



NMFS Groundfish Science Report

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Overview

- Electronic monitoring – science approach and outreach
- Cooperative Research
- Hake



Video Monitoring - NE Example





Monitoring Purposes in U.S. Fisheries

- Scientific data collection – assessments, socioeconomic, ecological and ecosystem research
- Compliance – are regulations being followed? [Important for fishermen as well as law enforcement!!]
- Management – data to support real-time management (quota filling, etc.)



Science Goals for WCG Monitoring

- ✓ Information to support robust stock assessments
 - ✓ Abundance
 - ✓ Distribution
 - ✓ Characteristics – age, weight, etc.
- ✓ Information to support protected resource management
- ✓ Information to support effective fisheries
- ✓ Contribute to ecosystem management

Using This Opportunity

- Trade-offs in uncertainty
- How much biological data?
- Monitoring rare events
- Auditing
- Expanding to other fishing groups
- Trade-offs in cost



Outreach for EM

- April/May
- Coastwide
- Joint with other NOAA Fisheries Units
- Explain EM Phase I projects, anticipated transition and get input
- NOAA Travel Caps

Cooperative Research – NWC 2012



COOPERATIVE RESEARCH NATIONAL CRITERIA

- Be regionally based;
- Be developed and conducted through partnerships among industry, managers, academia, fish commissions
- Be funded on a competitive basis and be based on regional fishery management needs.



COOPERATIVE RESEARCH MSA Section 318 PRIORITIES

- Collecting data to improve, supplement, or enhance stock assessments, including the use of fishing vessels or acoustic or other marine technology
- Assessing the amount and type of bycatch or post-release mortality occurring in a fishery
- Conducting conservation engineering projects designed to reduce bycatch, including avoidance of post-release mortality



COOPERATIVE RESEARCH MSA Section 318 PRIORITIES

- Identifying areas of particular concern as well as conducting projects relevant to the conservation of habitat
- Collecting and compiling economic and social data
- In addition, MSRA Section 408 (a)(4) requires the agency “to conduct research, including cooperative research with fishing industry participants, on deep sea corals and related species, and on survey methods

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PFMC RESEARCH AND DATA NEEDS

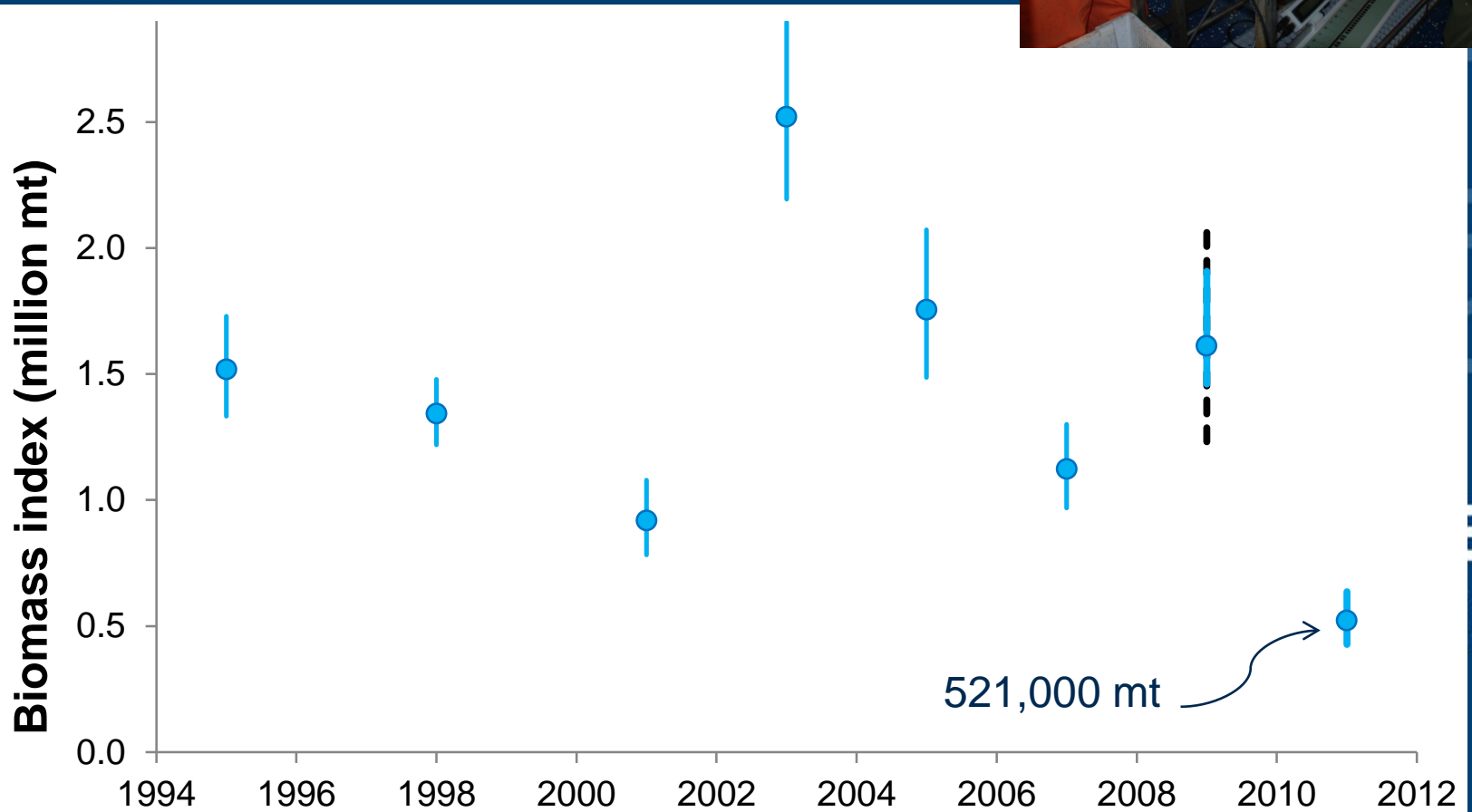
Project Name	Collaborators Partners	Groundfish FMP Priorities	Salmon FMP Priorities	Essential Fish Habitat/Bycatch	Ecosystem Priorities
WCGSI/ WA & OR Project CROOS	Salmon Fishers and Salmon Commission	--	Genetic Stock ID; Minimize time area closures -	--	Collection of Ecosystem/ Oceanographic data for PDO / Ocean-scape genetic ecology
Mesh Configuration On Codend Selectivity In Groundfish Bottom Trawl Fishery	Commercial fishermen and F/V platforms plus Netmaker and ODFW	Catch Share Fishery Bycatch Reduction	--	Bycatch reduction gear analysis	—
So. CA Hook and Line Groundfish Survey	Charter Industry F/V And PSMFC	New untrawlable Survey Methodologies ; GLM abundance indices for six rockfish species; Genetic stock structure	—	Video Habitat-Species associations	Oceanographic Data and genetic tag recapture

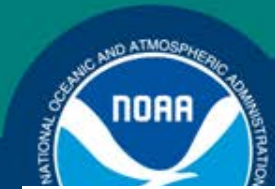
Hake

- Biomass estimate
- Assessment
- Scientific Review Group
- 2012 Survey and Research

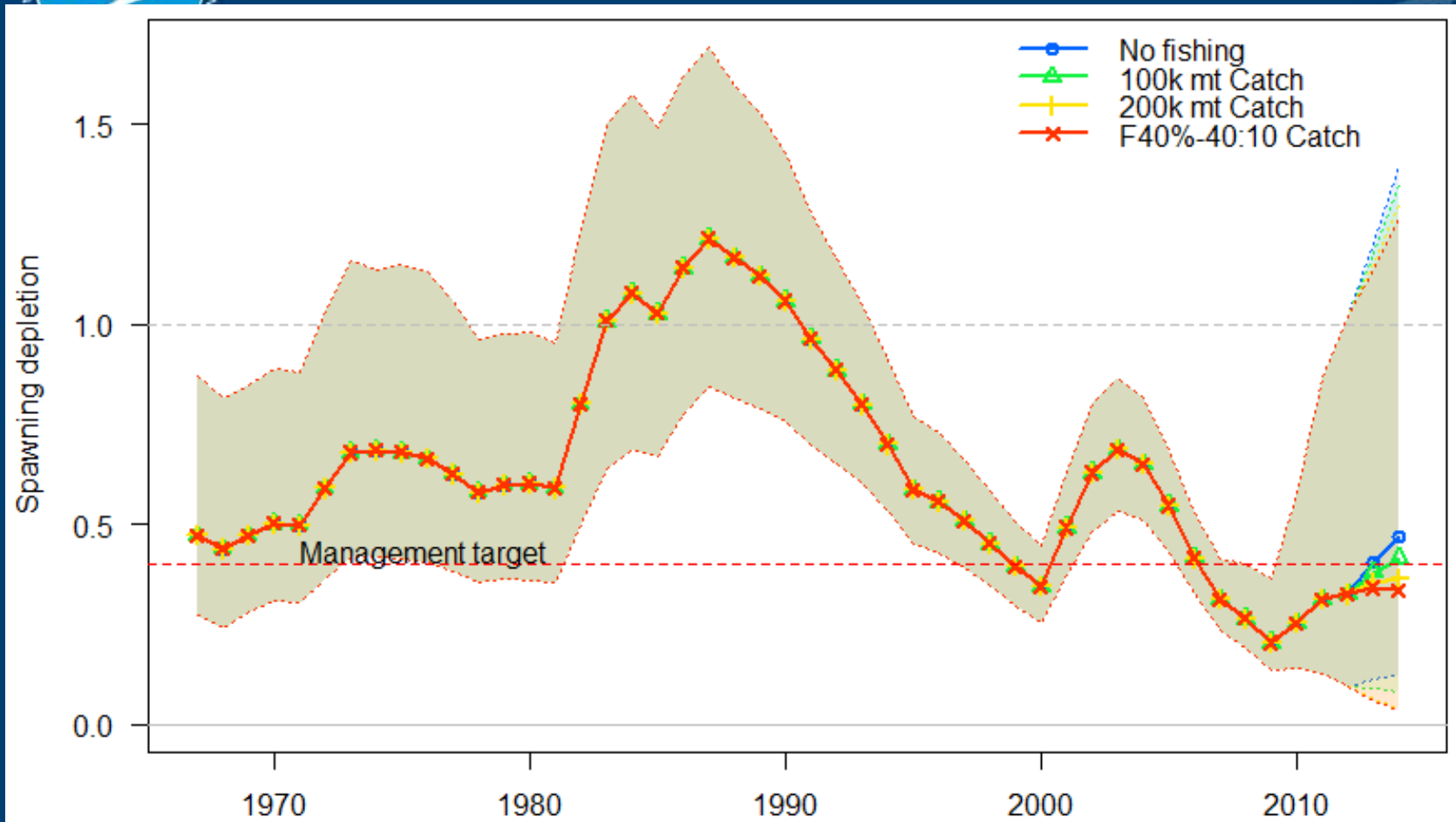


Acoustic Survey index:



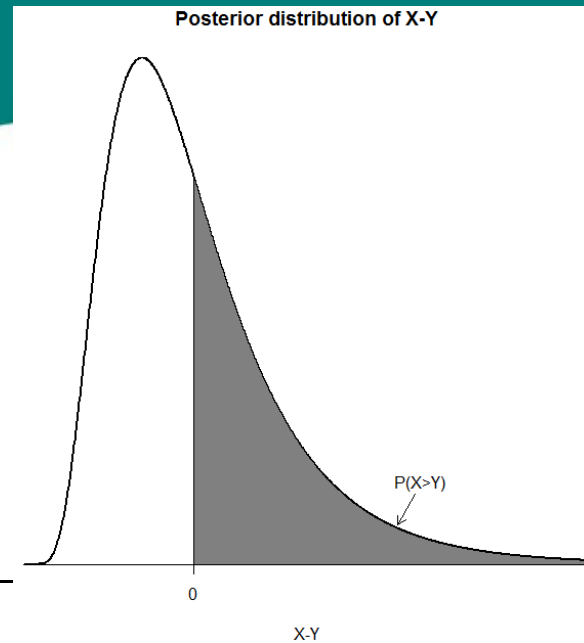


Model Projections:





Management metrics:



P(Fishing intensity in 2012 > 40% Target)

Catch	$P(SB_{2013} > SB_{2012})$	$P(SB_{2013} > SB_{40\%})$	$P(SB_{2013} > SB_{25\%})$	$P(SB_{2013} > SB_{10\%})$	P(Fishing intensity in 2012 > 40% Target)
0	>99%	51%	80%	99%	0%
50,000	99%	49%	78%	98%	<1%
100,000	88%	46%	76%	96%	7%
150,000	74%	44%	73%	95%	17%
200,000	58%	42%	70%	94%	31%
251,809	47%	40%	68%	93%	47%
393,751	28%	35%	61%	91%	70%



Scientific Review Group

- Survey methods were appropriate
- 2009 and 2011 biomass estimates incompatible; assessment more consistent with 2011 estimate
- Assessment used one model as base case (SS)
 - base model was accepted
 - Canadian model employed as a sensitivity test
- Research recommendations
 - Annual survey
 - MSE



2012 Survey Considerations

- Resources and logistic constraints
- Trade-offs
 - Certainty of result
 - Forward-looking research
- Long-term benefits