



Habitat Data Impacts Evaluations

- Habitat calculations are at the core of several MLPA Master Plan Science Advisory Team (SAT) evaluations
- Inaccurate or incomplete habitat data layers can skew SAT evaluations of marine protected area (MPA) arrays/proposals
- Issues to address:
 - limitations of substrate layers
 - evaluation of kelp habitat



Substrate Data

Two types of substrate data are available:

Coarse scale: Gary Greene assessment

- covers the entire study region
- known inaccuracies

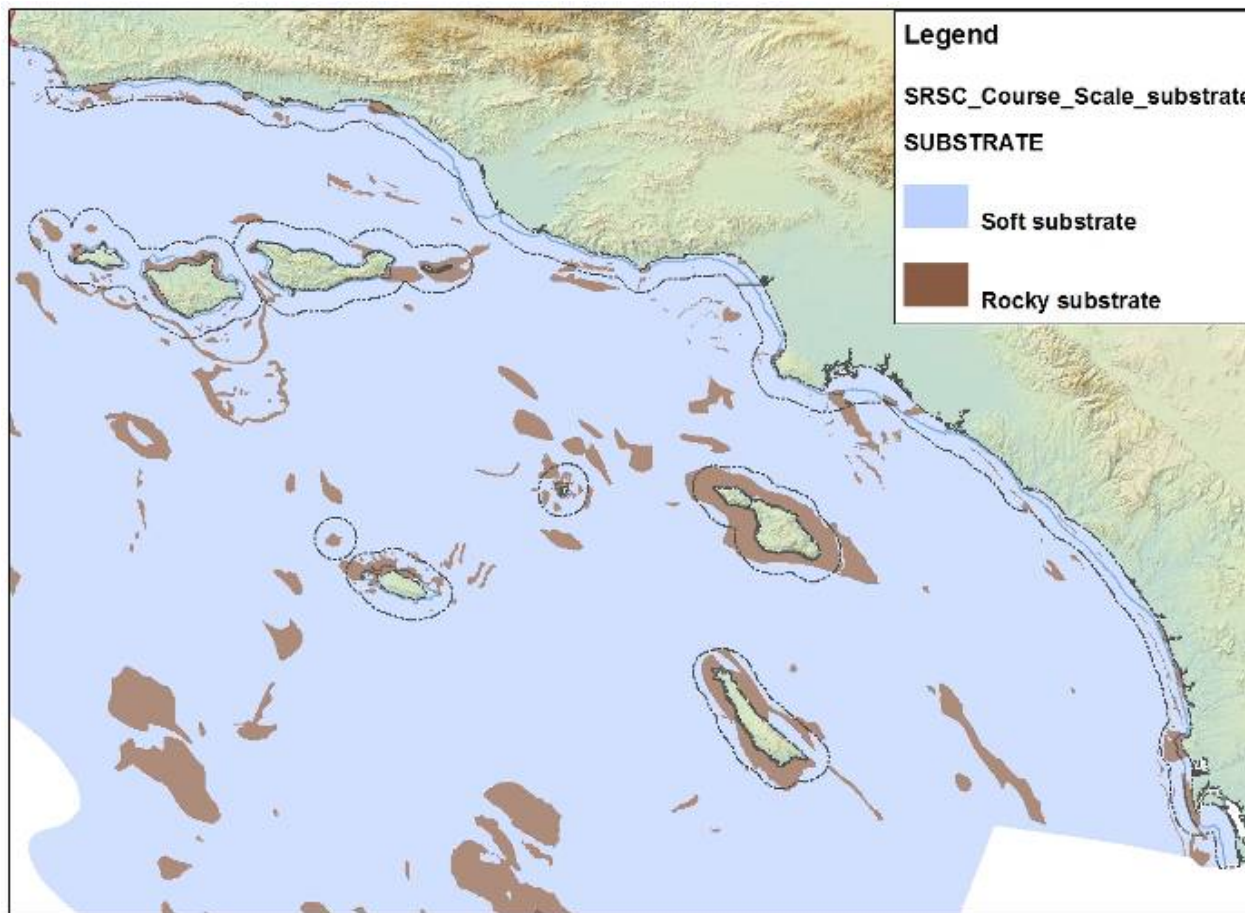
Fine scale: Fugro Pelagos, Kvitek, U.S.

Geological Survey and others

- known gaps
- more accurate (side-scan and multi-beam data)

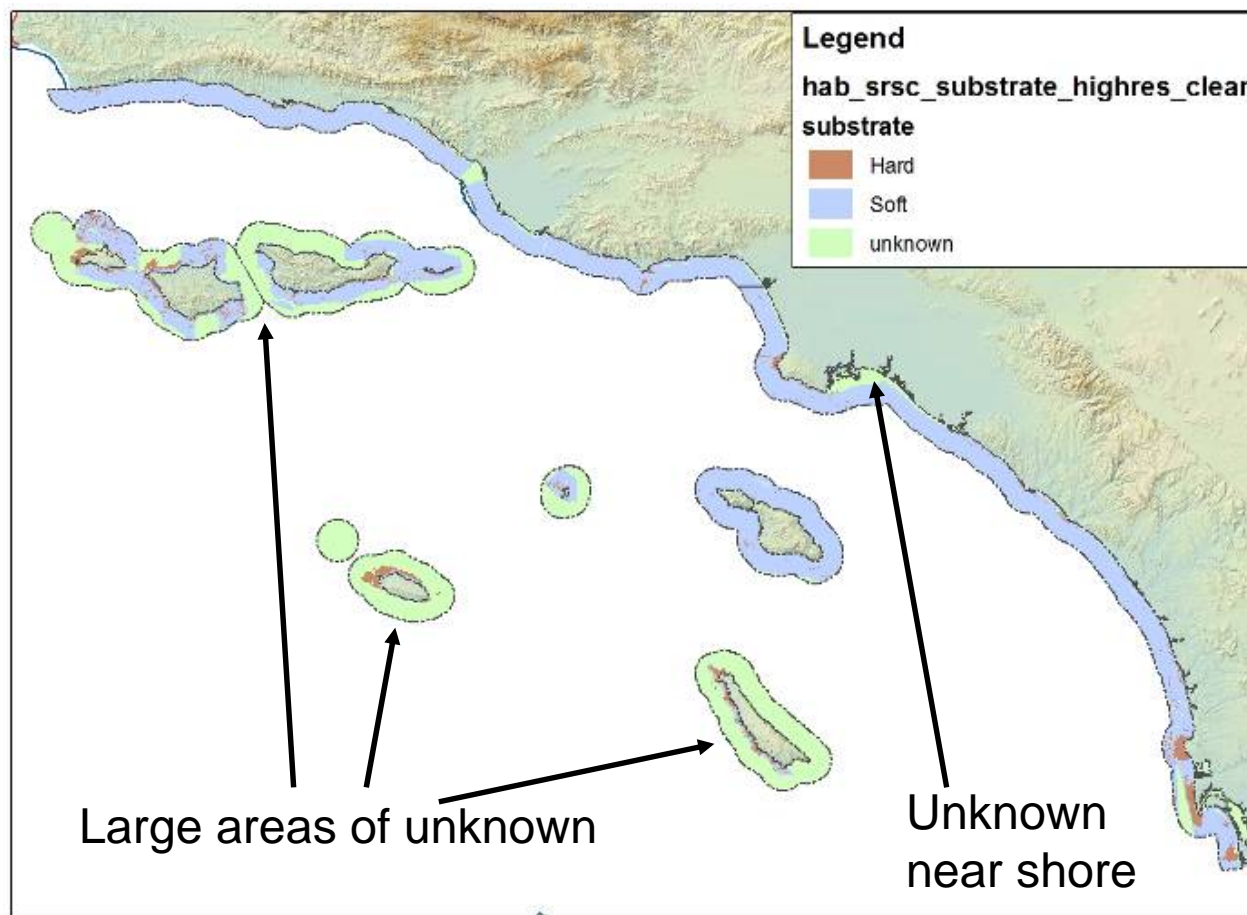


Coarse Scale Substrate



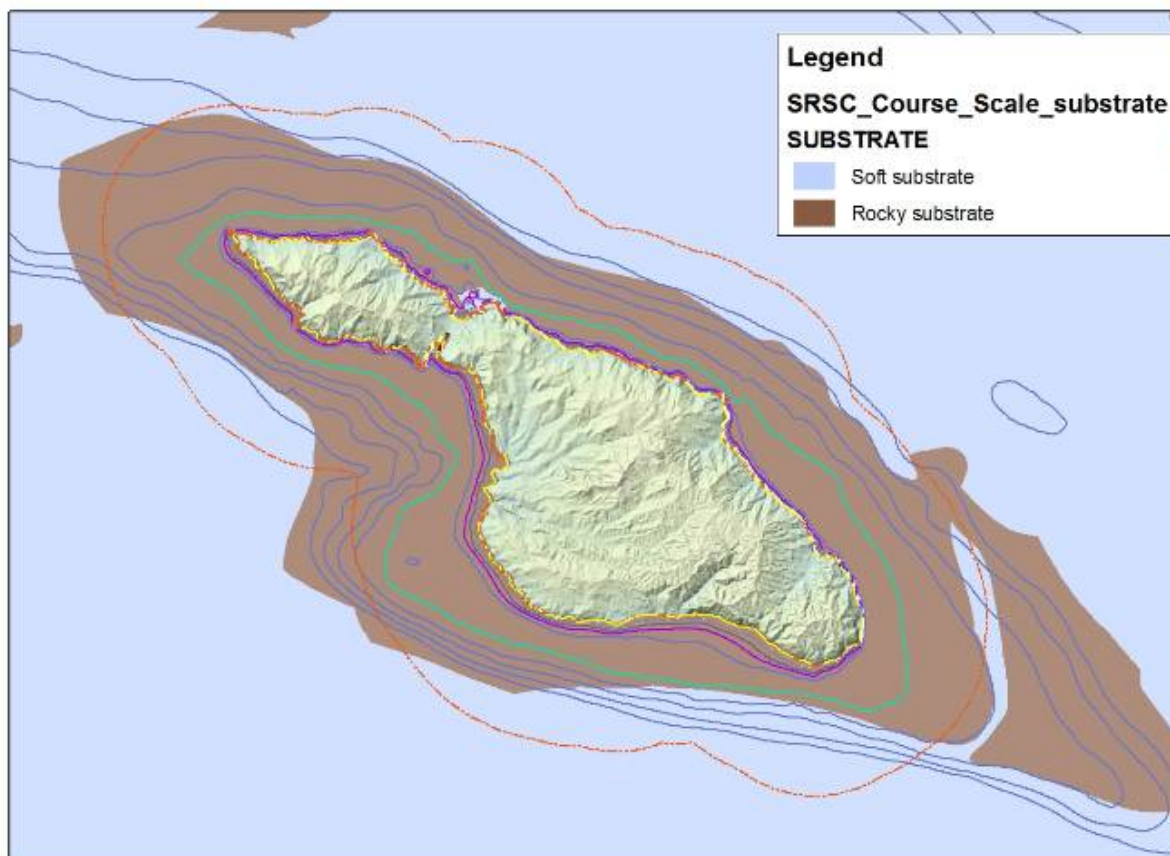


Fine Scale Substrate



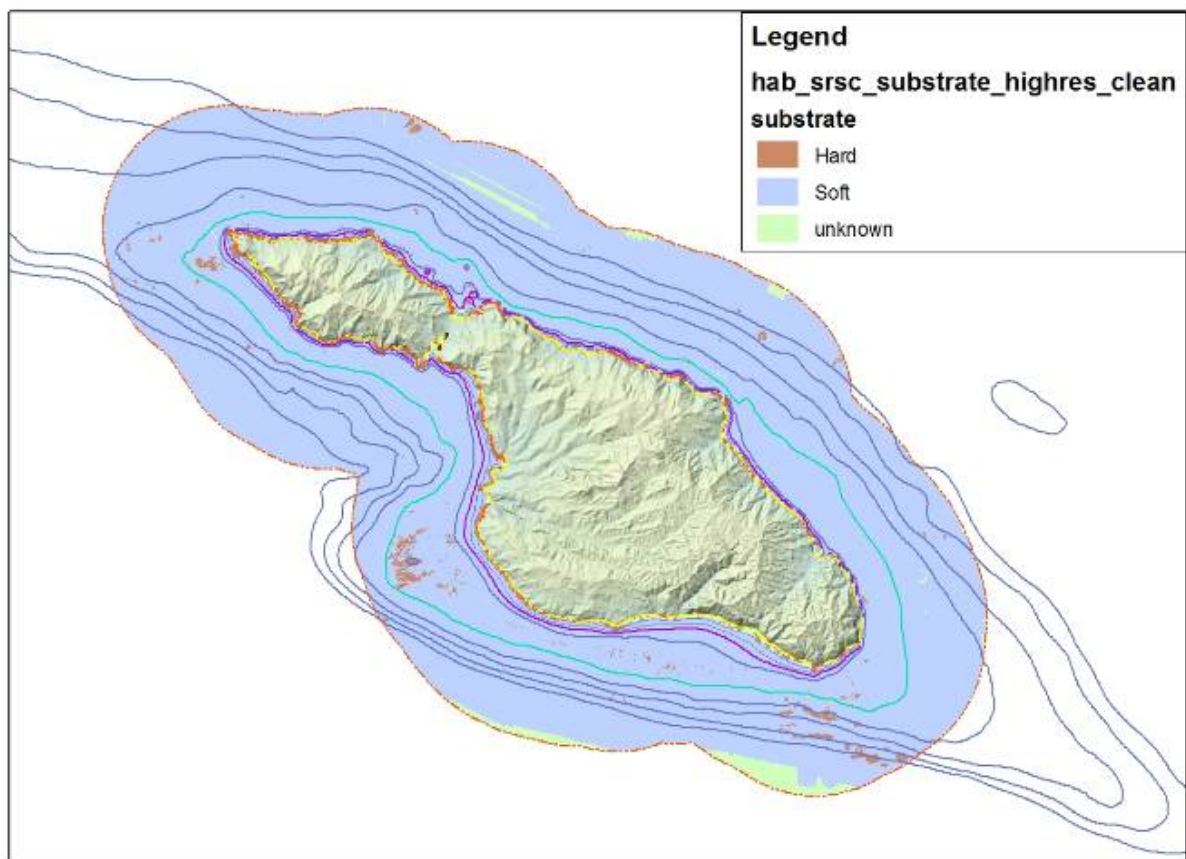


Coarse Scale Substrate





Fine Scale Substrate





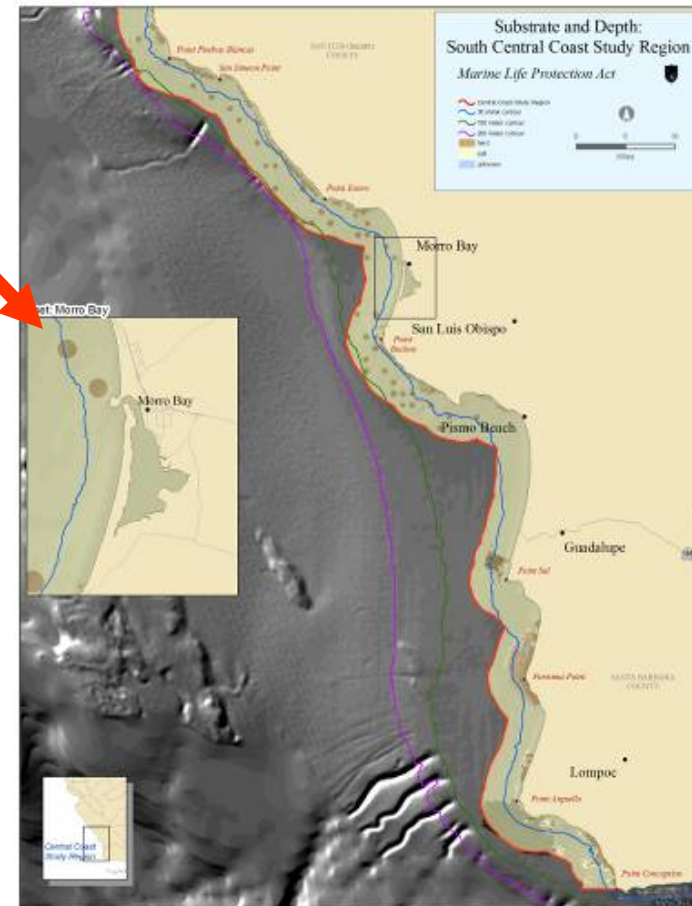
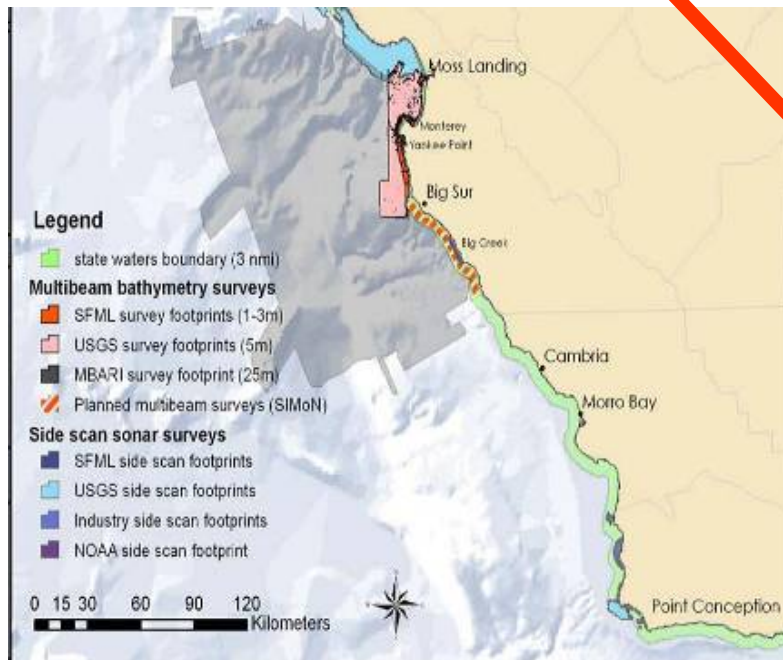
MLPA Central Coast Study Region

- 20% of region mapped at fine-scale
- Very little fine-scale data in southern part of study region
- In southern portion, added “rock pox” – areas of high potential for rock habitat based on commercial passenger fishing vessel rockfish data points
- Evaluation
 - Combined fine and coarse scale data into one layer
 - Evaluated based on area within MPA proposals
 - Provided caveats in evaluation materials



MLPA Central Coast Study Region

Rock Pox

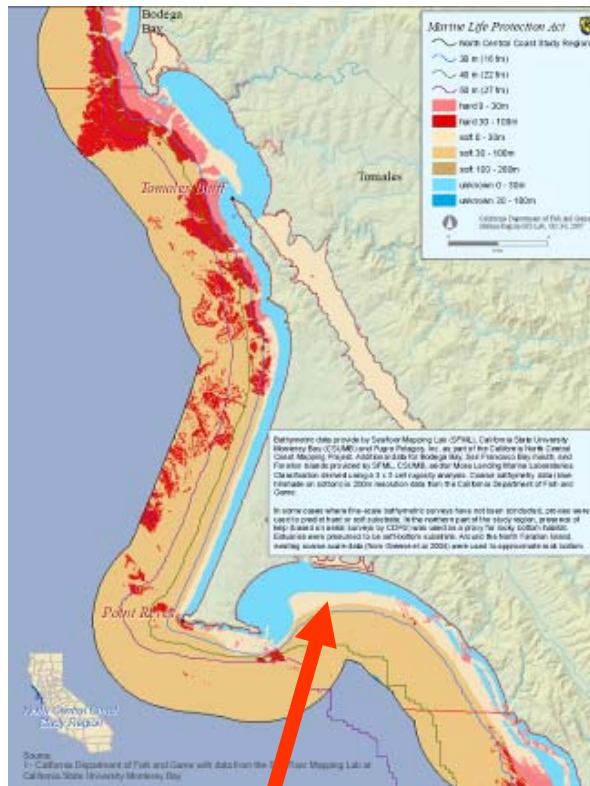




MLPA North Central Coast Study Region

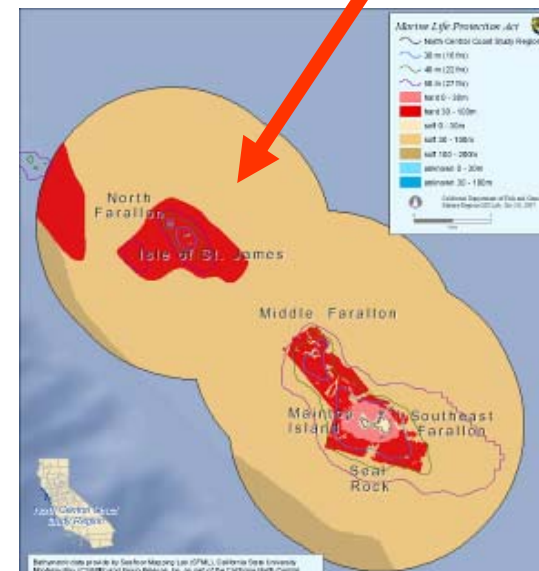
- Most of mainland coast (~70%) mapped at fine scale
- Significant gaps in 0-30m along mainland and at most of area around Farallon Islands
- Evaluation:
 - Combined available fine and coarse scale data into layer
 - Assessed nearshore hard/soft bottom habitat along linear measure at 20m for evaluation
 - Used kelp and other proxies to predict hard bottom at 20m contour
 - Provided caveats in evaluation materials

MLPA North Central Coast Study Region



Light blue areas are “unknown substrate” and include much of the 0-30 meter depth zone

Mostly coarse scale data, with a small amount of fine-scale, at islands





MLPA South Coast Study Region

- Much of the study region (~62%) covered by fine-scale data
- Poor coverage at San Clemente and San Nicolas Islands, as well as in nearshore areas along mainland





Nearshore Data Gap Options

Option 1 – Fill in unknown areas with coarse scale data

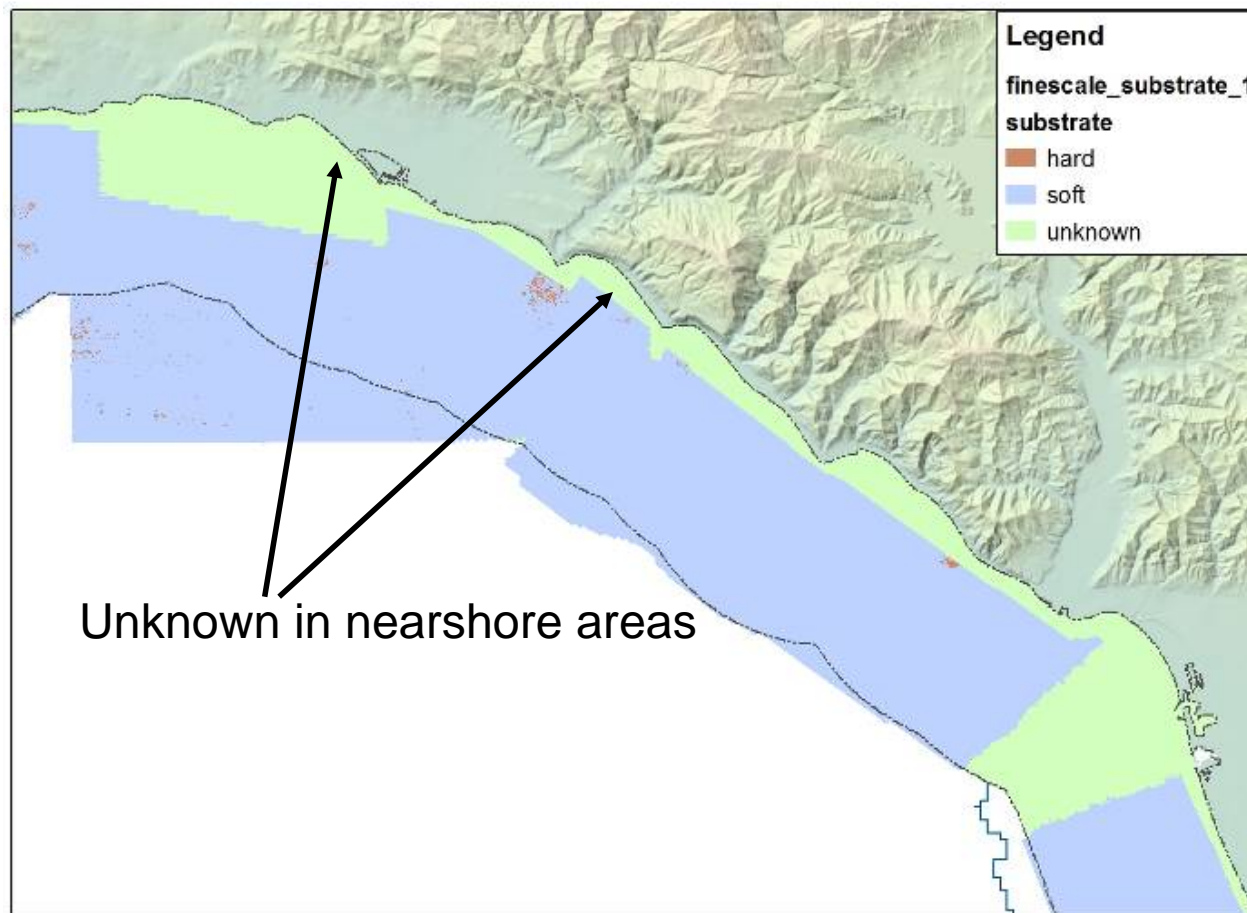
- Advantages – Creates continuous aerial coverage
- Disadvantages – Data precision is not consistent

Option 2 – Hybrid approach

- Augment nearshore area with kelp data, assuming it to be rock
 - Advantages – fills some of the nearshore gap
 - Disadvantages – may overestimate rock and bias nearshore data toward rock (no mechanism to confirm soft bottom)
- Use a linear measure of 0-30 meter habitats classified from finescale substrate and kelp data
 - Advantages - Does not require mixing coarse/fine scale datasets
 - Disadvantages – Assumes continuity of habitats in nearshore areas

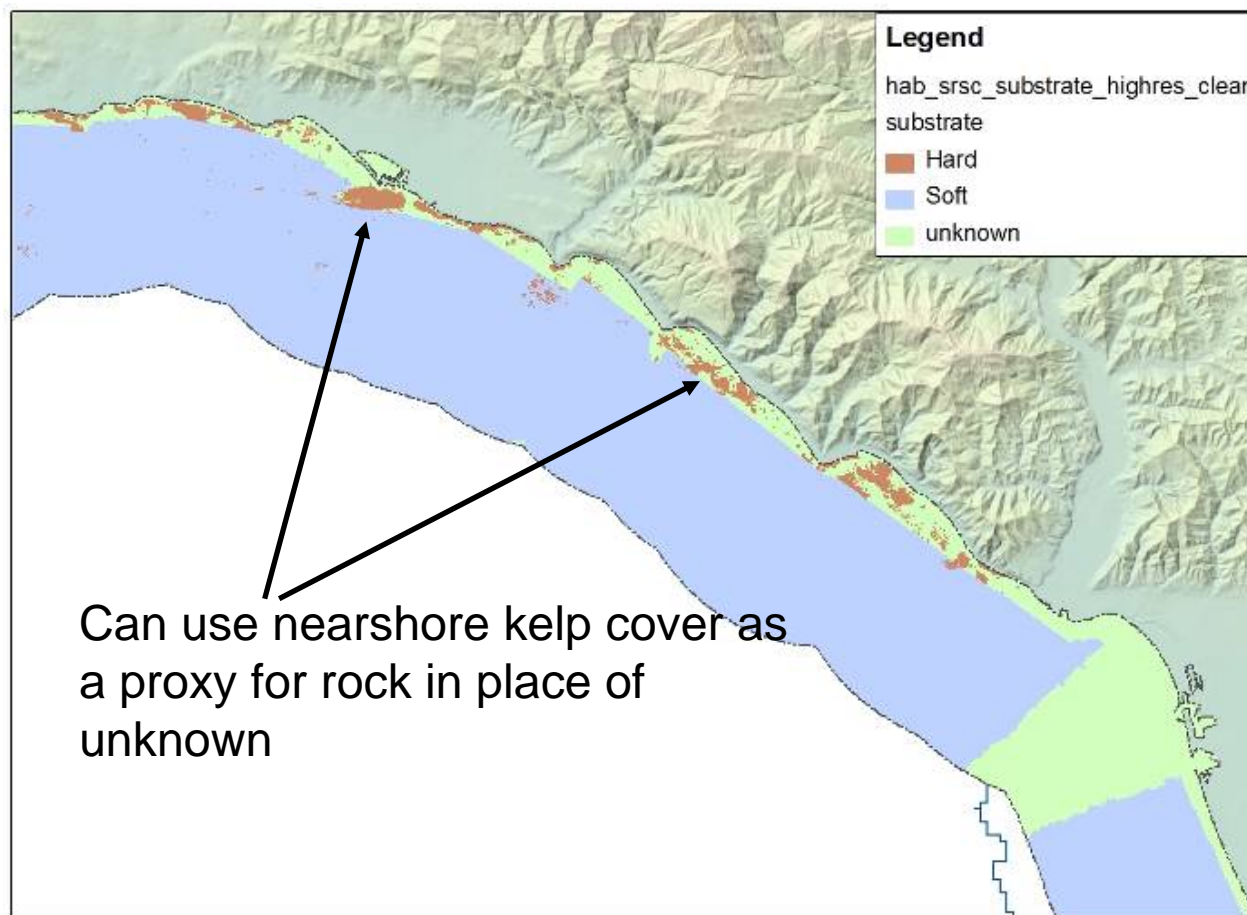


Fine-Scale Substrate



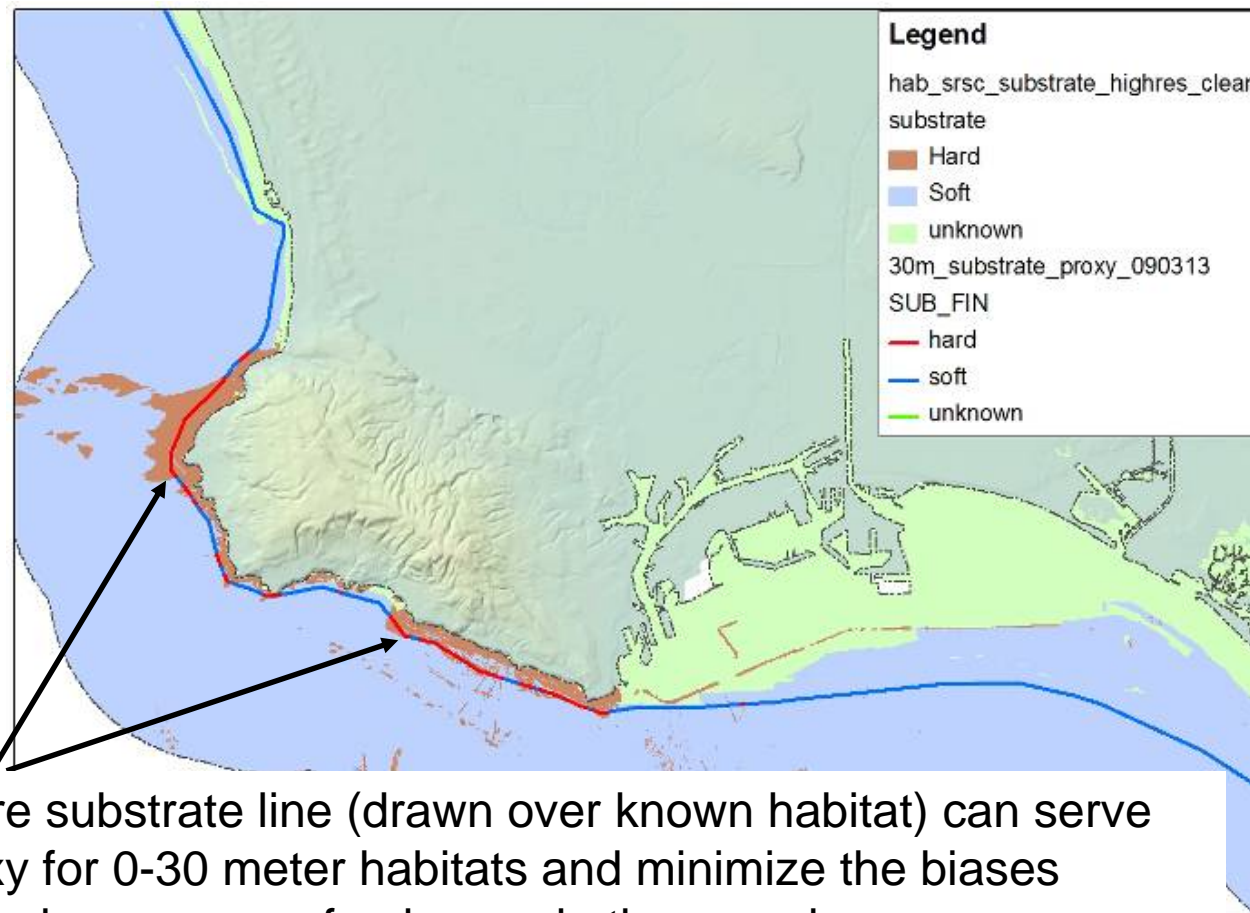


Fine-Scale Substrate





Fine-Scale Substrate



Nearshore substrate line (drawn over known habitat) can serve as a proxy for 0-30 meter habitats and minimize the biases caused by large areas of unknown in the nearshore

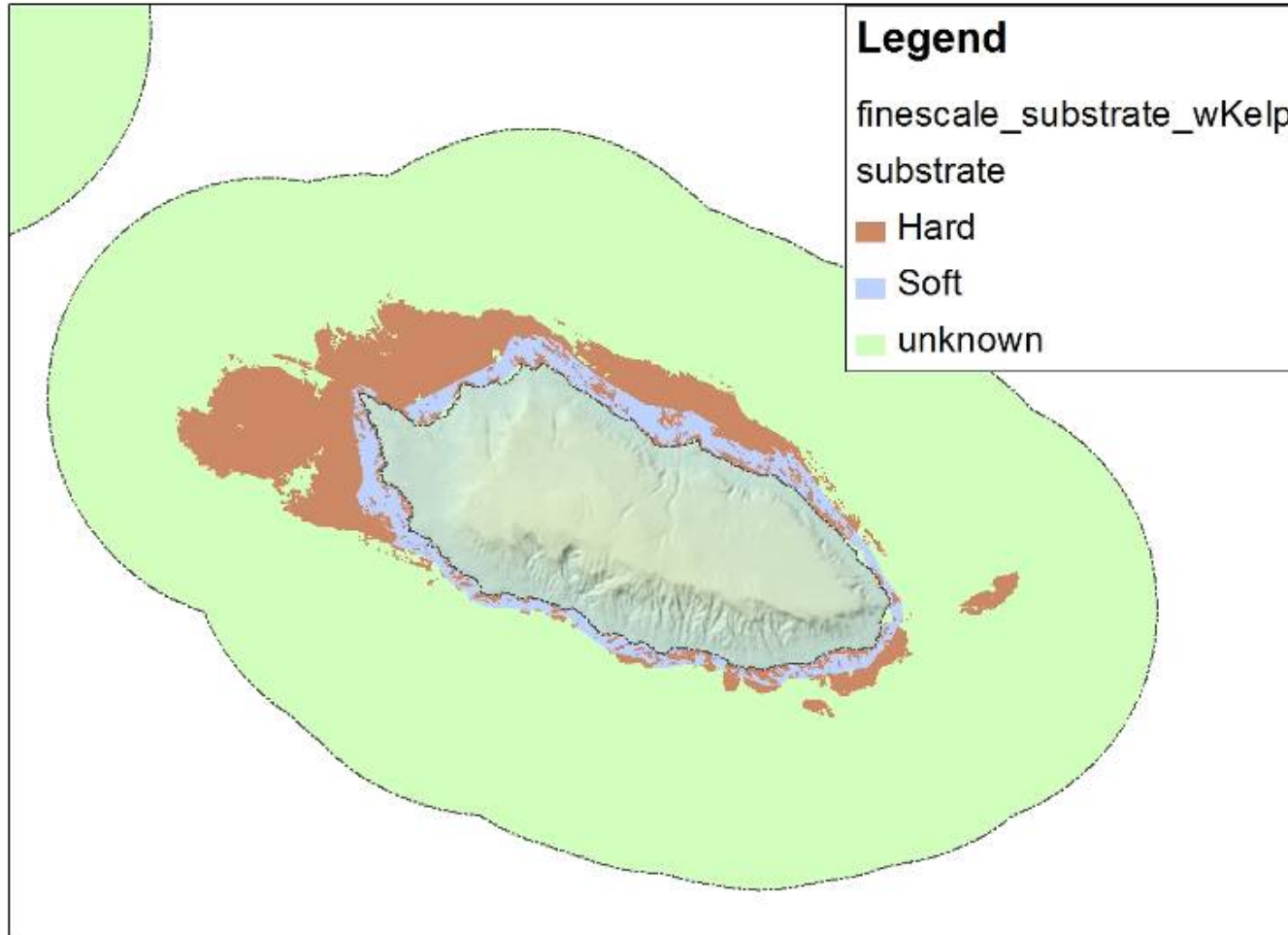


Island Data Gaps Options

- **Option 1** - Fill in unknown areas with coarse scale data
 - Advantages – creates one dataset with best available data, consistent with previous study regions
 - Disadvantages – Data precision may not be consistent between islands and mainland
- **Option 2** - Report unmapped areas as “unknown”
 - Advantages – Maintains level of data precision
 - Disadvantages – Does not provide MLPA Blue Ribbon Task Force or stakeholders with information for MPA planning in certain areas

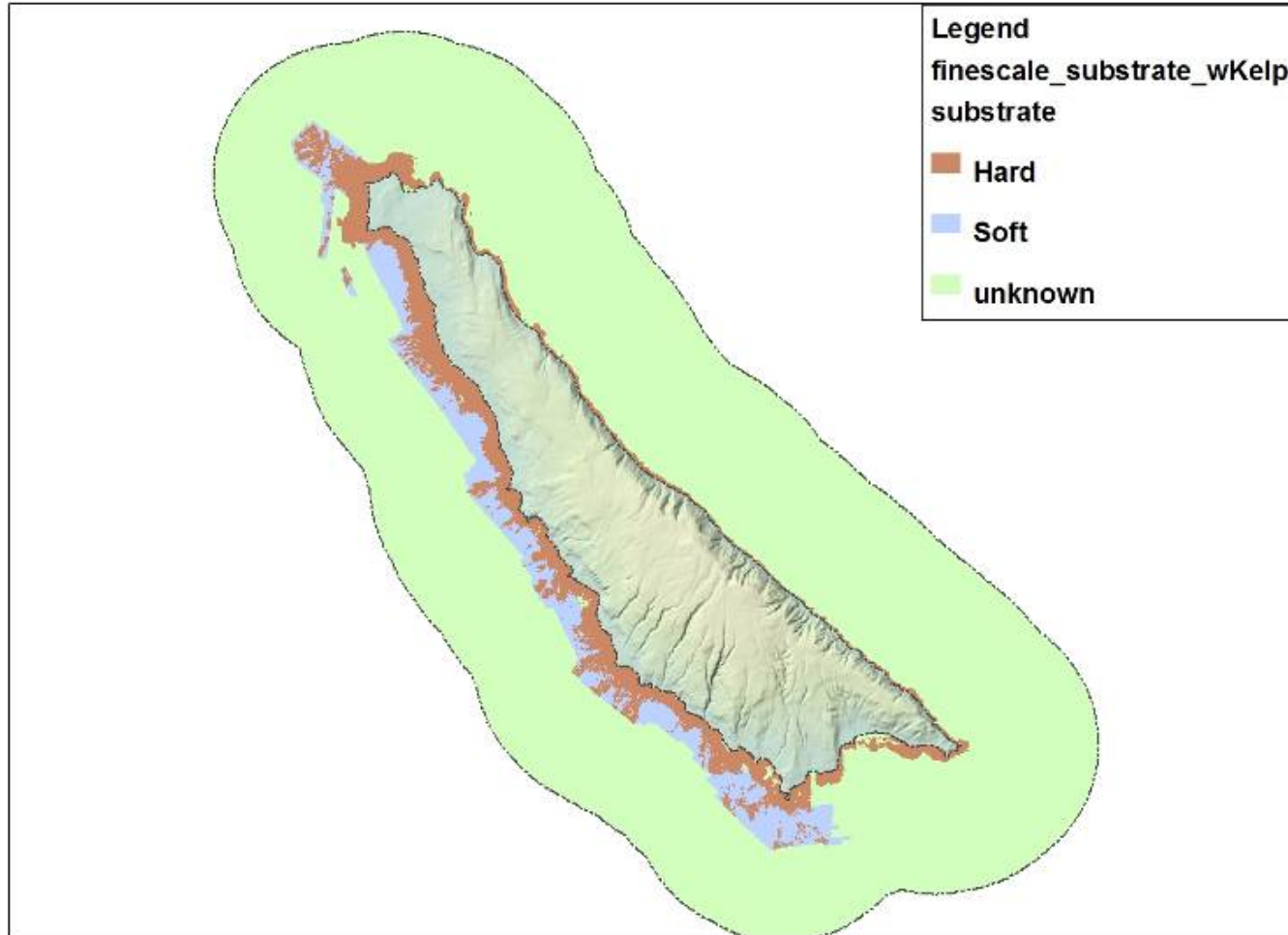


San Nicolas Island





San Clemente Island





Timeline for Substrate

- Task force meeting (April 15-16)
 - Discussion of pending military closures and potential MPAs at San Clemente and San Nicolas
- Regional stakeholder group meeting (April 28) and work session (April 29)
 - Receiving Round 1 evaluations, beginning to design Round 2 draft proposals
- Round 2 evaluations
 - Regional stakeholder group draft proposals by May 21, with SAT evaluations due June 18



Other Habitats to Review

- Kelp - aerial or linear measure?
- Surfgrass – good coverage at Channel Islands, not on mainland
- Eelgrass – some coverage in select locations
- Estuary – dynamic in southern California (reviewed by Rich Ambrose)
- Canyons
- Oceanographic habitats
- Shoreline habitats (Environmental Sensitivity Index)



Kelp Measurements

- Some have expressed concern that current **linear** measure underestimates kelp
- **Why use linear kelp?**
 - simplifies analyses
 - equally values narrow/steep and wide/gradual kelp forests of comparable biodiversity
 - minimum kelp habitat for replication is based on a linear measure
- **Why consider aerial kelp?**
 - more accurately estimates kelp abundance

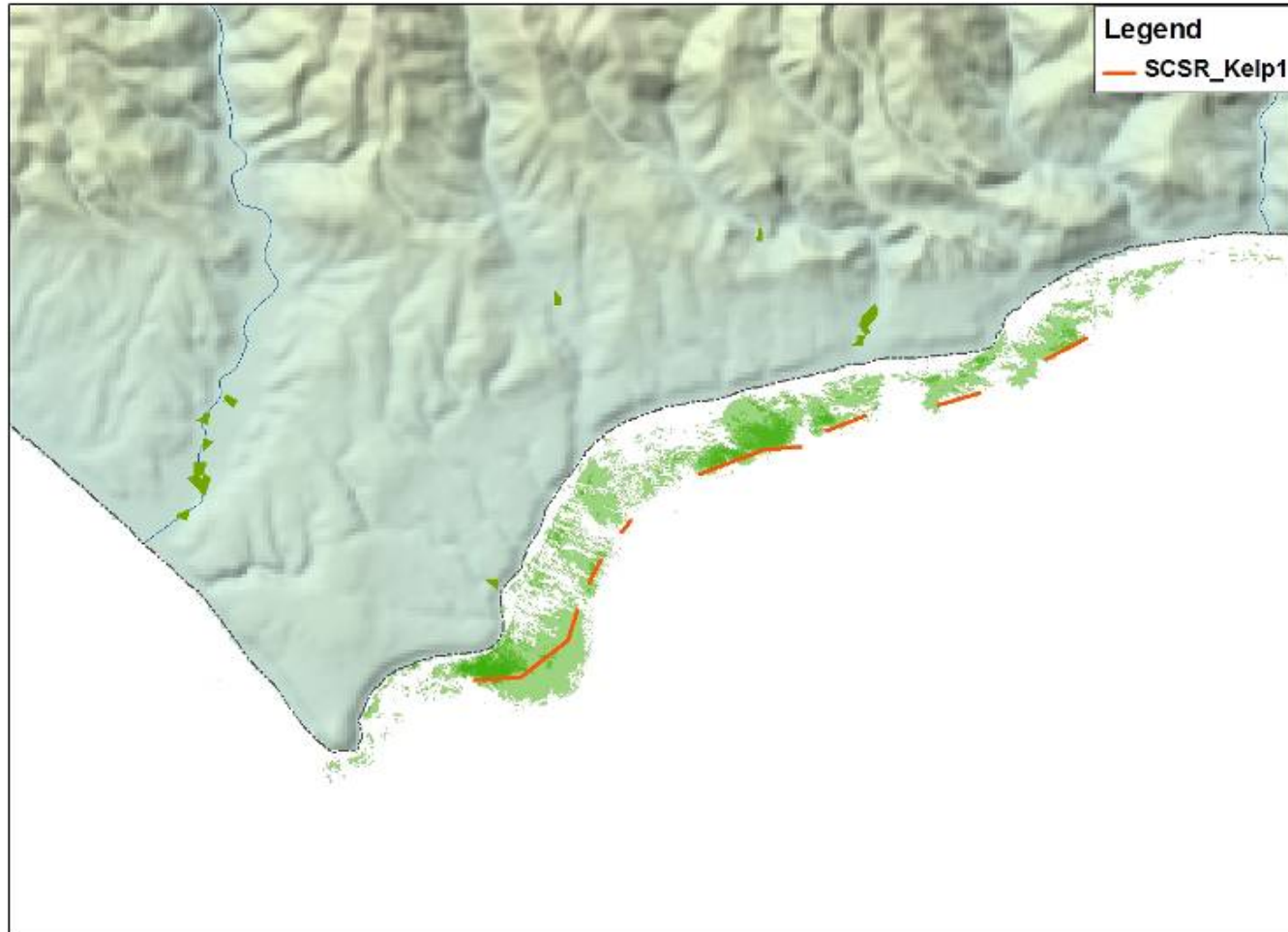


Kelp Line at Palos Verdes





Kelp Line at Point Dume





Kelp Line at San Nicolas

