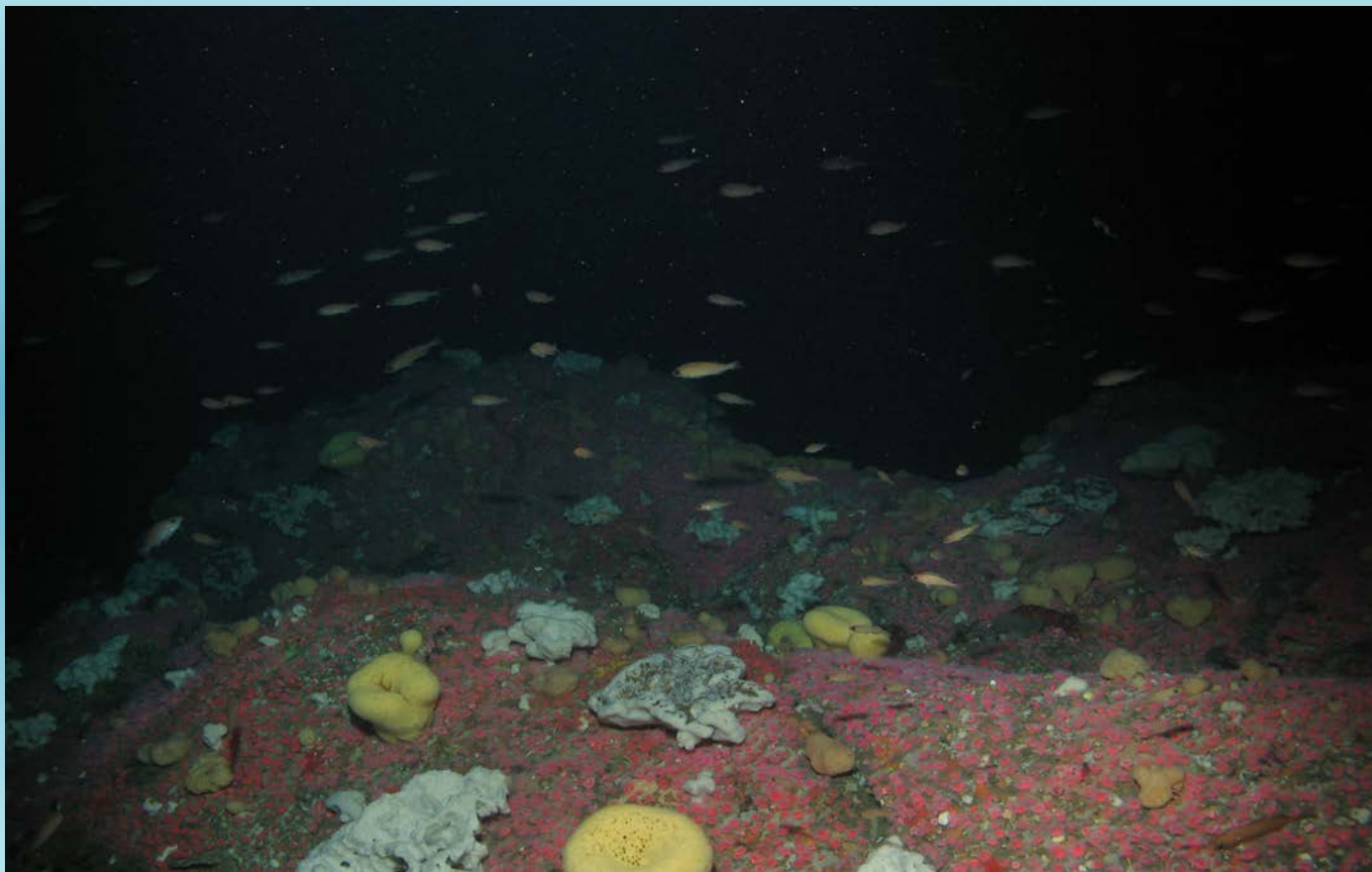




# Essential Fish Habitat in the Gulf of the Farallones National Marine Sanctuary

August 21, 2013



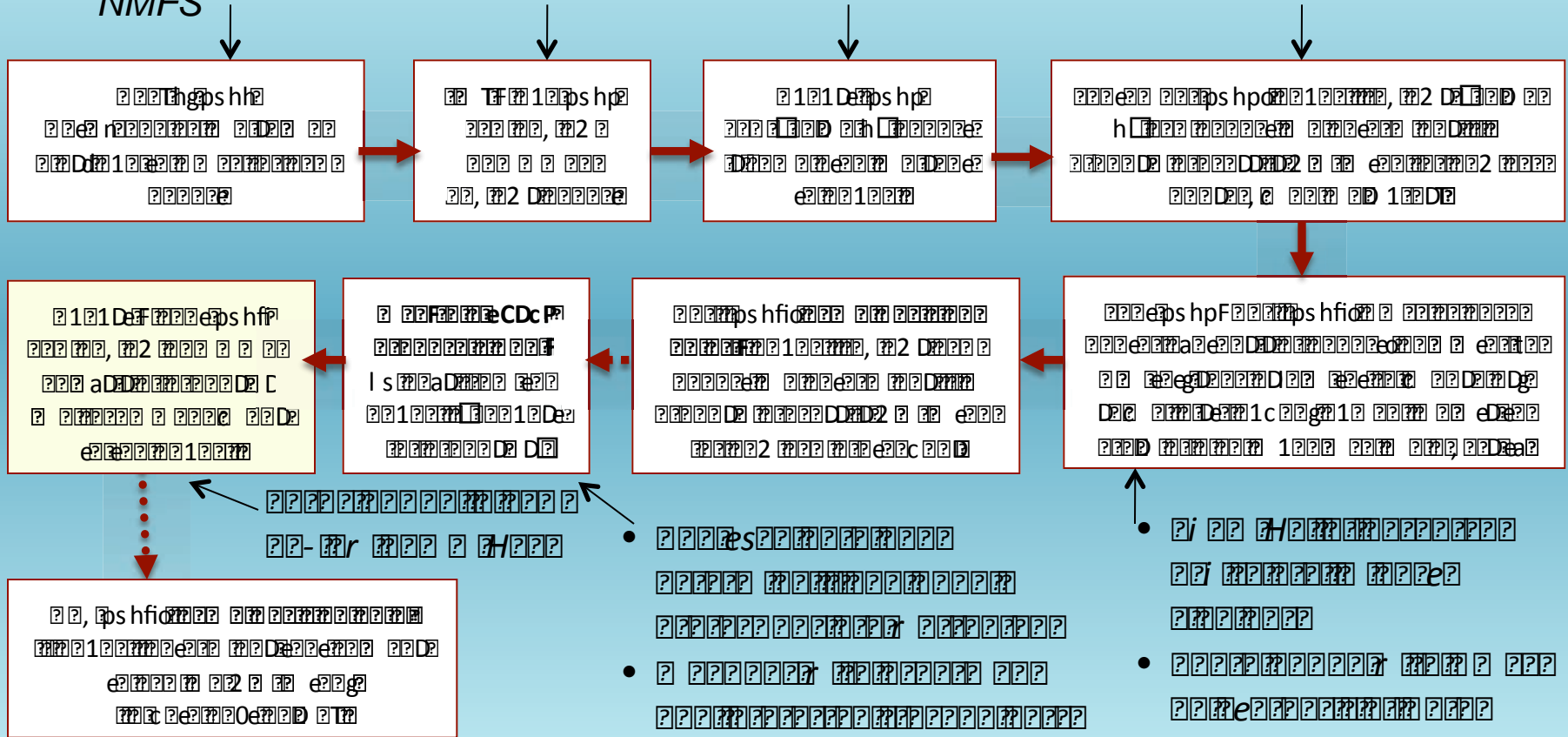
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# Preparation of Preliminary Maps and Coordination with NMFS

- Preliminary maps
- Coordination with NMFS

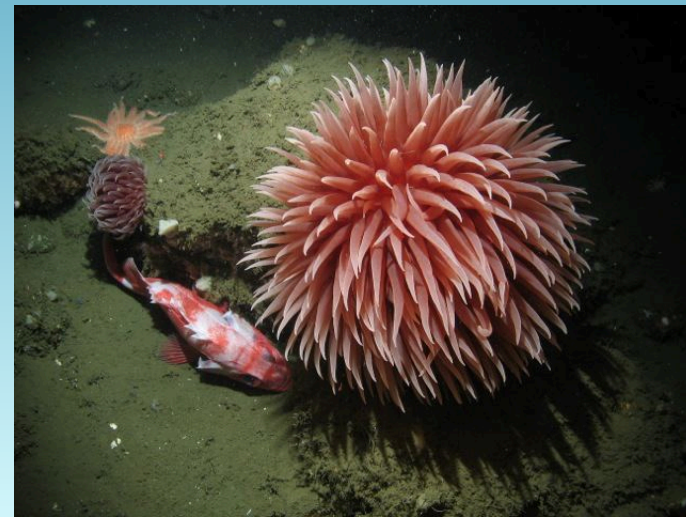
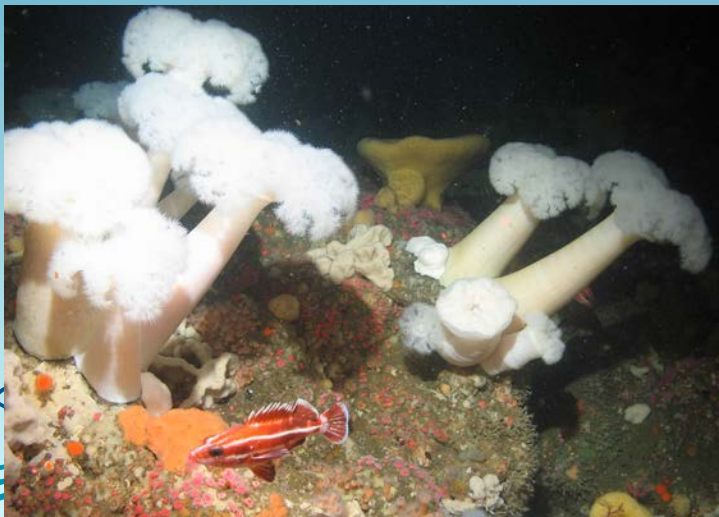
- Review of preliminary maps and coordination with NMFS
- Review of preliminary maps and coordination with NMFS



## Consistency with Pacific Council Responsibility

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- **GFNMS** has put forth an “options” proposal that provides information that the **Pacific Fishery Management Council** can use to better account for the function of **Pacific Coast Groundfish EFH** when making fishery management decisions.
- The **Council** is responsible for minimizing adverse effects on **EFH** to the extent practicable and, within that broader definition, to protect habitat areas of particular concern.



# Proposal Goals

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- 1) Identify and present information on three habitat areas within GFNMS that are currently not protected by EFH management measures that are unique, rare and/or ecologically sensitive either due to geologic features and/or contain known biogenic habitat (i.e. deep sea corals and sponges); and could be vulnerable to impacts of fishing on Groundfish Fishery Management Plan (FMP) EFH;**
- 2) Propose new EFH Habitat Areas of Particular Concern (HAPC) “Areas of Interest” and**
- 3) Propose options for new ecologically important habitat protection areas (aka EFH Conservation Areas) to minimize the adverse effects of fishing on groundfish EFH, while also minimizing socioeconomic impacts to the fishing community to the extent practicable, and furthering the protection of both biogenic and physical Groundfish habitat.**



## Proposed Actions

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- There are two types of proposed actions in the GFNMS Proposal:
  1. EFH Conservation Areas (Gear Prohibitions)
  2. Habitat Areas of Particular Concern Designations
- The Groundfish FMP currently identifies the following habitat types as Habitat Areas of Particular Concern: estuaries, canopy kelp, seagrass, and rocky reefs. In addition the FMP identifies specific areas as HAPC, called “Areas of Interest”, which are a variety of submarine features, such as banks, seamounts, and canyons.

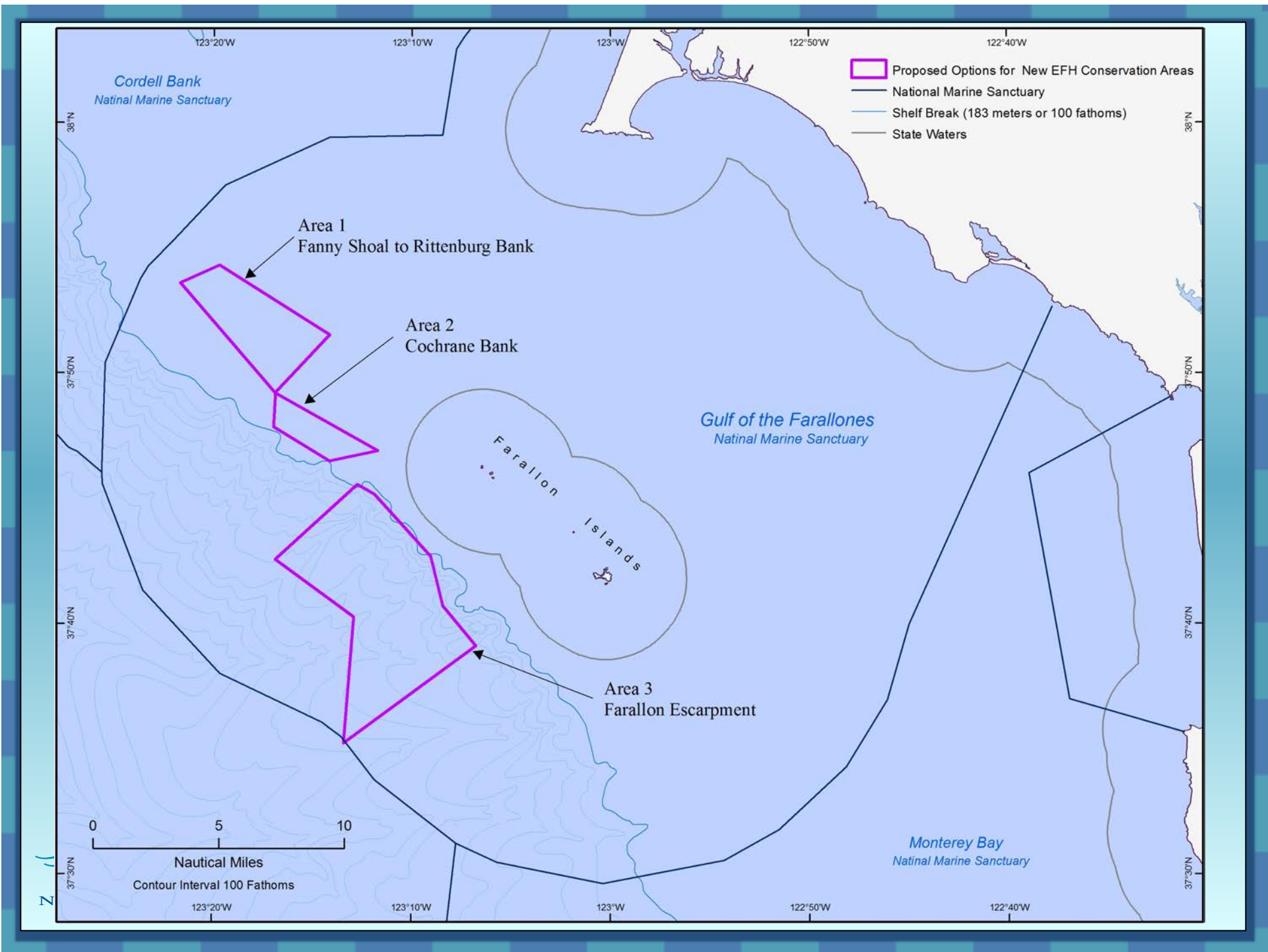


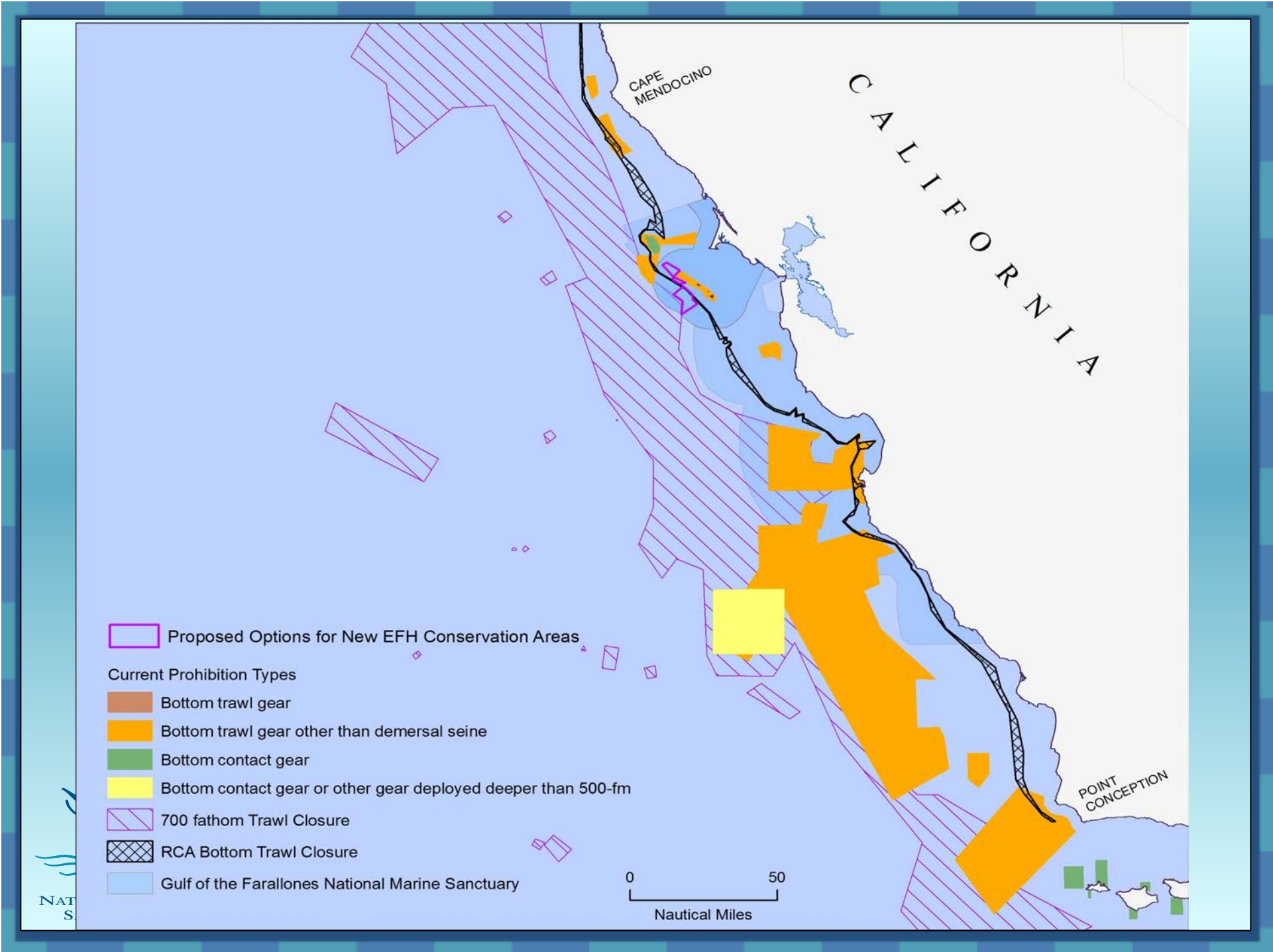
## Proposed Actions

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- Each option can be taken individually or can be combined in the current design or a new design, and/or be put forth into a suite of proposed actions.







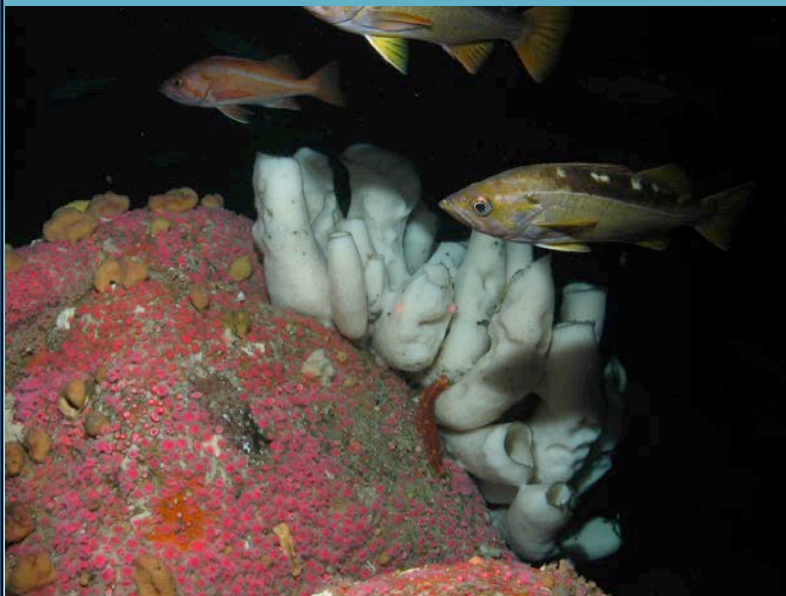


## Area 1: Rittenburg Bank to Fanny Shoal

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**Area Proposed:**  
17 square miles

**Depth Range:**  
~85 m to 115 m (46-63 fathoms)

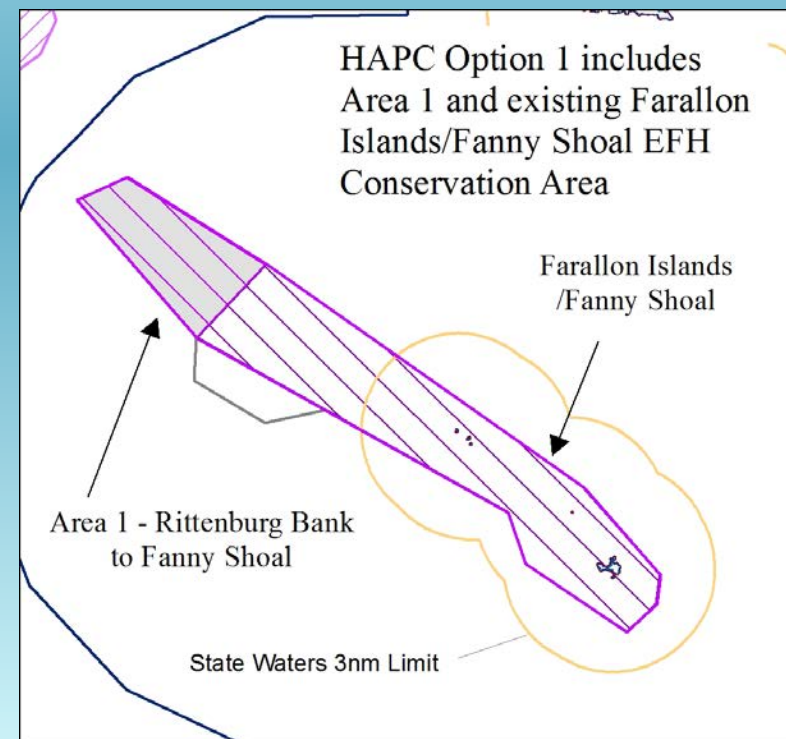


- On the continental shelf approximately 38 miles due west of the mainland and approximately 5 mi from the edge of the shelf. It includes an offshore bank of rocky habitat (Rittenburg Bank) and adjacent soft sediment that extends to Fanny Shoal.

## Area 1: Rittenburg Bank to Fanny Shoal Proposed Options

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- **EFH CONSERVATION AREA OPTION 1 - Propose Rittenburg Bank to Fanny Shoal as a new EFH Conservation Area, that prohibits bottom trawl gear, other than demersal seine.**
- **HAPC OPTION 1 – Propose Council consideration of new EFH HAPCs “Areas of Interest” at Rittenburg Bank.**



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## Area 1: Rittenburg Bank to Fanny Shoal – Key Findings

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- **Adult and juvenile groundfish species were observed in this area during the 2012 research cruise, with an estimated minimum of 23 taxa identified.**
- **There was a significant positive correlation between observed rockfish and biogenic habitat.**
- **Observation data from the 2012 research cruise showed that Rittenburg Bank had the highest number of coral colonies and sponges combined, with sponges greatly outnumbering the corals in terms of abundance, diversity and density. Rittenburg Bank also had the highest maximum density of sea pens.**



## Area 2 – Cochrane Bank

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**Area Proposed:**  
6 square miles

**Depth Range:**  
~95 to 160 m (52-87 fathoms)

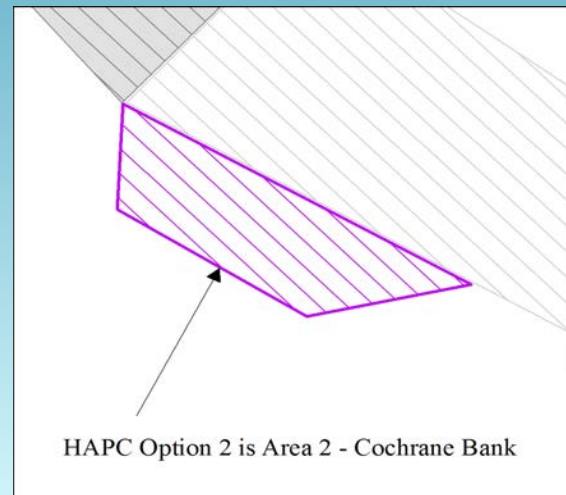


- **This is the deepest known rocky bank within GFNMS. This area is on the continental shelf approximately 39 miles due west of the mainland and approximately 1.3 miles from the edge of the shelf.**

## Area 2: Cochrane Bank Proposed Options

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- **EFH CONSERVATION AREA OPTION 2** - There are two sub-options for new ecologically important habitat areas (EFH Conservation Area) at Cochrane Bank.
  - **OPTION 2A** - Propose Cochrane Bank as a new EFH Conservation Area, that prohibits bottom trawl gear, other than demersal seine.
  - **OPTION 2B** - Propose Cochrane Bank as a new EFH Conservation Area, that prohibits all bottom contact gear.
- **HAPC OPTION 2** – Propose Council consideration of new EFH HAPCs “Areas of Interest” at Cochrane Bank.



## Area 2: Cochran Bank – Key Findings

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- 23 taxa of groundfish were observed, including numerous juvenile pygmy rockfish and other unidentified juvenile rockfish.
- A long-lived coral *Antipathes dendrochristos*, known as Christmas Tree Coral, a species previously thought to be endemic to Southern California was discovered at Cochran Bank. This is the first confirmed range extension north of Point Conception and the colony is estimated to be at least 100 years old. The size and growth rate of this species makes it vulnerable to potential habitat damage by all gear types.
- According to the NOAA publication, “The State of Deep Coral Ecosystems of the United States,” Christmas Tree Coral has a high rating of structural importance, meaning they are known to provide vertical structure above the sea floor that can be utilized by other invertebrates or fish.



## Area 2: Cochrane Bank – Key Findings

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- **Cochrane Bank area had the highest observed on-transect percentage of derelict fishing gear, which included nets and line.**
- **Out of 34 surveyed transects at all three areas, derelict fishing gear was observed on an average of 20% of transects, based on photo observations. Derelict gear was not observed on the 2 transects surveyed at Farallon Escarpment.**

The percentages below represent the total percentage of transects with observed derelict gear, by bank location. Although more derelict gear was found at Rittenburg Bank, it had a lower overall percentage on transect because surveys were conducted on a higher number of transects and two pieces of derelict gear were observed on one transect. *Note: Less than 1% of each bank area was surveyed.*

### Derelict Fishing Gear by Transect from Photo Observations\*

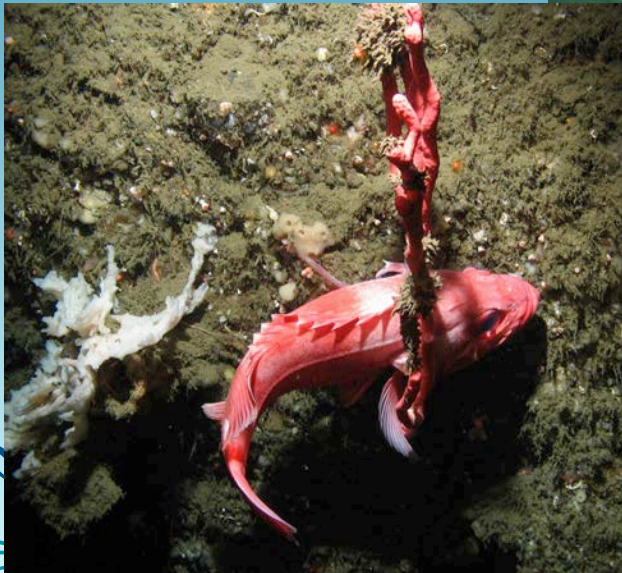
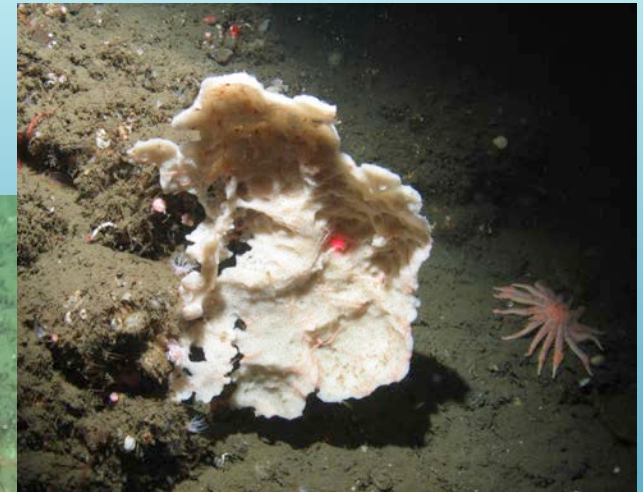
	Rittenburg Bank	Cochrane Bank
<b>Non-monofilament or Long Line</b>		1
<b>Fishing Net</b>	1	2
<b>Monofilament Line</b>	4	
<b>Percent of Transects With Derelict Gear</b>	<b>22%</b>	<b>27%</b>

## Area 3 – Farallon Escarpment

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**Area Proposed:**  
47.3 square miles

**Depth Range:**  
~182 to 1280 meters  
(100-700 fathoms)



Approximately 38 mi due west of the mainland on the upper continental slope. Includes canyons, known areas of exposed bedrock on fault scarps and biogenic habitat in an area where groundfish FMP species are known to occur.



## Area 3: Farallon Escarpment

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- **EFH CONSERVATION AREA OPTION 3 - Propose Farallon Escarpment as a new EFH Conservation Area, that prohibits bottom trawl gear, other than demersal seine.**

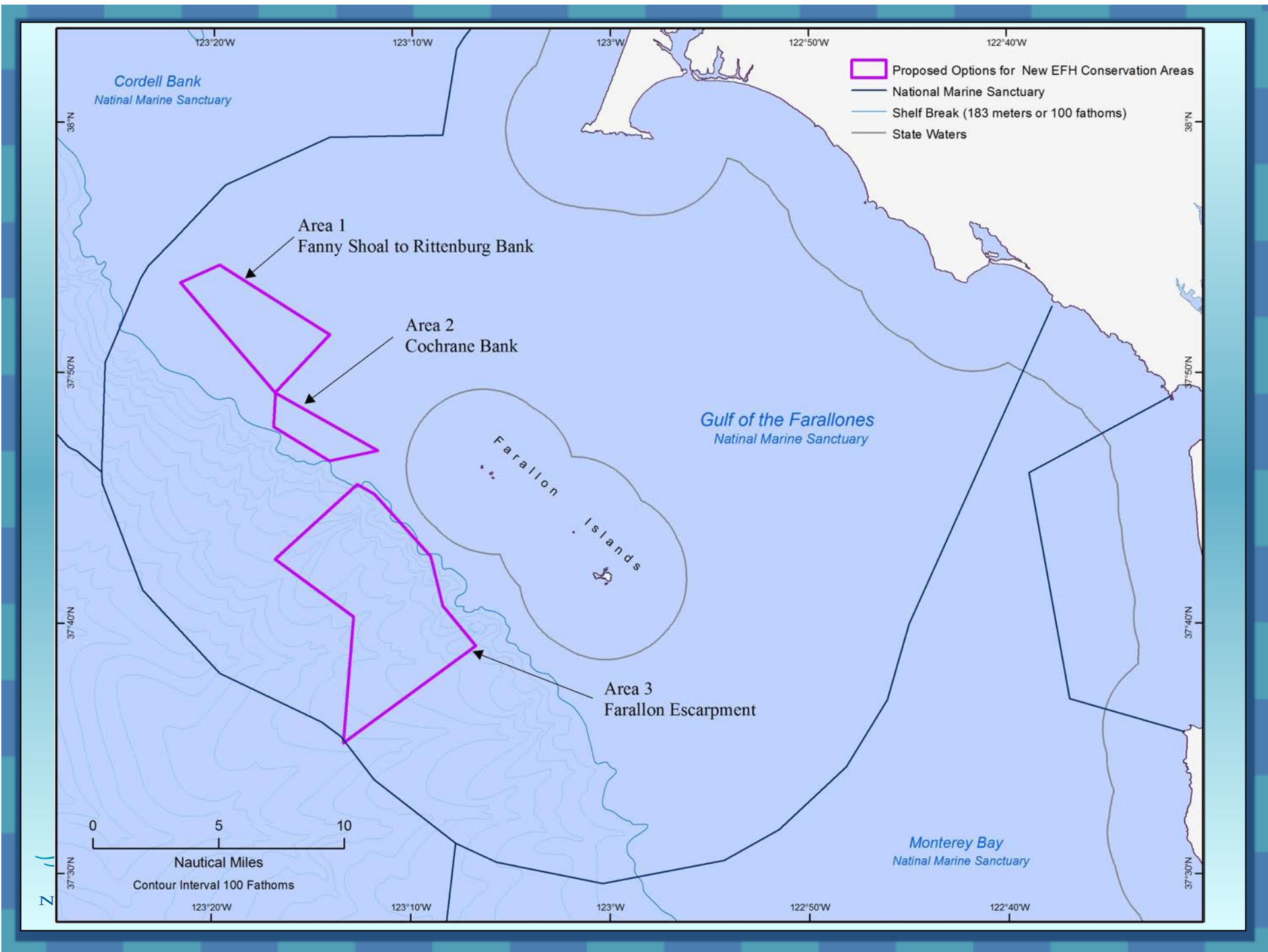
**Note: GFNMS did not propose a HAPC “Area of Interest” for the proposed EFH Conservation Area at the Farallon Escarpment.**

- **The entire Escarpment heads north, south and west of GFNMS boundary, placing portions of it beyond our jurisdiction.**
- **The Escarpment is larger than the current GFNMS proposed EFH Conservation Area boundary.**



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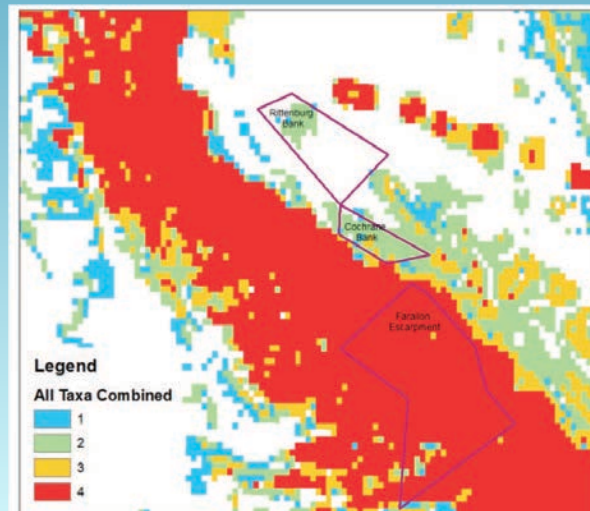
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## Area 3: Farallon Escarpment – Key Findings

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- 7 taxa were observed from the 2012 research cruise photos. Most fish were observed resting on ledges, in crevices, or on corals and sponges.
- Observation data showed that the Farallon Escarpment had the highest density of corals compared to Rittenburg and Cochran Banks. However, there are only 2 observed transects at the Escarpment. One secondary source of information that can be considered for the area not surveyed is the Guinotte and Davies habitat suitability model for west coast corals, which shows that the Farallon Escarpment has high coral habitat suitability predicted for all taxa.



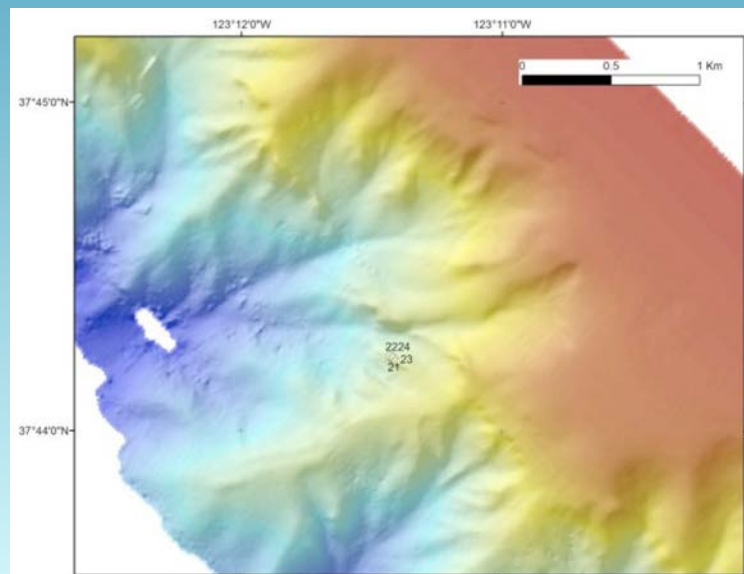
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## Area 3: Farallon Escarpment – Key Findings

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- The design at the Farallon Escarpment encompasses the largest area of the three options, which is a product of drawing an area that includes important geologic features throughout the entire upper shelf depth while also allowing trawling north, south and east of the proposed area.
- The Farallon Escarpment substrate is unique because it contains canyons, gullies, ridges and fault scarps, exposing continental shelf bedrock. The escarpment also is less than half the width (35 km) and twice as steep (gradient of 5°) compared to the area to the south.



- Shelf-edge canyons have been observed to have enhanced biomass due to onshore transport and high concentrations of zooplankton, a principal food source of juvenile and adult rockfish.

# Outreach

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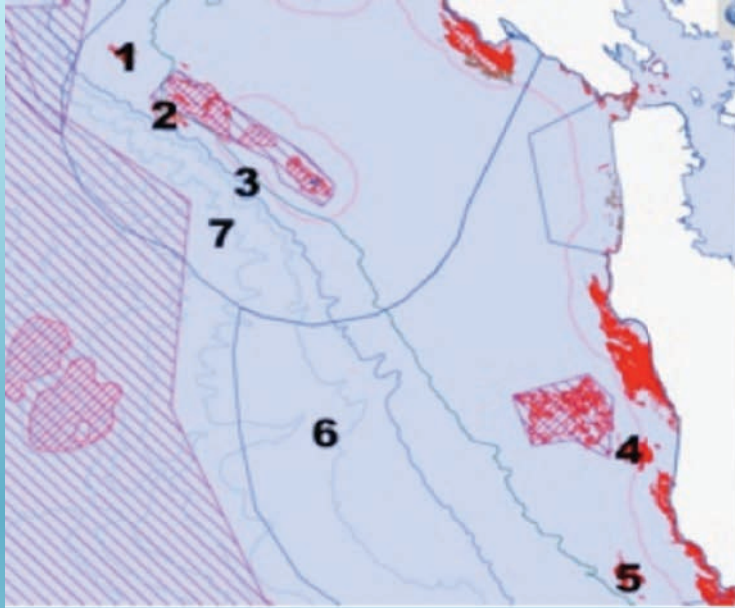
- The current boundary designs were developed based on numerous discussions and feedback from local stakeholders, including the fishing community.
- Within a 3 month timeframe we participated in and/or hosted 6 larger group meetings with the fishing community from 4 different ports and NGOs spanning almost 300 miles of coastline. We used the user-friendly discussion support tool (presented at the last SAC meeting) to facilitate the discussions.
- The final designs are a result of stakeholder discussions and feedback during these meetings, subsequent phone calls and in person one-on-one meetings.

<b>“Areas of Interest” Discussion Meetings with the Fishing Community</b>	
<i>Date</i>	<i>Location</i>
April 29, 2013	San Francisco
May 16, 2013	Ft. Bragg
June 3, 2013	Monterey
June 17, 2013	Half Moon Bay
July 9, 2013	Monterey
July 11, 2013	San Francisco



## Areas of Interest and Reviewing Other Proposals

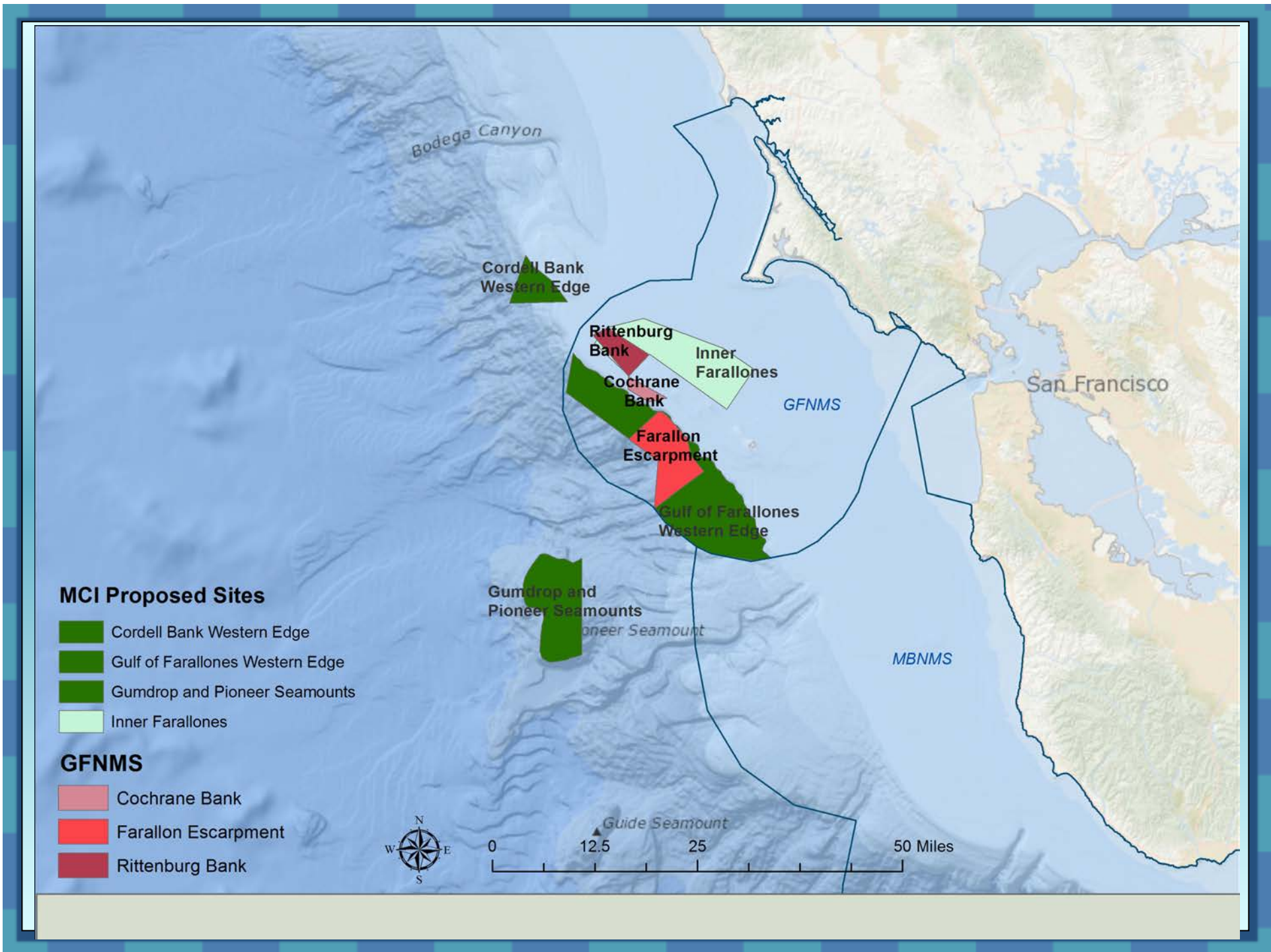
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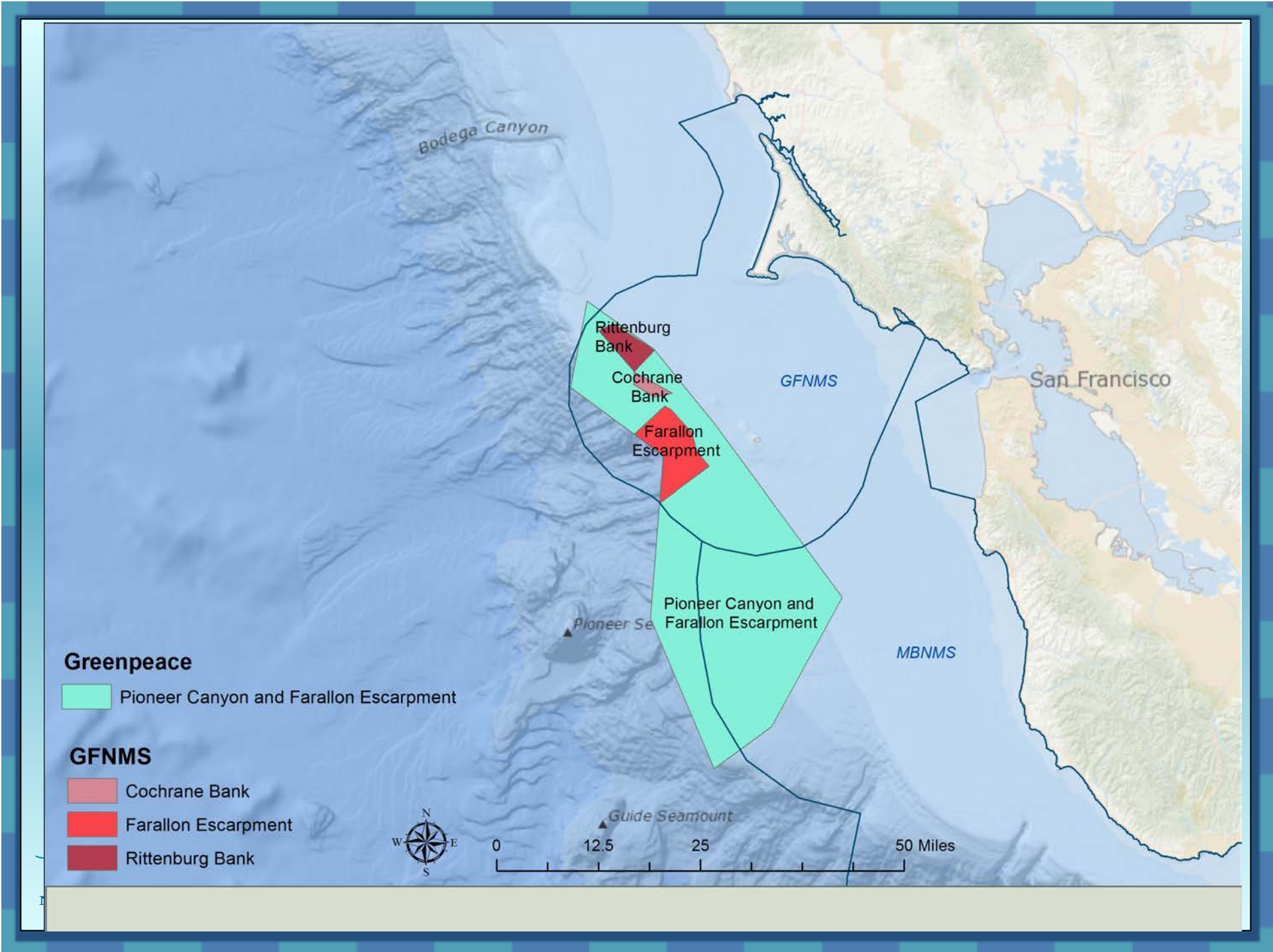


Our stakeholder discussions included areas in the northern portion of the Monterey Bay National Marine Sanctuary (MBNMS) off Half Moon Bay. GFNMS did not submit a proposal for this area at this time, but is interested in reviewing any proposals for EFH area closures or HAPC designations in this region.

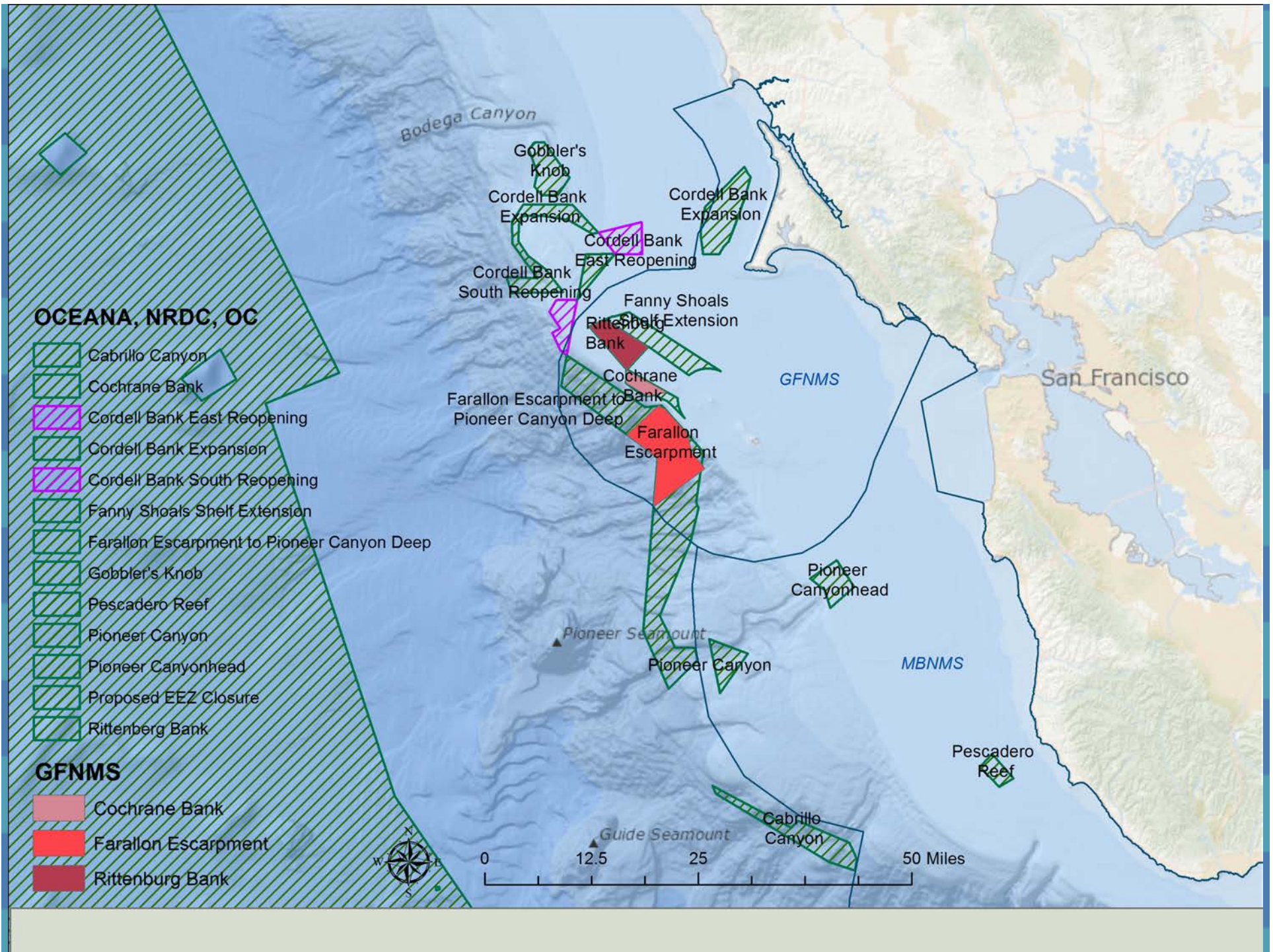
- Stakeholders have not reached specific agreements with the particular boundary designs for these areas and/or proposed management measures. However, creative alternatives for EFH Conservation Areas were put forward as options for the Pacific Fishery Management Council consideration.





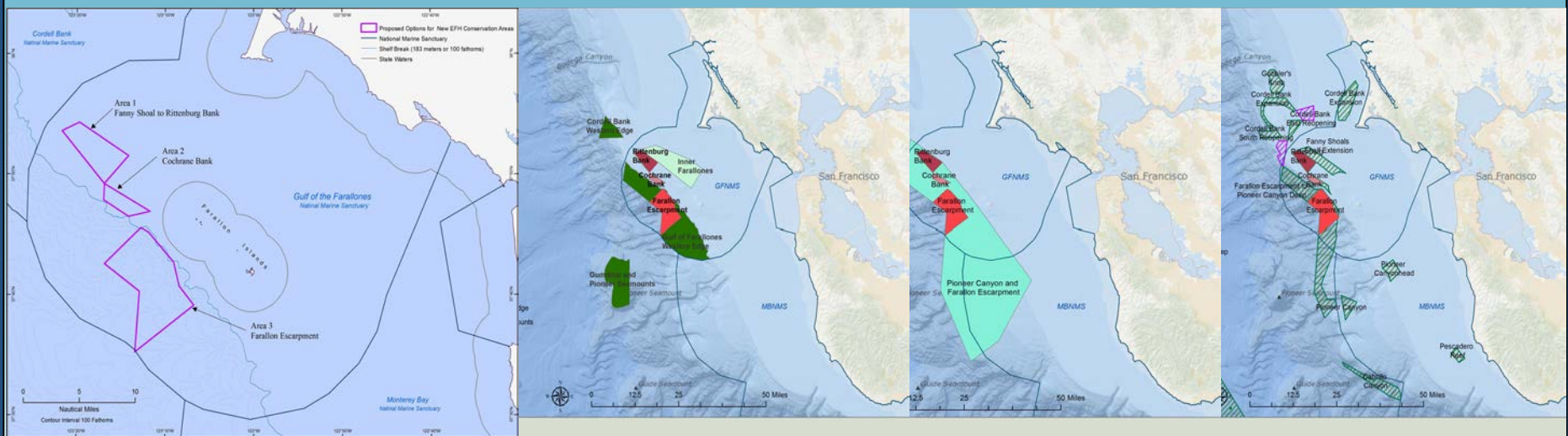






# Next Steps

- **GFNMS will continue to participate in the Pacific Fisheries Management Council process to designate new EFH management areas. All proposals will be reviewed through the Fisheries Council.**
- **GFNMS welcomes additional feedback.**
- **GFNMS can facilitate future discussions with stakeholders, agencies, institutions, and organizations to help build partnerships to garner support for reviewing and supporting EFH HAPC and EFH Conservation Area designations within the GFNMS management area.**



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