Marine Life Protection Act Initiative

SAT Evaluation of Water and Sediment Quality of Round 2 North Coast Draft MPA Proposals

Presentation to the MLPA Science Advisory Team
June 30, 2010 • Eureka CA

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California State Water Resources Control Board

Water Quality Guidance

SAT Recommendations

- Co-location, where possible, with state water quality protection areas (SWQPAs)
  - Areas of special biologica significance (ASBSs) are special subset of SWQPAs
- Avoiding, where possible, areas of water quality concern:
  - Urban stormwater and nonpoint sources of pollution (e.g. harbors)
  - Wastewater point sources
    1. Major sources – ½ mile radius buffer
    2. Intermediate sources – ¼ mile radius buffer
    3. Minor sources – avoid outfall point

Evaluation Methods

- Two categories of marine protected areas (MPAs):
  1. Bay and estuary MPAs
     - Bays and estuaries are more likely to be associated with storm-water runoff
     - No areas of special biological significance (ASBSs) currently designated in embayments
  2. Coastal MPAs
     - Coast and offshore rocks
     - Large ASBSs provide opportunities for co-location

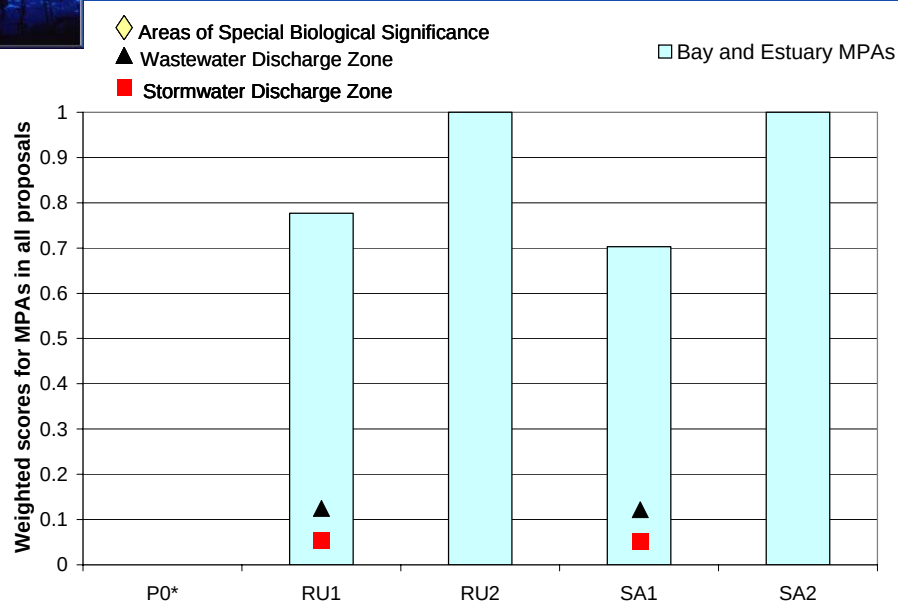
Scoring of MPA Proposals

- Scores based on presence/absence of areas of water quality concern and opportunity
- Co-location with areas of water quality concern: Water quality scores deducted if co-located with
  - Stormwater and nonpoint source discharges (-1)
  - Industrial/municipal wastewater discharges (-0.5)
- Co-location with areas of water quality opportunity: Water quality scores increased if co-located with
  - SWQPAs and ASBSs (+0 to 1 based on percent area of overlap)

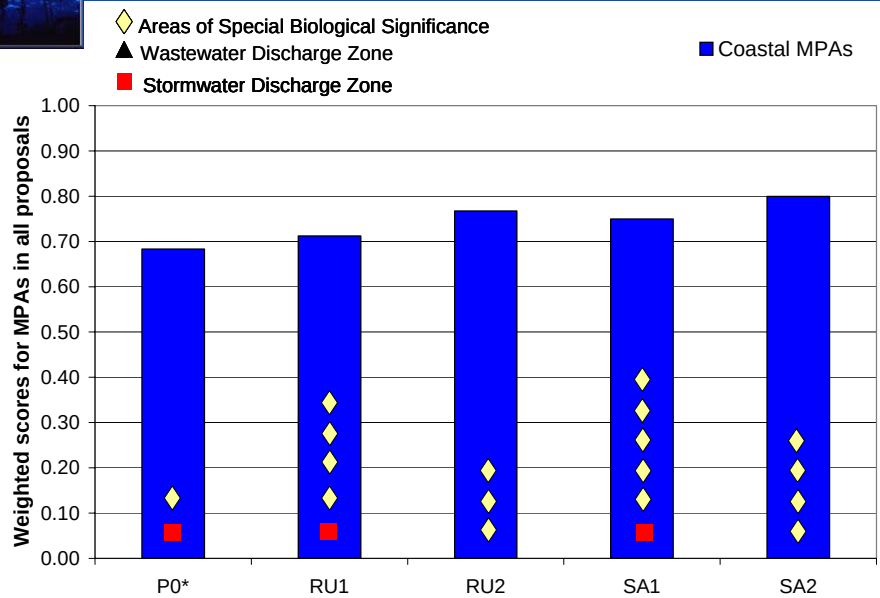
Evaluation Scoring Methods

- Embayment MPAs
  - 0.25 is the least desirable and has serious water-quality concerns
  - 1.00 is considered the most desirable, with no water-quality concerns
- Coastal MPAs
  - 0.17 is the least desirable and has serious water-quality concerns
  - 0.67 is desirable, indicating no water-quality concerns
  - A score over 0.67 indicates co-location with an ASBS/SWQPA; a score of 1.00 is the most desirable

Proposal Comparison - Bay and Estuary MPAs



Proposal Comparison - Coastal MPAs

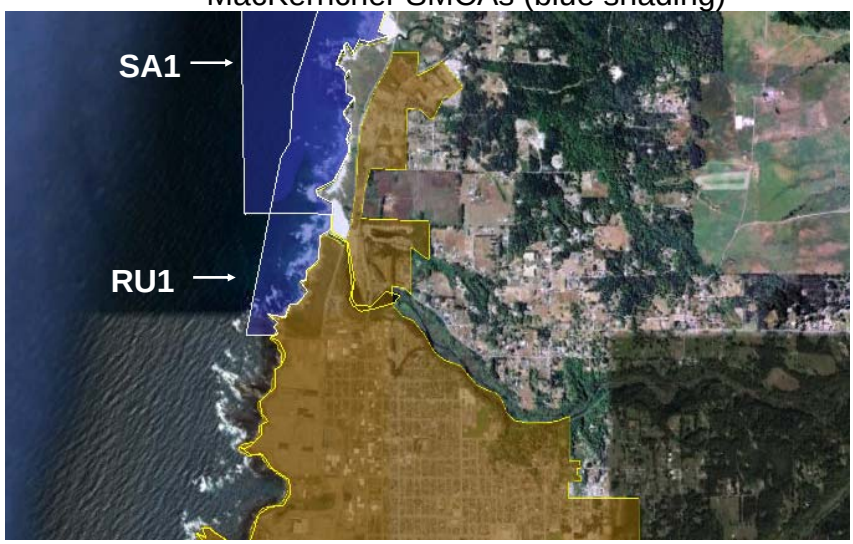


Areas of Water Quality Concern

- MacKerricher SMCA
  - Ruby Draft MPA Proposal 1 (extends existing MPA further south)
  - Sapphire Draft MPA Proposal 1 (north-south extent is similar to existing MPA, offshore boundary changed)
- Southern boundaries for MPAs in both proposals intersect MS4 drainage area

Areas of Water Quality Concern

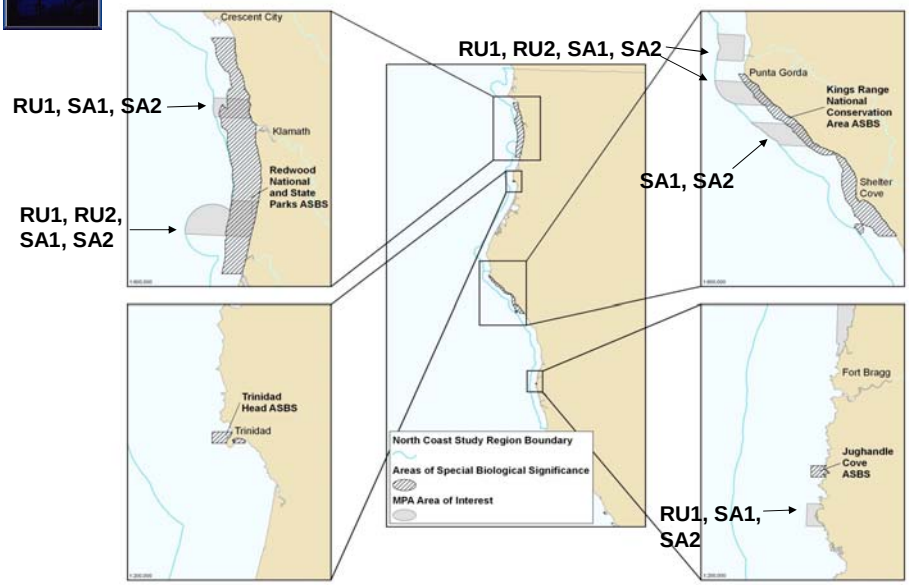
Fort Bragg MS4 Area (brown shading) and MacKerricher SMCAs (blue shading)



Areas of Water Quality Concern

- North Humboldt Bay SMRMA (Same shape in both proposals)
  - Ruby 1
  - Sapphire 1
- Urban Stormwater **(Brown)**
- Intermediate Wastewater Discharge **(Pink Circle)**

ASBSs and MPA Placement



Round 2 Summary

- All proposals did very well with most MPAs avoiding water quality concerns
- Two proposals (Ruby 1 and Sapphire 1) contained one embayment MPA that had water quality concerns
- Two proposals (Ruby 1 and Sapphire 1) contained one coastal MPA that had water quality concerns
- All proposals did well at co-locating MPAs with ASBSs

Round 2 Summary, conclusion

- *Water-quality evaluations are not mandated by the master plan for MPAs, and should therefore be considered secondary to other MPA design guidelines. Water-quality considerations should be incorporated if other guidelines and criteria have been met.*