

## Marine Life Protection Act Initiative



### Summary of Potential Impacts of April 2008 MPA Proposals on Commercial and Recreational Fisheries

**DRAFT**

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## Outline

- **Overview**
- **Commercial Fisheries**
  - Potential Impacts on Fishing Grounds (Area and Value)
  - Consideration of Existing Closures
  - Potential Impacts on Individual Fishermen
  - Potential Socioeconomic Impacts
- **Recreational Fisheries**
  - Potential Impacts on Fishing Grounds (Area and Value)



## Overview

**Methods: Seen many times before...**

### Commercial Fisheries

- Focused on eight fisheries (California Halibut, Coastal Pelagics, Market Squid, Rockfish – Deeper Nearshore, Rockfish – Nearshore, Urchin, Dungeness Crab and Salmon)
- Results reported at study region and port group level

### Recreational Fisheries

- Focused on five fisheries (California halibut, Dungeness crab, salmon, rockfish/lingcod complex and striped bass –pier/shore)
- Results reported by user group and by sub-region



## Impacts on Commercial Fishing Grounds

- In terms of total area of the fishing grounds potentially impacted for the 28 port-fishery combinations investigated:

Proposal	1-3	2-XA	4	IPA
Least Potential Impact	5	18	0	2
Highest Potential Impact	1	0	25	0

- There are 7 port-fishery combinations where there is  $\leq 1\%$  variation between the potential impacts.
- There are 6 port-fishery combinations where there is  $\geq 10\%$  variation between the potential impacts.



## Impacts on Commercial Fishing Grounds

- In terms of total value of the fishing grounds potentially impacted for the 28 port-fishery combinations investigated:

Proposal	1-3	2-XA	4	IPA
Least Potential Impact	6	15	0	2
Highest Potential Impact	1	0	23	0
≤ 10% Potential Impact	15	19	11	15

- There are 8/28 combinations where there is ≤ 1% variation.
- There are 8/ 28 where there is ≥ 10% variation.
- All 4 proposals are estimated to have ≤ 5% impact on 10/28 port-fishery combinations.

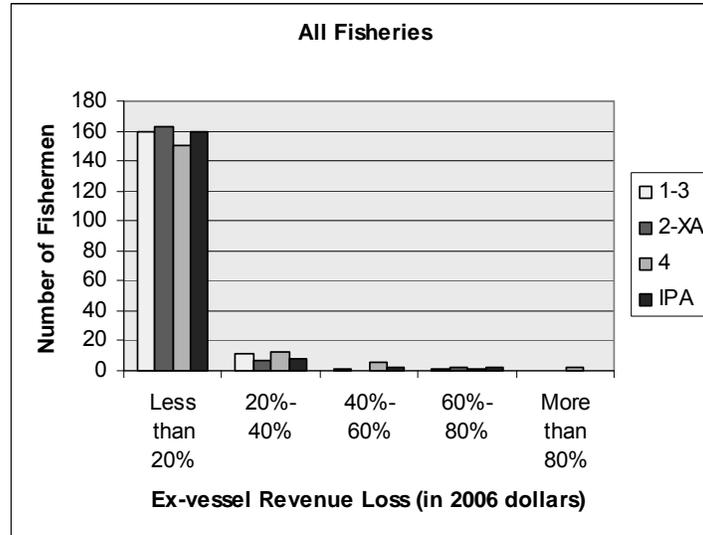


## Consideration of Existing Closures (2008)

	Fisheries	Area considered	1-3	2-XA	4	IPA
Point Arena	D.N. Rockfish	total fishing grounds	30.6%	7.0%	31.4%	26.4%
	<b>D.N. Rockfish</b>	available grounds outside RCA	31.6%	5.1%	32.2%	26.4%
	N. Rockfish	total fishing grounds	27.0%	10.6%	28.1%	24.3%
	<b>N. Rockfish</b>	available grounds outside RCA	27.0%	10.0%	28.0%	23.7%
Bodega Bay	D.N. Rockfish	total fishing grounds	20.6%	14.9%	23.4%	17.6%
	<b>D.N. Rockfish</b>	available grounds outside RCA	23.4%	13.2%	27.7%	15.9%
	N. Rockfish	total fishing grounds	12.4%	12.6%	23.8%	23.3%
	<b>N. Rockfish</b>	available grounds outside RCA	12.3%	12.4%	23.5%	23.0%
Bolinas	D.N. Rockfish	total fishing grounds	26.8%	23.8%	28.5%	23.8%
	<b>D.N. Rockfish</b>	available grounds outside RCA	35.2%	24.5%	40.4%	24.4%
	N. Rockfish	total fishing grounds	—	—	—	—
	<b>N. Rockfish</b>	available grounds outside RCA	—	—	—	—
San Francisco	D.N. Rockfish	total fishing grounds	20.0%	15.1%	22.8%	15.7%
	<b>D.N. Rockfish</b>	available grounds outside RCA	20.3%	15.1%	23.8%	15.2%
	N. Rockfish	total fishing grounds	12.0%	5.8%	15.1%	8.9%
	<b>N. Rockfish</b>	available grounds outside RCA	11.7%	6.1%	15.4%	8.4%
Half Moon Bay	D.N. Rockfish	total fishing grounds	11.0%	6.7%	19.4%	6.1%
	<b>D.N. Rockfish</b>	available grounds outside RCA	11.0%	6.8%	19.6%	6.2%
	N. Rockfish	total fishing grounds	1.9%	1.9%	1.9%	1.9%
	<b>N. Rockfish</b>	available grounds outside RCA	1.9%	1.9%	1.9%	1.9%



## Individual Impacts (Commercial)



## Individual Impacts (Commercial)

- Results suggest that one fisherman will be disproportionately impacted by all 4 proposals being considered. His annual individual impact under each of the proposals is estimated to be:
  - Proposal 1-3: between 20–40% loss and \$15K–\$20K loss
  - Proposal 2-XA: between 20–40% loss and \$15K–\$20K loss
  - Proposal 4: between 40–60% loss and > \$20K loss
  - Proposal IPA: between 20–40% loss and \$15–20K loss
  
- Another fisherman is estimated to be disproportionately impacted by 2 proposals. His estimated impact under each of these proposals is:
  - Proposal 4: between 20–40% loss and \$15–20K loss
  - Proposal IPA: between 20–40% loss and \$15–20K loss



## Socioeconomic Impacts (Commercial)

Port	Baseline GER	Baseline NER (Profit)	Net Economic Impact (\$ reduction in Profit)			
			Proposal 1-3	Proposal 2-XA	Proposal 4	Proposal IPA
Point Arena	\$798,750	\$465,016	<b>\$59,510</b>	\$67,078	\$83,332	\$76,623
Bodega Bay	\$4,654,206	\$2,457,152	\$207,776	<b>\$161,140</b>	\$314,474	\$258,074
Bolinas	\$151,214	\$78,783	<b>\$3,297</b>	\$4,192	\$5,988	\$4,192
San Francisco	\$6,059,387	\$3,166,680	\$110,421	<b>\$95,387</b>	\$168,861	\$109,733
Half Moon Bay	\$4,110,888	\$2,122,436	\$84,149	<b>\$68,786</b>	\$123,439	\$77,244
NCC	\$15,889,359	\$8,336,602	\$465,153	<b>\$396,583</b>	\$696,094	\$525,865

Port	Net Economic Impact (% reduction in Profit)			
	Proposal 1-3	Proposal 2-XA	Proposal 4	Proposal IPA
Point Arena	<b>12.8%</b>	14.4%	17.9%	16.5%
Bodega Bay	8.5%	<b>6.6%</b>	12.8%	10.5%
Bolinas	<b>4.2%</b>	5.3%	7.6%	5.3%
San Francisco	3.5%	<b>3.0%</b>	5.3%	3.5%
Half Moon Bay	4.0%	<b>3.2%</b>	5.8%	3.6%
NCC	5.6%	<b>4.8%</b>	8.3%	6.3%

Lowest impact in each row is in bold



## Socioeconomic Impacts (Commercial)

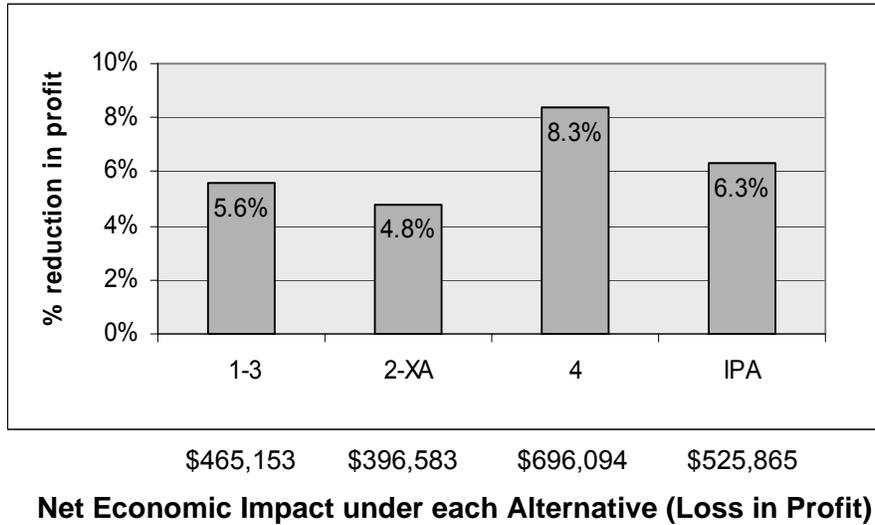
Fishery	Baseline GER	Baseline NER (Profit)	Estimated Annual Net Economic Impact of MPA Proposals (\$ reduction in Profit)			
			1-3	2-XA	4	IPA
Ca. Halibut	\$279,764	\$151,220	<b>\$4,744</b>	\$5,750	\$13,224	\$5,749
Coastal Pelagics	\$29,804	\$11,926	\$64	<b>\$40</b>	\$63	\$59
Squid	\$303,466	\$121,386	\$865	\$736	\$22,876	<b>\$653</b>
D. N. Rockfish	\$107,902	\$52,967	\$15,638	<b>\$11,292</b>	\$18,796	\$12,200
N. Rockfish	\$152,597	\$74,907	\$21,510	<b>\$11,285</b>	\$26,703	\$22,514
Urchin	\$867,381	\$523,320	\$68,950	<b>\$62,109</b>	\$136,040	\$118,307
Dungeness Crab	\$8,387,032	\$4,323,049	\$218,139	<b>\$193,574</b>	\$331,896	\$232,494
Salmon	\$5,761,401	\$3,077,826	\$135,242	<b>\$111,798</b>	\$146,497	\$133,888
All Fisheries	\$15,889,359	\$8,336,602	\$465,153	<b>\$396,583</b>	\$696,094	\$525,865

Fishery	Estimated Annual Net Economic Impact of MPA Proposals (% reduction in Profit)			
	1-3	2-XA	4	IPA
Ca. Halibut	<b>3.1%</b>	3.8%	8.7%	3.8%
Coastal Pelagics	0.5%	<b>0.3%</b>	0.5%	0.5%
Squid	0.7%	0.6%	18.8%	<b>0.5%</b>
D. N. Rockfish	29.5%	<b>21.3%</b>	35.5%	23.0%
N. Rockfish	28.7%	<b>15.1%</b>	35.6%	30.1%
Urchin	13.2%	<b>11.9%</b>	26.0%	22.6%
Dungeness Crab	5.0%	<b>4.5%</b>	7.7%	5.4%
Salmon	4.4%	<b>3.6%</b>	4.8%	4.4%
All Fisheries	5.6%	<b>4.8%</b>	8.3%	6.3%

Lowest impact in each row is in bold



## Socioeconomic Impacts (Commercial)



## Recreational Fishery Impacts

- Identical approach to commercial fisheries with one exception—the analysis is done using only stated importance values from the interviews.
- The data should only be considered at the sub-region level, not at the entire study region level—Why?
  - The data are not representative of the entire population of recreational fishermen due to the less than desirable (less than statistically significant) sample size.
  - There was little or no data collected from recreational fishermen north of Bodega Bay.
  - The data represents interviewees' areas of value, not areas of effort.
  - The data represents interviewees' areas that are important to them over their entire recreational fishing experience, not necessarily the areas that are important to them currently.



## Recreational Fishery Impacts

- In terms of total area of the fishing grounds potentially impacted for the 46 user group-region-fishery combinations investigated:

Proposal	1-3	2-XA	4	IPA
Least Potential Impact	7	5	0	19
Highest Potential Impact	5	1	33	0

- There are 17 user group-region-fishery combinations where there is  $\leq 1\%$  variation between the potential impacts
- There are 10 user group-region-fishery combinations where there is  $\geq 10\%$  variation between the potential impacts



## Recreational Fishery Impacts

- In terms of total value of the fishing grounds potentially impacted for the 46 user group-region-fishery combinations investigated:

Proposal	1-3	2-XA	4	IPA
Least Potential Impact	8	4	0	17
Highest Potential Impact	5	0	35	0
$\leq 5\%$ Potential Impact	26	26	19	28

- There are 14 user group-region-fishery combinations where there is  $\leq 1\%$  variation between the potential impacts.
- There are 8 user group-region-fishery combinations where there is  $\geq 10\%$  variation between the potential impacts.



## Next Steps

- **Evaluate California Fish and Game Commission alternative(s), if any**
- **Transmit final report on MLPA North Central Coast Study Region work**