text*]] = planned changes

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Green-highlighted text = Map numbers to be updated as live cross-reference links in Framework.

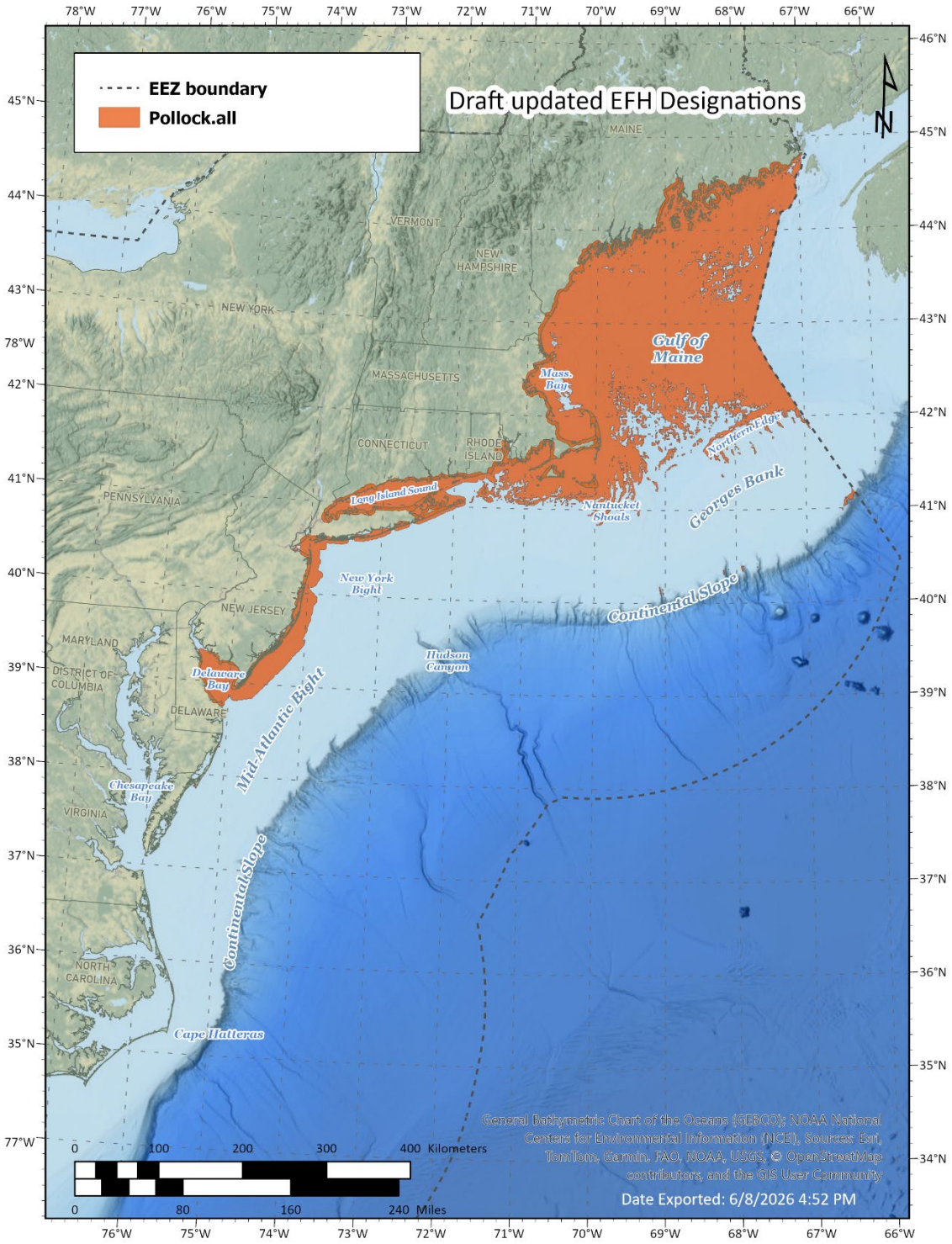
4.2.9 Pollock - DRAFT

Essential fish habitat for pollock (*Pollachius virens*) is designated anywhere within the geographic areas that are shown on the following map and meets the conditions described below. Separate juvenile and adult EFH maps are in development for pollock.

Eggs / Larvae: [[*Pending review of EcoMon ichthyoplankton data*]]

Juveniles and Adults: Essential fish habitat (EFH) for juvenile (TL < 39 cm) and adult (TL ≥ 39 cm) pollock consists of the principal habitat area and includes inshore and offshore pelagic habitats in the Gulf of Maine, in coastal waters in southern New England, and along the New Jersey coast as far south as the mouth of Delaware Bay (Map X). Inshore juvenile EFH typically includes the polyhaline and marine zones of bays and estuaries, whereas adult EFH includes just the marine zones of nearshore areas; specific portions of these areas can be identified from Map X. Within the principal habitat area, juvenile EFH ranges from intertidal areas out to 253 meters depth, but juveniles most commonly occur between 17-166 meters depth (Appendix B, Table 14). Juvenile EFH also includes bottom temperatures between 3-15°C and polyhaline and marine waters between 29-35 ppt (Appendix B, Table 14). Adult EFH ranges from 26-319 meters depth, but adults most commonly occur between 72-221 meters depth (Appendix B, Table 14). Adult EFH also includes bottom temperatures between 4-11°C and marine waters between 32-36 ppt (Appendix B, Table 14). EFH for juvenile pollock consists of rocky bottom habitats with attached macroalgae (rockweed and kelp) that provide refuge from predators. Shallow water eelgrass beds are also essential habitats for young-of-the-year pollock in the Gulf of Maine. Older juveniles move into deeper water habitats also occupied by adults. Adult EFH consists of the tops and edges of offshore banks and shoals (e.g., Cashes Ledge) with mixed rocky substrates, often with attached macro algae.

Map 13. Pollock combined juvenile and adult EFH draft updated designation. Note: Pollock is currently pooled, but separate juvenile and adult maps are in development.



Discussion Questions:

33. Is the draft map representative of the life stage's distribution throughout the year? Are there any areas missing? Are there any areas that should be removed?
34. Does the text capture other notable life history traits that influence habitat use, especially spawning information or seasonal differences/migrations?
35. Does the text capture preferred habitat characteristics and types? For life stages that occur on the continental slope, does the maximum continental slope depth[1] seem reasonable?
36. Are there other individuals, datasets, or sources of information we should engage with?

[1]*Continental slope areas are added manually using these slope depths because the fishery-independent trawl surveys rarely sample beyond 400 m depth. These slope depths are based on literature and verified via outreach.*

Legend:

[[*yellow-highlighted, italicized text*]] = planned changes

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Green-highlighted text = Map numbers to be updated as live cross-reference links in Framework.

4.2.10 Red hake - DRAFT

Essential fish habitat for red hake (*Urophycis chuss*) is designated anywhere within the geographic areas that are shown on the following map and meets the conditions described below.

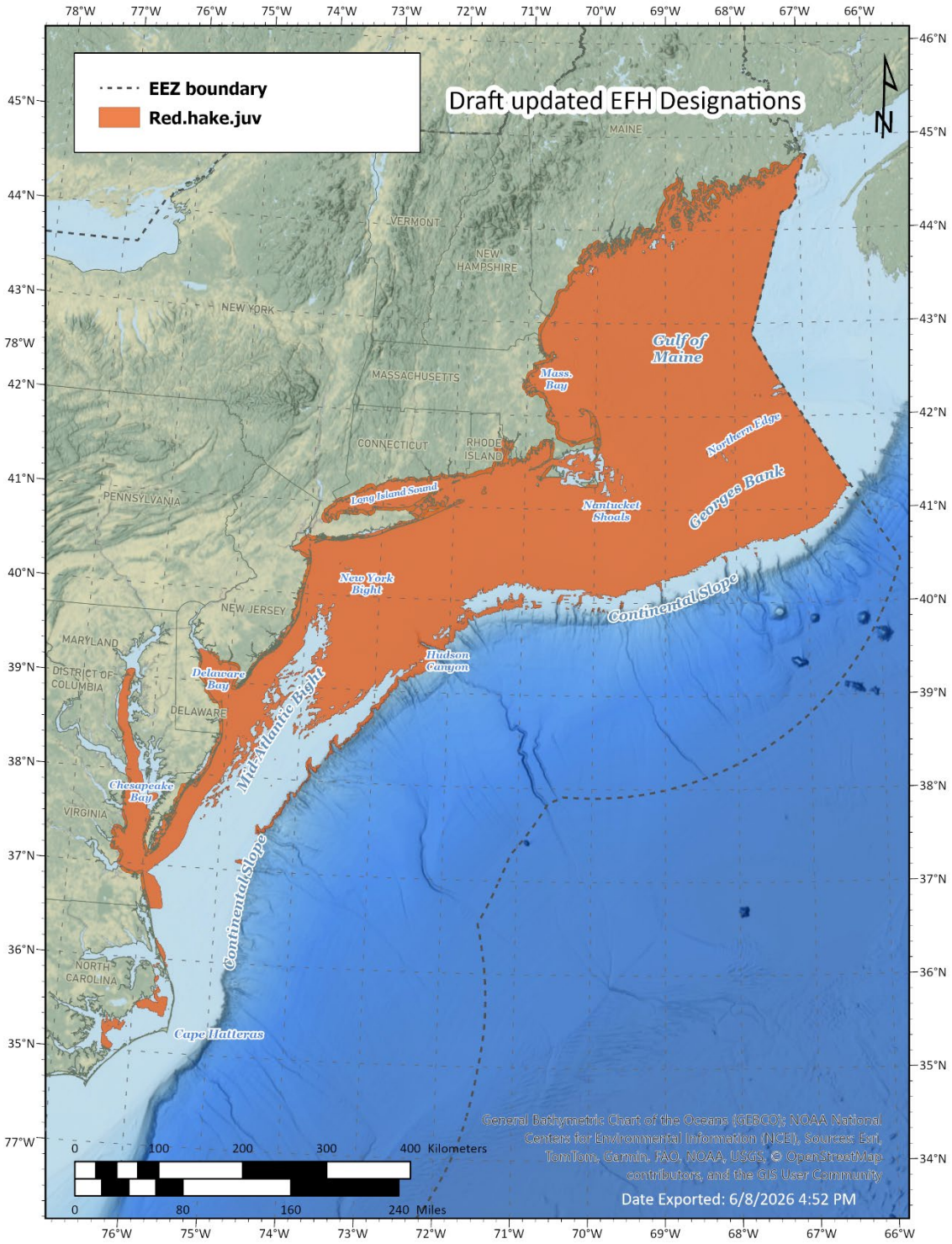
Eggs / Larvae: [[*Pending review of EcoMon ichthyoplankton data*]]

Juveniles: Essential fish habitat (EFH) for juvenile red hake (TL < 22 cm) consists of the principal habitat area and includes intertidal and subtidal benthic habitats in the Gulf of Maine, on Georges Bank, in southern New England, and in coastal waters in the Mid-Atlantic region as far south as Cape Hatteras (Map X). Inshore juvenile EFH typically includes the polyhaline and marine zones of bays and estuaries; specific portions of these inshore areas can be identified from Map X. Within the principal habitat area, juvenile EFH ranges from intertidal area out to 296 meters depth, but juveniles most commonly occur between 15-162 meters depth (Appendix B, Table 14). Juvenile EFH also includes bottom temperatures between 3-19°C and polyhaline and marine waters between 22-36 ppt (Appendix B, Table 14). Bottom habitats that provide shelter are essential for juvenile red hake, including mud substrates with biogenic depressions and other substrates that provide biogenic complexity (e.g., eelgrass, macroalgae, shells, anemone and polychaete tubes). Similarly, artificial reefs provide suitable shelter for juvenile red hake. Newly settled juveniles occur in depressions on the open seabed, while older juveniles are commonly associated with shelter or structure, often including live bivalves.

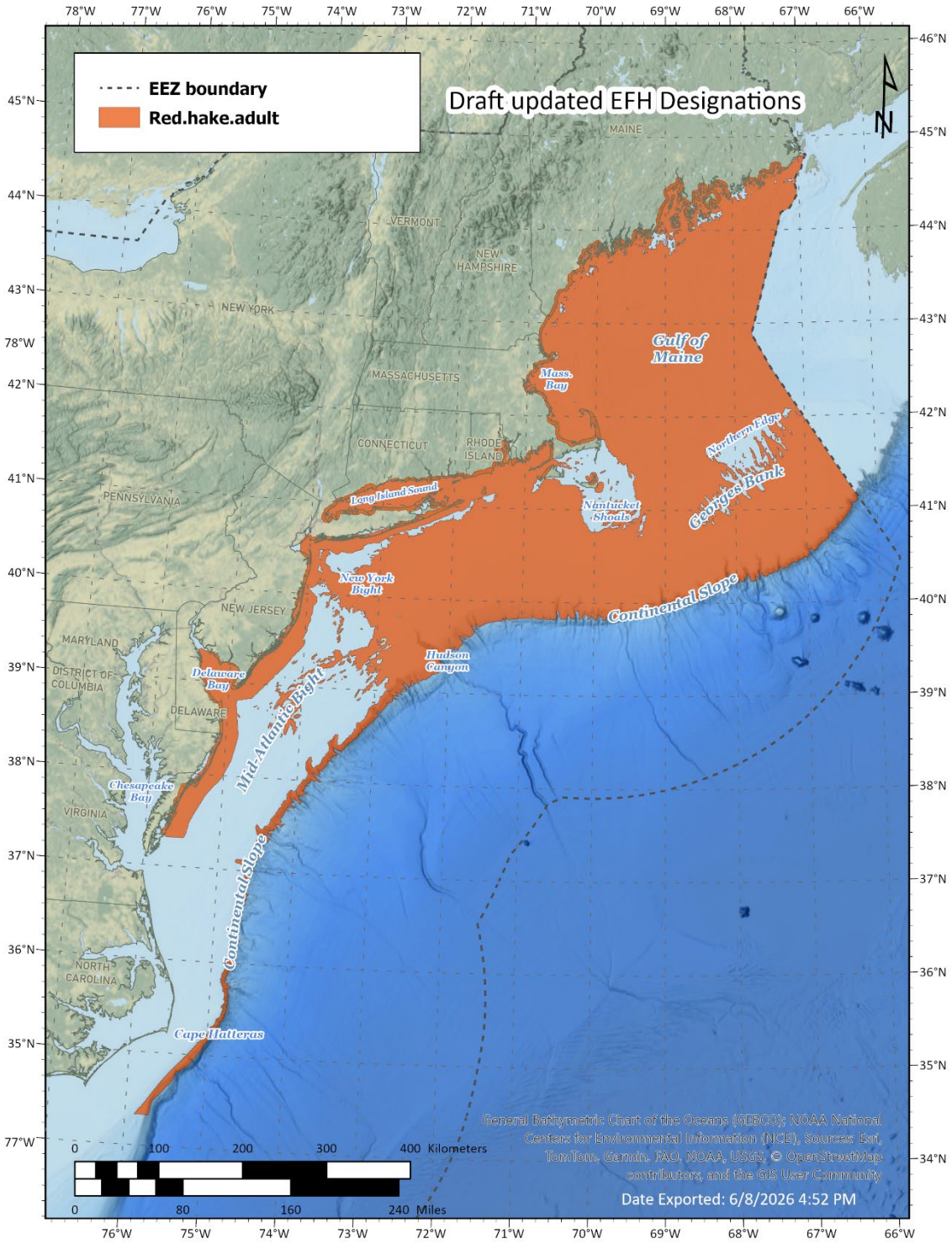
Adults: Essential fish habitat (EFH) for adult red hake (TL ≥ 22 cm) consists of the principal habitat area and includes benthic habitats in the Gulf of Maine, on Georges Bank, and in coastal and continental shelf waters in southern New England and the Mid-Atlantic region extending as far south as Chesapeake Bay. Adult EFH also includes continental slope habitats from the southern edge of Georges Bank as far south as Chesapeake Bay (Map X). Inshore adult EFH typically includes the polyhaline and marine zones of bays and estuaries; specific portions of these inshore areas can be identified from Map X. Within the principal habitat area, adult EFH ranges from 8-329 meters depth, but adults most commonly occur between 33-199 meters depth (Appendix B, Table 14). On the continental slope, they can be found to a maximum depth of 1000 meters (Appendix B, Table 15). Adult EFH also includes bottom temperatures between 4-17°C and polyhaline and marine waters between 28-36 ppt (Appendix B, Table 14). EFH for adult red hake includes shell beds, soft sediments (mud and sand) and artificial reefs. They are usually found in depressions in softer sediments or in shell beds but not on open sandy bottom. In the Gulf of

Maine, they are much less common on gravel or hard bottom, but they are reported to be abundant on hard bottoms in temperate reef areas of Maryland and northern Virginia.

Map 14. Red hake juvenile EFH draft updated designation.



Map 15. Red hake adult EFH draft updated designation.



Discussion Questions:

37. Is the draft map representative of the life stage's distribution throughout the year? Are there any areas missing? Are there any areas that should be removed?
38. Does the text capture other notable life history traits that influence habitat use, especially spawning information or seasonal differences/migrations?
39. Does the text capture preferred habitat characteristics and types? For life stages that occur on the continental slope, does the maximum continental slope depth[1] seem reasonable?
40. Are there other individuals, datasets, or sources of information we should engage with?

[1]*Continental slope areas are added manually using these slope depths because the fishery-independent trawl surveys rarely sample beyond 400 m depth. These slope depths are based on literature and verified via outreach.*

Legend:

[[*yellow-highlighted, italicized text*]] = planned changes

Cyan-highlighted text = Text from No-action designation (Omnibus Habitat Amendment 2) to confirm via feedback and literature review.

Green-highlighted text = Map numbers to be updated as live cross-reference links in Framework.

4.2.11 Silver hake - DRAFT

Essential fish habitat for silver hake (*Merluccius bilinearis*) is designated anywhere within the geographic areas that are shown on the following map and meets the conditions described below.

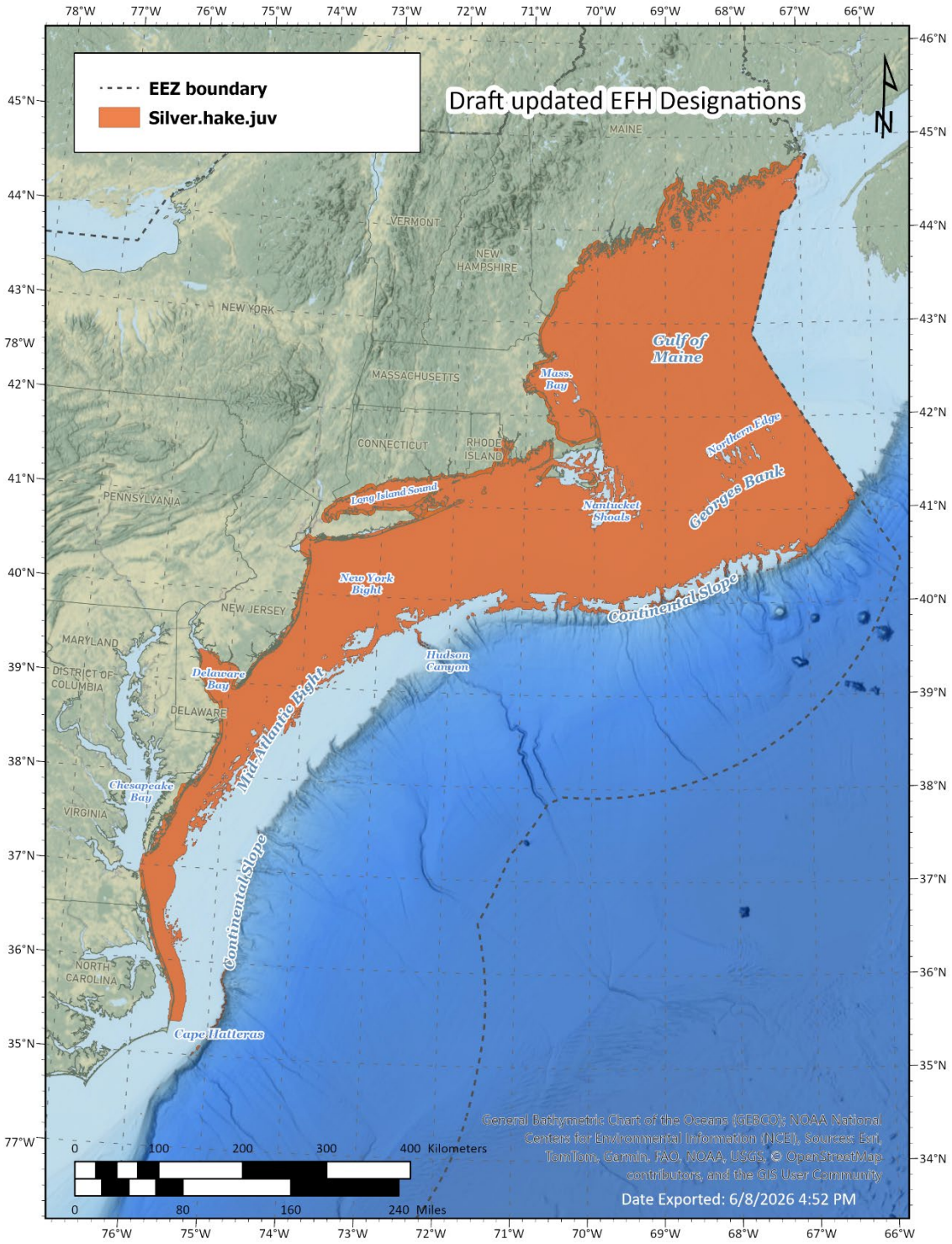
Eggs / Larvae: [[*Pending review of EcoMon ichthyoplankton data*]]

Juveniles: Essential fish habitat (EFH) for juvenile silver hake (TL < 22 cm) consists of the principal habitat area and includes pelagic and benthic habitats in the Gulf of Maine including coastal bays and estuaries, on Georges Bank, in coastal and outer continental shelf waters in southern New England, and along the Mid-Atlantic coast as far south as Cape Hatteras (Map X). Inshore juvenile EFH typically includes the polyhaline and marine zones of bays and estuaries; specific portions of these inshore areas can be identified from Map X. Within the principal habitat area, juvenile EFH ranges from 7-320 meters depth, but juveniles most commonly occur in bottom trawl surveys between 17-179 meters depth (Appendix B, Table 14). Juvenile EFH also includes bottom temperatures between 3-19°C and polyhaline and marine waters between 27-36 ppt (Appendix B, Table 14). EFH for juvenile silver hake occurs on sandy substrates often in association with sand waves, flat sand with amphipod tubes and shells, and in biogenic depressions. In the New York Bight, juveniles settle to the bottom at mid-shelf depths on muddy sand substrates and find refuge in amphipod tube mats.

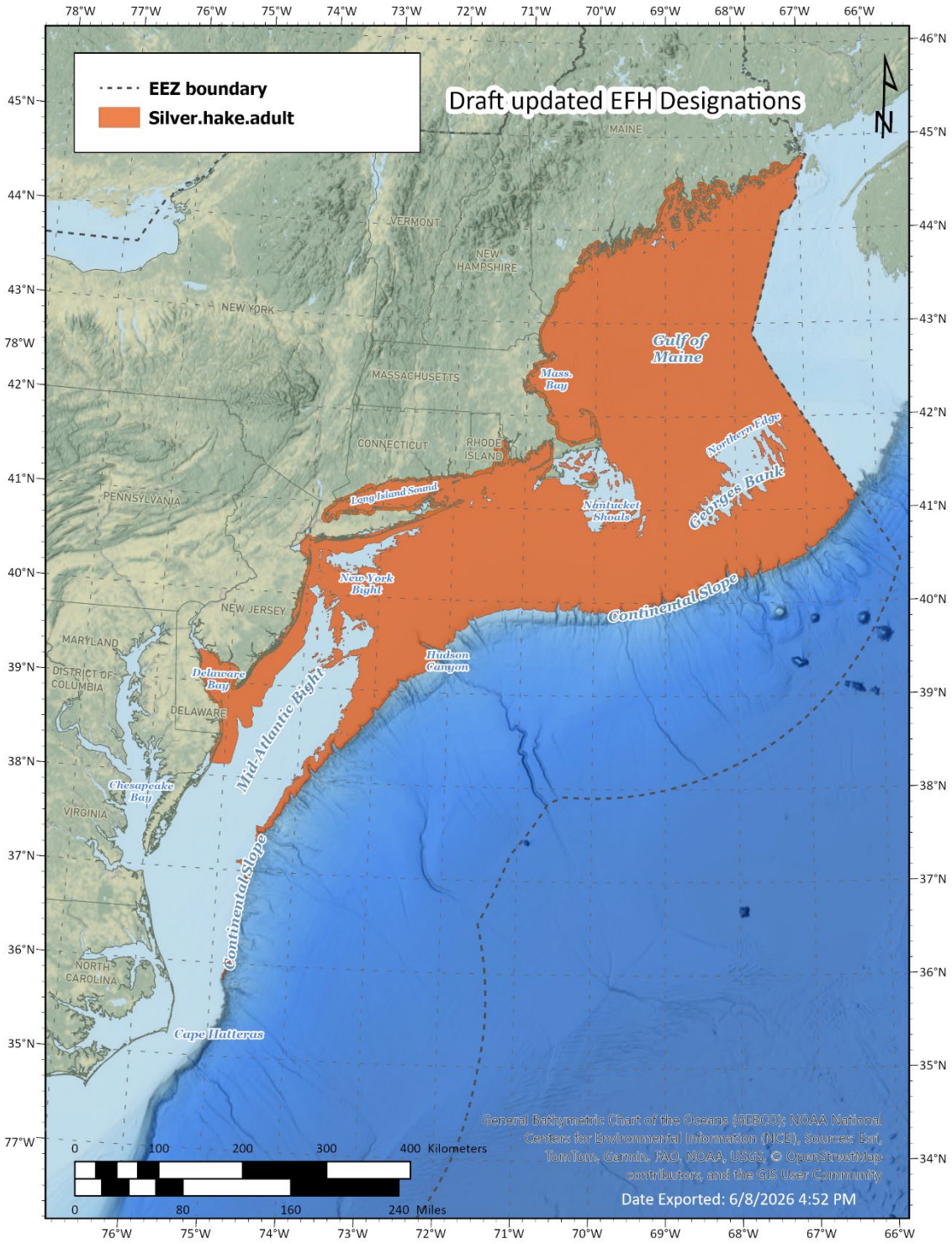
Adults: Essential fish habitat (EFH) for adult silver hake (TL ≥ 22 cm) consists of the principal habitat area and includes pelagic and benthic habitats in the Gulf of Maine, on Georges Bank (excluding portions along the northern edge), in coastal and continental shelf waters in southern New England (excluding Nantucket Shoals), and in coastal and outer shelf waters in the Mid-Atlantic Bight (Map X). Inshore adult EFH typically includes the marine zones of bays and estuaries; specific portions of these inshore areas can be identified from Map X. Within the principal habitat area, adult EFH ranges from 11-341 meters depth, but adults most commonly occur in bottom trawl surveys between 34-201 meters depth (Appendix B, Table 14). On the outer continental shelf, they can be found to a maximum of 500 meters (Appendix B, Table 15). Adult EFH also includes bottom temperatures between 4-16°C and marine waters between 31-36 ppt (Appendix B, Table 14). EFH for adult silver hake includes both soft substrates and hard structures. They are often found on sandy substrates in bottom depressions or in association with sand waves and shell fragments. They have also been observed in high densities in mud habitats bordering deep boulder reefs, resting on boulder surfaces, and foraging over deep boulder reefs in the southwestern

Gulf of Maine. This species makes greater use of the water column than red or white hake, particularly for nighttime feeding.

Map 16. Silver hake juvenile EFH draft updated designation.



Map 17. Silver hake adult EFH draft updated designation.



Discussion Questions:

41. Is the draft map representative of the life stage's distribution throughout the year? Are there any areas missing? Are there any areas that should be removed?
42. Does the text capture other notable life history traits that influence habitat use, especially spawning information or seasonal differences/migrations?
43. Does the text capture preferred habitat characteristics and types? For life stages that occur on the continental slope, does the maximum continental slope depth[1] seem reasonable?
44. Are there other individuals, datasets, or sources of information we should engage with?

[1]*Continental slope areas are added manually using these slope depths because the fishery-independent trawl surveys rarely sample beyond 400 m depth. These slope depths are based on literature and verified via outreach.*

Legend:

[[*yellow-highlighted, italicized text*]] = planned changes

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4.2.12 White hake - DRAFT

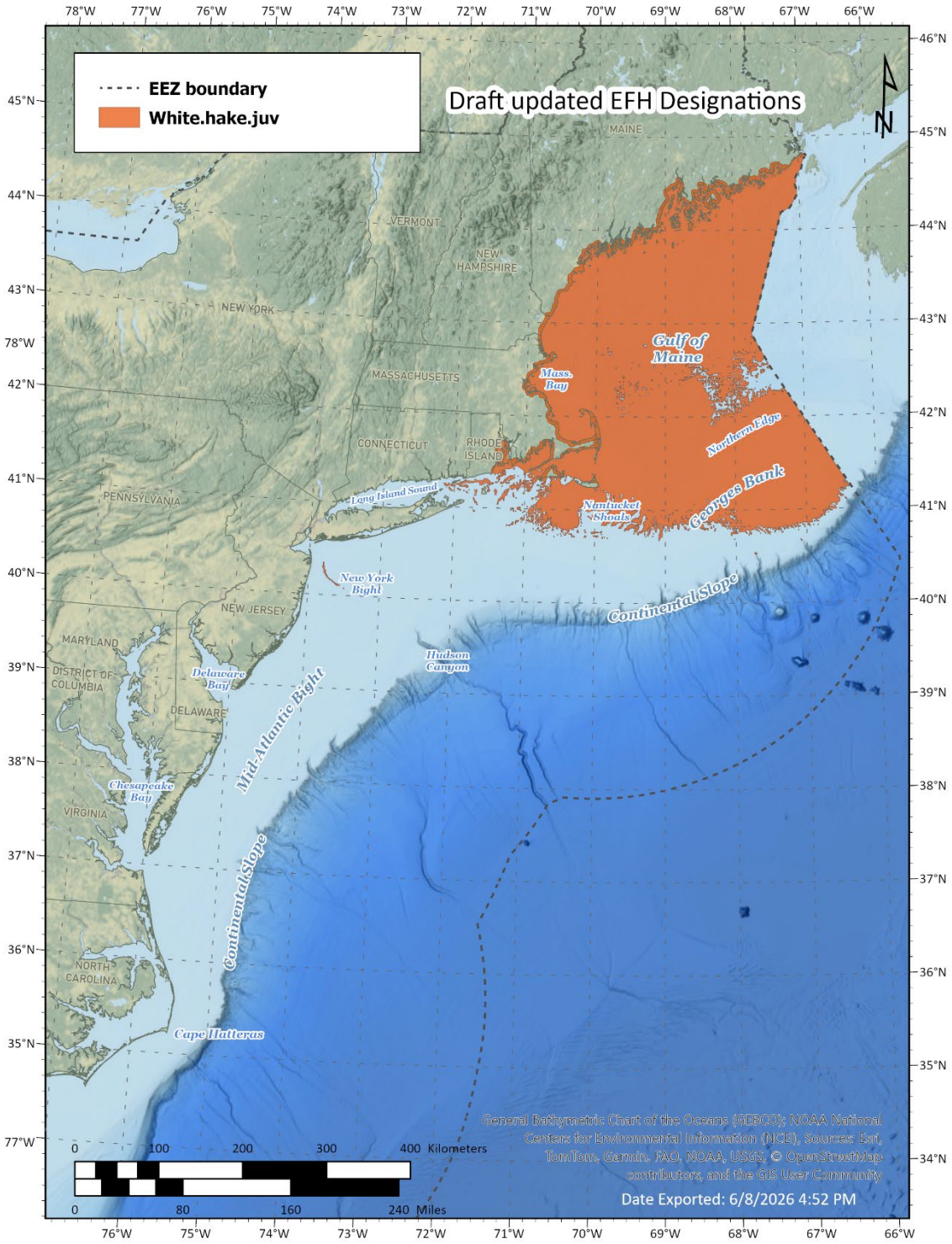
Essential fish habitat for white hake (*Urophycis tenuis*) is designated anywhere within the geographic areas that are shown on the following map and meets the conditions described below.

Eggs / Larvae: [[*Pending review of EcoMon ichthyoplankton data*]]

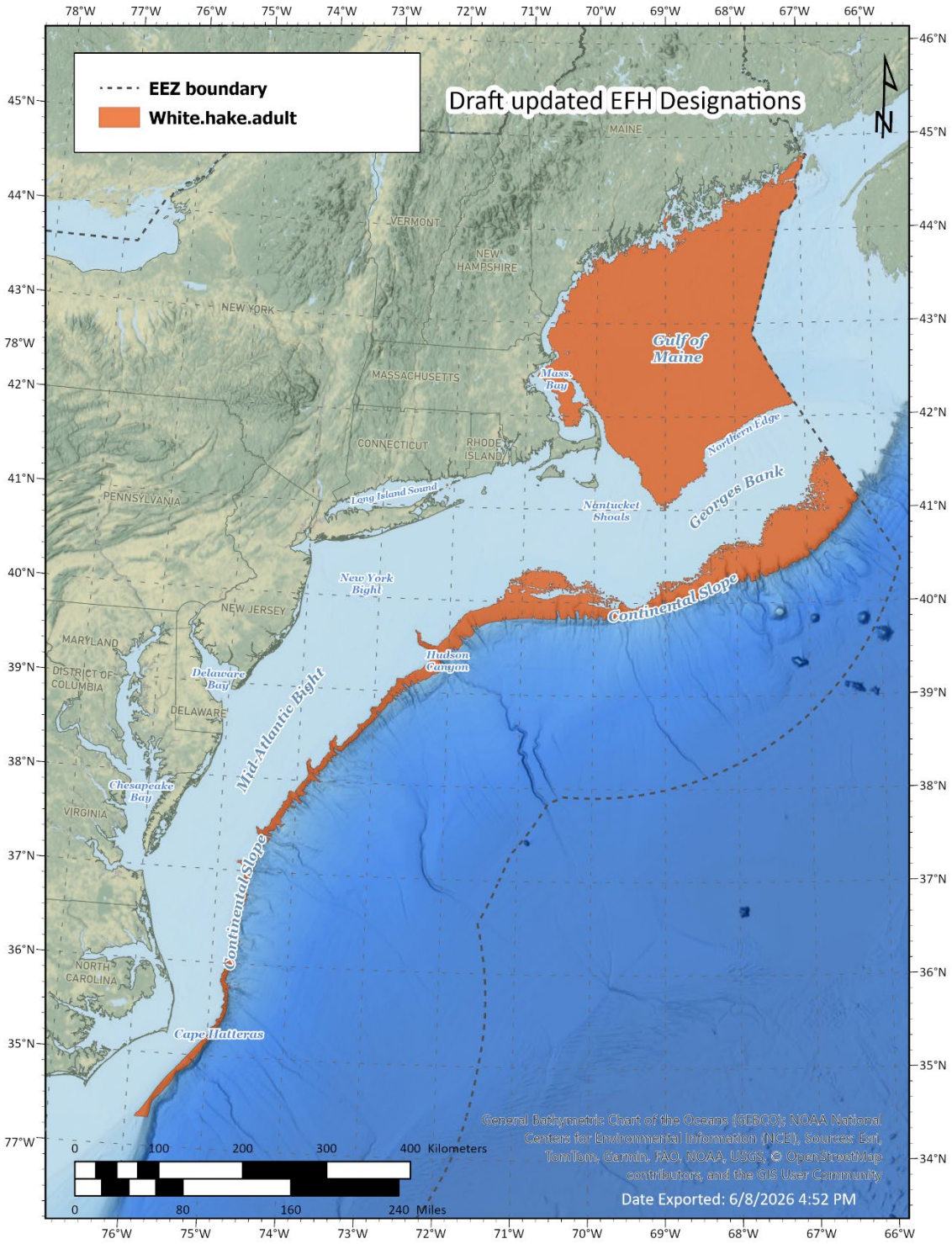
Juveniles: Essential fish habitat (EFH) for juvenile white hake (TL < 32 cm) consists of the principal habitat area and includes intertidal and subtidal habitats in the Gulf of Maine, on the northern portions of Georges Bank, and in southern New England along the Massachusetts and Rhode Island coastline, including Nantucket Shoals and coastal estuaries (Map X). Inshore juvenile EFH typically includes the marine zones of bays and estuaries; specific portions of these inshore areas can be identified from Map X. Within the principal habitat area, juvenile EFH ranges from 0-292 meters depth, but juveniles most commonly occur in bottom trawl surveys between 29-179 meters depth (Appendix B, Table 14). Juvenile EFH also includes bottom temperatures between 3-16°C and marine waters between 31-35 ppt (Appendix B, Table 14). Offshore-spawned pelagic juveniles typically move inshore to estuarine nursery areas Pelagic phase juveniles remain in the water column for about two months. In nearshore waters, EFH for benthic phase juveniles occurs on fine-grained, sandy substrates in eelgrass, macroalgae, and un-vegetated habitats. In the Mid-Atlantic, most juveniles settle to the bottom on the continental shelf, but some enter estuaries, especially those in southern New England. Older young-of-the-year juveniles occupy the same habitat types as the recently-settled juveniles, but move into deeper water (>50 meters).

Adults: Essential fish habitat (EFH) for adult white hake (TL ≥ 32 cm) consists of the principal habitat area and includes subtidal benthic habitats in the Gulf of Maine, while on the outer continental shelf and slope, EFH ranges from the southern edge of Georges Bank as far south as Cape Hatteras (Map X). Within the principal habitat area, adult EFH ranges from 29-361 meters depth, but adults most commonly occur in the bottom trawl surveys between 80-236 meters depth (Appendix B, Table 14). On the continental slope, they can be found to a maximum of 1000 meters (Appendix B, Table 15). Adult EFH also includes bottom temperatures between 4-13°C and marine waters between 32-36 ppt (Appendix B, Table 14). EFH for adult white hake occurs on fine-grained, muddy substrates and in mixed soft and rocky habitats. Spawning takes place in deep water on the continental slope and in Canadian waters.

Map 18. White hake juvenile EFH draft updated designation.



Map 19. White hake adult EFH draft updated designation.



Discussion Questions:

45. Is the draft map representative of the life stage's distribution throughout the year? Are there any areas missing? Are there any areas that should be removed?
46. Does the text capture other notable life history traits that influence habitat use, especially spawning information or seasonal differences/migrations?
47. Does the text capture preferred habitat characteristics and types? For life stages that occur on the continental slope, does the maximum continental slope depth[1] seem reasonable?
48. Are there other individuals, datasets, or sources of information we should engage with?

[1]*Continental slope areas are added manually using these slope depths because the fishery-independent trawl surveys rarely sample beyond 400 m depth. These slope depths are based on literature and verified via outreach.*

Legend:

[[*yellow-highlighted, italicized text*]] = planned changes

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Green-highlighted text = Map numbers to be updated as live cross-reference links in Framework.

4.2.13 Windowpane flounder - DRAFT

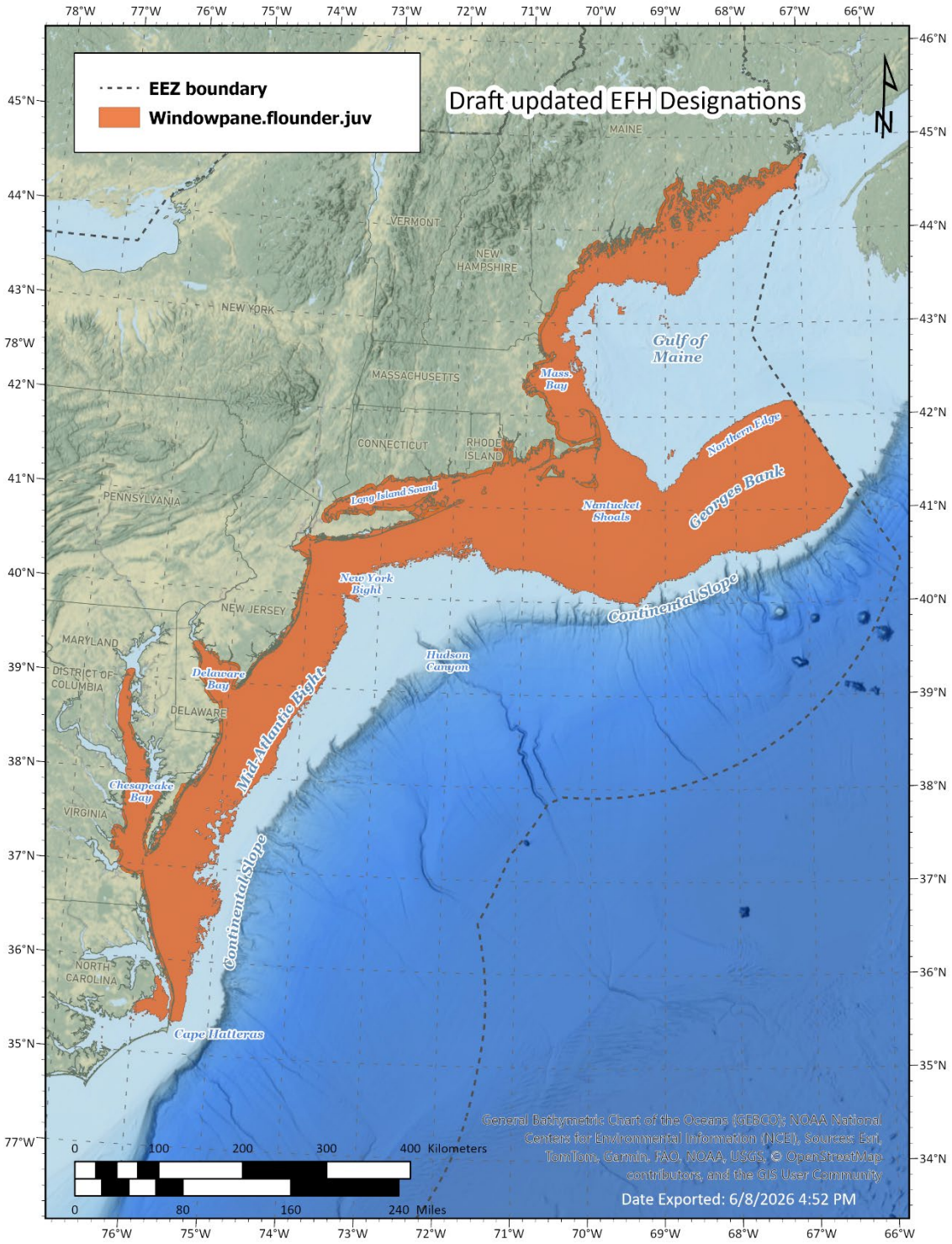
Essential fish habitat for windowpane flounder (*Scophthalmus aquosus*) is designated anywhere within the geographic areas that are shown on the following map and meets the conditions described below.

Eggs / Larvae: [[*Pending review of EcoMon ichthyoplankton data*]]

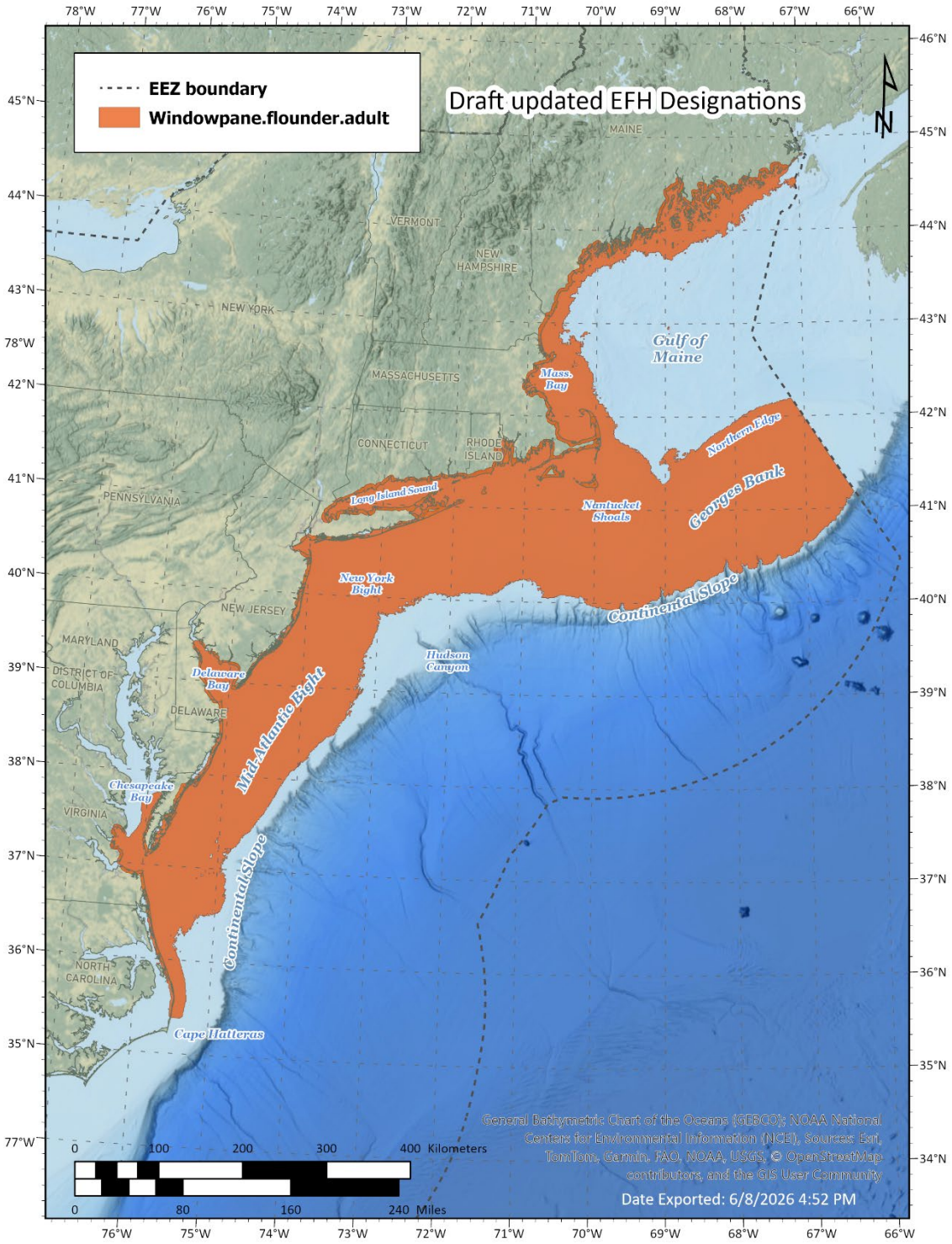
Juveniles: Essential fish habitat (EFH) for juvenile windowpane flounder (TL < 22 cm) consists of the principal habitat area and includes intertidal and subtidal benthic habitats in estuarine, coastal, and continental shelf waters from the Gulf of Maine to northern Florida (Map X). Inshore juvenile EFH typically includes the polyhaline and marine zones of bays and estuaries; specific portions of these inshore areas can be identified from Map X. Within the principal habitat area, juvenile EFH ranges from 0-116 meters depth, but juveniles most commonly occur between 8-55 meters depth (Appendix B, Table 14). Juvenile EFH also includes bottom temperatures between 3-25°C and polyhaline and marine waters between 17-34 ppt (Appendix B, Table 14). EFH for juvenile windowpane flounder occurs on mud and sand substrates and includes polyhaline and marine waters in bays and estuaries. Young-of-the-year juveniles prefer sand over mud.

Adults: Essential fish habitat (EFH) for adult windowpane flounder (TL ≥ 22 cm) consists of the principal habitat area and includes intertidal and subtidal benthic habitats in estuarine, coastal, and continental shelf waters from the Gulf of Maine to Cape Hatteras (Map X). Inshore adult EFH typically includes the polyhaline and marine zones of bays and estuaries; specific portions of these inshore areas can be identified from Map X. Within the principal habitat area, adult EFH ranges from 0-127 meters depth, but adults most commonly occur between 10-58 meters depth (Appendix B, Table 14). Adult EFH also includes bottom temperatures between 3-22°C and polyhaline and marine waters between 24-35 ppt (Appendix B, Table 14). EFH for adult windowpane flounder occurs on mud and sand substrates and includes polyhaline and marine waters in bays and estuaries.

Map 20. Windowpane flounder juvenile EFH draft updated designation.



Map 21. Windowpane flounder adult EFH draft updated designation.



Discussion Questions:

49. Is the draft map representative of the life stage's distribution throughout the year? Are there any areas missing? Are there any areas that should be removed?
50. Does the text capture other notable life history traits that influence habitat use, especially spawning information or seasonal differences/migrations?
51. Does the text capture preferred habitat characteristics and types? For life stages that occur on the continental slope, does the maximum continental slope depth[1] seem reasonable?
52. Are there other individuals, datasets, or sources of information we should engage with?

[1]*Continental slope areas are added manually using these slope depths because the fishery-independent trawl surveys rarely sample beyond 400 m depth. These slope depths are based on literature and verified via outreach.*

Legend:

[[*yellow-highlighted, italicized text*]] = planned changes

Cyan-highlighted text = Text from No-action designation (Omnibus Habitat Amendment 2) to confirm via feedback and literature review.

Green-highlighted text = Map numbers to be updated as live cross-reference links in Framework.

4.2.14 Winter flounder - DRAFT

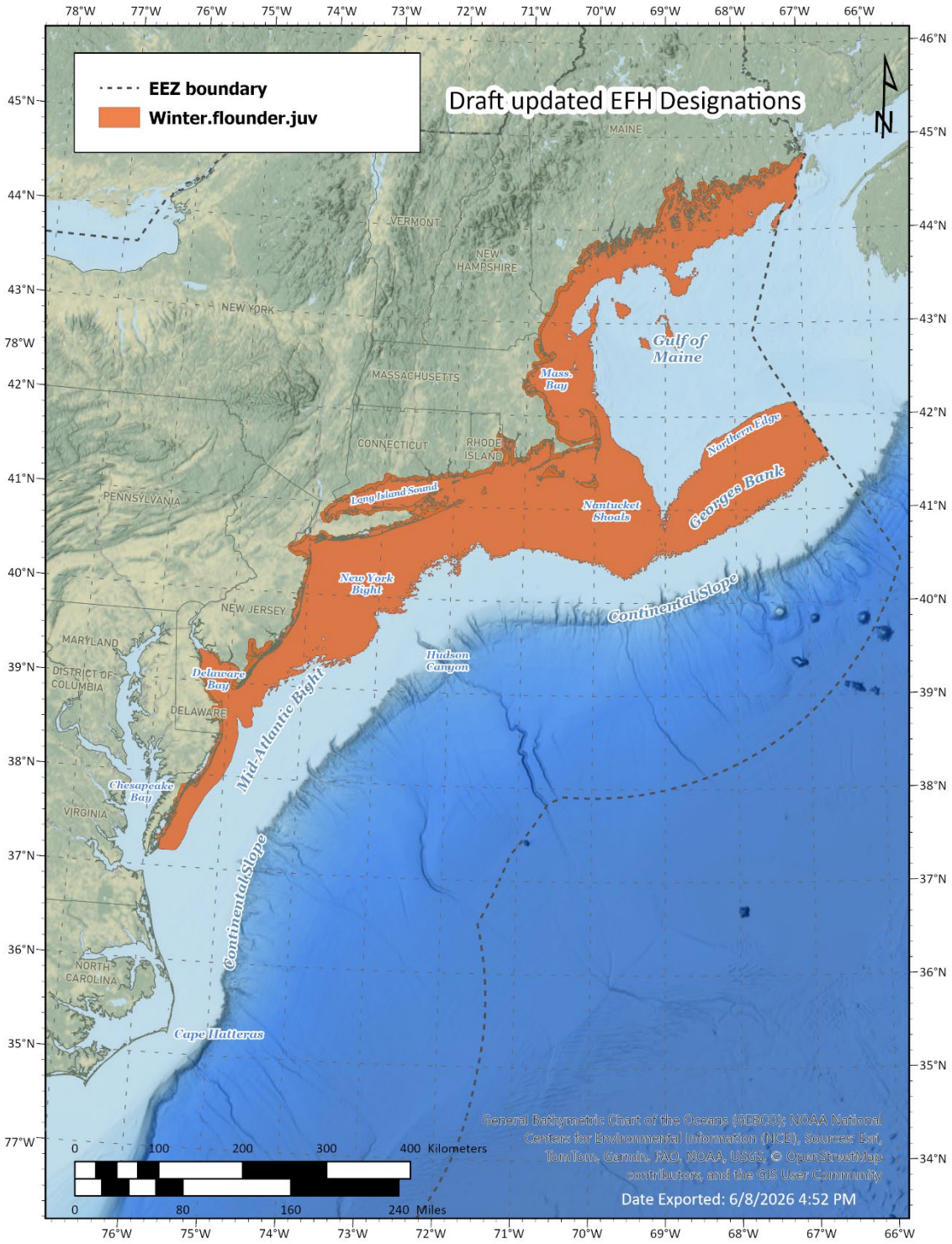
Essential fish habitat for winter flounder (*Pleuronectes americanus*) is designated anywhere within the geographic areas that are shown on the following maps and meets the conditions described below.

Eggs / Larvae: [[*Pending review of EcoMon ichthyoplankton data*]]

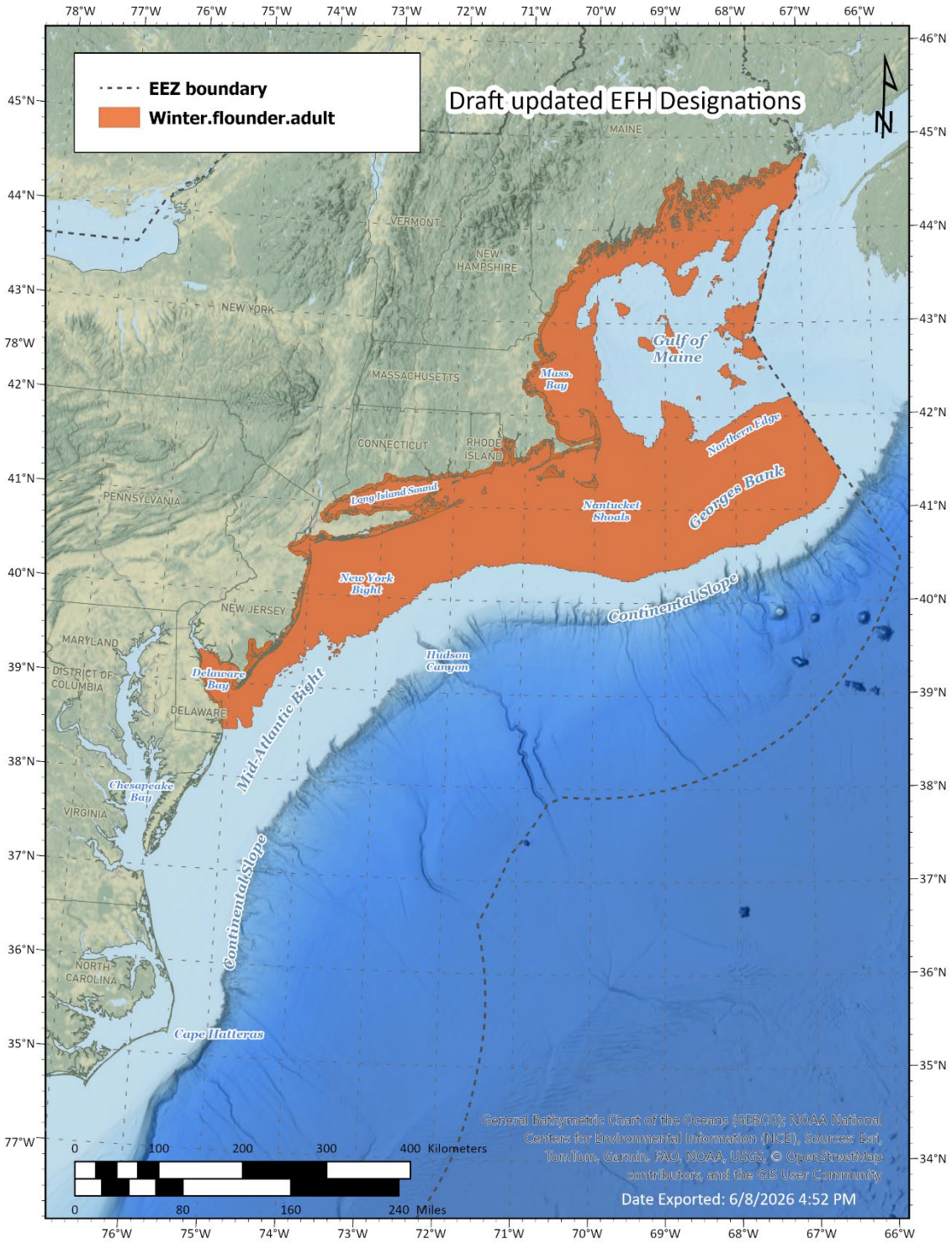
Juveniles: Essential fish habitat (EFH) for juvenile winter flounder (TL < 27 cm) consists of the principal habitat area and includes intertidal and subtidal benthic habitats in estuarine, coastal, and continental shelf waters from the Gulf of Maine to Chesapeake Bay (Map X). Inshore juvenile EFH typically includes the polyhaline and marine zones of bays and estuaries; specific portions of these inshore areas can be identified from Map X. Within the principal habitat area, juvenile EFH ranges from 0-140 meters depth, but juveniles most commonly occur between 11-75 meters depth (Appendix B, Table 14). Juvenile EFH also includes bottom temperatures between 3-22°C and polyhaline and marine waters between 24-34 ppt (Appendix B, Table 14). EFH for juvenile winter flounder occurs on a variety of bottom types, such as mud, sand, rocky substrates with attached macroalgae, tidal wetlands, and eelgrass. Young-of-the-year juveniles are found inshore on muddy and sandy sediments in and adjacent to eelgrass and macroalgae, in bottom debris, and in marsh creeks. They tend to settle to the bottom in soft-sediment depositional areas where currents concentrate late-stage larvae and disperse into coarser-grained substrates as they get older.

Adults: Essential fish habitat (EFH) for adult winter flounder (TL ≥ 27 cm) consists of the principal habitat area and includes intertidal and subtidal benthic habitats in estuarine, coastal, and continental shelf waters from the Gulf of Maine to [the mouth of Chesapeake//Delaware] Bay (Map X). Inshore adult EFH typically includes the polyhaline and marine zones of bays and estuaries; specific portions of these inshore areas can be identified from Map X. Within the principal habitat area, adult EFH ranges from 0-173 meters depth, but adults most commonly occur between 12-83 meters depth (Appendix B, Table 14). Adult EFH also includes bottom temperatures between 3-19°C and polyhaline and marine waters between 25-34 ppt (Appendix B, Table 14). EFH for adult winter flounder occurs on muddy and sandy substrates, and on hard bottom on offshore banks. In inshore spawning areas, EFH includes a variety of substrates where eggs are deposited on the bottom.

Map 22. Winter flounder juvenile EFH draft updated designation. Note: the Council had previously opted to limit the southern extent of the designation to Absecon Inlet, NJ.



Map 23. Winter flounder adult EFH draft updated designation. Note: the Council had previously opted to limit the southern extent of the designation to Absecon Inlet, NJ.



Discussion Questions:

53. Is the draft map representative of the life stage's distribution throughout the year? Are there any areas missing? Are there any areas that should be removed?
54. Does the text capture other notable life history traits that influence habitat use, especially spawning information or seasonal differences/migrations?
55. Does the text capture preferred habitat characteristics and types? For life stages that occur on the continental slope, does the maximum continental slope depth[1] seem reasonable?
56. Are there other individuals, datasets, or sources of information we should engage with?

[1]*Continental slope areas are added manually using these slope depths because the fishery-independent trawl surveys rarely sample beyond 400 m depth. These slope depths are based on literature and verified via outreach.*

Legend:

[[*yellow-highlighted, italicized text*]] = planned changes

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Green-highlighted text = Map numbers to be updated as live cross-reference links in Framework.

4.2.15 Witch flounder - DRAFT

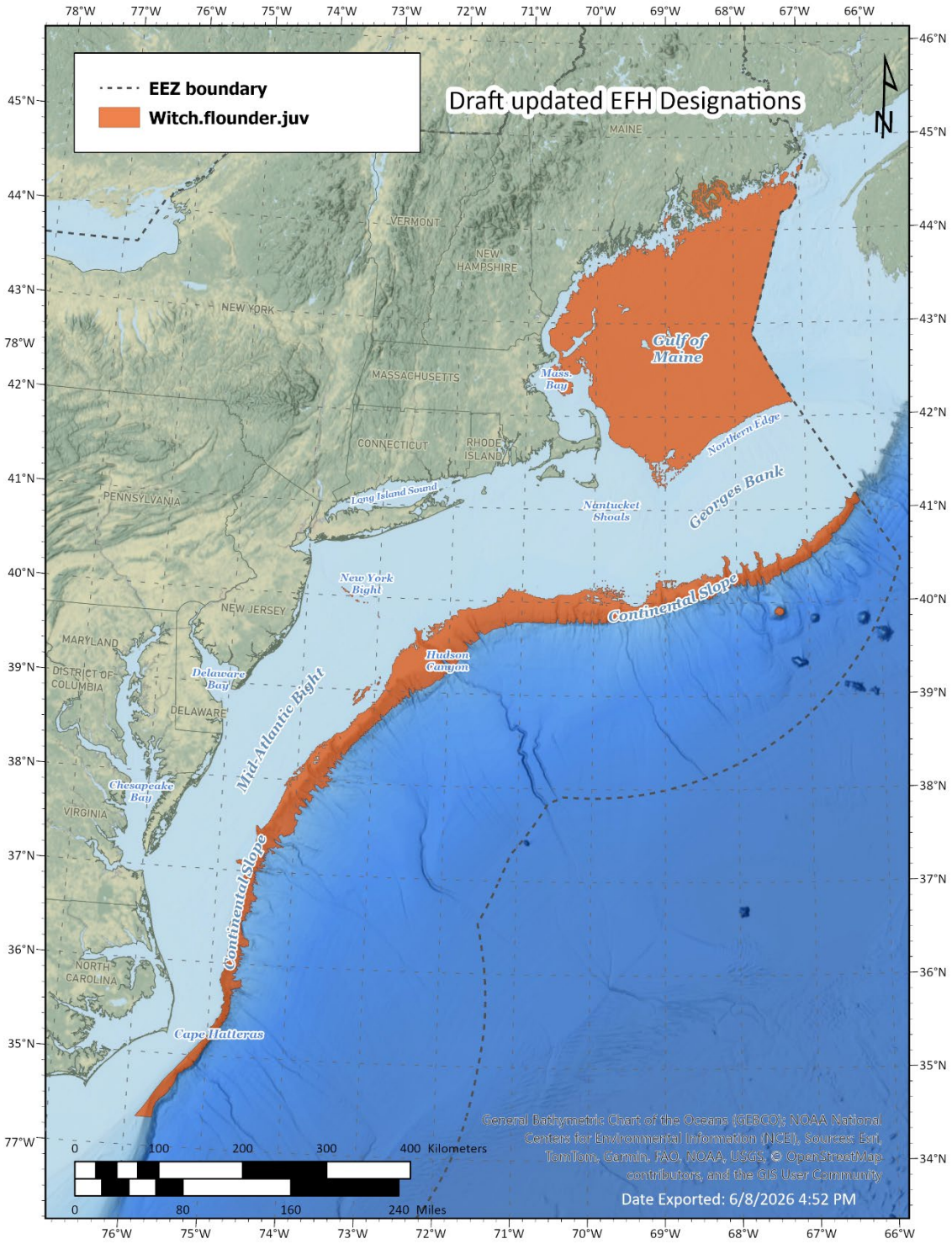
Essential fish habitat for witch flounder (*Glyptocephalus cynoglossus*) is designated anywhere within the geographic areas that are shown on the following maps and meets the conditions described below.

Eggs / Larvae: [[*Pending review of EcoMon ichthyoplankton data*]]

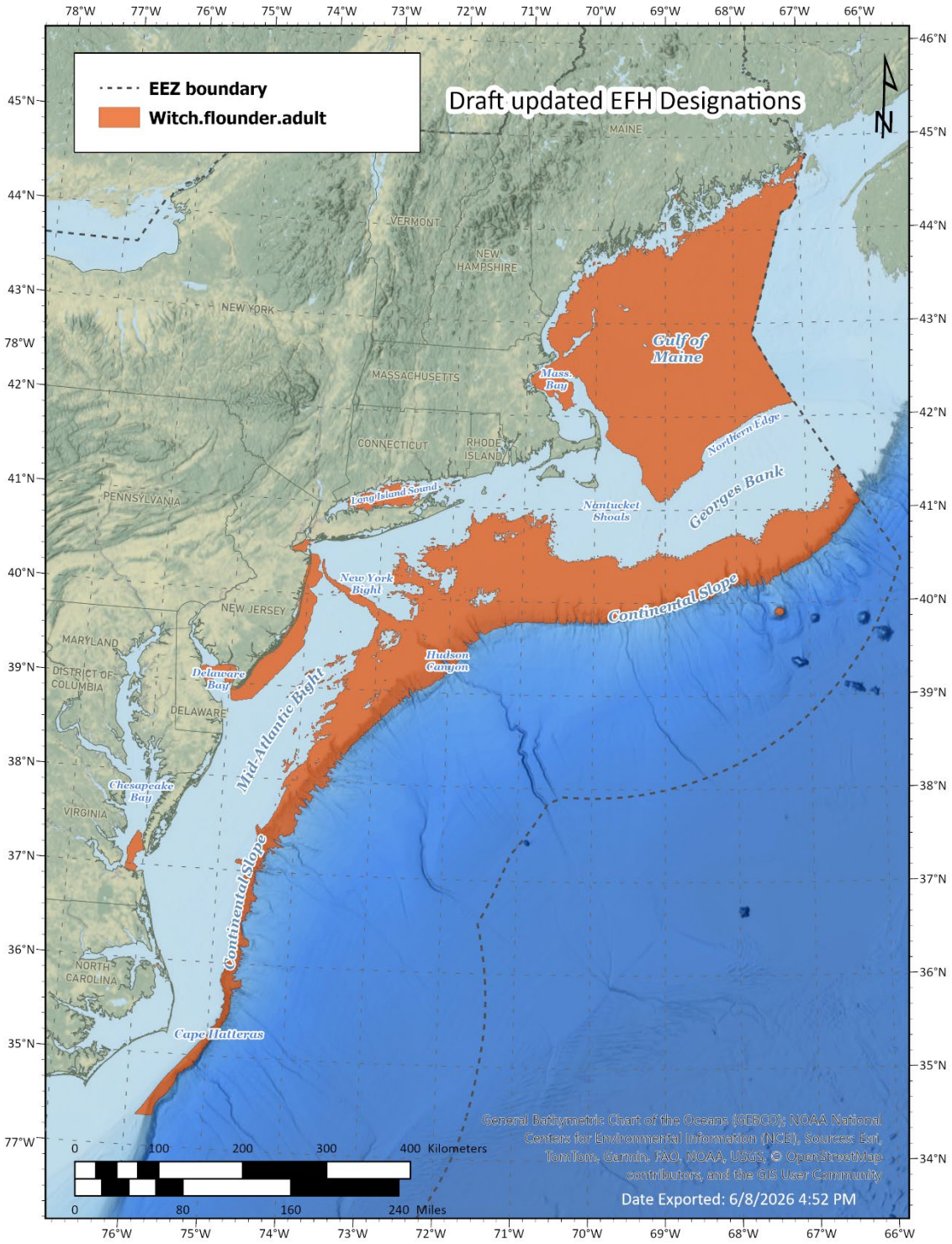
Juveniles: Essential fish habitat (EFH) for juvenile witch flounder (TL < 28 cm) consists of the principal habitat area and includes subtidal benthic habitats in the Gulf of Maine and on the outer continental shelf and slope from the southern edge of Georges Bank extending as far south as Cape Hatteras (Map X). Within the principal habitat area in the Gulf of Maine and shelf waters, juvenile EFH ranges from 34-376 meters depth, but juveniles most commonly occur between 84-217 meters depth (Appendix B, Table 14). On the continental slope, they can be found to a maximum depth of 1500 meters (Appendix B, Table 15). Juvenile EFH also includes bottom temperatures between 3-13°C and marine waters between 31-36 ppt (Appendix B, Table 14). EFH for juvenile witch flounder occurs on mud and muddy sand substrates.

Adults: Essential fish habitat (EFH) for adult witch flounder (TL ≥ 28 cm) consists of the principal habitat area and includes subtidal benthic habitats in the Gulf of Maine and on the outer continental shelf and slope from the southern edge of Georges Bank extending as far south as Cape Hatteras (Map X). Within the principal habitat area in the Gulf of Maine and shelf waters, adult EFH ranges from 23-357 meters depth, but adults most commonly occur between 71-219 meters depth (Appendix B, Table 14). On the continental slope, they can be found to a maximum depth of 1500 meters (Appendix B, Table 15). Adult EFH also includes bottom temperatures between 3-13°C and marine waters between 32-36 ppt (Appendix B, Table 14). EFH for adult witch flounder occurs on mud and muddy sand substrates.

Map 24. Witch flounder juvenile EFH draft updated designation.



Map 25. Witch flounder adult EFH draft updated designation.



Discussion Questions:

57. Is the draft map representative of the life stage's distribution throughout the year? Are there any areas missing? Are there any areas that should be removed?
58. Does the text capture other notable life history traits that influence habitat use, especially spawning information or seasonal differences/migrations?
59. Does the text capture preferred habitat characteristics and types? For life stages that occur on the continental slope, does the maximum continental slope depth[1] seem reasonable?
60. Are there other individuals, datasets, or sources of information we should engage with?

[1]*Continental slope areas are added manually using these slope depths because the fishery-independent trawl surveys rarely sample beyond 400 m depth. These slope depths are based on literature and verified via outreach.*

Legend:

[[*yellow-highlighted, italicized text*]] = planned changes

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Green-highlighted text = Map numbers to be updated as live cross-reference links in Framework.

4.2.16 Yellowtail flounder - DRAFT

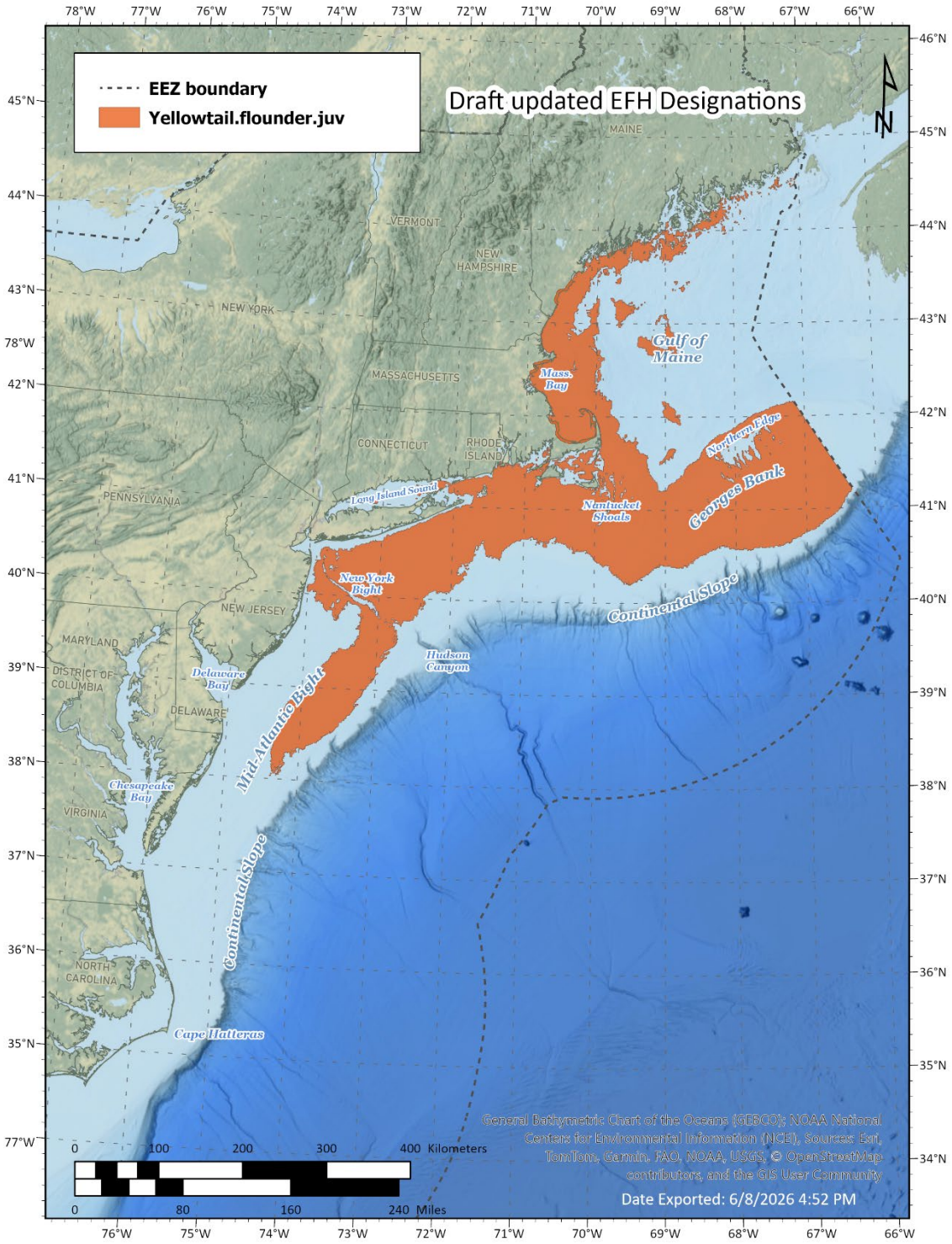
Essential fish habitat for yellowtail flounder (*Limanda ferruginea*) is designated anywhere within the geographic areas that are shown on the following maps and meets the conditions described below.

Eggs / Larvae: [[*Pending review of EcoMon ichthyoplankton data*]]

Juveniles: Essential fish habitat (EFH) for juvenile yellowtail flounder (TL < 24 cm) consists of the principal habitat area and includes subtidal benthic habitats in coastal and continental shelf waters in the Gulf of Mane, on Georges Bank, in southern New England, and extending into the Mid-Atlantic region; south of the New York Bight, EFH primarily occurs in outer shelf waters but not to the continental slope (Map X). Where applicable, inshore and nearshore juvenile EFH typically includes the marine zones of coastal areas, bays, and estuaries; specific portions of these areas can be identified from Map X. Within the principal habitat area, juvenile EFH ranges from 7-159 meters depth, but juveniles occur most commonly occur between 24-81 meters depth (Appendix B, Table 14). Juvenile EFH also includes bottom temperatures between 3-15°C and marine waters between 31-34 ppt (Appendix B, Table 14). EFH for juvenile yellowtail flounder occurs on sand and muddy sand; in the Mid-Atlantic, young-of-the-year juveniles settle to the bottom on the continental shelf.

Adults: Essential fish habitat (EFH) for adult yellowtail flounder (TL ≥ 24 cm) consists of the principal habitat area and includes subtidal benthic habitats in coastal and continental shelf waters in the Gulf of Maine, on Georges Bank, in southern New England, and extending into the Mid-Atlantic region as far south as Delaware Bay (Map X). Where applicable, inshore and nearshore adult EFH typically includes the marine zones of coastal areas, bays, and estuaries; specific portions of these areas can be identified from Map X. Within the principal habitat area, adult EFH ranges from 8-183 meters depth, but adults most commonly occur between 27-93 meters depth (Appendix B, Table 14). Adult EFH also includes bottom temperatures between 3-15°C and marine waters between 31-35 ppt (Appendix B, Table 14). EFH for adult yellowtail flounder occurs on sand and sand with mud, shell hash, gravel, and rocks.

Map 26. Yellowtail flounder juvenile EFH draft updated designation.



Map 27. Yellowtail flounder adult EFH draft updated designation.