

Marine Life Protection Act Initiative



Preliminary Proposal Evaluations – Potential Fishery Impacts in the North Central Coast Study Region

**Presentation to the MLPA Blue Ribbon Task Force
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Overview

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1. Introduction

- Interviewed 174 commercial fishermen on spatial extent and relative importance of their fishing grounds
- Will have similar data available for recreational fisheries in study region by RSG working group meeting 28 Nov 2007
- These layers form the basis for design of arrays, and two evaluation analyses:
 - First order effects of closing areas (size and value), “worst case”
 - Socioeconomic impacts of MPA arrays



2. Overview of Fisheries

Fishery	% of total NCCSR fisheries revenues, 7-year average (2000–2006)	% of total CA statewide fisheries revenues, 7-year average (2000–2006)	% of CA statewide fisheries revenues landed in NCCSR, 7-year average (2000–2006)
California Halibut	1.8%	0.3%	20.5%
Coastal Pelagics	0.2%	0.0%	0.4%
Market Squid	1.9%	0.4%	1.2%
Deeper Nearshore Rockfish	0.7%	0.1%	23.9%
Nearshore Rockfish	1.0%	0.2%	7.2%
Urchin	5.2%	1.0%	8.5%
Dungeness Crab	53.2%	10.0%	31.1%
Salmon	36.1%	6.8%	52.7%



3. Commercial Impacts: Approach

- Distinguish between total fishing grounds, and fishing grounds in state waters
- Stated importance * proportion of study area landings
- Assume that all commercial fishing in an area affected by an MPA would be lost completely → overestimates the impacts
- In reality fishing effort would shift, but can't predict where and when



3. Commercial Impacts: Next Rounds

- In subsequent rounds of MPA proposals, will also consider “outliers” – fishermen likely to experience disproportionate impacts
- Effect of existing fishery management area closures and other constraints on fishing grounds
- Other pieces of information that would be useful to you!

4. Commercial Impacts: Results

- MPA proposals vary considerably, both between and across fisheries:
- Table 7: percentage of total fishing grounds area affected
- Table 8: percentage of study area fishing grounds affected
- Table 9: percentage of total fishing grounds value affected
- Table 10: percentage of study area value affected

Fisheries	Terrestrial		Emerald		Jule		External		External		External	
	A	B	A	B	A	B	A	B	A	B	A	B
California Halibut	--	--	--	--	--	--	--	--	--	--	--	--
Coastal Pelagics	--	--	--	--	--	--	--	--	--	--	--	--
Market Squid	--	--	--	--	--	--	--	--	--	--	--	--
Deeper Nearshore Rockfish	29.41%	30.52%	31.48%	42.80%	51.67%	27.84%	23.20%	34.07%	55.48%	52.45%	52.45%	52.45%
Nearshore Rockfish	11.32%	14.84%	16.04%	33.42%	27.35%	14.84%	11.07%	17.61%	29.93%	16.54%	10.47%	10.47%
Urchin	12.37%	14.10%	12.42%	12.24%	19.92%	8.34%	4.23%	6.73%	11.51%	10.47%	10.47%	10.47%
Dungeness Crab	4.07%	3.79%	3.67%	4.79%	8.94%	1.80%	0.87%	2.31%	8.51%	2.15%	2.15%	2.15%
Salmon	0.91%	0.96%	1.46%	0.96%	1.70%	0.47%	0.10%	0.00%	0.44%	0.46%	0.46%	0.46%
California Halibut	9.95%	10.76%	14.48%	6.44%	23.22%	9.98%	12.88%	7.16%	27.69%	9.74%	9.74%	9.74%
Coastal Pelagics	--	--	--	--	--	--	--	--	--	--	--	--
Market Squid	--	--	--	--	--	--	--	--	--	--	--	--
Deeper Nearshore Rockfish	11.92%	14.16%	17.42%	14.39%	15.90%	8.29%	8.90%	10.07%	23.73%	11.40%	11.40%	11.40%
Nearshore Rockfish	7.19%	8.37%	8.57%	14.17%	9.96%	4.22%	3.62%	6.70%	10.88%	7.17%	7.17%	7.17%
Urchin	11.89%	17.77%	11.20%	14.46%	10.94%	4.15%	4.05%	6.61%	10.87%	9.73%	9.73%	9.73%
Dungeness Crab	1.90%	1.99%	2.00%	2.49%	3.72%	1.14%	0.40%	0.90%	1.99%	1.05%	1.05%	1.05%
Salmon	0.47%	0.49%	0.65%	0.61%	0.71%	0.30%	0.13%	0.30%	1.73%	0.34%	0.34%	0.34%
California Halibut	8.90%	11.17%	14.64%	6.99%	21.92%	8.80%	12.75%	7.38%	28.07%	8.82%	8.82%	8.82%
Coastal Pelagics	--	--	--	--	--	--	--	--	--	--	--	--
Market Squid	--	--	--	--	--	--	--	--	--	--	--	--
Deeper Nearshore Rockfish	40.95%	33.72%	59.29%	14.62%	31.80%	11.84%	28.47%	6.22%	79.44%	4.99%	4.99%	4.99%
Nearshore Rockfish	--	--	--	--	--	--	--	--	--	--	--	--
Urchin	--	--	--	--	--	--	--	--	--	--	--	--
Dungeness Crab	0.90%	0.97%	0.99%	0.97%	20.93%	0.90%	3.17%	0.90%	10.89%	0.90%	0.90%	0.90%
Salmon	0.80%	1.01%	1.99%	0.95%	0.99%	0.39%	0.33%	0.29%	6.83%	0.28%	0.28%	0.28%
California Halibut	2.19%	2.95%	4.46%	2.19%	6.80%	1.80%	1.05%	1.53%	8.26%	2.42%	2.42%	2.42%
Coastal Pelagics	--	--	--	--	--	--	--	--	--	--	--	--
Market Squid	--	--	--	--	--	--	--	--	--	--	--	--
Deeper Nearshore Rockfish	14.63%	16.78%	13.93%	12.97%	16.36%	11.26%	9.27%	10.38%	18.56%	6.24%	6.24%	6.24%
Nearshore Rockfish	11.51%	16.66%	12.21%	13.96%	16.48%	10.02%	11.00%	6.22%	17.76%	7.37%	7.37%	7.37%
Urchin	30.73%	29.64%	28.87%	35.86%	27.30%	21.65%	12.71%	28.63%	26.00%	24.36%	24.36%	24.36%
Dungeness Crab	1.39%	1.51%	1.93%	2.47%	2.47%	1.07%	0.29%	0.87%	5.34%	1.02%	1.02%	1.02%
Salmon	0.47%	0.46%	0.65%	0.61%	0.71%	0.30%	0.13%	0.30%	1.73%	0.34%	0.34%	0.34%
California Halibut	5.91%	9.49%	11.03%	10.94%	9.45%	5.72%	5.17%	5.32%	16.09%	6.46%	6.46%	6.46%
Coastal Pelagics	0.84%	0.84%	0.81%	0.81%	0.84%	0.84%	0.00%	0.00%	0.84%	0.81%	0.81%	0.81%
Market Squid	12.38%	24.97%	19.72%	16.06%	20.27%	2.63%	0.11%	2.63%	32.21%	11.83%	11.83%	11.83%
Deeper Nearshore Rockfish	20.72%	26.51%	16.08%	17.58%	20.68%	13.96%	10.03%	10.80%	27.51%	7.01%	7.01%	7.01%
Nearshore Rockfish	6.48%	9.46%	9.46%	13.45%	8.48%	6.48%	6.90%	6.48%	40.37%	9.95%	9.95%	9.95%
Urchin	--	--	--	--	--	--	--	--	--	--	--	--
Dungeness Crab	1.90%	2.12%	2.44%	3.43%	4.96%	1.51%	0.53%	1.19%	7.03%	1.95%	1.95%	1.95%
Salmon	0.91%	0.96%	0.76%	0.70%	0.79%	0.32%	0.14%	0.30%	1.95%	0.37%	0.37%	0.37%

5. Socioeconomic Impact Analysis: Approach

- Builds on approach developed by Wilen and Abbott (2006) in last round
- One important improvement: We collected actual cost data

Name	n=	Mean % of Gross Economic Revenue			
		Crew	Fuel	Fixed	Total
California Halibut	19	5.4%	13.9%	26.6%	45.9%
Coastal Pelagics	1	40.0%	15.0%	5.0%	60.0%
Squid	1	40.0%	15.0%	5.0%	60.0%
Deeper Nearshore and Nearshore Rockfish	18	5.3%	17.3%	28.3%	50.9%
Dungeness Crab	101	14.8%	10.3%	23.3%	48.5%
Urchin	21	7.6%	10.7%	21.4%	39.7%
Salmon	138	9.8%	11.8%	25.0%	46.6%
All Fisheries Combined	174	10.9%	12.1%	24.4%	47.5%

