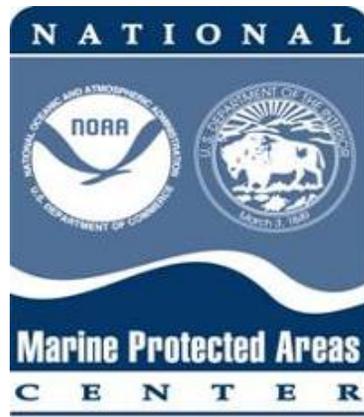


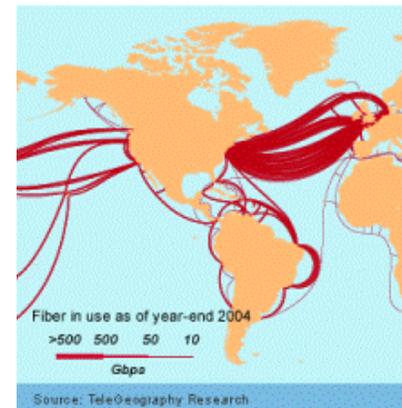
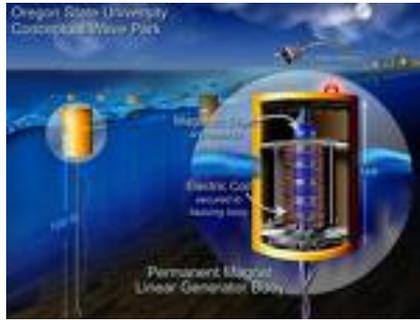
The California Ocean Uses Atlas Project: Seeing the Whole Picture of Human Use



Dr. Charlie Wahle, NOAA
Dr. Lance Morgan, MCBI

SoCal Regional Stakeholders Group
March 3, 2009

How We Use the Ocean: *Industrial and Military Uses*



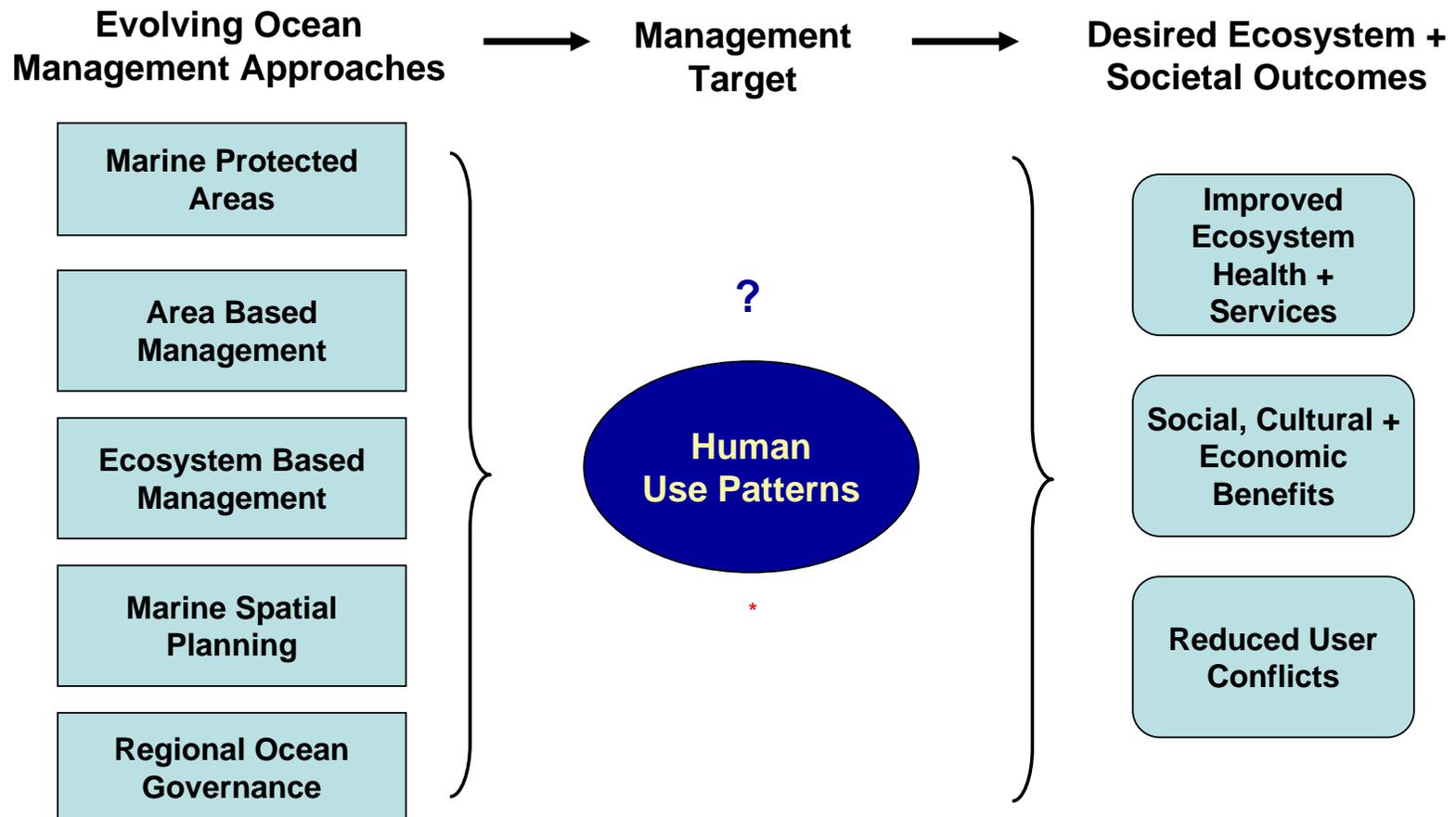
How We Use the Ocean: *Fishing Uses*



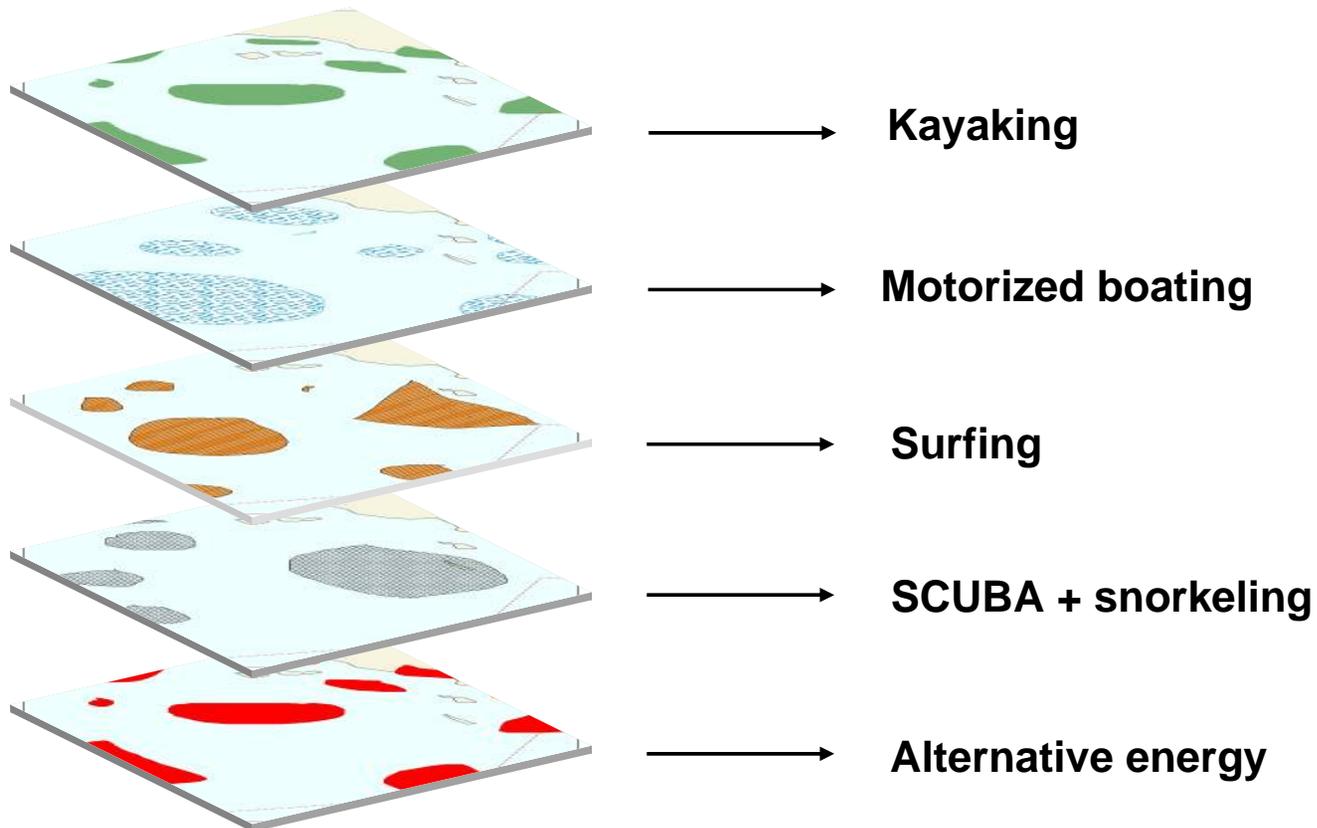
How We Use the Ocean: *Non-Consumptive Uses*



How We Manage the Ocean: By Managing Ocean Uses



The Missing Puzzle Piece: Comprehensive Maps of All Key Ocean Uses



The California Ocean Uses Atlas

- **Purpose** – to enhance CA ocean management by filling key data gap on the full range of human uses
- **Approach** – regional experts (e.g. managers + users) create GIS maps of 26 uses in 3 sectors thru participatory mapping workshops
- **Applications** –
 - MPAs and area-based management
 - Regional ocean management
 - Alternative energy siting
 - Resolving user conflicts
- **Partners** –
 - NOAA MPA Center
 - MCBI
 - Gordon and Betty Moore and Resources Legacy Fund Foundations
- **Timeline** – Jan 2008 → Sep 2009



The SoCal Atlas Mapping Workshop

- **Logistics** – Sept. 16-18, 2008 @ SCCWRP, Costa Mesa
- **Participants** – approx. 45 regional experts and users
- **Process For Each Use Sector**
 - Broad brush patterns for each use
 - Using interactive digital mapping technology
 - Mapped: max footprint, dominant area and future use
 - Multiple breakout groups => replication
 - Staggered sequence of uses mapped
 - Balanced membership among groups
- **Observations**
 - Cooperative mapping
 - Deep well of knowledge about region
 - Real-time learning about uses



26 Ocean Uses Mapped in SoCal

Fishing (9)

- Recreational fishing from boats
- Recreational fishing from shore
- Recreational dive fishing
- Kayak fishing
- Commercial pelagic fishing
- Commercial fishing w/ benthic fixed gear
- Commercial fishing w/ benthic mobile gear
- Commercial dive fishing
- Commercial algae harvesting

Non-Consumptive (9)

- Swimming
- Surface water sports
- Paddling
- SCUBA and snorkeling
- Motorized boating
- Sailing
- Tide pooling
- Beach use
- Wildlife viewing from charter boats

Industrial – Military (8)

- Offshore oil and gas
- Offshore alternative energy
- Mining and mineral extraction
- Underwater cables
- Maritime shipping
- Cruise ships
- Military operations
- Aquaculture

SAMPLE PRODUCTS

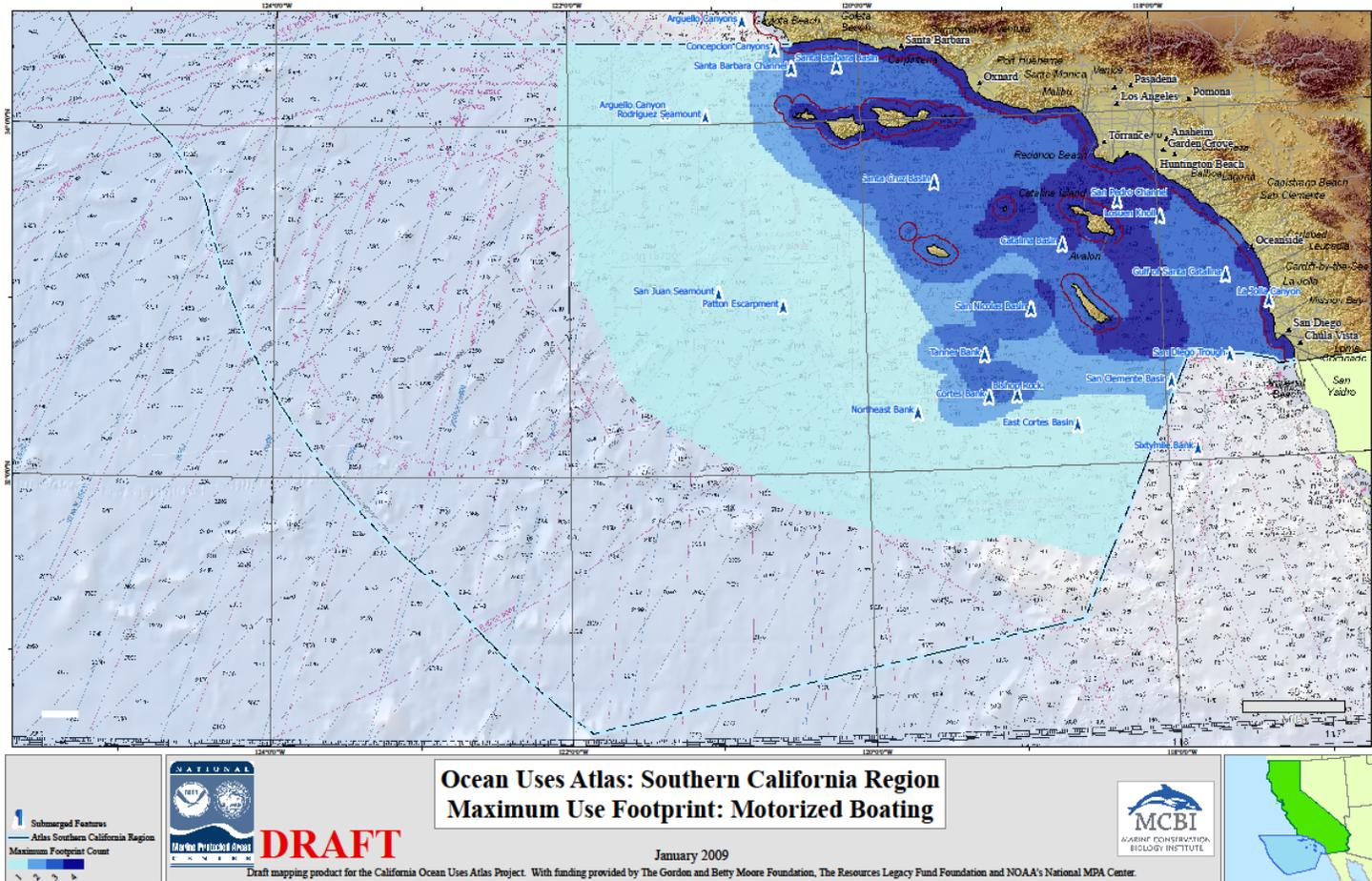
Format for each of 26 uses:

- Maximum footprint
- Dominant use area
- Future increases

Associations among key uses

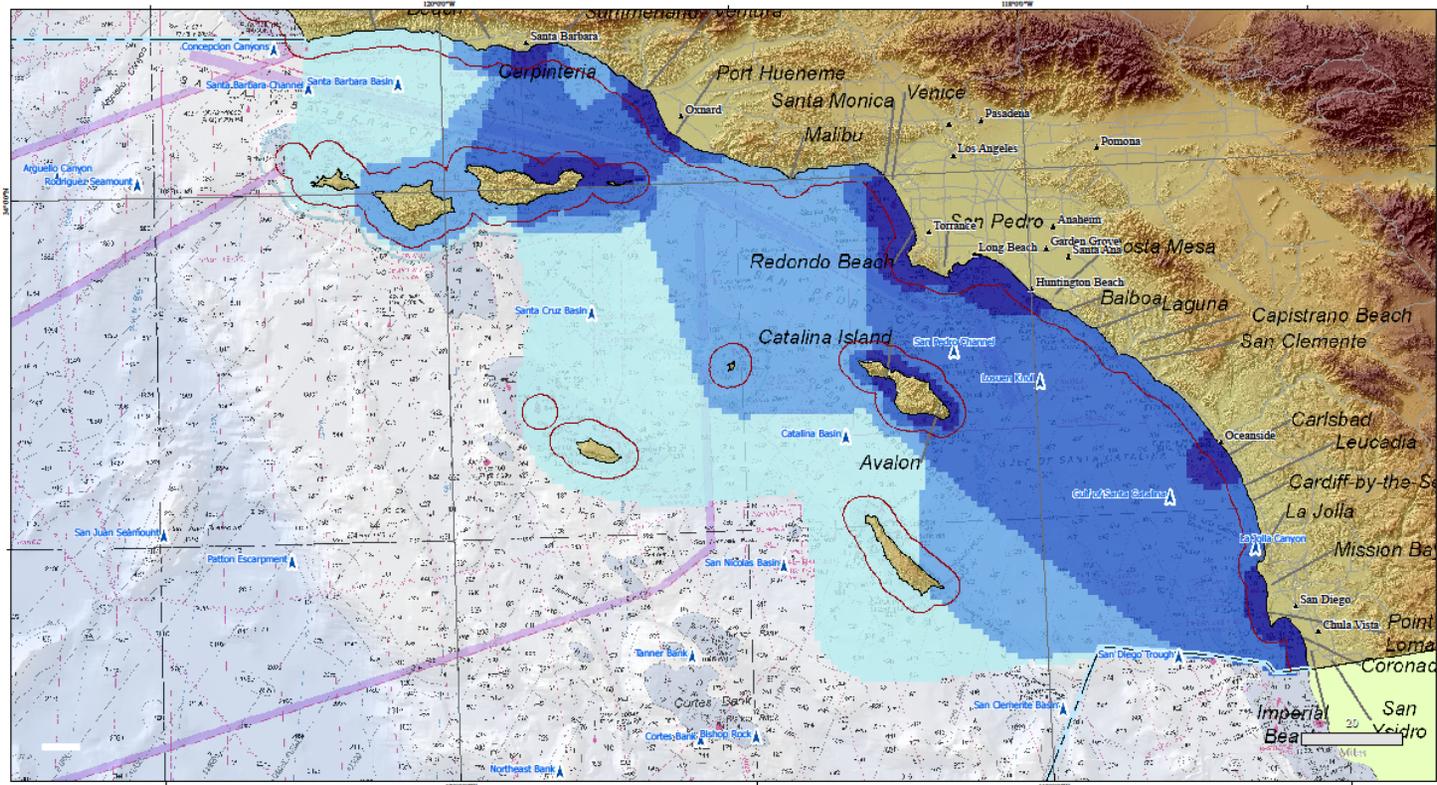
Maximum Footprint of Motorized Boating

Sample Map from SoCal Atlas



Dominant Use Area of Motorized Boating

Sample Map from SoCal Atlas



1 Submerged Features
Atlas Southern California Region
Dominant Use Count



Ocean Uses Atlas: Southern California Region
Dominant Use Areas: Motorized Boating

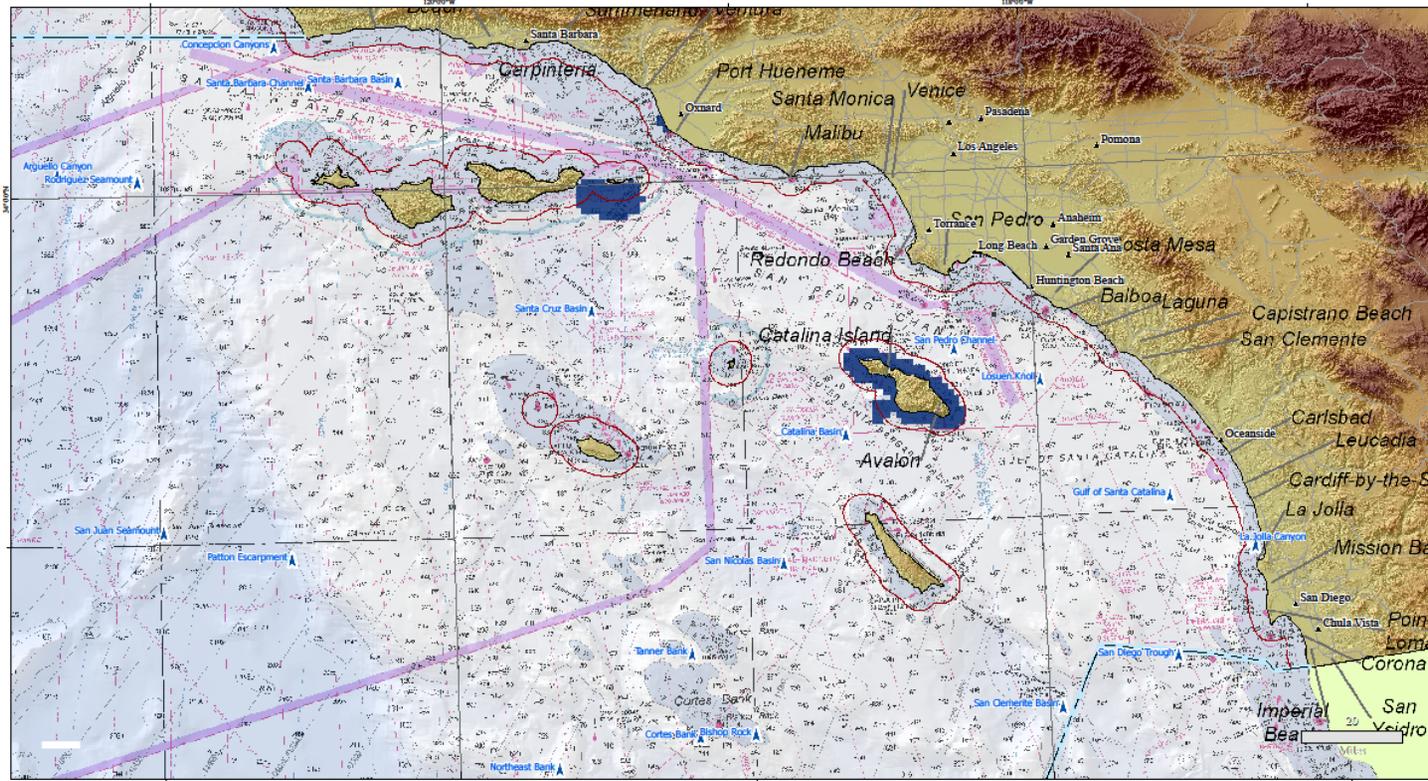
January 2009

Draft mapping product for the California Ocean Uses Atlas Project. With funding provided by The Gordon and Betty Moore Foundation, The Resources Legacy Fund Foundation and NOAA's National MPA Center.



Future Use Area of Motorized Boating

Sample Map from SoCal Atlas



1 Submerged Features
Atlas Southern California Region
Future Use Contour



DRAFT

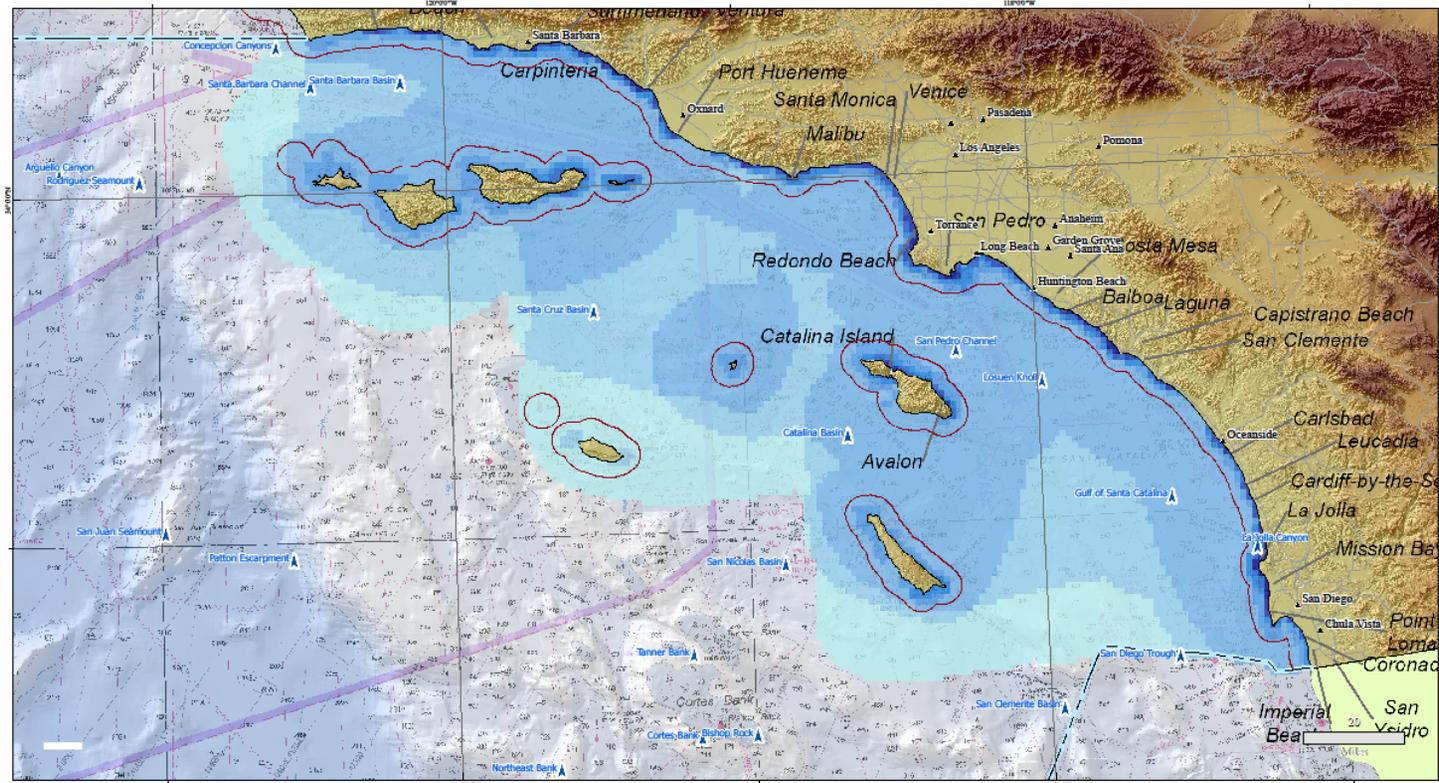
Ocean Uses Atlas: Southern California Region
Future Use Areas: Motorized Boating

January 2009

Draft mapping product for the California Ocean Uses Atlas Project. With funding provided by The Gordon and Betty Moore Foundation, The Resources Legacy Fund Foundation and NOAA's National MPA Center.



Related Uses Combined: Non-Consumptive Sector



Submerged Features
Atlas Southern California Region
Dominant Use Count

NATIONAL
MARINE POLITICAL ALLIANCE
DRAFT

Ocean Uses Atlas: Southern California Region
Dominant Use Areas: Non-Consumptive Sector

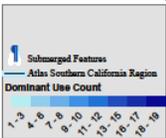
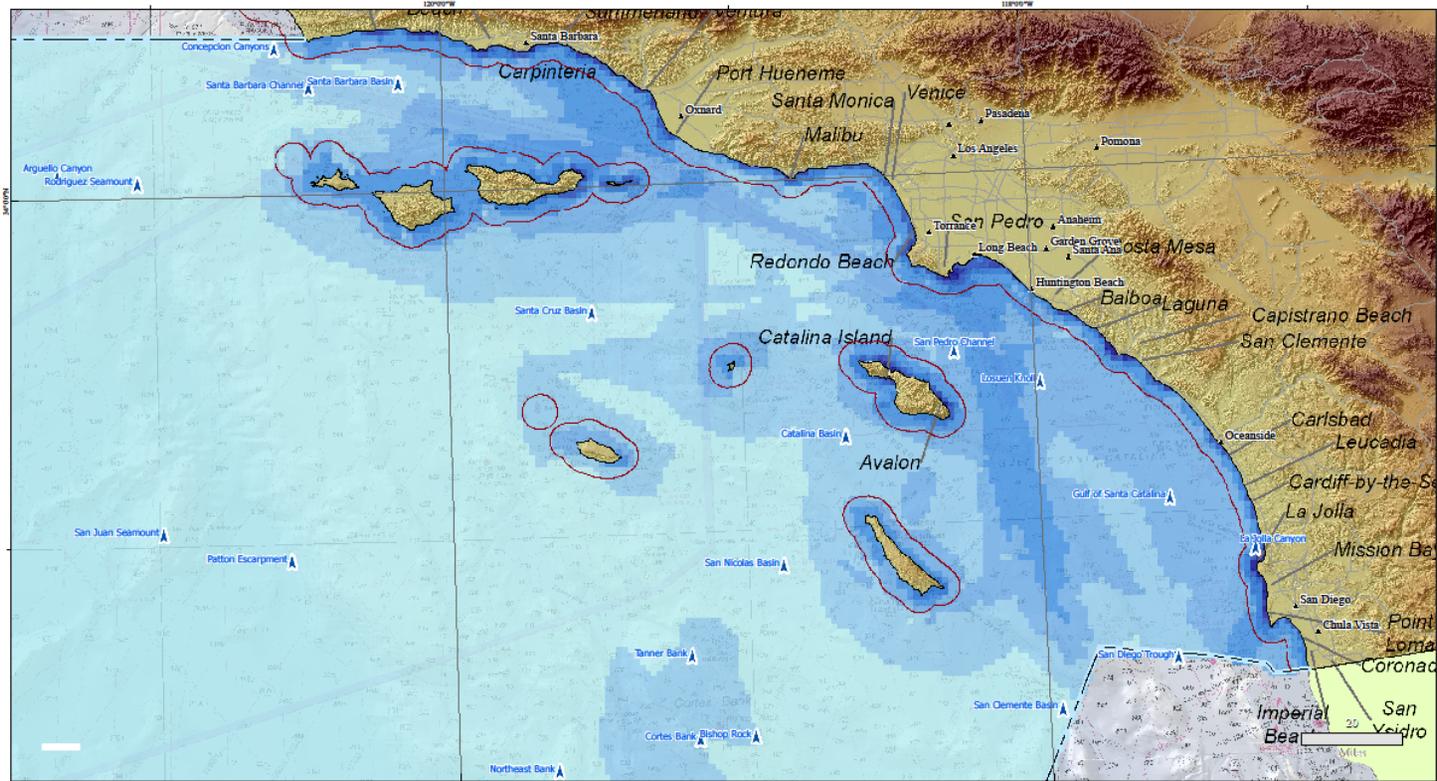
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MCBI
MARINE CONSERVATION
BIOLOGY INSTITUTE



All Uses Combined



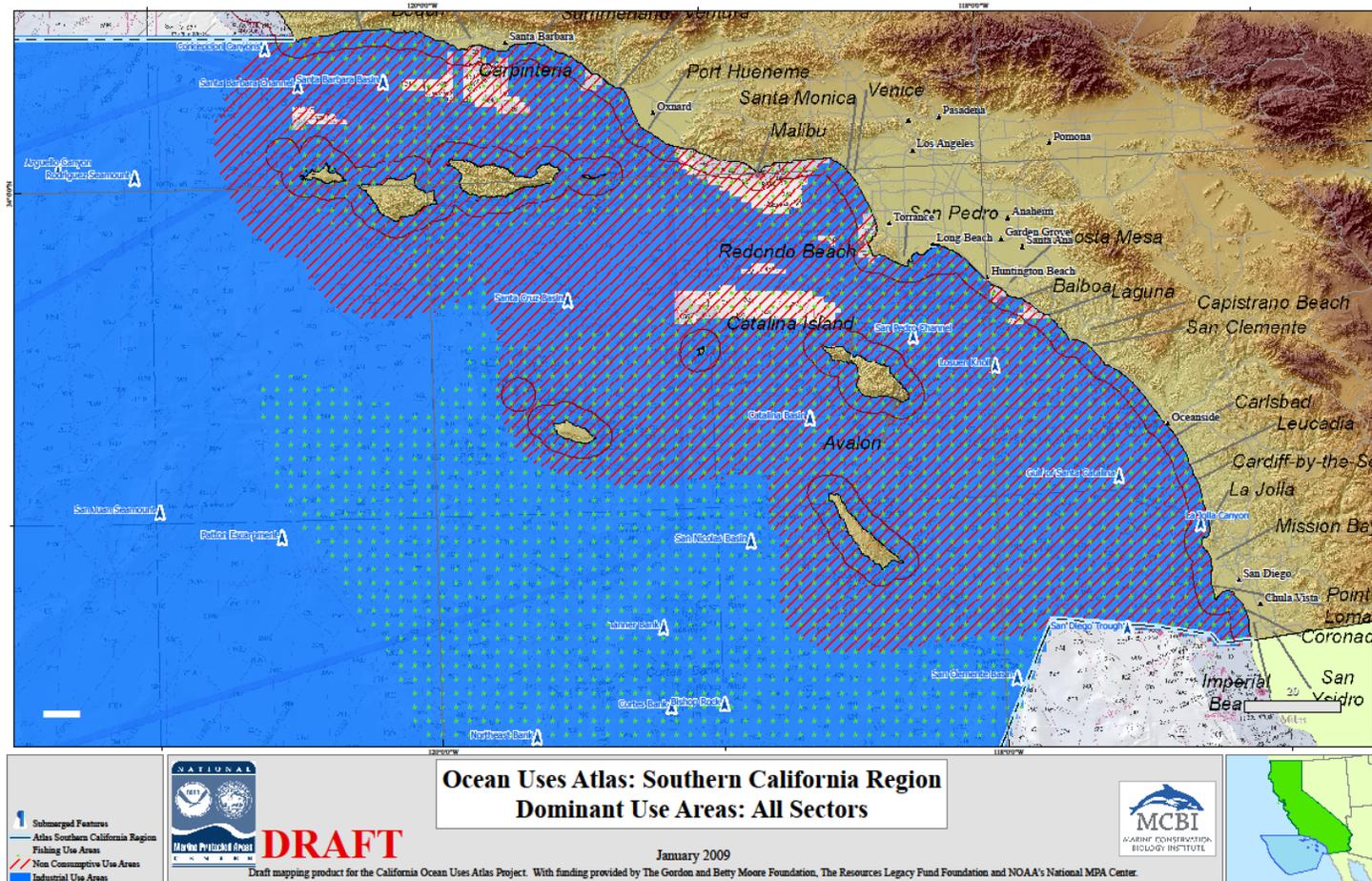
Ocean Uses Atlas: Southern California Region
Dominant Use Areas: All Uses Aggregated

January 2009

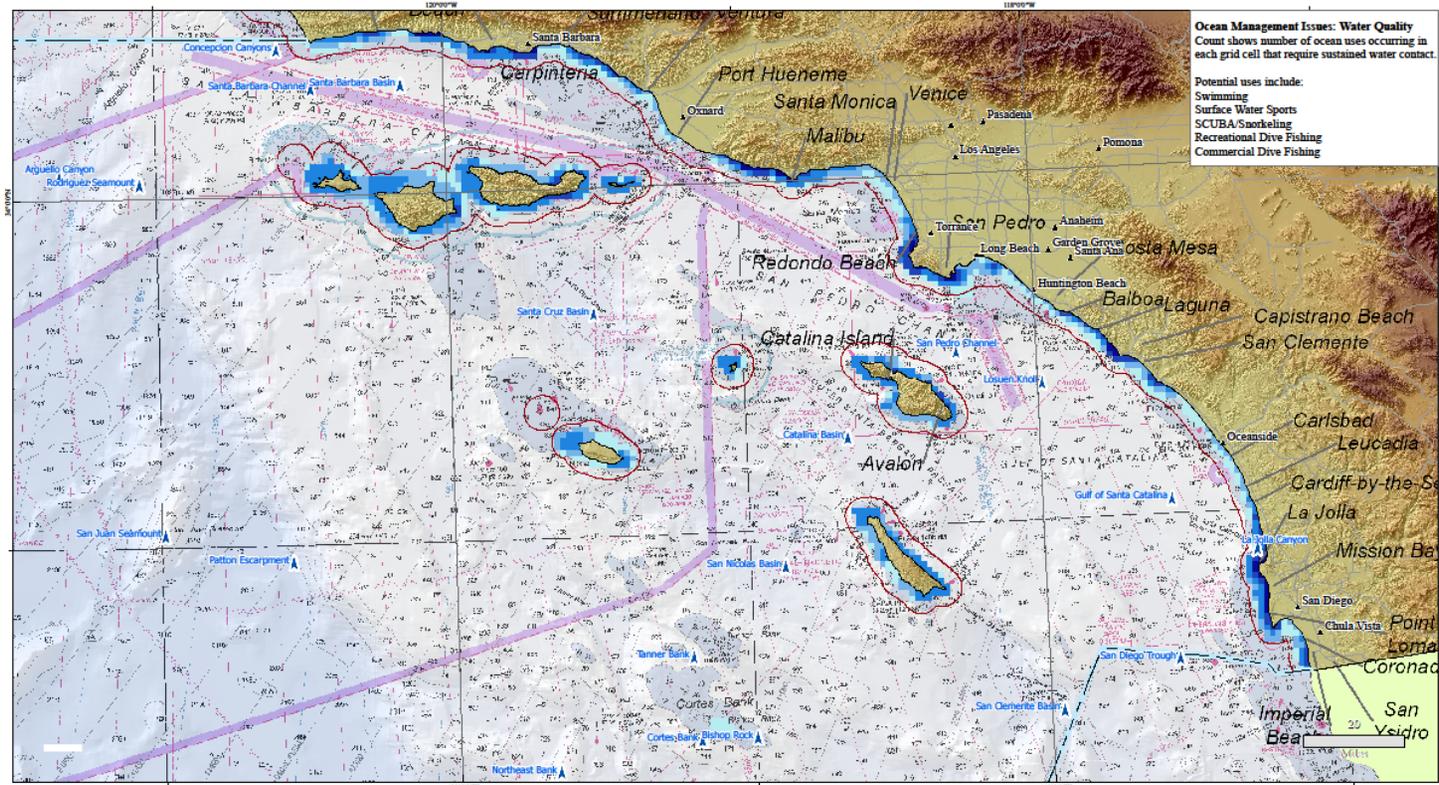
Draft mapping product for the California Ocean Uses Atlas Project. With funding provided by The Gordon and Betty Moore Foundation, The Resources Legacy Fund Foundation and NOAA's National MPA Center.



Overlap Among Use Sectors



Ocean Management Issues: Uses Affected by Water Quality



Submerged Features
Atlas Southern California Region
Water Contact Use Counts

NATIONAL
MARINE POLITICAL ACADEMY
DRAFT

Ocean Uses Atlas: Southern California Region Ocean Management Issues: Water Quality

January 2009

Draft mapping product for the California Ocean Uses Atlas Project. With funding provided by The Gordon and Betty Moore Foundation, The Resources Legacy Fund Foundation and NOAA's National MBA Center.



Selected Insights from Atlas Patterns

Overall Extent – from small concentrations of use to the whole EEZ

Intensity – dominant areas localized or throughout max footprint

Depth Range – many uses bounded by depth contours

Regulatory – some uses constrained by area-base regulations

Infrastructure – many uses radiate from ports or harbors

Onshore-Offshore – some are tied to land; some in state waters; some tied to Channel Islands; some far offshore in federal waters

Density – SoCal region saturated with human uses of the ocean

Next Steps in SoCal

Atlas data currently in use by RSG via Marine Map

Give summary report and maps to MLP AI, RSG, SAT, BRTF

Post data and products on NOAA web site

Ongoing consultations w/ MLPA Monitoring Enterprise

Comparison / validation with other data sets (pending funding)

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