

Deep-Sea Coral Amendment Update

Michelle Bachman

**Habitat Plan Development
Team Chair**

**Council Meeting
April 21, 2016
Mystic, Connecticut**

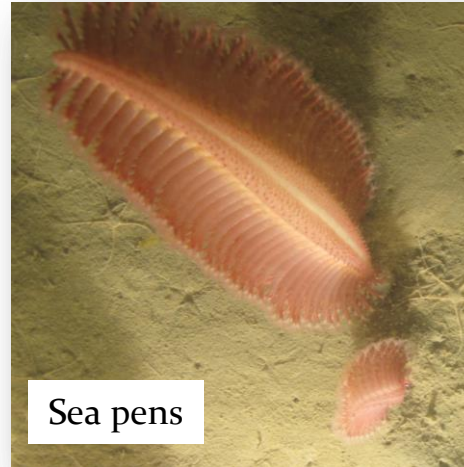


New England
Fishery Management Council

Outline

- Problem statement, objectives, purpose & need
- Recommended updates to broad zones
- Recommended updates to discrete zones
 - Canyons
 - Gulf of Maine
- Management alternatives for coral zones
- Overlaps between coral zones and fishery revenue

Coral groups found in the New England region:



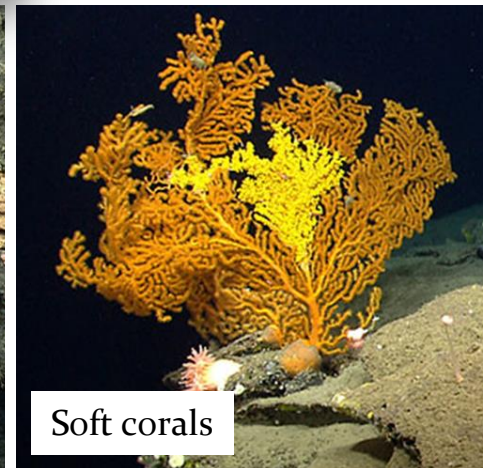
Sea pens



Stony corals



Black corals



Soft corals

Draft Committee problem statement:

The Council is utilizing its discretionary authority under Section 303(b) in MSA to identify and implement measures that reduce, to the extent practicable, impacts of fishing gear on deep sea corals in New England. This amendment contains alternatives that aim to identify and protect concentrations of corals in select areas and restrict the expansion of fishing effort into areas where corals are likely to be present.

Deep sea corals are fragile, slow-growing organisms that play an important role in the marine ecosystem and are vulnerable to various types of disturbance of the seafloor. At the same time, the importance and value of commercial fisheries that operate in or near areas of deep sea coral habitat is recognized by the Council. As such, measures in this amendment will be considered in light of their benefit to corals as well as their costs to commercial fisheries.

Deep-sea coral management zones

Current range of zones

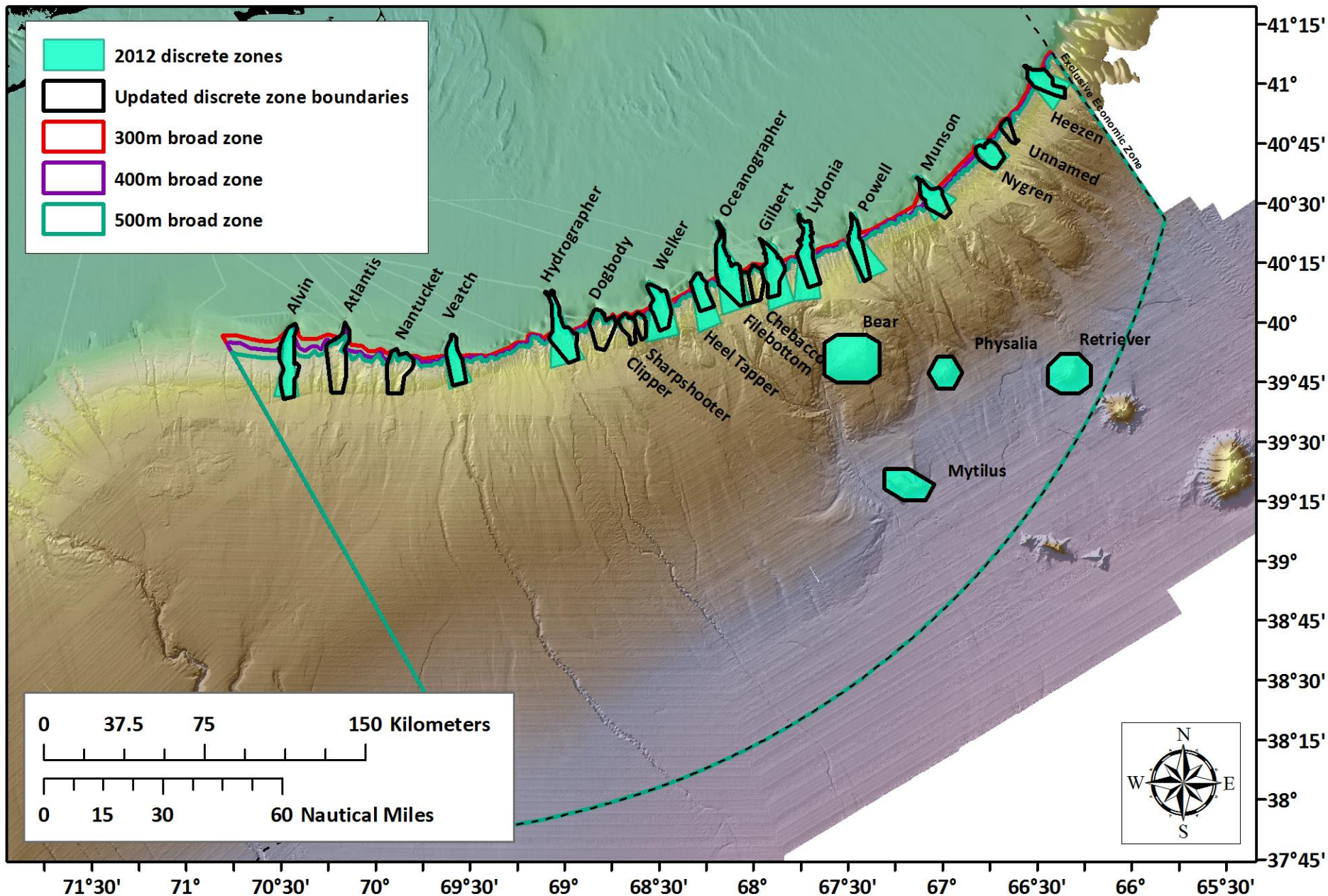
- **Broad zones** based on 300m, 400m, 500m depth contours
- **Canyons:** Alvin, Veatch, Hydrographer, Welker, Heel Tapper, Oceanographer, Gilbert, Lydonia, Powell, Munson, Nygren, Heezen
- **Seamounts:** Bear, Retriever, Physalia, Mytilus
- **GOM:** Mt. Desert Rock, Western Jordan Basin

Recommended changes

- **Broad zones:** modify boundary, approximate the contours with straight lines, 50m tolerance
- **Canyons:** Add zones in Atlantis, Nantucket, Dogbody, Clipper, Sharpshooter, Filebottom, Chebacco, unnamed canyon near Heezen
 - Modify existing canyon zone boundaries
- **GOM:** Add zones in Outer Schoodic Ridge, Central Jordan Basin, Lindenkohl Knoll; modify Western Jordan Basin zones

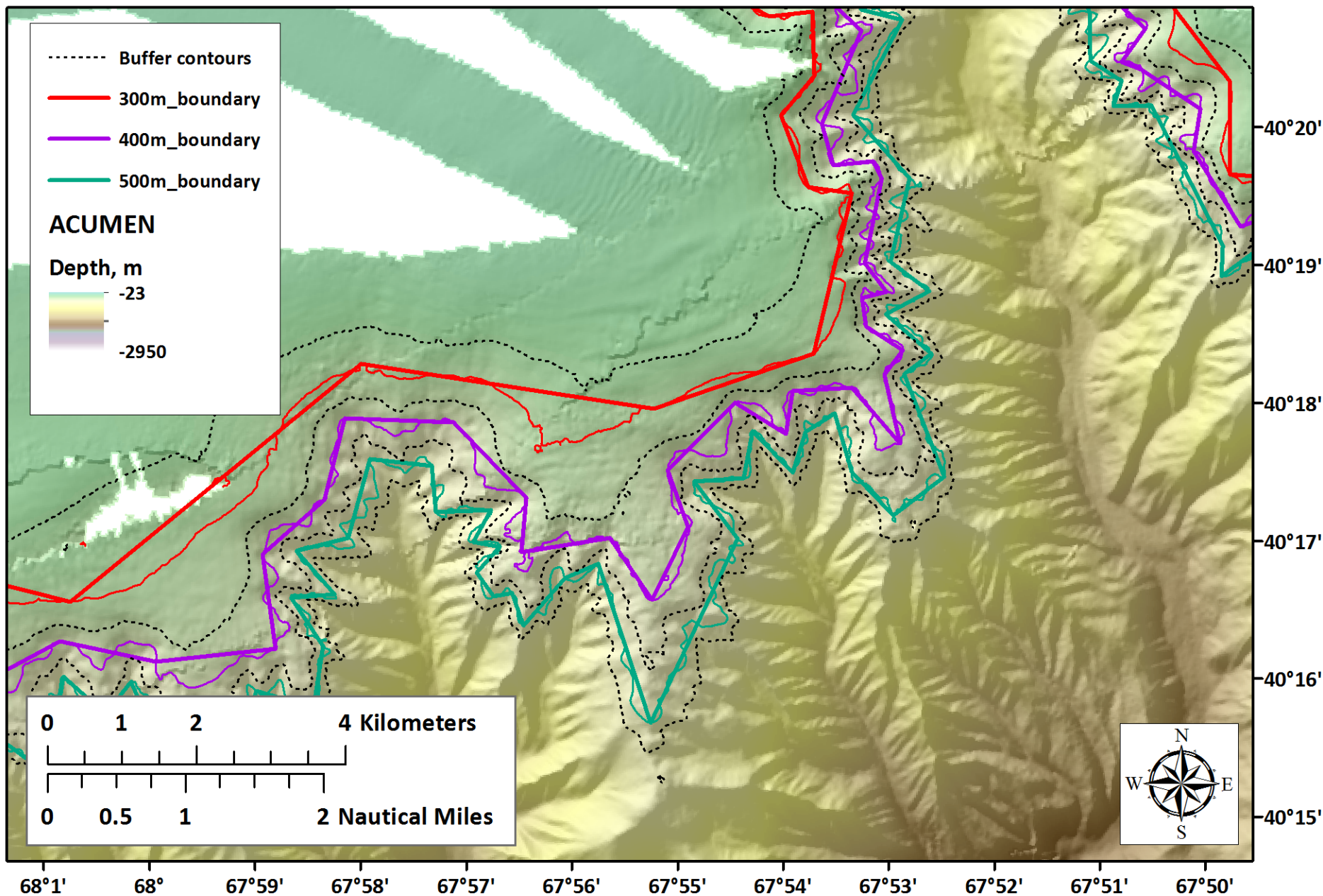
Canyon and seamount coral zones

Map created April 6, 2016
Projection WGS 1984 UTM Zone 19N
NEFMC Habitat Plan Development Team

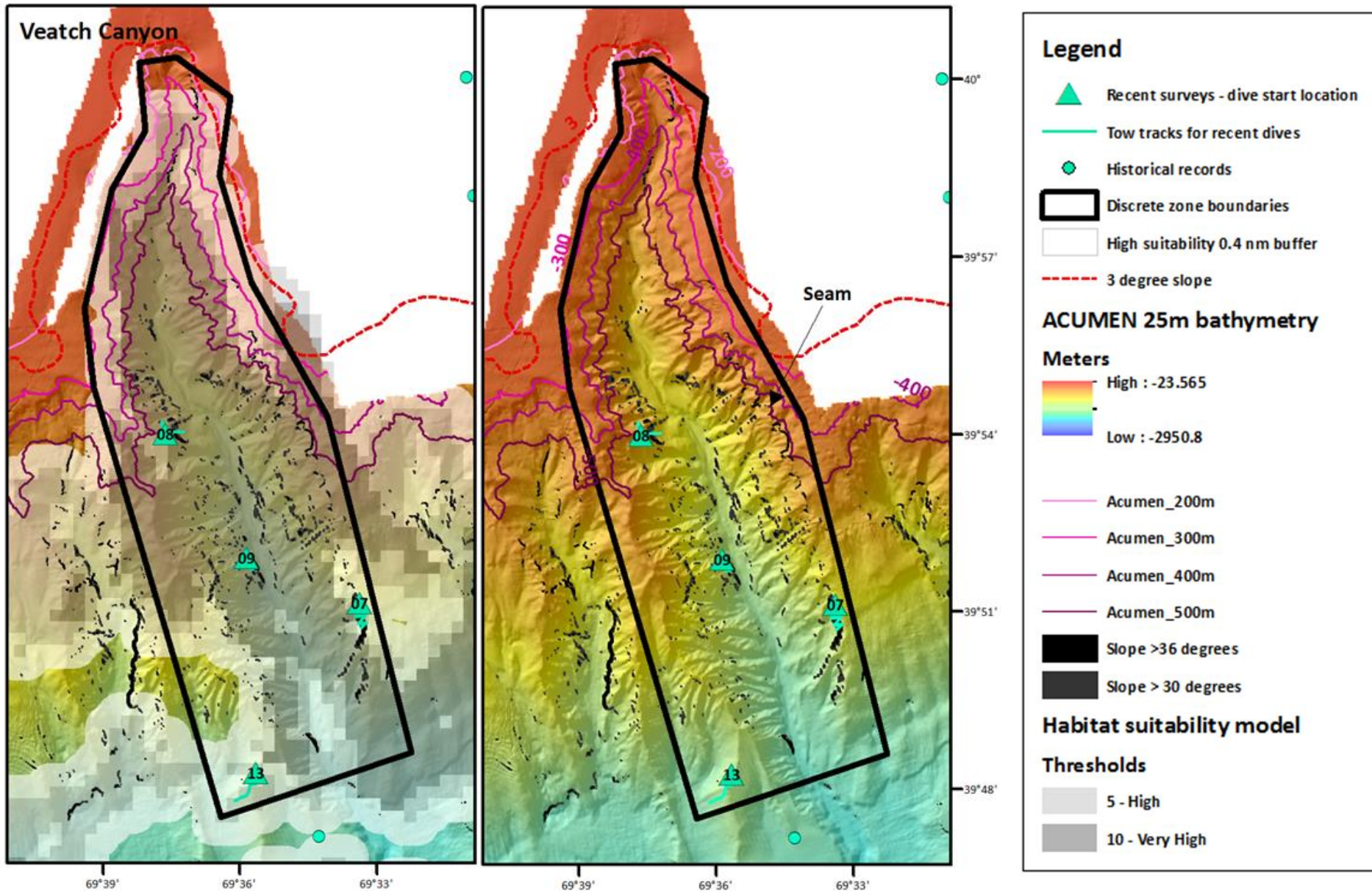


Broad zone boundary development

Map created April 6, 2016
Projection WGS 1984 UTM Zone 19N
NEFMC Habitat Plan Development Team

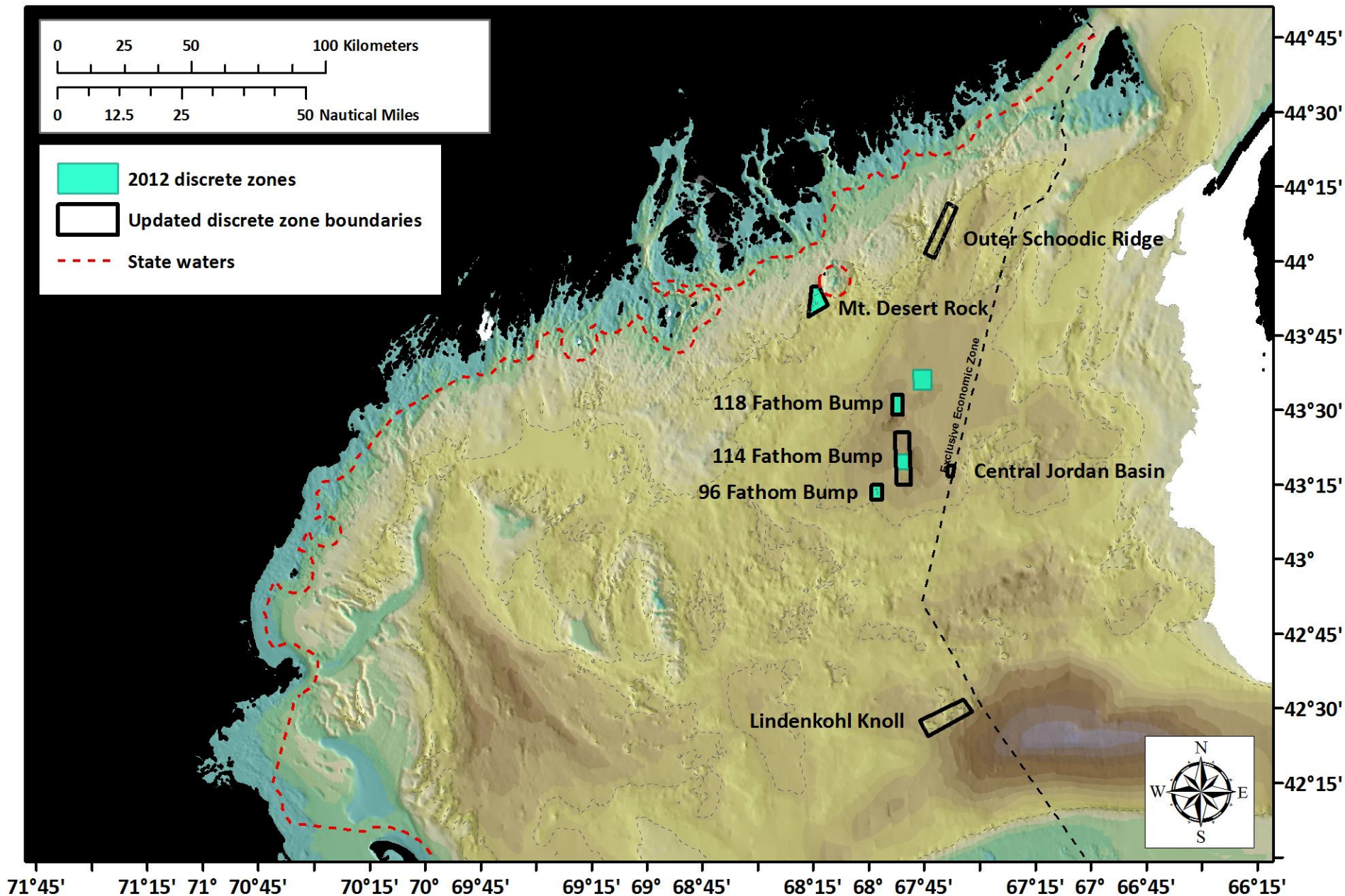


Example discrete canyon zone: Veatch



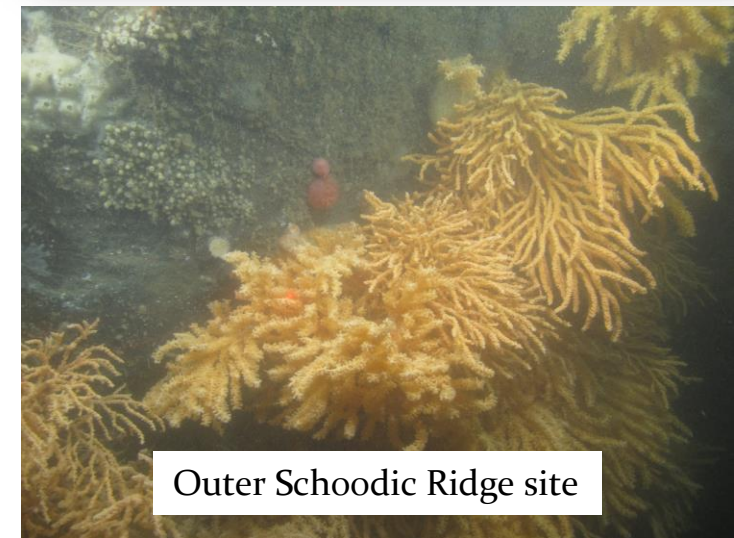
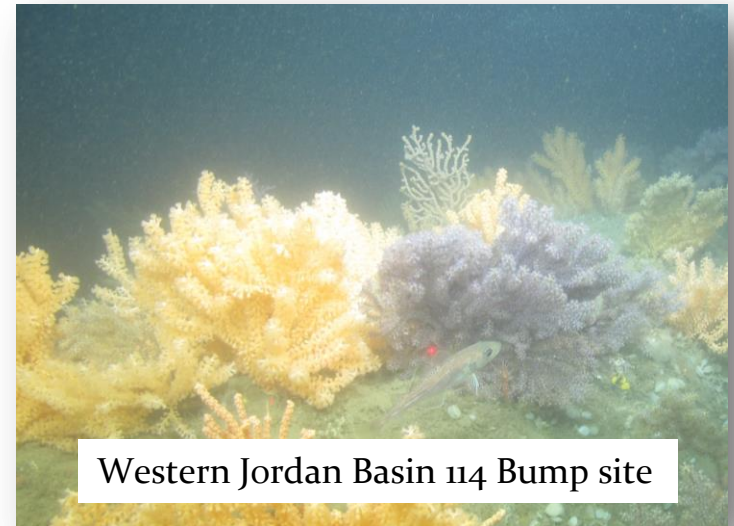
Gulf of Maine coral zones

Map created April 6, 2016
Projection WGS 1984 UTM Zone 19N
NEFMC Habitat Plan Development Team

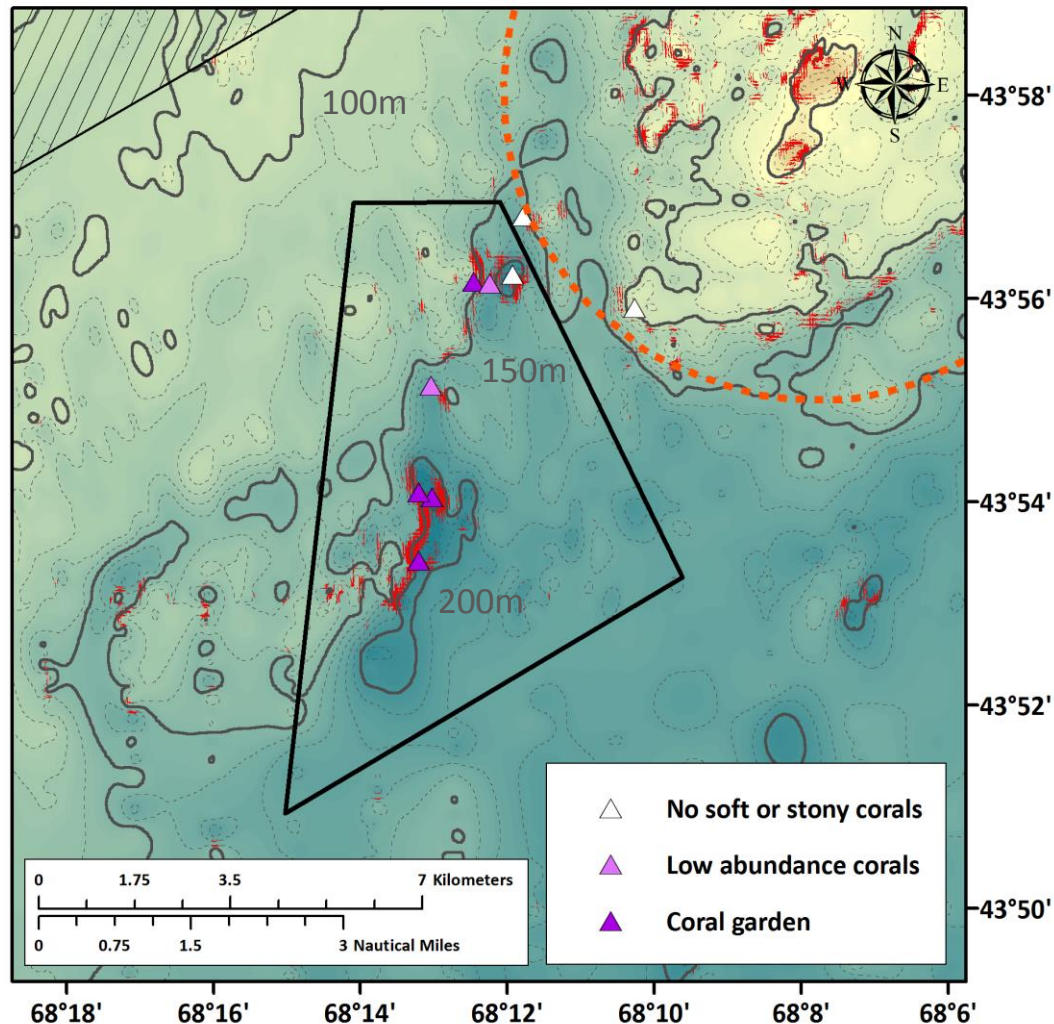


Gulf of Maine zones

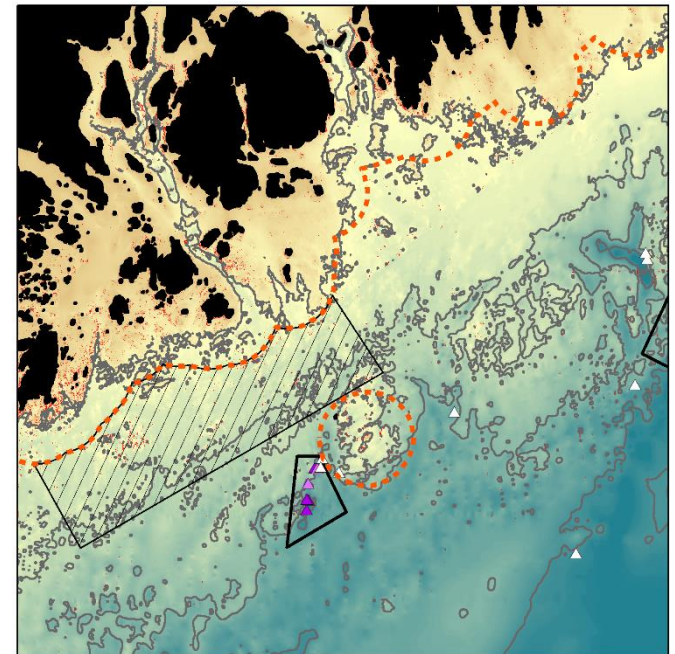
- Identify areas of conservation interest based on results of ROV and towed camera surveys (2002-2015)
 - Dives/tows classified as (1) high density/coral garden, (2) low-moderate density, (3) no corals
- Encompass survey dives/tows with coral garden or low-moderate density coral habitats, as well as areas near surveyed sites expected to have similar terrain



Example GOM zone: Mt. Desert Rock



- **State waters (dotted)**
- **Coral zone boundary in black (hatched = Eastern GOM HMA from OHA2)**
- **High slope areas in red**
- **Surveyed areas purple triangles**
- **Heavy contour lines are at 50m depth intervals**



Existing range of gear restriction alternatives for coral zones

- **Prohibit fixed and mobile bottom-tending gears**
 - Alternative would allow the use of gears that do not contact the seabed. As currently drafted, the lobster fishery would not be subject to this restriction.
 - Sub-option: exempt the red crab fishery from bottom-tending gear restrictions
- **Prohibit mobile bottom-tending gears**
 - Alternative would prohibit the use of mobile bottom-tending fishing gears in deep-sea coral zones, but would allow the use of fixed gears and any gears that do not contact the seabed.

Access and exemption program alternatives

Special access program track:	Exploratory track:	Research track:
Maintain permit in an authorized fishery	Apply for exempted fishery permit	Develop project consistent with definition of scientific research
Request letter of authorization for the special access program	Document target species catch and coral interactions	Request letter of acknowledgement
Comply with program operational and reporting requirements while fishing	If warranted, add target species to special access program via rulemaking	Data used for updates to coral management measures as appropriate

Framework provisions for deep-sea coral zones

These options would allow management measures for coral zones to be developed via framework adjustment.

- **Option A: Allow changes to fishing restrictions**
- **Option B: Change access and exemption fishery requirements**
- **Option C: adopt new coral zones, remove coral zones, or revise coral zones**

Committee recommended 3/22/16. As currently drafted, boundary issues, including creation of new coral zones, modification of the boundaries of existing coral zones, or removal of coral zones, would not be frameworkable.

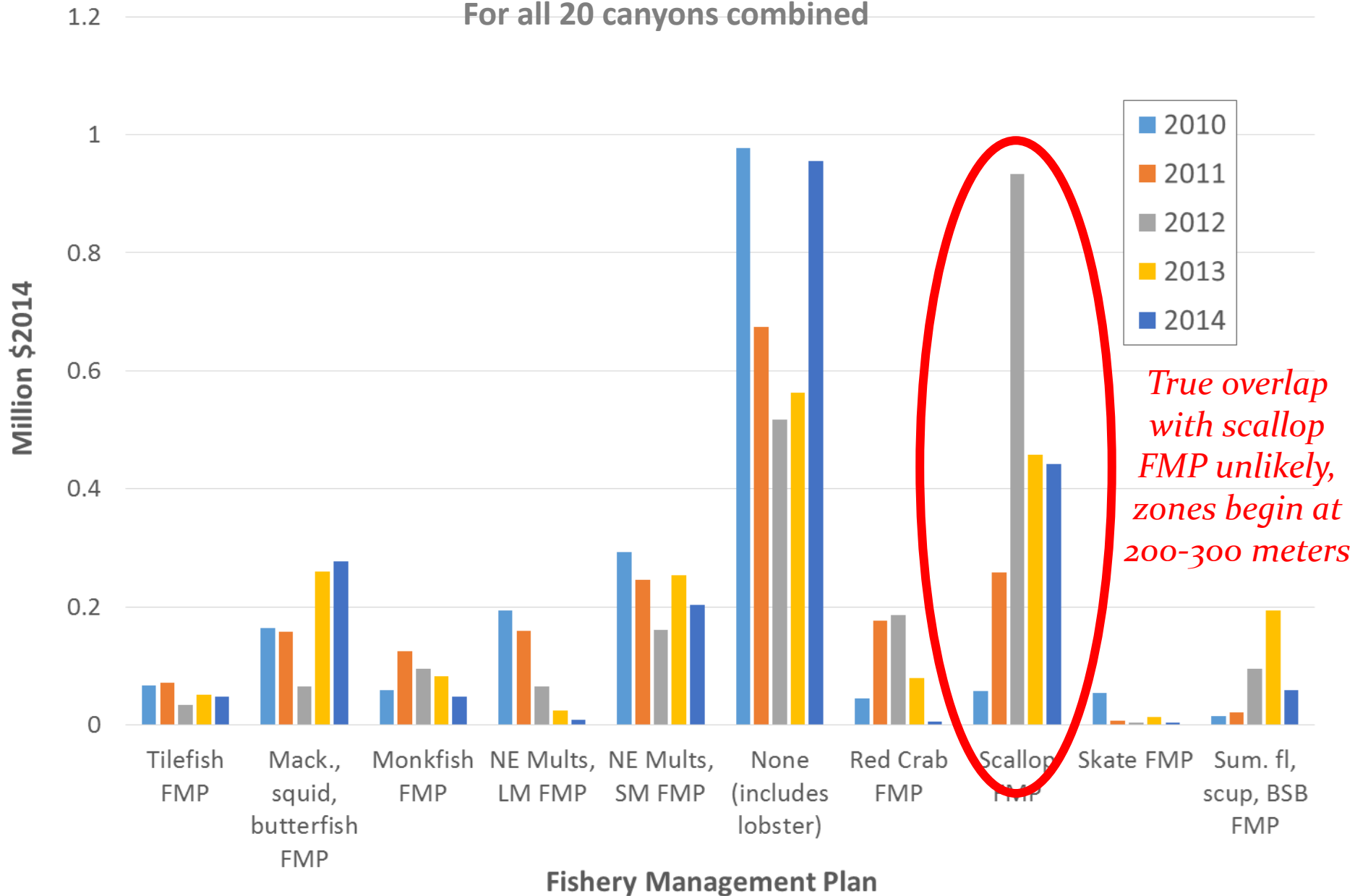
Fishery revenue overlaps with coral zones

- Based on vessel trip reports, for FMP and year indicated. Method used for OHA2 analyses.*
 - Bar charts: all VTRs were analyzed, but fisheries with very little overlap are not shown.
 - Maps: 50 m² grid. Data shown using natural breaks, with low values (less than 25-50\$ per grid) filtered out.
 - Can also examine revenue by gear type and species, vs. FMP, and look at effort (days) in addition to revenue.
- Not a census of all trips. VTRs not required for all lobster vessels. Will review ME state data as well as ASMFC survey of Area 3 lobstermen to supplement data for this fishery.
- Spatial imprecision in model may indicate revenue where none is likely – e.g. scallop fishing is very unlikely at 200-300m + depth.
 - Will compare with at-sea observations (tow tracks) and VMS data if available for a fishery.

**DePiper GS. 2014. Statistically assessing the precision of self-reported VTR fishing locations. NOAA Tech Memo NMFS NE 229; 16 p. doi: 10.7289/V53F4MJN*

Annual revenue overlapping canyon zones

For all 20 canyons combined



Annual revenue overlapping 300m broad zone

Values for 400 and 500 meter zones are a subset of this, with roughly 90% and 83% of 300 meter revenues, respectively



Annual revenue overlapping Gulf of Maine coral zones

