Marine Life Protection Act Initiative

SAT Water Quality Evaluation for the MLPA South Coast Study Region

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Water Quality Guidance

- SAT recommends avoiding, where possible, water quality concern areas:
  1) cooling water intake sites for power plants,
  2) municipal sewage or industrial outfalls, and
  3) pollutant discharges from large industrial or developed watersheds.
- SAT recommends including, where possible, state water quality protection areas (SWQPAs), one type of marine managed area:
  - Areas of special biological significance (ASBSs) are the only subset of SWQPAs

Water Quality Guidance

- Water quality concern areas were mapped and most sites received a buffer zone, depending on the site:
  - Power plant and entrainment impact zones
  - Stormwater discharge and toxicity plume zones
  - Municipal and industrial wastewater:
    - Major wastewater discharges – ½ mile impact zone around outfall and diffusers
    - Intermediate discharges – ¼ mile impact zone around outfall and diffusers

Evaluation Scoring Methods

- Scores are allocated based on the presence or absence of any of the three water quality concern areas (intakes or discharges) in a proposed MPA
  - If an MPA includes any of these three, then the overall score is reduced
- For SWQPA/ASBS, scores are based on the percentage of shoreline coverage
  - The score is positively influenced if MPA is co-located with a SWQPA/ASBS area

Evaluation Scoring Methods (cont'd)

- Scoring hierarchy is used for the water quality concern areas based on potential effects to MPA success
- Effects from power plant intakes > stormwater discharges > industrial/municipal wastewater discharges
- Co-locating with an SWQPA improves the score

Evaluation Scoring

Water Quality Concern Area	Co-Located with Water Quality Concern Area Scores	Not Co-Located with Water Quality Concern Area Scores
Power Plant Intake Zone	-1.5	1.0
Stormwater Discharge	-1.0	1.0
Wastewater Discharge	-0.5	1.0
Water Quality Protection Areas	**Co-Located with SWQPA**	**Not Co-Located with SWQPA**
SWQPA/ASBS	Between 0 and 1 based on % of shoreline coverage	0
Final score for each MPA	Average of scores from all categories	
Final score for MPA network proposal	Weighted average of scores for individual MPAs	

State Water Quality Protection Areas Scoring

Example: Laguna Beach SMCA and Heisler Park SWQPA/ASBS

- MPA (in yellow) has the entire ASBS (black) within it
- ASBS is small and only covers around 10% of SMCA's shoreline
- Score would be 0.1

State Water Quality Protection Areas Scoring

Example: Laguna Beach SMCA and Heisler Park SWQPA/ASBS

- MPA (in red) has the entire ASBS (black) within boundary
- ASBS is small but similar size to MPA and covers 80% of the MPA's shoreline
- Score would be 0.8

Evaluation Scoring Examples

MPAs	Shoreline length	Score for avoiding : Power Plant Intake Zone	Stormwater Discharge Zone	Wastwater Discharge Zone	Co-Located with an SWQPA/ASBS	MPA Average Score	MPA Weighted Score[1]
Example MPA One	5	1.00	1.00	1.00	1.00	1.00	**.21**
Example MPA Two	3	-0.50	1.00	0.50	0.00	0.25	**.03**
Example MPA Three	4	1.00	0.00	1.00	0.00	0.50	**.08**
Example MPA Four	5	1.00	0.00	1.00	0.5	0.63	**.13**
Example MPA Five	3	1.00	1.00	0.50	1.00	0.88	**.11**
Example MPA Six	4	-0.50	0.00	0.50	0.00	0.00	**0.0**
Scores for entire proposal (avg.)	**24**	**0.50**	**0.50**	**0.75**	**0.42**	**0.54**	**0.56**

[1] The final weighted average score for the whole proposal is the sum of individual MPA scores, each multiplied by the ratio of the individual MPA shoreline length to the total shoreline length in the entire regional proposal.

Other Water Quality Issues

Supplemental Evaluation

- Palos Verdes shelf water quality
  - EPA DDT Superfund site off White Point
  - Portuguese Bend landslide