Marine Life Protection Act Initiative

Summary of Spatial Data Used in the Planning of Marine Protected Areas in California

North Coast Data Outreach Meeting
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Outline

- **MLPA data needs and current data in the database**
  - Overview of data themes
  - Where they are from
  - How they are used

- **Where do new data come from?**
  - How you can introduce additional data to the process
  - Criteria for data to be useful
    1. Scale
    2. Coverage
    3. Methodology
    4. Formats

Needs of the Process

Science-based, stakeholder driven process to evaluate existing marine protected areas (MPAs) and recommend alternative MPA designs for each study region

- Participants include: Regional stakeholder group (RSG), science advisory team (SAT), blue ribbon task force (BRTF), California Fish and Game Commission (FGC), MLPA Initiative staff, public
  1. All require access to the same basic information

Needs of the Process

MPA planning requires:

- Spatial data on distribution of key habitats, socioeconomic uses, marine managed areas, points of reference, etc.
- Tools to facilitate the exploration of data and support MPA design and evaluation
  1. Iterative process that requires efficient automation of information capture
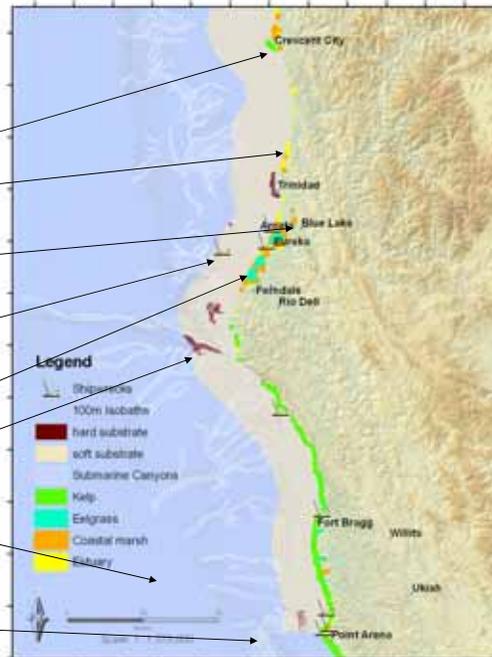 2. Tools will be covered in future presentations

Database organization

- **Habitat**
  - Distribution of substrate types, bathymetry, intertidal substrate, kelp, seagrass
- **Biological**
  - Distribution of fish, birds, mammals, invertebrates, corals
- **Physical**
  - Sea surface temperatures (SST), upwelling, salinity, currents, impaired water bodies
- **Cultural**
  - Distribution of ports, coastal access points, cities
- **Socioeconomic**
  - Consumptive and non-consumptive activities (e.g., commercial and recreational fishing, recreational boating, diving, educational
- **Base (reference) Layers**
  - Existing MPAs, study region, graticules, nautical charts

Habitats

Kelp canopy mapping from DFG

Estuaries from TNC and USFWS NWI
http://www.fws.gov/wetlands/

Coastal marsh from NOAA ESI
http://response.restoration.noaa.gov

Shipwrecks generated from NOAA ENC
http://www.nauticalcharts.noaa.gov

Eelgrass from Eric VanDyke and DFG

Geologic benthic classification from NOAA
EFH EIS * (update in progress)
http://www.nmfs.noaa.gov/habitat

Bathymetric isobaths from DFG and
NOAA (NGDC)
http://www.ngdc.noaa.gov

Submarine canyons from NOAA EFH
http://www.nmfs.noaa.gov/habitat

Biological

Bird colony and roosting data from NOAA biogeography; additional contributions from Dan Robinette, Laird Henkel, Gerry McChesney
http://ccma.nos.noaa.gov/about/biogeography/

Marine mammal haulout and rookery data from NOAA biogeography; additional contributions from Sarah Allen, Susan Chivers, Mark Lowery
http://ccma.nos.noaa.gov/about/biogeography/

Legend

Number of Birds in Colony
- 1 - 1883
- 1884 - 6252
- 6253 - 17753
- 17754 - 44980
- 44981 - 124697

Number of Species in Colony
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- Mammal rookeries

Cultural

Pending permit applications for wave energy farms from Federal Energy Regulatory Commission
http://www.ferc.gov/

Coastal access points from California Coastal Commission
http://www.coastal.ca.gov/access/accessguide.html

Ocean outfalls from SWRCB
http://www.swrcb.ca.gov/

Bathymetric hillshades from CDFG, USGS, CSUMB, and private industry contributors

Research institutions from MSI UCSB

Legend
- Research institutions
- Ocean outfalls
- Coastal access points
- Power plants
- Proposed wave farm sites
- AT&T telecom cables

Physical

Coastal hydrography from USGS
http://nhd.usgs.gov/

Shoretype and coastline delineation from NOAA ESI
http://response.restoration.noaa.gov

High resolution multibeam bathymetric imagery and substrate classification * from CSUMB
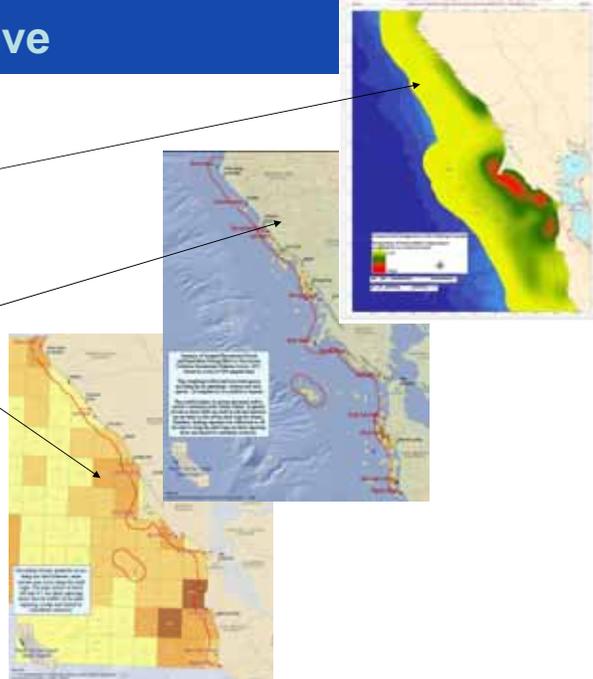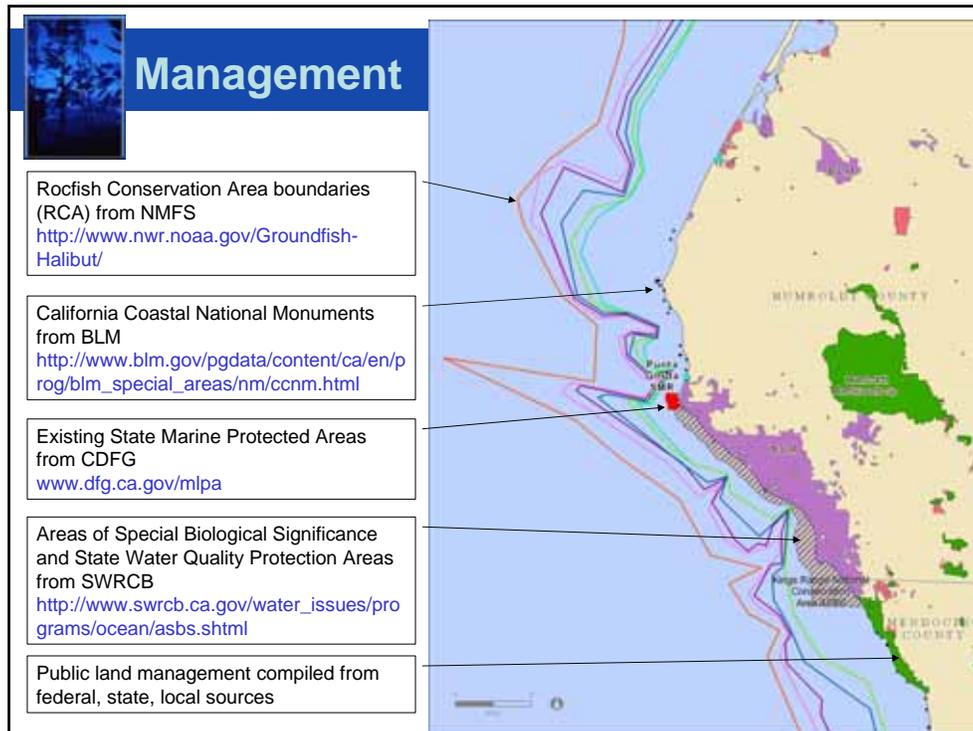http://seafloor.csumb.edu/index.html
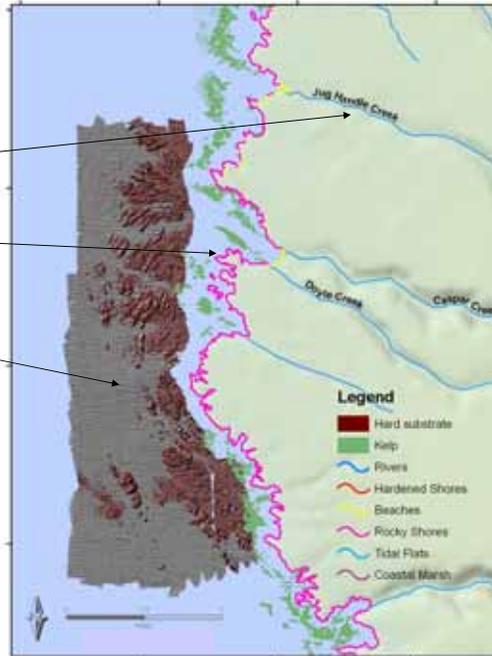
Consumptive

Commercial and recreational gishing ground areas of importance from Ecotrust fisher surveys

Recreational observer or survey data from California Recrational Fisheries Survey (CRFS)

Commercial landing reciept or logbook data from California Fisheries Information System (CFIS)

Management

Rocfish Conservation Area boundaries (RCA) from NMFS
http://www.nwr.noaa.gov/Groundfish-Halibut/

California Coastal National Monuments from BLM
http://www.blm.gov/pgdata/content/ca/en/prog/blm_special_areas/nm/ccnm.html

Existing State Marine Protected Areas from CDFG
www.dfg.ca.gov/mlpa

Areas of Special Biological Significance and State Water Quality Protection Areas from SWRCB
http://www.swrcb.ca.gov/water_issues/programs/ocean/asbs.shtml

Public land management compiled from federal, state, local sources

How Data are Used

Data are processed into a Geographic Information System (GIS)

- o Must have a spatial reference linked to specific attributes
- o All data have a common spatial reference
- o Allows for comparison of information in same space and time
- o Data are presented on maps or in tabular format in a variety of media
  1. Static maps, figures and tables (printed and online)
  2. Direct public connection to our database
  3. Through MarineMap, a custom MPA planning tool for viewing these data

How Data are Used

Data and associated mapping tools are utilized by groups in different ways:
- RSG
  1. Reviews data during planning to target specific areas of interest, confirm boundaries, meet guidelines
- SAT
  1. Reviews data prior to planning process and during evaluation of proposals drafted by RSG
  2. Uses data to quantify analyses of drafted proposals
- All others (including, BRTF, staff and public)
  1. Review data and summaries by SAT to better understand the spatial distribution of thematic areas of interest and how proposals fit the distribution and guidance given by the SAT

How You Can Contribute Information

Formally submit data for consideration
- Initial step is data submission form
- Data will be reviewed by staff and passed on to SAT for final review. Initial considerations are:
  1. Will data help SAT answer a question or inform process?
  2. Are there other similar data already included?
  3. What is the spatial resolution?
  4. What is the source?
  5. Are methods/analysis appropriate?
  6. What is the level of peer review?
  7. Are the data readily usable?
  8. What is the extent of the data?

Data Exploration

- **Still early in MLPA North Coast Study Region (NCSR) planning process**
  - We will continue to acquire many new updates and datasets as we progress
  - Cartography and synthesis of some data has only just begun
  - Region profile in the works
    - http://www.dfg.ca.gov/mlpa/nccprofile.asp
- **A quick look at the list of features in the handout**
- **A quick look at marinemap to see how data are presented and used in the south coast**
  - Because we early in the NCSR we don't have these data represented in maps yet.
    1. Products will start showing in early fall

Thank You

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www.dfg.ca.gov/mlpa

Questions?