



Exhibit B



Management Measures for Coastal Pelagic Species Fisheries

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Issues For Consideration

2019-20 Federal harvest specifications and management measures for sardine





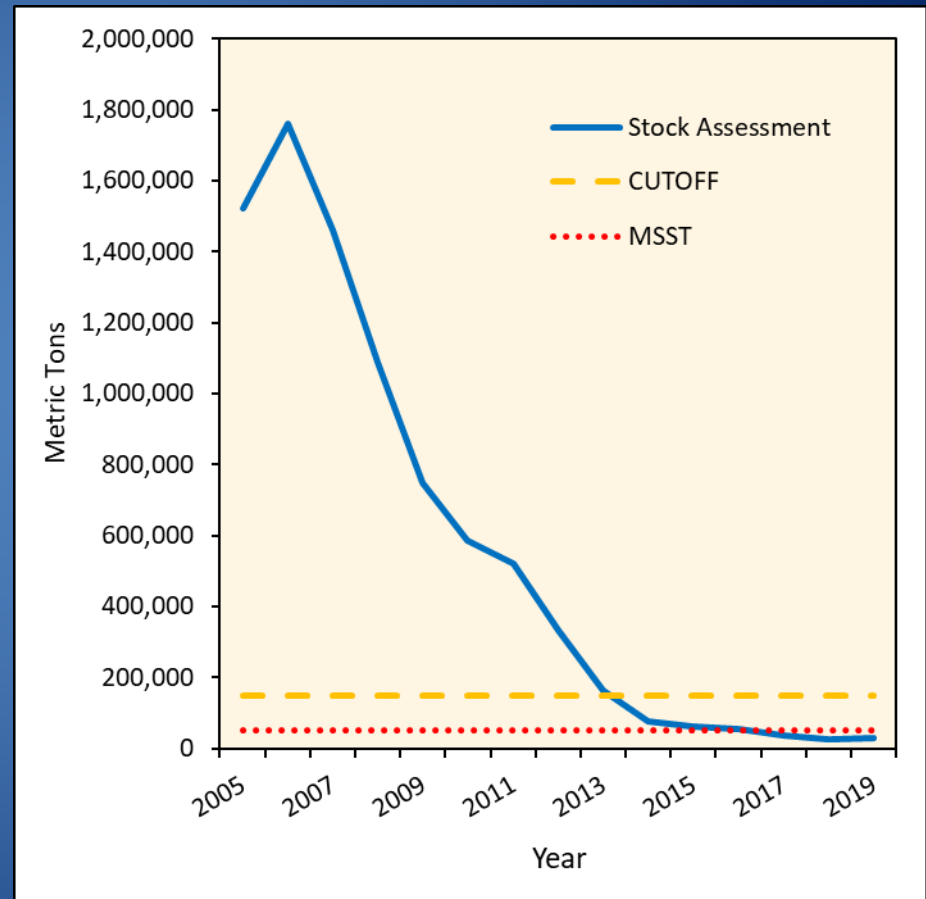
Issue 1. Federal Management Measures

Actively managed	Monitored	Prohibited	Ecosystem Component
Pacific sardine (<i>Sardinops sagax</i>)	Jack mackerel (<i>Trachurus symmetricus</i>)	Krill (<i>euphausiid spp.</i>)	Pacific herring (<i>Clupea pallasii</i>)
Pacific mackerel (<i>Scomber japonicus</i>)	Market squid (<i>Loligo opalescens</i>)		Jacks melt (<i>Atherinops californiensis</i>)
	Northern anchovy (<i>Engraulis mordax</i>)		Shared Ecosystem Component Species (All PFMC FMPs)



Sardine Stock Status

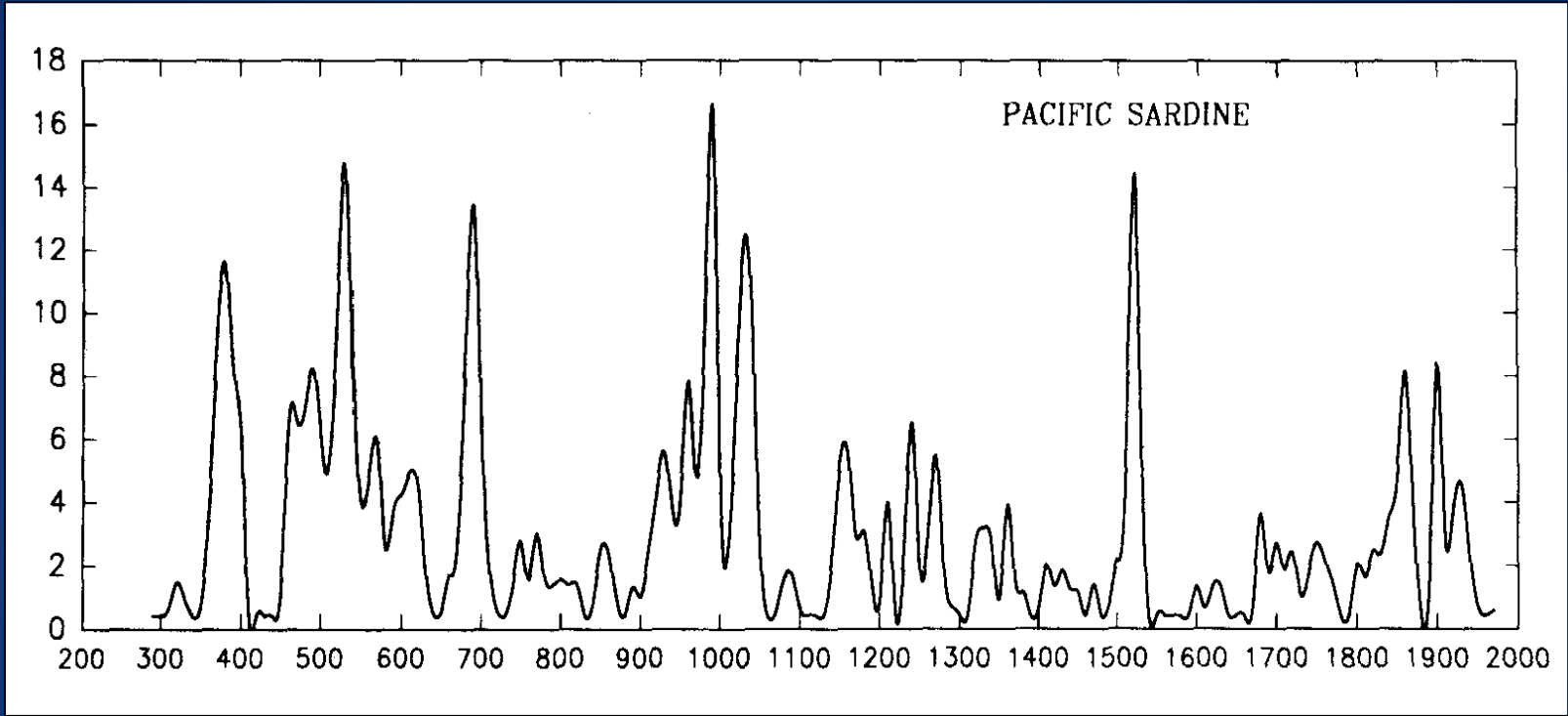
- Stock Assessment
 - Additional year of data, indexed to acoustic survey
 - Revised 2017 survey estimate lower
 - High scientific uncertainty, very limited biological and fishery data
- Result: population is overfished
 - Below MSST
 - Recent recruitment insufficient to rebuild
 - 2 years from notice (Jun or Sep) for PFMF/NMFS to develop and implement a rebuilding plan





Historical Sardine Trends

Million Metric Tons



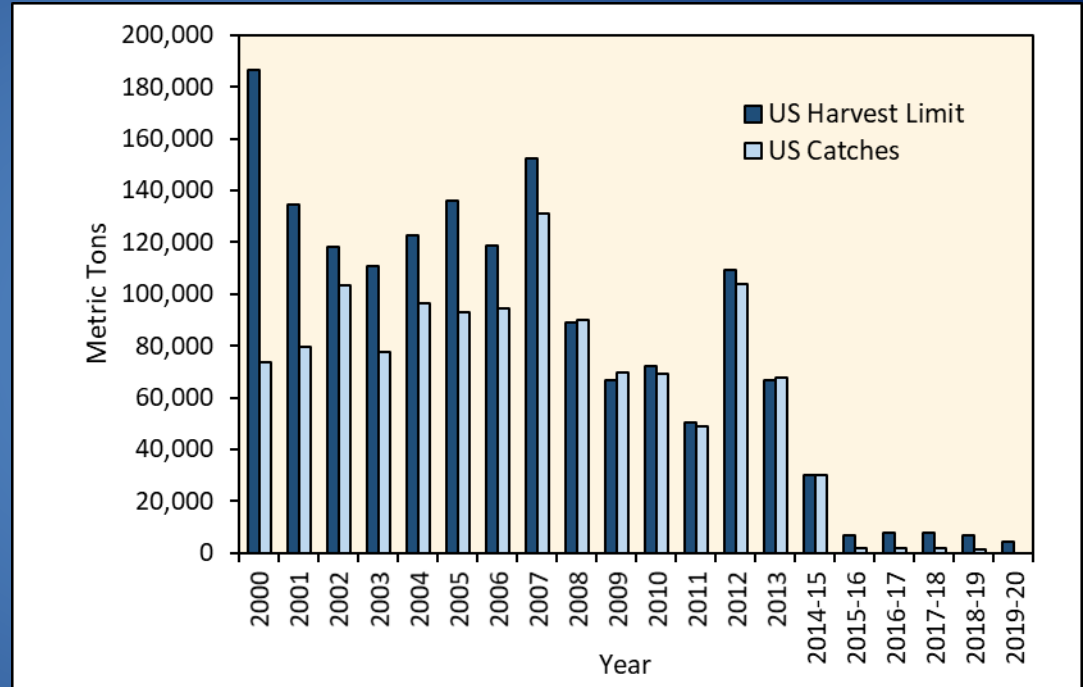
Year

Centuries of sardine abundance hindcasted from fish scale deposition rates in sediments.
Baumgartner et al. (1992). History of Pacific Sardine and Northern Anchovy Populations, *CalCOFI Rep.*, Vol. 33



Federal Sardine Harvest Limits

- Applies to entire US West Coast
- Continue directed fishery closure for 5th year
- Allow small level of harvest:
 - Live Bait Fisheries
 - Small Scale Fisheries
 - Research Fisheries
 - Incidental Harvest





Federal Sardine Management

Harvest Specifications

Overfishing Limit (OFL)	5,816 mt
Allowable Biological Catch (ABC)	4,514 mt
Annual Catch Limit (ACL, all sources)	4,514 mt
Annual Catch Target (ACT)	4,000 mt

Management Measures

Incidental Limit, CPS Fisheries	20% of a landing
Incidental Limit, non-CPS Fisheries	2 mt per trip
Live Bait Fishery, if land >2,500 mt	1 mt per trip
Live bait fishery and CPS Fisheries, if ACT attained	1 mt per trip



Staff Recommendation

Adopt federal regulations by reference for Coastal Pelagic Species fisheries

- Continue closure of the directed sardine fishery and adopt incidental catch limits



Thank You