Commercial Fishermen of Santa Barbara

CFSB/Ocean Rainforest Meeting - June 11, 2024

NOAA's slides attached at the end of this document

Attendees: Eliza Harrison, Terry Wilmarth, Gary Burke, Ricky Gutierrez, Kim Selkoe, Oliver Gregersen (Ocean Rainforest CEO), Jeff Hepp, Shane Robinson, Mark Fina, Doug Bush, Chris Schillaci (NOAA), Jessica Carlton (NOAA), Mary Nishimoto (JOFLO), Andy Rasmussen, Dee Gorgita, Jr. Gorgita, Ed Anderson, Jason Woods, Bernard Friedman, Nick Gugliemo Sr., Nick Gugliemo Jr., Ken Franke, Celia Barroso (NOAA), Tony Luna

Notes: Ava Schulenberg

Agenda:

1. **Intros**
2. **NOAA**
3. **CEO**
4. **Comments/Questions**

Eliza starts the meeting at 4:03PM upstairs in the harbor classroom.

Agenda:

5. **Intros**
    1. Eliza introduces herself as the Director of CA operations
6. **NOAA**
    1. Chris Schillaci introduces himself and goes over the NOAA Aquaculture Program: Ocean & Atmospheric Research, National Marine Fisheries Services, National Ocean Service (supporting aquaculture growth in the U.S.; They are not regulatory, they help inform decision making processes in shared ocean spaces)

2. Spatial Suitability Modeling: This model weights locations relative to each other based on a given criteria
    1. Analyzes the "whole ecosystem"
    2. Identifies hotspots of conflict and opportunity
    3. Requires set rules (weights) and methods
    4. Provides defensible and transparent models
    5. Allows for Scenario Planning
    6. Supports Comprehensive Environmental Review
    7. They try to find the best spatial data layers and then break the ocean down in 10 acre grid cells
    8. Preliminary Siting Analysis:
        a. Parameters
        b. Area of Interest
            i. 15,490 acres
    9. Ocean Rainforest Preliminary Analysis:
        a. The blue areas on the map (scroll down on this document to see their PowerPoint Slides) displayed show "suitable" locations (10,000 acres)
        b. Kim asks why Dungeness Crab and Pink Shrimp on the Data Layers of this area when those species aren't fished there?
            i. Chris says because someone logged in and logged that they fished those things there
                1. Kim asks why there's no rock crab? They don't have an answer
                2. Ricky says Dungeness is not allowed South of Pt Conception so the "D Crab pots" listed on the list should reflect rock crab pots not D crab
            ii. Andy also asks why there's no White Seabass on the list? Chris says they're not sure but they will look into it
            iii. Chris says they are not in a position to tell NMFS the data is wrong but they will tell them to check their data and look into it
        c. Gary asks if they contacted all fishermen in the area? Chris says they're not allowed to do that through VMS

specifically; Gary says they're missing a lot of stuff and a lot of boats don't even have VMS
    i. Chris says they try to use logbook data as a proxy but that's why Seasketch data can be really helpful if it's done right based on community input

d. Jr brings up Santa Monica Bay because there's a lot of nice unfishable areas down there with harbors and infrastructure
    i. Jr says when this all goes to hell, who's going to clean it up? He says you're talking about millions of dollars
    ii. Jr emphasizes that they're taking away grounds from his son who will fish for 20 more years and even with the current demo site, that's costing his family money
    iii. Jr says he's going to call his lawyer right after leaving this room because he's not going let his dragging grounds get taken away
    iv. The group allows Chris to finish his presentation before addressing Jr's concerns

e. Chris continues his slides and goes through the siting analysis
    i. Next Steps - Phase II Siting Analysis
        1. Cross reference WCR data inventory
        2. Update navigation and transportation data (2022 AIS vessel tracks)
        3. Update fishing data through 2022
            a. VMS and CDFW log and landings data
        4. Detailed option characterization
    ii. Gary thanks Chris for the presentation but the data is very wrong; He says logbook data is better but still not great; You have to interview fishermen individually
    iii. Jr brings up Port of Hueneme because on the maps (scroll down to see slides) shown it looks like south of Port Hueneme is clear
    iv. Jeff Hepp says they should put it in the Doris Ellen Reserve

v. Jr emphasizes that in Santa Monica Bay there's depths and bottom that would be perfect for this
vi. Gugliemo says 6 miles off Redondo is a good area
vii. Andy asks if there are any other aquaculture lease applications in that area? He asks where they draw the line? This is a good question but Chris says that answer is out of their wheelhouse
viii. Bernard asks why they have to go that big, why not 200 acres instead?
ix. Gary confirms that they're doing the modeling for fishing only right? Chris says it's more comprehensive than that; The submodels are given equal weight; For fishing data, he says it's how many times a vessel transited that cell block for VMS data or what was reported in that block for VTR data
    1. Kim says any fishing impact can only be 20% overall, and then the more fisheries you divide it into, you're diluting the impact to halibut and rock crab and white seabass so it seems like it would be a big advancement if you had a more informed fishing model that represented the weight of each fishery specifically
    2. Kim also mentions that there's no economic impact analysis; She's asked for 3 years now since the AOA analysis started and she's never gotten an answer.
        a. Chris says they look at highest revenue reported areas and look at how revenue weighs out when looking at the fishing model; He says he's happy to take a closer look at that but one of the challenges is the data is confidential but needs to be presented somehow in a non-confidential format

   b. Chris says getting data from OLE (Office of Law Enforcement) is like pulling teeth
3. Shane asks why they're giving someone from out of our country a lease on aquaculture? Eliza says it's not NOAA, it's from Army Corps of Engineers; Eliza says Shane can raise this concern during their permitting application process
4. Chris appreciates everyone's time and says they are invested in creating accurate models so he encourages Kim to reach out to him in order to improve their products
   a. Kim emphasizes that the SeaSketch maps aren't going to be accurate for this kind of analysis unless the pre-sited area is provided ahead of time otherwise fishermen are going to draw huge shapes and maybe not as fine-tuned; The timing of all this is tricky
   b. Gary asks how he can contact Chris; Eliza says that they will share the slides with Ava (they are attached at the bottom of this document; Chris' contact info is available on the last slide)

7. CEO

1. Oliver introduces himself and thanks everyone for allowing him to be here
   1. He says he is from the Faroe Islands
   2. He lives 150 ft away from the ocean and the reason he started this company 16 years ago was partly because he had been working with people close to the ocean his whole life
   3. His father had 2 trawlers in Greenland but he couldn't get into fishing himself because all the permits were taken so he had to figure out how to work in the ocean in another way

4. His partner approached him about seaweed because seaweed only needs light and carbon and a substrate for it to grow and as it grows you can harvest it for feed or for bio-ethanol products
5. He worked on the business alone for 14 years and then in 2018 he got American investors on board
6. He says he knew nothing about macrocystis until he learned about the options in America that could support this growth process
7. He says the last thing he wants is a fight with everyone
    a. Jr says he's got one now
8. Oliver asks the group if they're interested in having another industry in the ocean alongside our fishing businesses
    a. Bernard says yeah if it's complimentary but this isn't complimentary
9. Oliver says this proposed 2000 acre area is not set in stone and this is why we're all here today
10. He says the demo site has to be moved in November but they would like to keep it longer if possible because it took them longer to implement than anticipated
    a. Bernard says the demo farm should have demonstrated the ability to grow macrocystis but it's not a credible venture at 2000 acres; They haven't offered a proof of concept
    b. Bernard asks how much money has been invested so far? Oliver says they have 2 grants and have spent about $5 million in grants and $1 million of their own money; Bernard interjects and says with not much to show right? Oliver says they will need to have another meeting in September in order to show more accurate data
        i. Shane asks where they spent the $5 million?
            1. Oliver says so far negative $1 million
            2. Jr says he knows Danny C got a lot but that's not what we're here to talk about
11. Oliver says he is not interested in finding a site where there is conflict; The last thing he says he wants to do is eliminate more fishing grounds
12. Jr asks how they can ensure that the grounds where the demo site are are workable once this is cleaned out
    a. Eliza says they are required to provide a benthic survey

   b. Oliver says they can pull the big anchors (500 lbs) out in 3 days; They are connected on 2 points (a neckline and back point)
   c. Jr asks if their name is on all their stuff out there because the oil companies would claim that stuff wasn't theirs? Eliza says yes they are required to

8. Misc Comments/Questions

1. Jr says they got away with the preliminary site and no one fought them but people will fight now
2. Nick says go to Santa Monica Bay and all their problems will go away
3. 86 acres vs 2000 in the
4. Jr brings up Port Hueneme again
    1. Eliza says you're not allowed to get a permit in rocky area off Port Hueneme
5. Jeff says he's not against the kelp farm just don't put it in the middle of our freeway
6. Eliza says this is the first they're hearing suggestions of Santa Monica Bay but this is not true and Kim says that we've been bringing that up for at least two years; And the meeting minutes reflect that
7. Gary asks why they chose the U.S. instead of South America or Europe?
    1. When Oliver started Ocean Rainforest he says he didn't intend to come to Santa Barbara
        a. Bernard brings up the Catalina nightmare where millions of dollars were wasted and someone died
        b. Oliver says it's not just them - There are others from UCSB etc. that are gaining knowledge and doing studies on the site
8. Oliver says we should meet again in September after they've done their first harvest; He says they have nothing to hide
9. Oliver says you can't guarantee anything in the ocean but they don't want to put anything out there that won't stay
10. Bernard says what's not being talked about is all the concrete to counteract the buoyancy of macrocystis
    1. Eliza says they're using cinder blocks vs pouring concrete and the dimensions are different
11. Eliza says the whole project is going to be an iterative process; They wouldn't be putting an entire 2000 acre farm in at once

12. Bernard says, but is the business model even there because they don't even know if they can make a dollar?
    1. Oliver says they know they have to have a certain threshold in order to make it economically viable and they are confident in their business strategy
13. Gary asks about the timeline
    1. Oliver says the permitting process alone can take up to 7 years, though they are hoping that they get it in 2-3
14. Oliver says they are producing 3000 tons of microcystis in Mexico and have proven it's a viable business; They would be getting 10,000 tons a year if successful
    1. Shane asks how much money they get per ton? Oliver says that depends on the market; He says the average number is $10,000 per dry metric ton
    2. Gary asks how they will dry it? Oliver says they have not secured their processing yet
15. Bernard brings up the 16 acre demo site
    1. Oliver says they hope they will harvest somewhere between 10-15 metric tons
    2. Bernard asks how they want to harvest? Oliver says he wants to wait to talk about that until they have matured more as a company but they are hoping to utilize resources in this harbor
16. Nick says we all put our livelihoods out in that block. Why don't they get a grant to mitigate their economic loss?
    1. Oliver says that's not something that's really possible; Difficult to quantify
17. Oliver says they don't want to take bread out of any fishermen's area
    1. Kim says but you know that's what you're doing and you've known that's not true?
    2. Eliza claims that they did not know until about a month ago that this would have a fishing impact. Kim says
18. Oliver asks the group if they find a site that does not conflict with fishing, would everyone be OK with a kelp farm, in theory?
    1. Nick says it does not bother him
    2. Jeff says he's all for it
    3. Jr says he's all for it if it's somewhere else
    4. Bernard says it sets a bad precedent of allowing other foreign companies to come do copycat operations

19. Kim says after years of investments why haven't they asked earlier?
    1. Oliver says what they are doing with their research and development site out here is figure out if this design could work in this ocean environment; They're testing different seeding methods; Oliver says it might turn out to be a crappy site, but they won't know that until this fall but so far they are optimistic but nobody is interested in putting a large investment into something that is financially unsuccessful in terms of the bio product that is produced
20. Dee asks why Oliver is here?
    1. Bernard says he can tell the story
21. Jr asks how much of his money is invested in this?
    1. Oliver says $1.2 Million cash; He says he's been working with this for 14 years
22. Kim asks them to spell out the benefits because there's no specifics so we don't know how to evaluate it
23. Bernard says if something breaks do they have a vessel to go fix things; A real work boat?
    1. Eliza says yes they have their own boat and it was purchased last year
24. Dee asks what they will do with the money they make?
    1. Oliver says they hope that it will be used to benefit this community in some way
    2. He also says he would love to see this all as an opportunity for fishermen to be employed or make money through this operation
    3. Eliza says around 450 direct and indirect jobs would be created based on their preliminary economic analysis
        a. 125 jobs through production
        b. $30-50 Million ideally brought to Santa Barbara County
25. Gary asks if they would be OK with any of the other 9 options?
    1. Oliver says he knows nothing is set in stone when it comes to the ocean and that he wants to come up with a solution that works for all; He emphasizes that the last thing he wants to do is have this battle with fishermen and he emphasizes that he needs our service
26. Oliver says the problem with small–scale kelp is the markets aren't there; You need to have bigger markets like feed or commercial use for humans because the market demand for that scale is there
27. Terry asks how water temperature plays into this?

1. Oliver says they expected it to be much higher this spring than it was, so ideally they need something warmer

28. The meeting ends with Oliver confirming that we will have another meeting in September and he will have more concrete information and updates about siting at that point. Ava will communicate details of the next meeting when she is given that information from Eliza/Oliver.

Eliza ends the meeting at 5:47PM.

Eliza encourages people to contact her with any questions or concerns in the time between this meeting and the next planned Ocean Rainforest meeting in September. Her email address is eliza@oceanrainforest.com.

See below for NOAA's presentation.

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NOAA's PowerPoint Presentation Slides

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Ocean Rainforest Phase I Preliminary Site Suitability Analysis

Christopher Schillaci
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Jessica Carlton
CSS under contract to NOAA/NOS/NCCOS
Jessica.Carlton@noaa.gov

Coastal and Marine Planning
Marine Spatial Ecology Division
National Centers for Coastal Ocean Science
National Ocean Service

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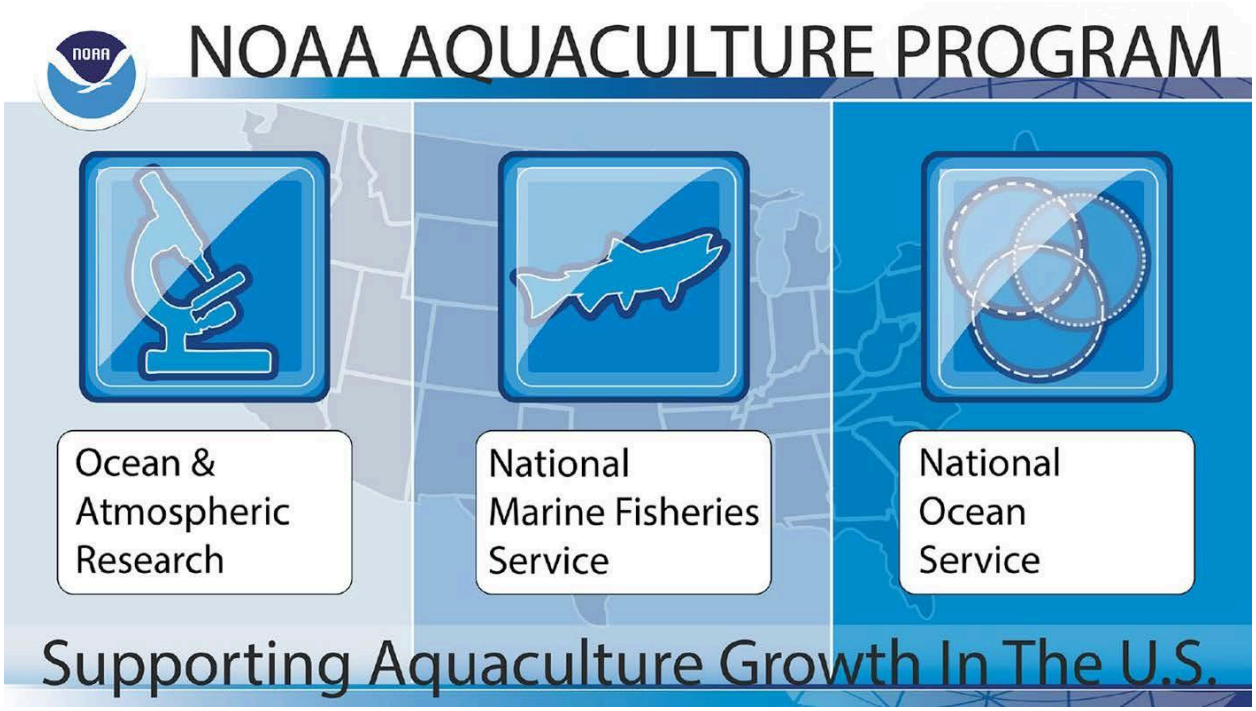

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Why Spatial Suitability Modeling?

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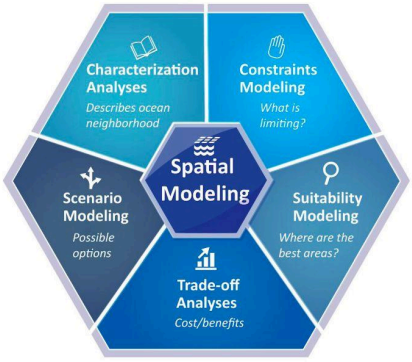
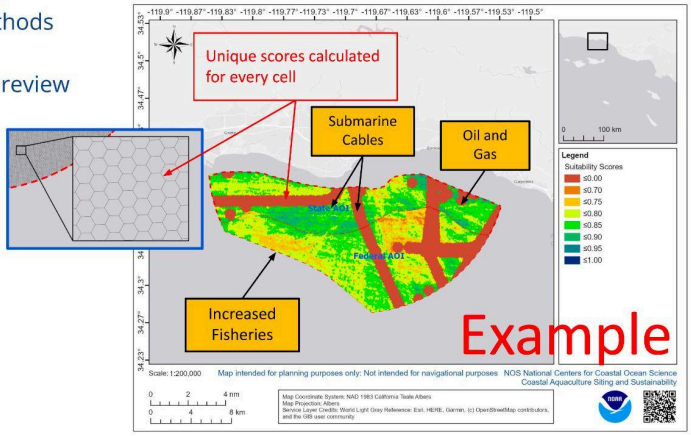
- Analyzes the "whole ecosystem"
- Identifies hotspots of conflict and opportunity
- Requires set rules (weights) and methods
- Provides defensible and transparent methods
- Allows for scenario planning
- Supports comprehensive environmental review



A **spatial suitability model** weights locations relative to each other based on a given criteria.



VMS long-term departure exemption 2010-2017

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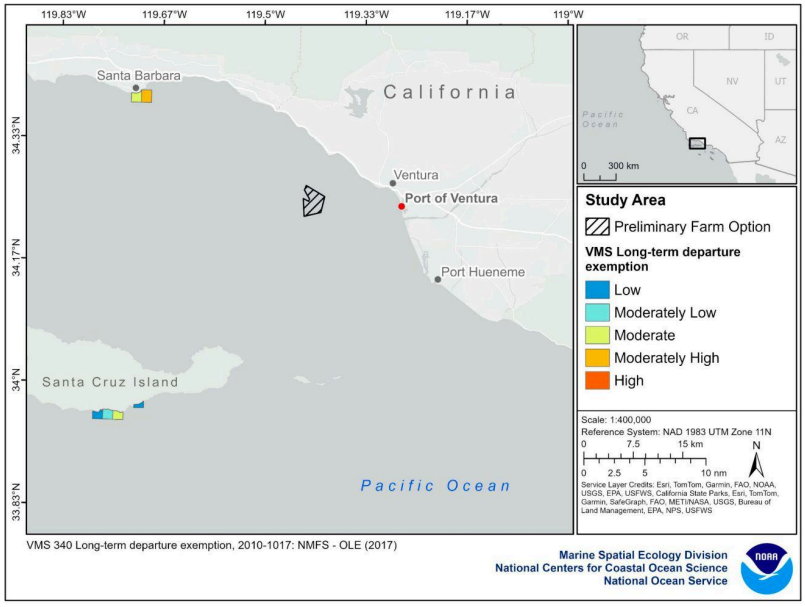

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VMS Other gear type not listed 2010-2017

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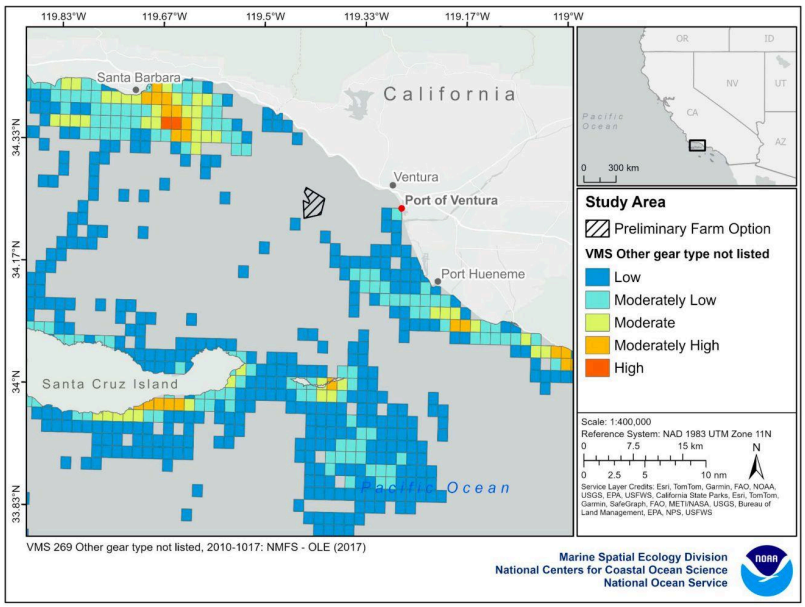

VMS open access California gillnet complex gear 2010-2017

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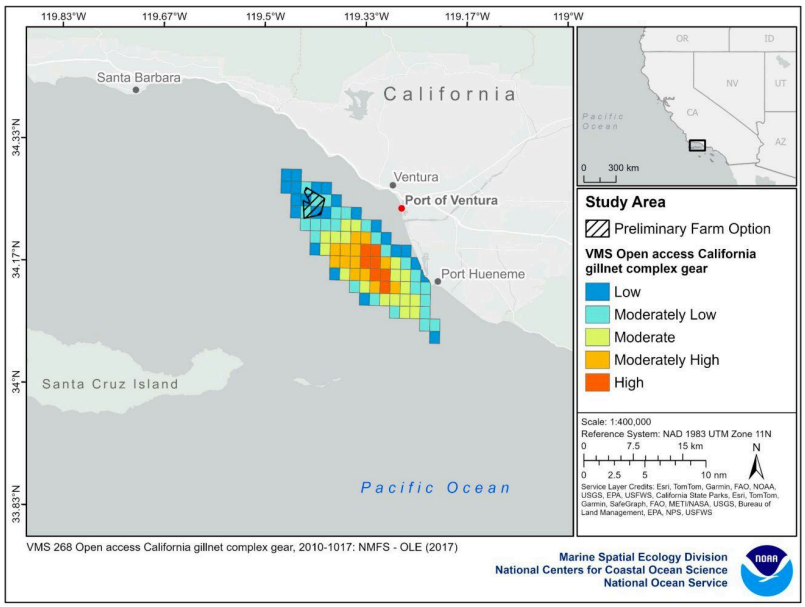

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VMS open access California halibut line gear 2010-2017

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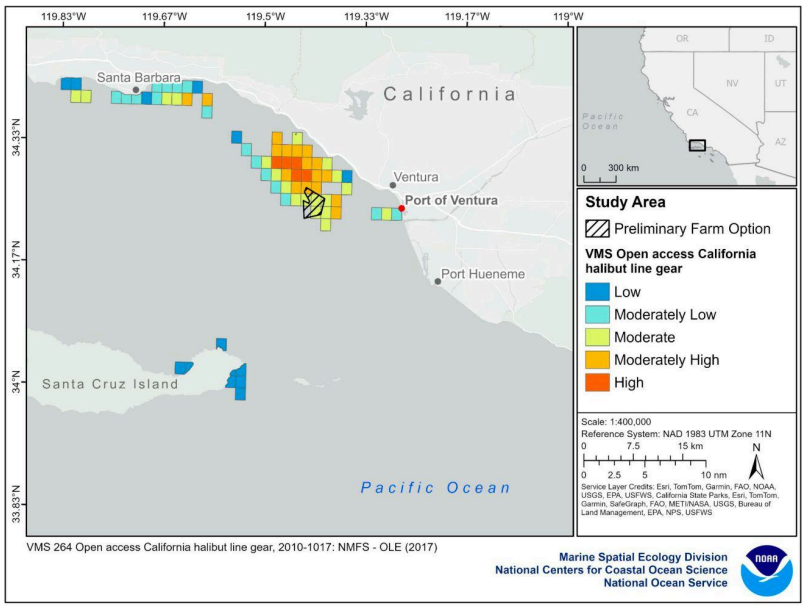

VMS 264 Open access California halibut line gear, 2010-1017: NMFS - OLE (2017)

Marine Spatial Ecology Division
National Centers for Coastal Ocean Science
National Ocean Service

VMS open access Dungeness crab trap or pot gear 2010-2017

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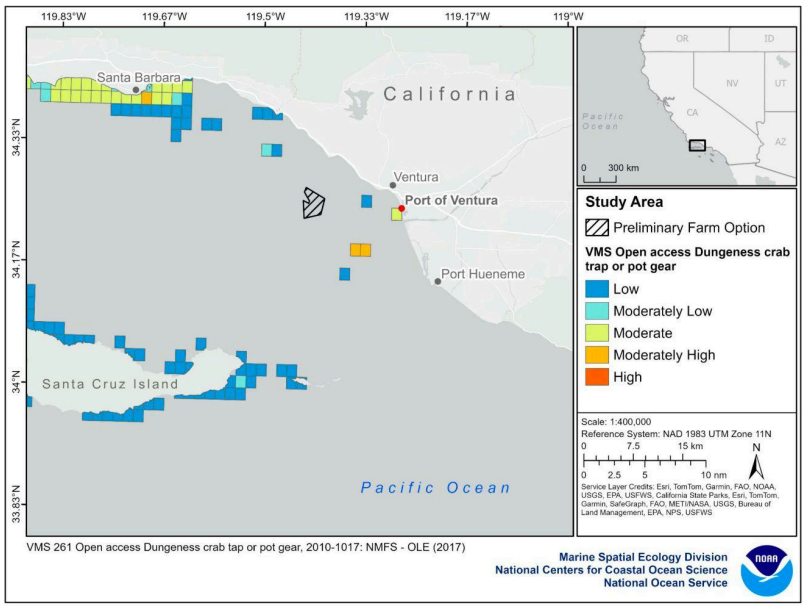

VMS 261 Open access Dungeness crab tap or pot gear, 2010-1017: NMFS - OLE (2017)

Marine Spatial Ecology Division
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National Ocean Service

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VMS non-groundfish trawl gear for sea cucumber 2010-2017

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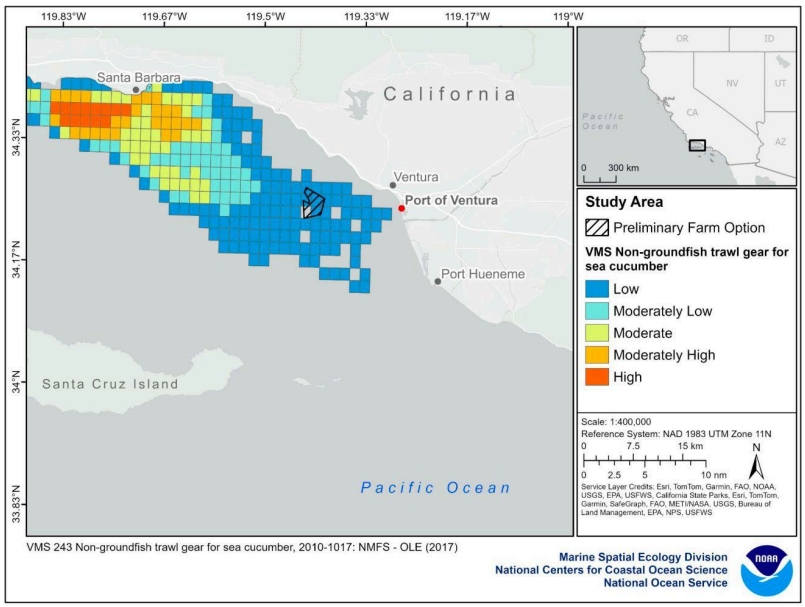

VMS non-groundfish trawl gear for California halibut 2010-2017

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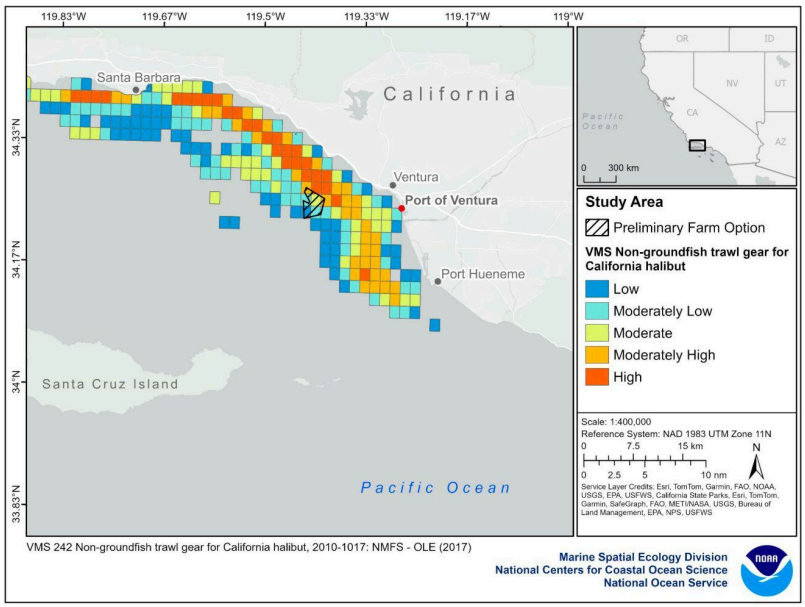

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VMS non-groundfish trawl gear for pink shrimp 2010-2017

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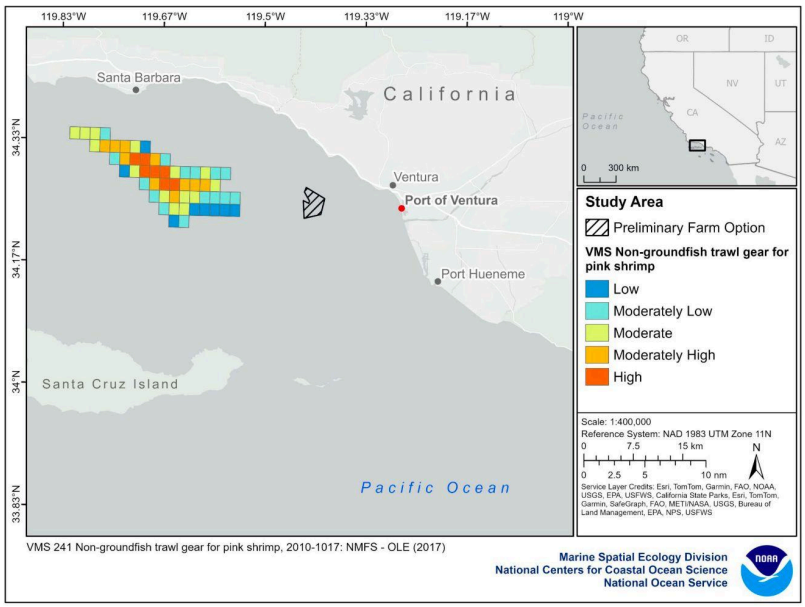

VMS non-groundfish trawl gear for ridgeback prawn 2010-2017

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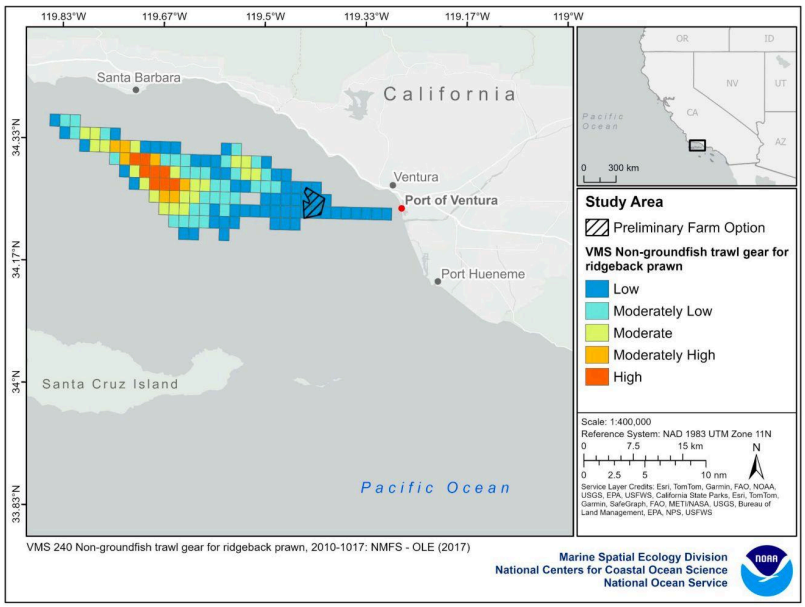

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VMS open access line gear for groundfish 2010-2017

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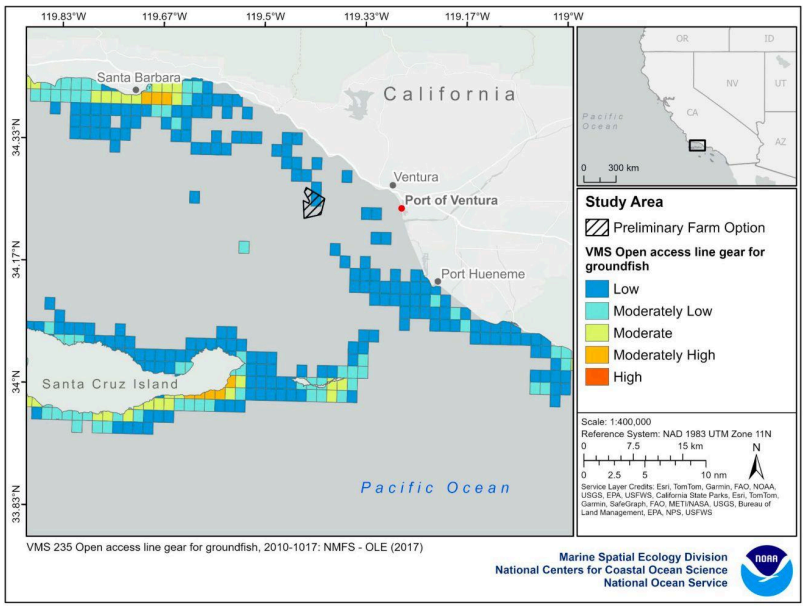

VMS open access groundfish trap or pot gear 2010-2017

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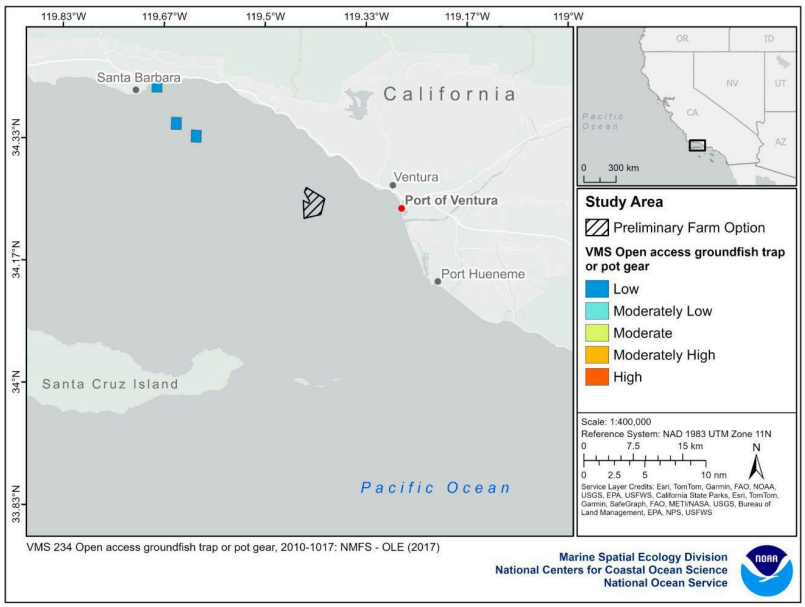

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VMS open access longline gear for groundfish 2010-2017

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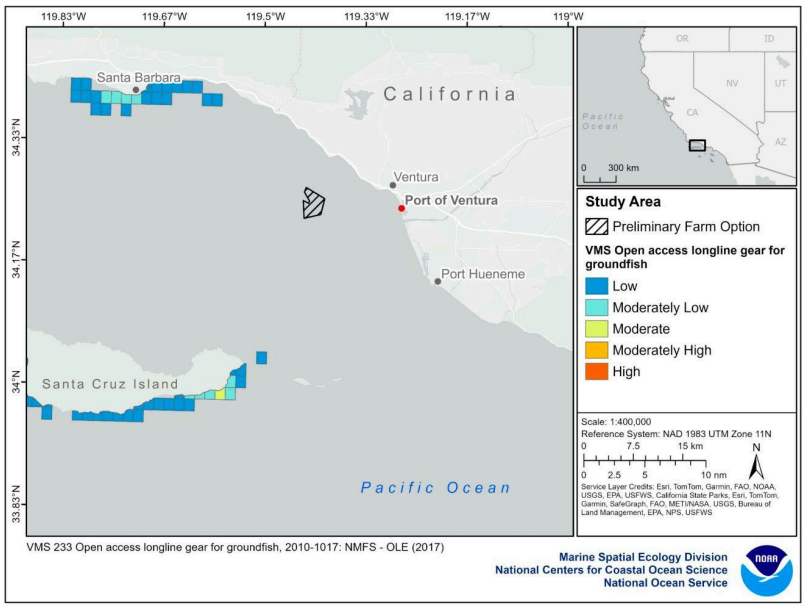

VMS limited entry gear not including shorebased IFQ 2010-2017

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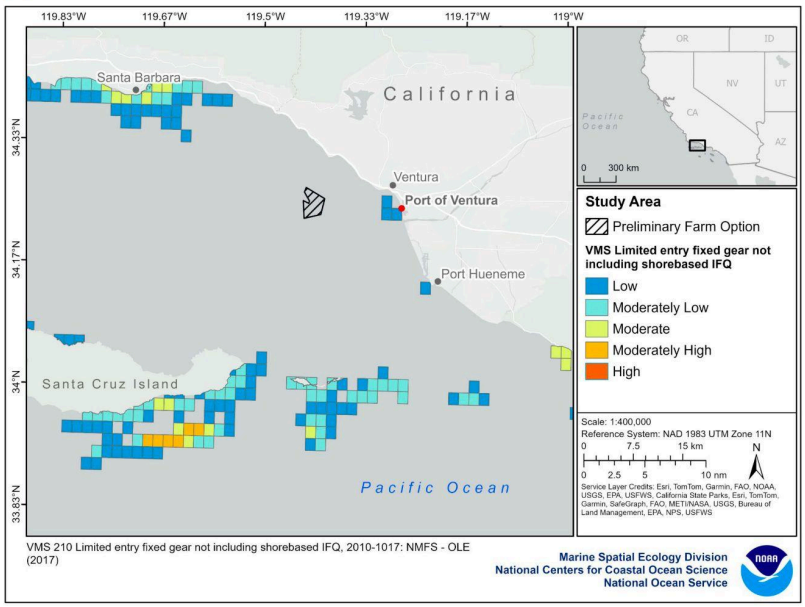

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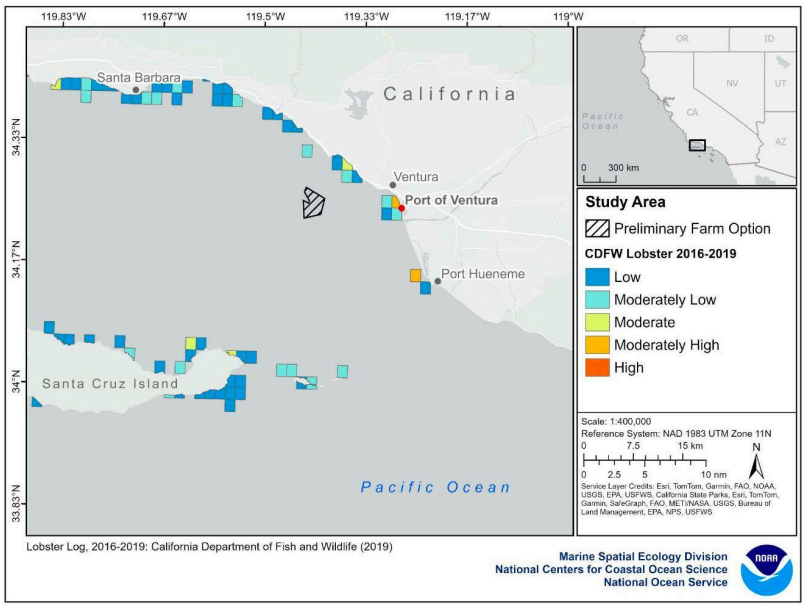
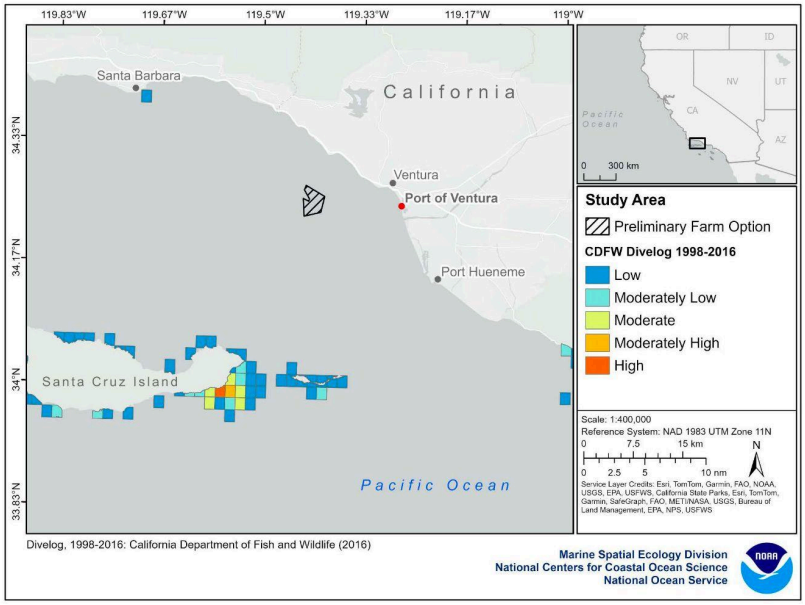
CDFW Lobster 2016 - 2019



CDFW Divelog 1998 - 2016



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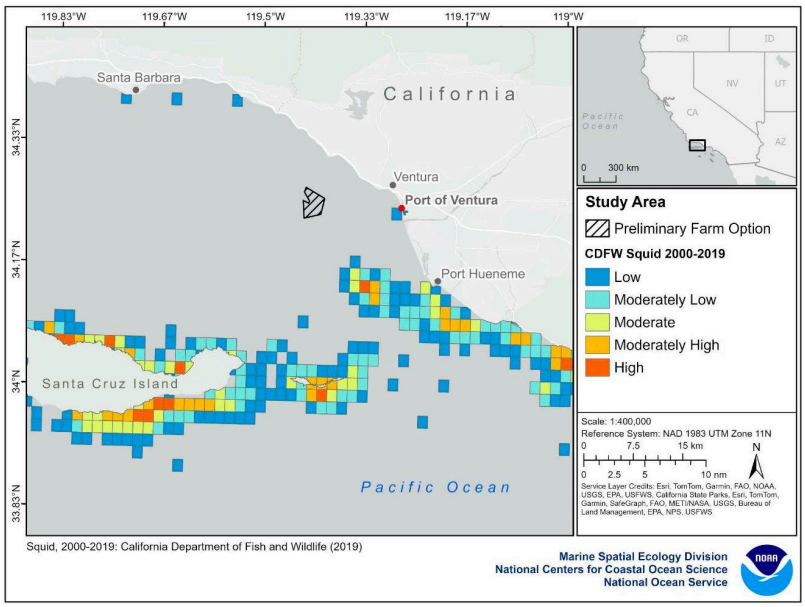
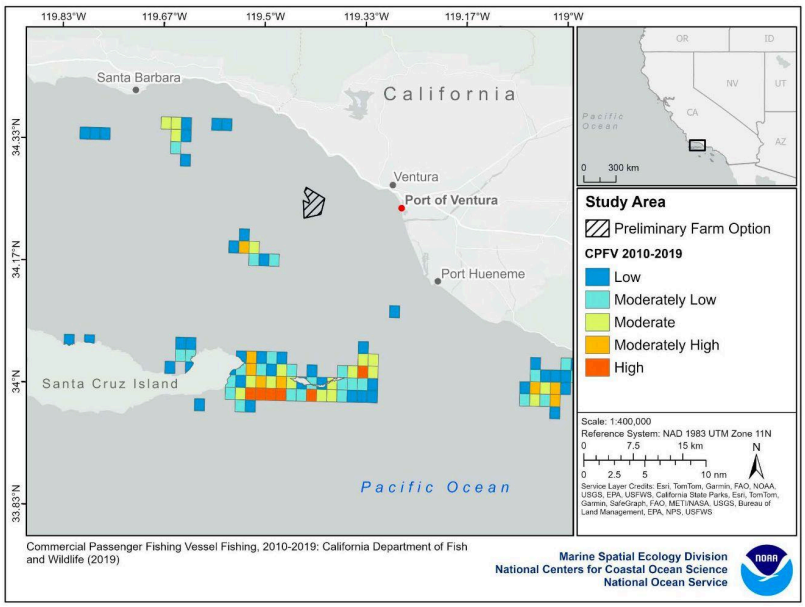
CDFW Squid 2000 - 2019



CDFW Commercial Passenger Fishing Vessel Fishing 2010 - 2019



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AIS Vessel Transits for Fishing in 2022

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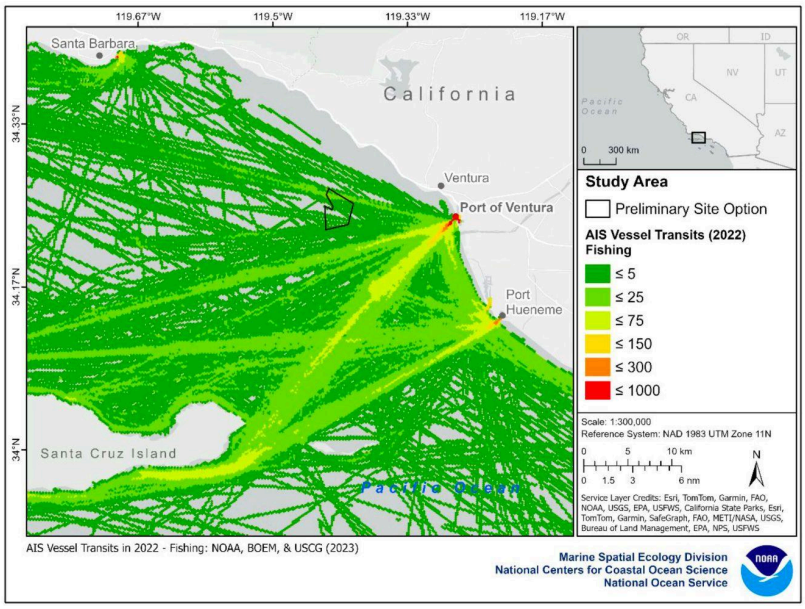

VMS All Fishing 2010-2022

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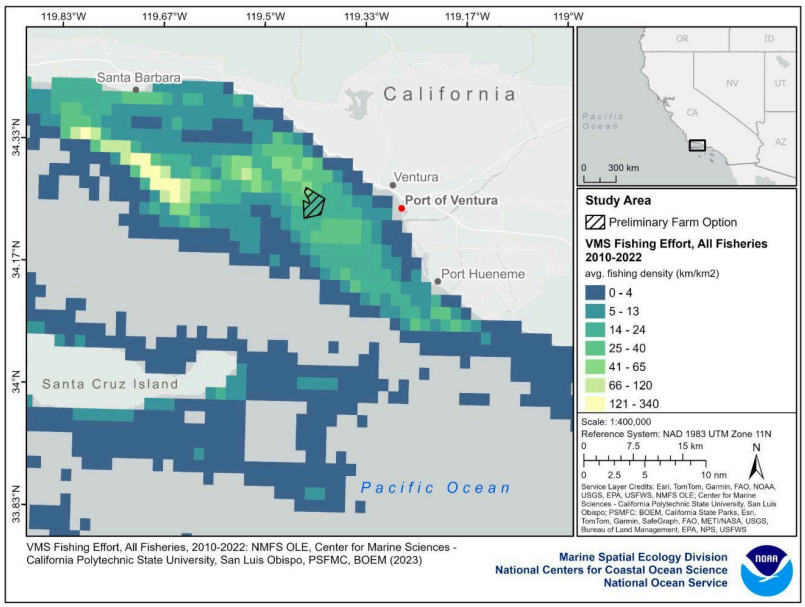

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Preliminary Fishing Characterization

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Fishing and Aquaculture Submodel

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Fisheries Data Layer	Preliminary Analysis	Final Analysis
California Recreational Fisheries Surveys (CRFS)	2010 - 2019	2010 - 2022
Commercial Passenger Fishing Vessels (CPFV)	2010 - 2019	2010 - 2022
Divelog CDFW	1998 - 2016	1998 - 2022
Emergency Exemption VMS	2010 - 2017	2010 - 2022
Lobster Log CDFW	2016 - 2019	2016 - 2022
Long Term Departure Exemption VMS	2010 - 2017	2010 - 2022
Non-groundfish Trawl Gear for California Halibut VMS	2010 - 2017	2010 - 2022
Non-groundfish Trawl Gear for Pink Shrimp VMS	2010 - 2017	2010 - 2022
Non-groundfish Trawl Gear for Ridgeback Prawn VMS	2010 - 2017	2010 - 2022
Non-groundfish Trawl Gear for California Sea Cucumber VMS	2010 - 2017	2010 - 2022
Open Access California Gillnet Complex Gear VMS	2010 - 2017	2010 - 2022
Open Access California Halibut Line Gear VMS	2010 - 2017	2010 - 2022
Open Access Dungeness Crab Trap or Pot Gear VMS	2010 - 2017	2010 - 2022
Open Access Groundfish Trap or Pot Gear VMS	2010 - 2017	2010 - 2022
Open Access Highly Migratory Species Line Gear VMS	2010 - 2017	2010 - 2022
Open Access Longline Gear for Groundfish VMS	2010 - 2017	2010 - 2022
Open Access Prawn Trap or Pot Gear VMS	2010 - 2017	2010 - 2022
Other Gear Not Listed VMS	2010 - 2017	2010 - 2022
Squid Landing Microblocks CDFW 2000 - 2017	2000 - 2017	2000 - 2022
Limited Entry Fixed Gear Not Including Shorebased IFQ VMS	2010 - 2017	2010 - 2022

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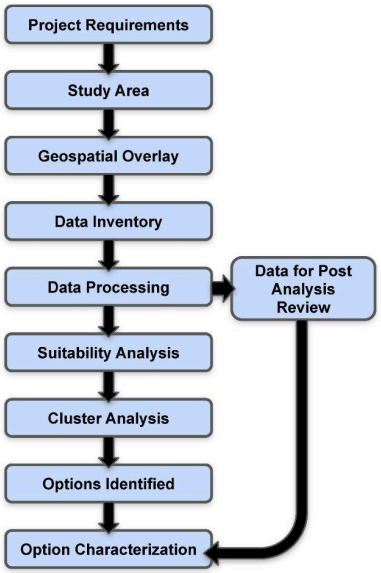
Next Steps - Phase II Siting Analysis

- Cross reference WCR data inventory
- Update navigation and transportation data
  - 2022 AIS vessel tracks
- Update fishing data through 2022
  - VMS and CDFW Log and Landings data
- Detailed option characterization



Preliminary Farm Option

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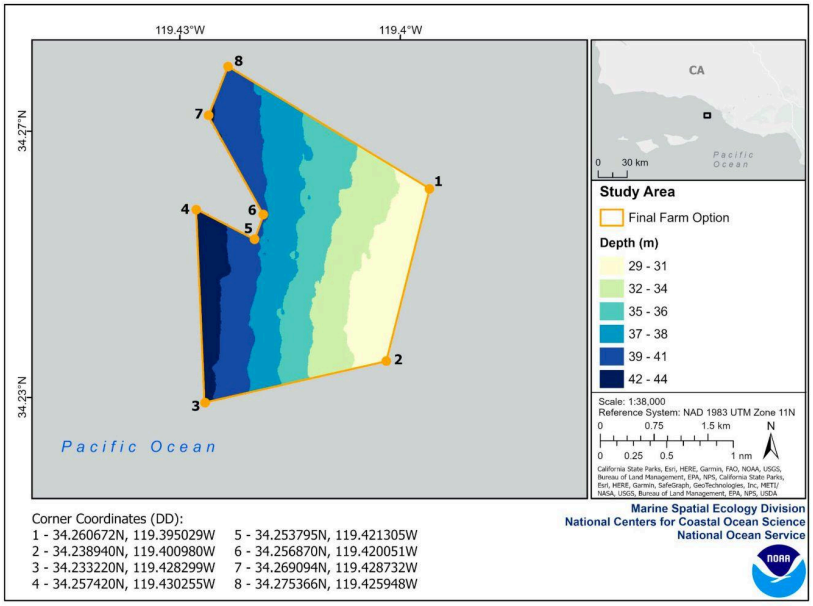

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Preliminary Farm Option

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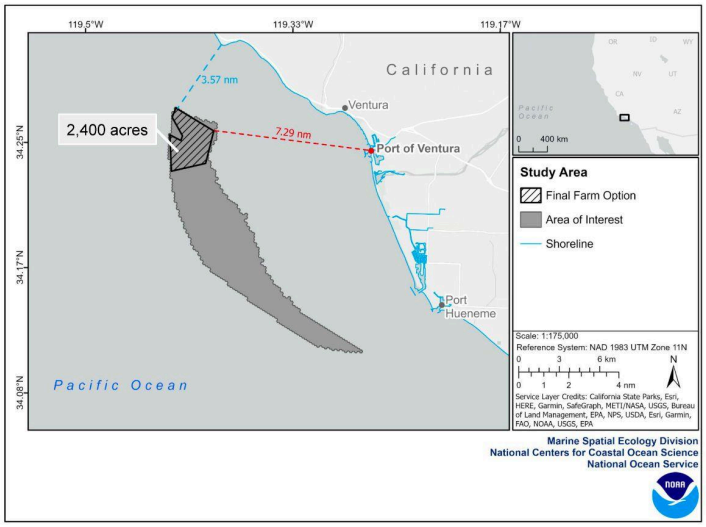
General Characteristics	Value
Farm size	2,400 acres
Closest distance to port	6.33 nm
Farthest distance to port	8 nm
Closest distance to shore	3.11 nm
Depth (min, max, mean)	29.7 m, 44.2 m, 36.6 m
Annual surface seawater temperature (min, max, mean)	11°C, 22.4°C, 16.4°C
Annual surface current velocity (min, max, mean)	0 m/s, 0.58 m/s, 0.14 m/s
Average significant wave height (1979-2010)	0.97 m
Yearly average surface salinity	33.6 psu
Annual wind velocity (min, max, mean)	0 m/s, 19.1 m/s, 4.5 m/s Predominantly from the west
Yearly average surface salinity	33.6 psu



Cluster Analysis

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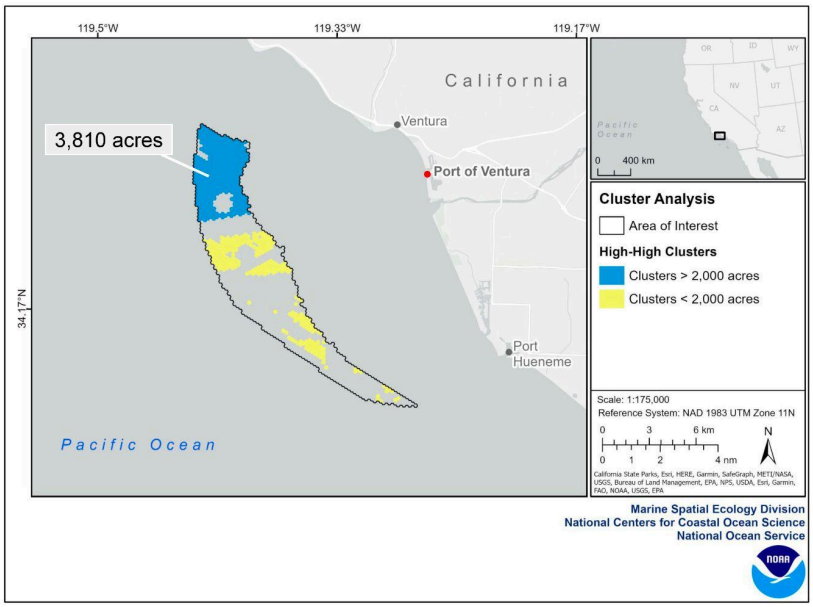
Inputs:

- 1,605 m search distance (based on 2,000 acre farm)
- Row standardization
- 9,999 permutations

Results:

- 16 High-High clusters
- 1 cluster > 2,000 acres
- 2 clusters < 1,000 acres



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Final Suitability

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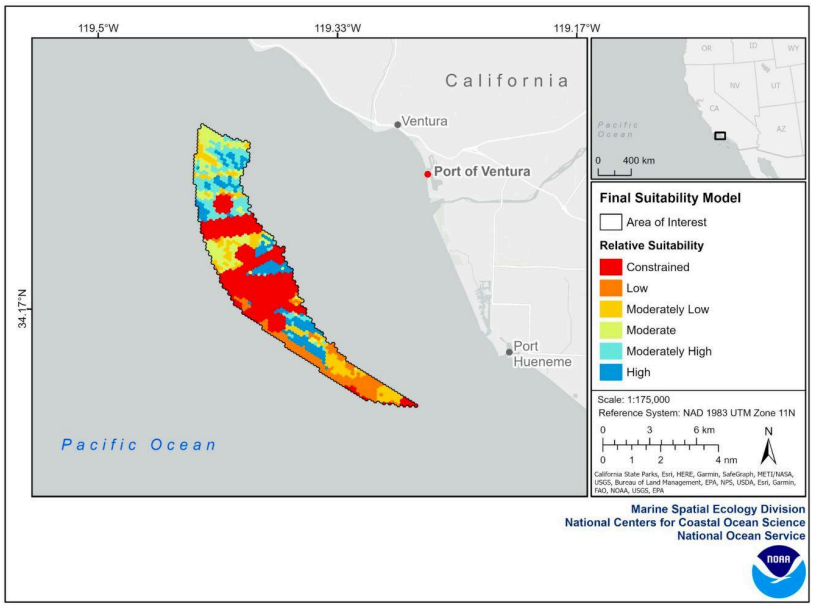

Fishing and Aquaculture Submodel

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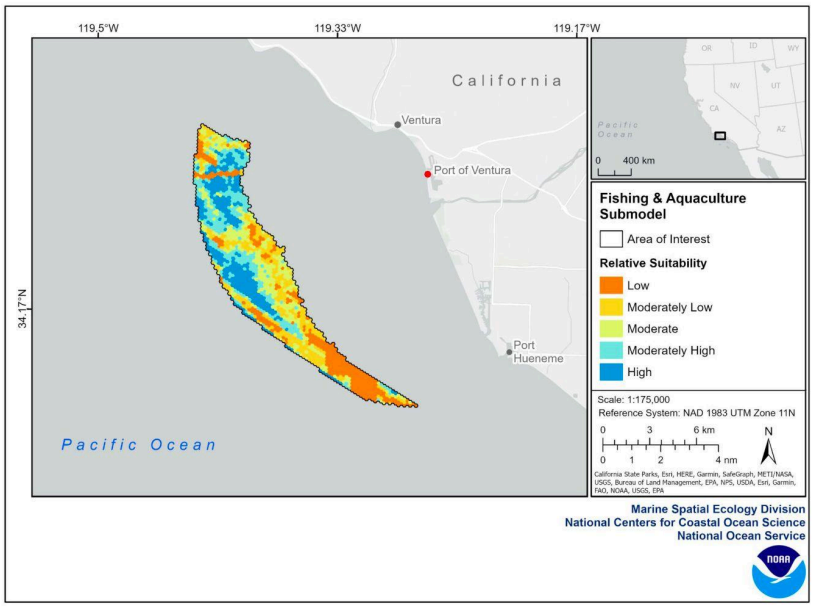

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Fishing Submodel

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Data Layer	Score
California Recreational Fisheries Surveys (CRFS) 2010 - 2019	Z-Membership
Commercial Passenger Fishing Vessels (CPFV) 2010 - 2019	Z-Membership
Divelog CDFW 1998 - 2016	Z-Membership
Emergency Exemption VMS 2010 - 2017	Z-Membership
Lobster Log CDFW 2016 - 2019	Z-Membership
Long Term Departure Exemption VMS 2010 - 2017	Z-Membership
Non-groundfish Trawl Gear for California Halibut VMS 2010 - 2017	Z-Membership
Non-groundfish Trawl Gear for Pink Shrimp VMS 2010 - 2017	Z-Membership
Non-groundfish Trawl Gear for Ridgeback Prawn VMS 2010 - 2017	Z-Membership
Non-groundfish Trawl Gear for California Sea Cucumber VMS 2010 - 2017	Z-Membership
Open Access California Gillnet Complex Gear VMS 2010 - 2017	Z-Membership
Open Access California Halibut Line Gear VMS 2010 - 2017	Z-Membership
Open Access Dungeness Crab Trap or Pot Gear VMS 2010 - 2017	Z-Membership
Open Access Groundfish Trap or Pot Gear VMS 2010 - 2017	Z-Membership
Open Access Highly Migratory Species Line Gear VMS 2010 - 2017	Z-Membership
Open Access Longline Gear for Groundfish VMS 2010 - 2017	Z-Membership
Open Access Prawn Trap or Pot Gear VMS 2010 - 2017	Z-Membership
Other Gear Not Listed VMS 2010 - 2017	Z-Membership
Squid Landing Microblocks CDFW 2000 - 2017	Z-Membership
Limited Entry Fixed Gear Not Including Shorebased IFQ VMS 2010 - 2017	Z-Membership

Submodel Results

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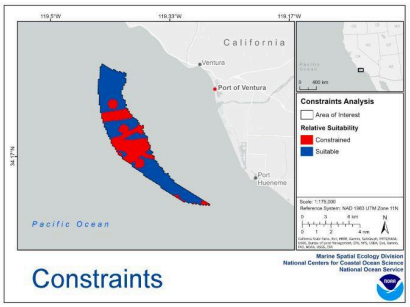
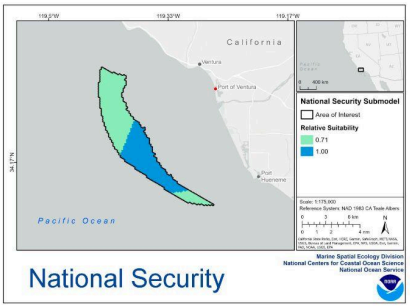
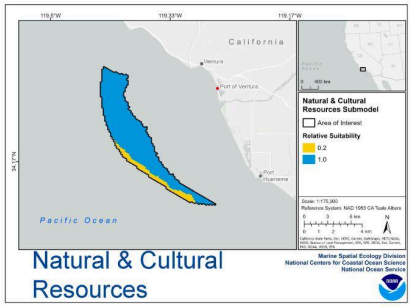


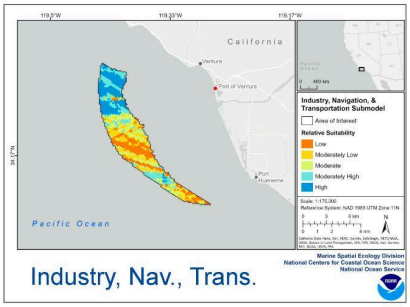
Constraints



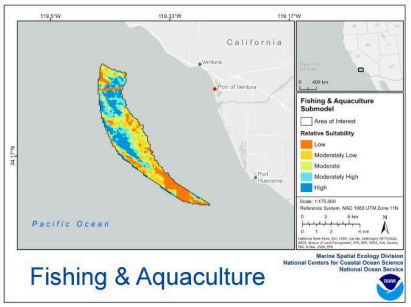
National Security



Natural & Cultural Resources



Industry, Nav., Trans.



Fishing & Aquaculture

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Ocean Rainforest Preliminary Suitability Analysis

SCIENCE SERVING COASTAL COMMUNITIES

Constraints: Phase I Data Inputs

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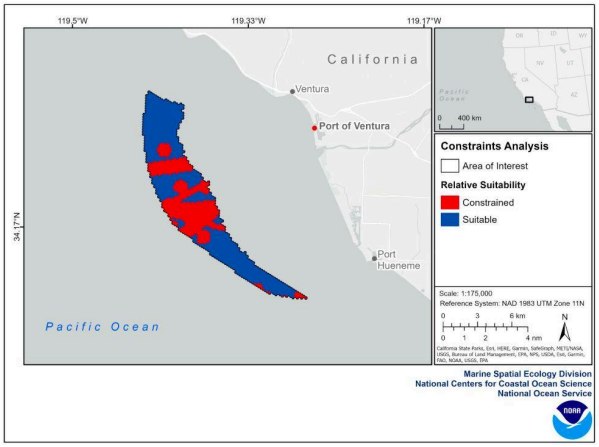

Suitability	Acreage
Constrained	5,530
Suitable	9,960

Data Layer	Setback	# cells with constraints	% of cells with constraints
AWOIS Wrecks and ENC Wrecks and Obstructions	500 ft	5	0.32
Boreholes, Test Wells, and Wells	500 m	198	12.78
California Cooperative Oceanic Fisheries Investigations (CalCOFI) sites	500 m	31	2.00
Ferry Routes	500 m	115	7.42
Hardbottom	500 ft	4	0.25
Joint Oil Fisheries Liaison Office (JOFLO) corridors	500 ft	126	8.13
Navigable Waterways	500 m	112	7.23
Oil and Gas Pipelines	500 m	150	9.68
Submarine Cables	500 m	150	9.68
All Constraints		**553**	**35.70%**

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Ocean Rainforest Preliminary Constraints Analysis

SCIENCE SERVING COASTAL COMMUNITIES

Preliminary Siting Analysis

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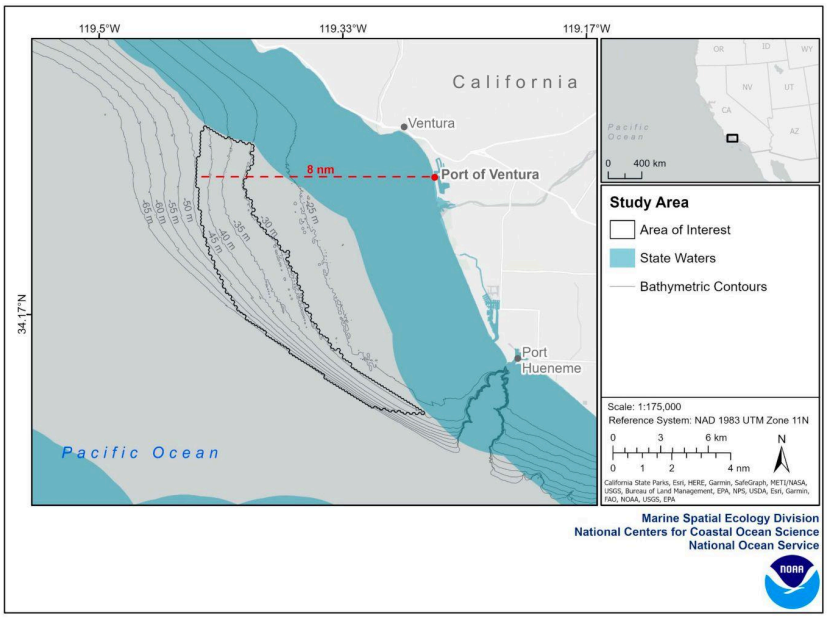
Parameters

- Federal waters
- 8 nm from Ventura port
- ~2,000 ac in size
- Depth: 30-60 m

Area of Interest

- 15,490 acres
- 1,549 10-ac grid cells



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Spatial Suitability Model

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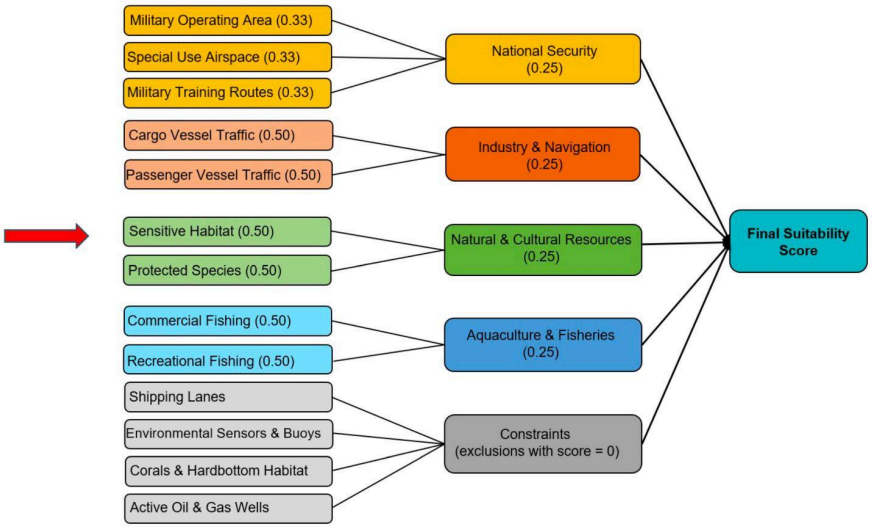
MarineCadastre.gov
An Ocean of Information
A joint BOEM and NOAA initiative providing authoritative data to meet the needs of the offshore energy and marine planning communities.

NOAA FISHERIES

BOEM Bureau of Ocean Energy Management

NCCOS



VMS Pink Shrimp 2010-2022

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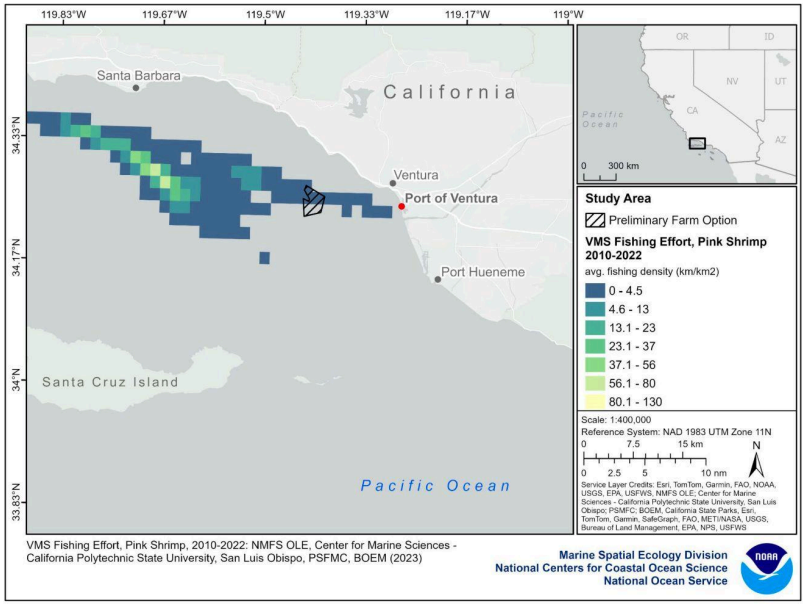

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Thank You!

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