

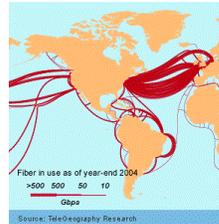
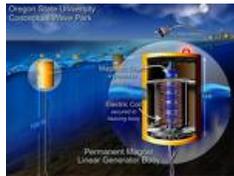
# The California Ocean Uses Atlas Project: Seeing the Whole Picture of Human Use



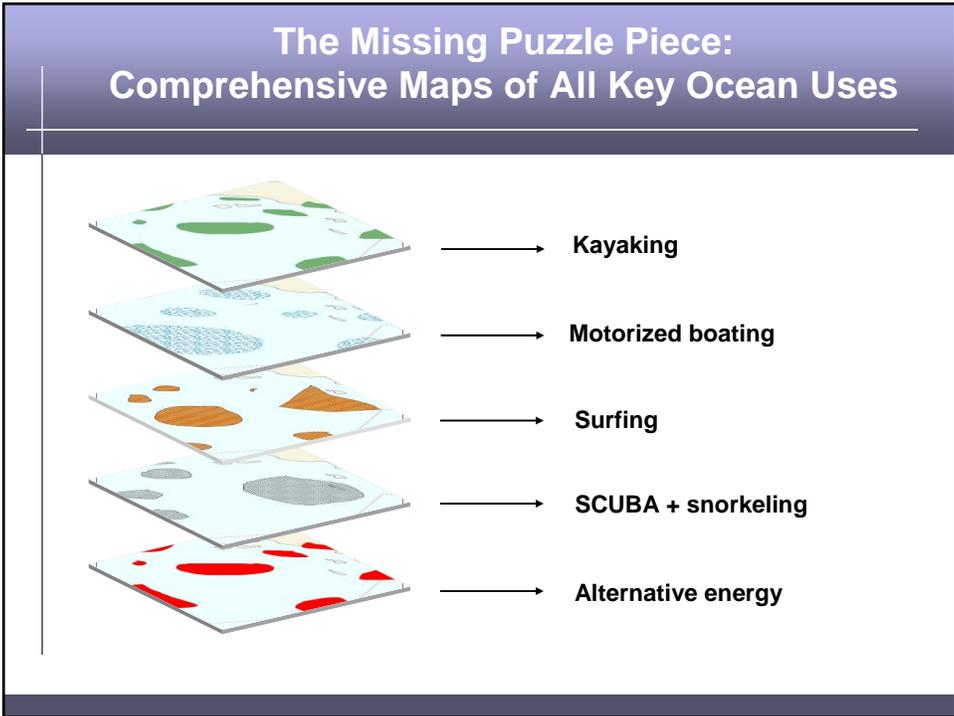
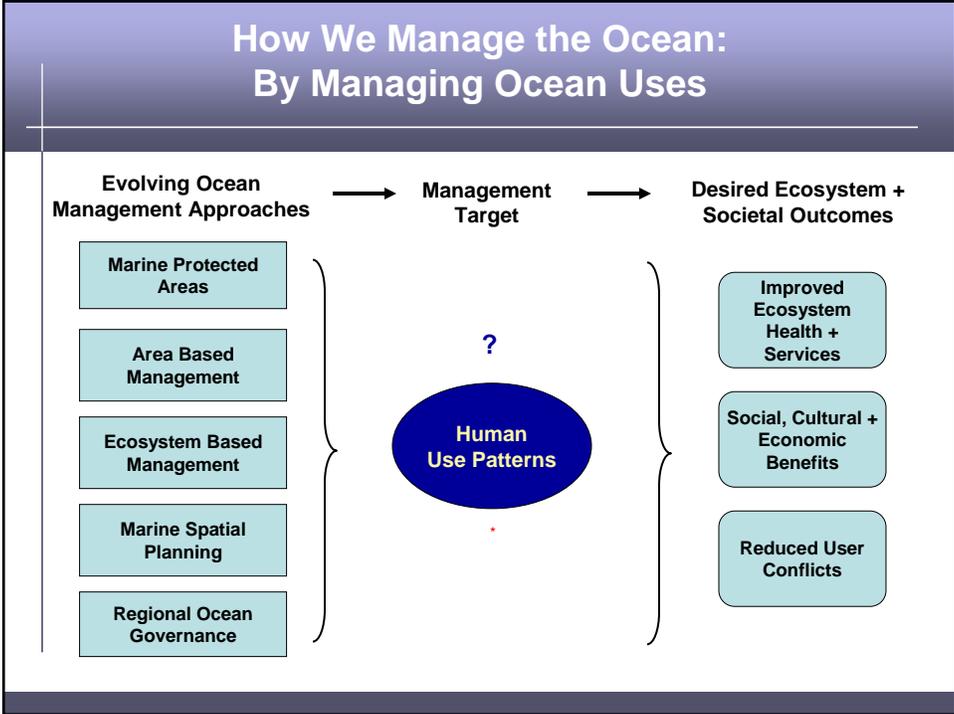
**Dr. Charlie Wahle, NOAA**  
**Dr. Lance Morgan, MCBI**

SoCal Regional Stakeholders Group  
March 3, 2009

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







## 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

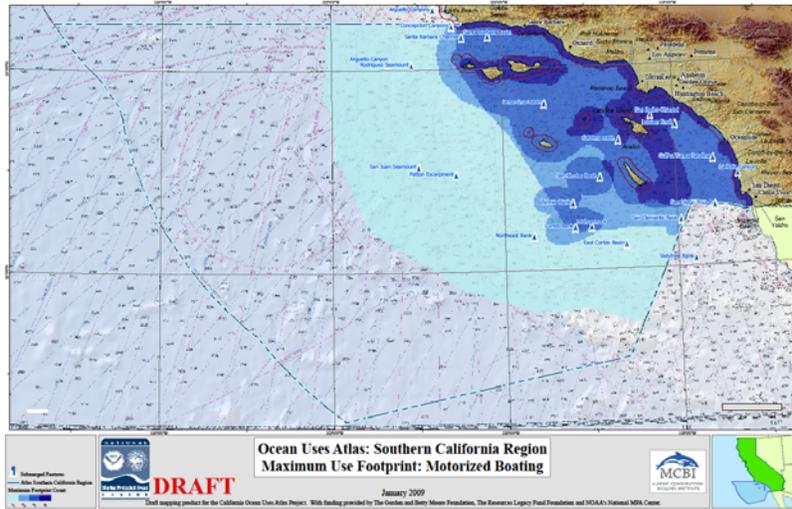
## SAMPLE PRODUCTS

Format for each of 26 uses:

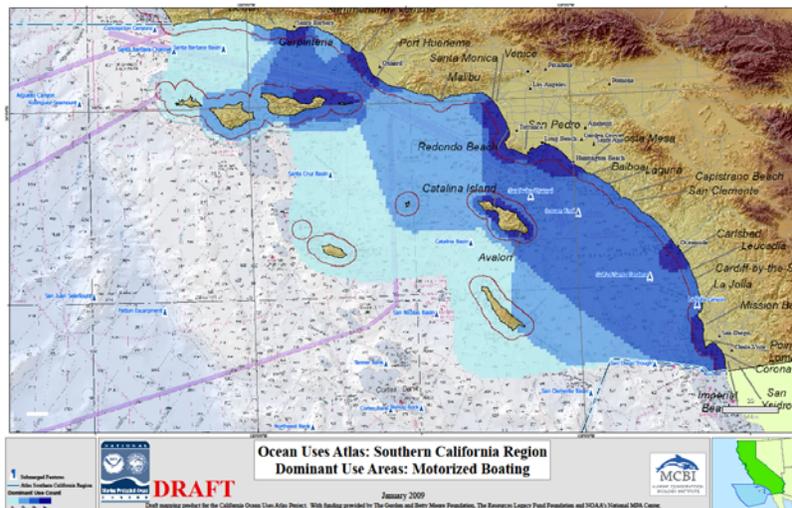
- Maximum footprint
- Dominant use area
- Future increases

Associations among key uses

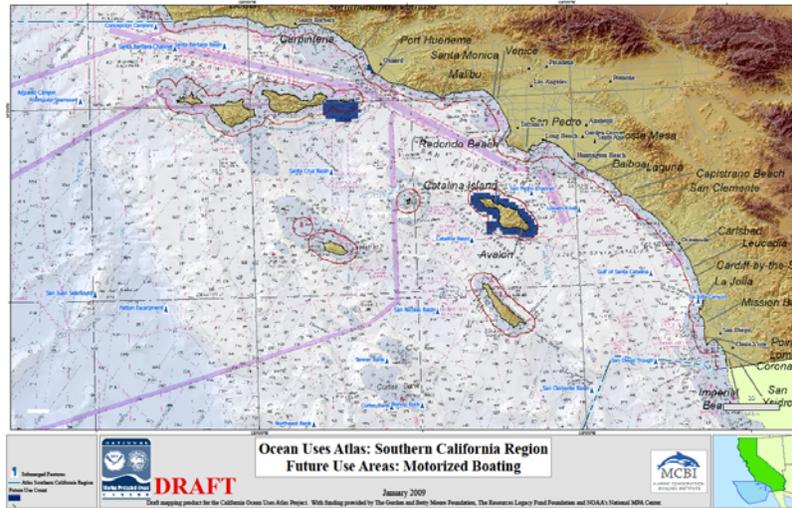
## Maximum Footprint of Motorized Boating Sample Map from SoCal Atlas



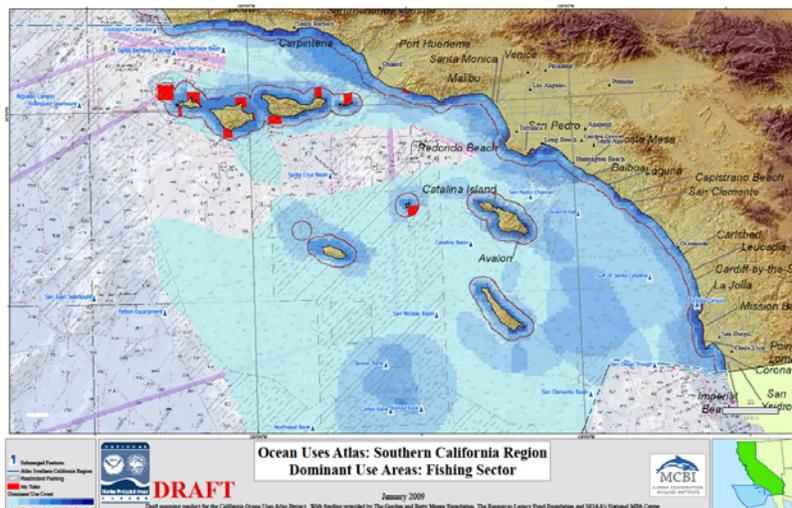
## Dominant Use Area of Motorized Boating Sample Map from SoCal Atlas



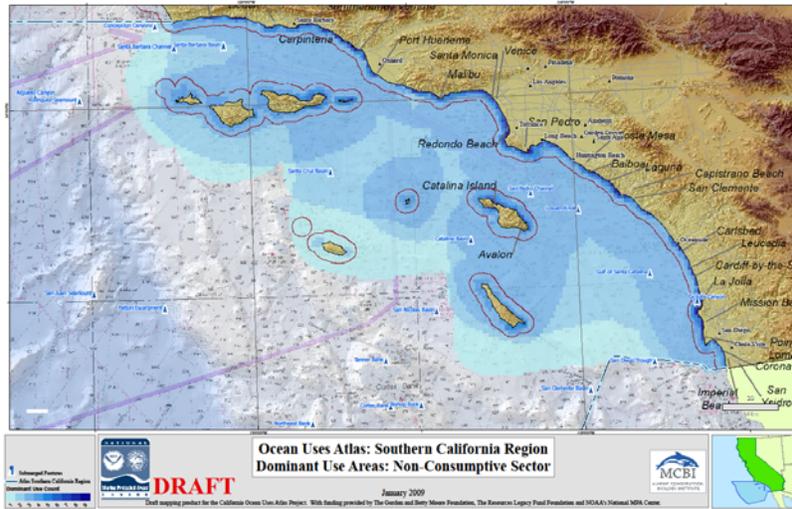
## Future Use Area of Motorized Boating Sample Map from SoCal Atlas



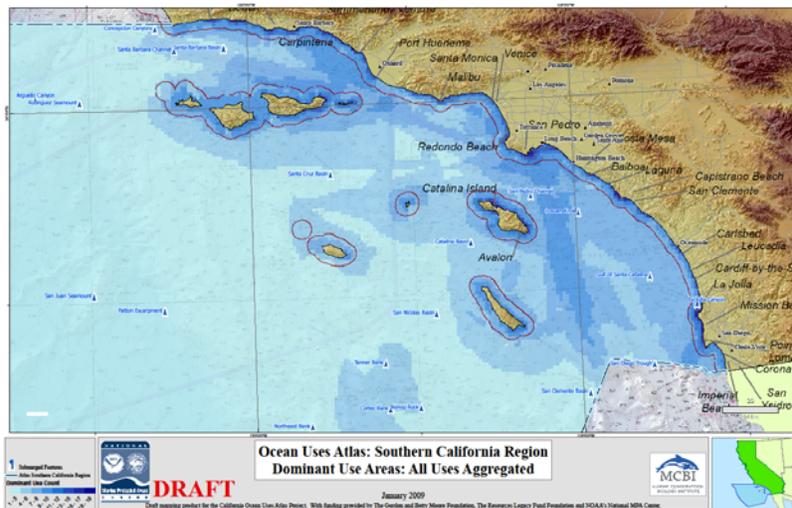
## Related Uses Combined: Fishing Sector



## Related Uses Combined: Non-Consumptive Sector



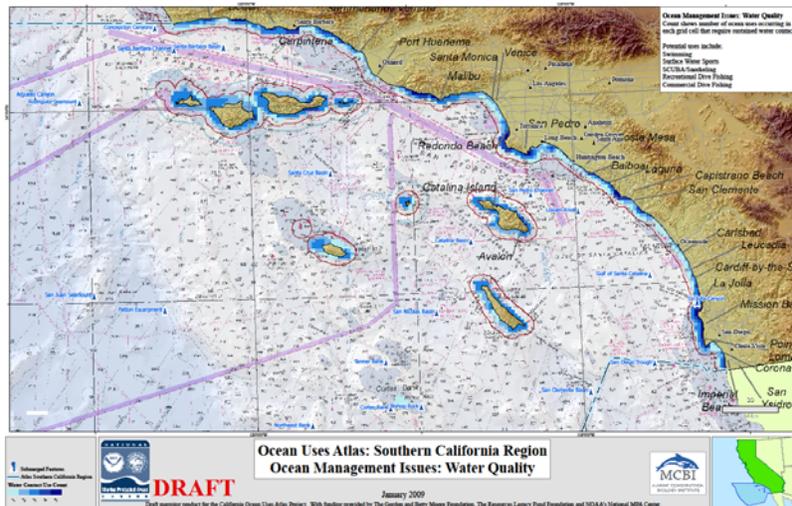
## All Uses Combined



# Overlap Among Use Sectors



# Ocean Management Issues: Uses Affected by Water Quality



## 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 MLPAI, 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)

## CONTACTS

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