

SARDINES IN CALIFORNIA

NOT 'SOUTHERN' STOCK!



6,000 tons pure sardine ~ 4/1/19



Observed in 60 ft. water near Seal Beach – 61 degree water

64 ton Point Set ~ 4/1/19



“Tremendous amount of fish – too many schools to count” ~ Corbin Hanson

30-60 gram Sardines

- Captured 3/26/19 as part of 30-ton point set near Gaviota, above Santa Barbara ~

Many large sardine schools

- Evidence of recruitment



Live Bait Haul 3/17/19



Outside Marina Del Rey Harbor ~ plentiful 5-inch sardines in 40 ft. water

4,000 tons of
estimated
13,000+ tons
observed near
Big Sur ~
Oct. 2018

- 47% of estimated coast-wide biomass of 27,547 mt



Many Many More Observations

- Thousands of tons observed on backside of Catalina
- Countless schools of sardine observed near Pt. Fermin, outside San Pedro Harbor ~ Feb. 13 2019
- Fishermen have reported recruitment and plentiful sardines in CA since 2015 (evidence in live bait tanks)
- Observations of YOY sardine and adults were also documented in 20218 Juvenile Rockfish Survey
- **RECRUITMENT HAS HAPPENED, SARDINES ARE HERE!**

Socio-Economic Impacts

- Agenda Item G.1.c, Supplemental CDFG Report, November 2007 ~ Sardine landings in other CPS fisheries (2001-2006)

If sardines are declared overfished (misnamed!), CPS FMP requires reduction of incidental catch rate to 20% as part of rebuilding plan

Table 2. Sardine landed in other CPS fisheries in 2006 identified as the species with the greatest percentage (by weight) reported on the landing receipt (source CDFG CFIS database).

CPS Species	Metric Tons (Sardines)	Percent
Sardine captured in Market Squid Fishery	284	13.0%
Sardine captured in Bonito Fishery	0	0.0%
Sardine captured in Pacific Mackerel Fishery	701	32.0%
Sardine captured in Jack Mackerel Fishery	131	6.0%
Sardine captured in Anchovy Fishery	1,077	49.1%
Total sardine captured other CPS Fisheries	2,193	100.0%

Socio-Economic Impacts

- Agenda Item G.1.b Supp. CPSMT Report ~ April 2015

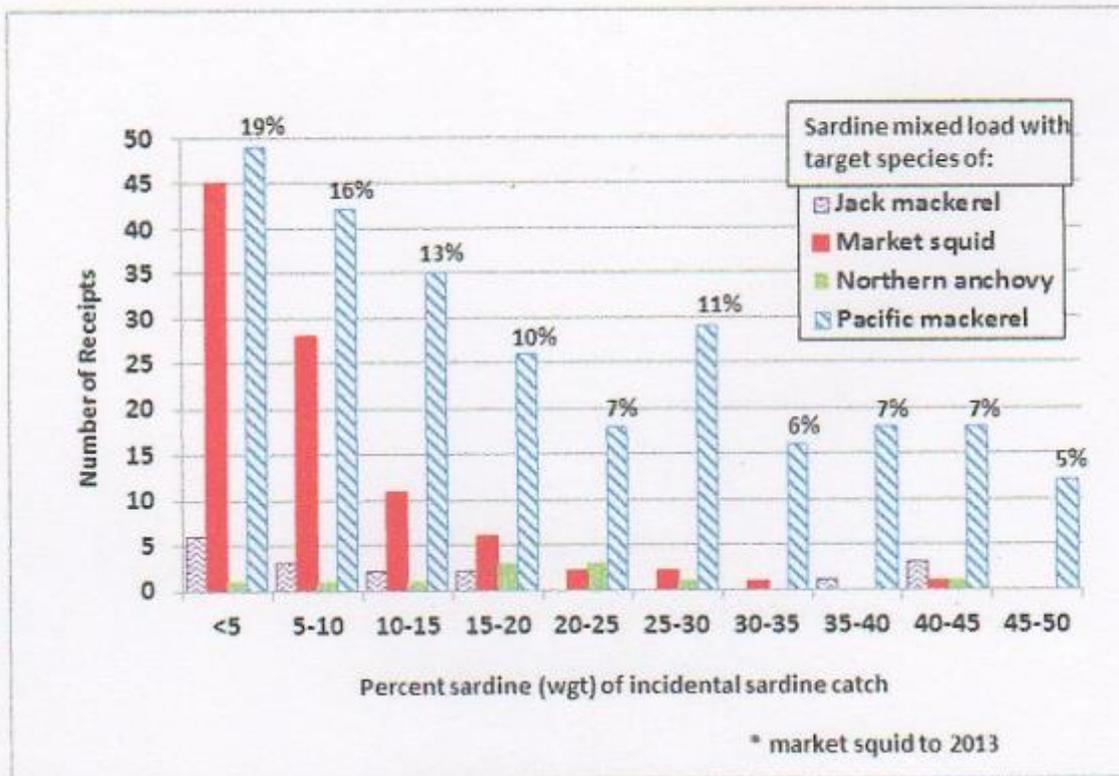


Figure 1. All mixed CPS load receipts where sardine was < 50% of load. Target species are predominant species in the load. Percentages of Pacific mackerel loads with incidental sardine by percentage bin are indicated above each bar. Market squid receipts for 2014 are undergoing a review, therefore the data for market squid are from years 2012-2013.

Take Home Message

- 2006 ~ Incidental sardine most prevalent in anchovy (49%), Pacific mackerel (32%) and squid (13%) fisheries
- 2015 ~ 20% sardine incidental catch limit impacts:
 - 48% Pacific mackerel landings
 - 40-45% Anchovy landings, according to fishermen
 - >20% of Squid landings
- **At 20% rate, FISHERMEN WILL BE FORCED TO FOREGO FISHING ON MIXED FISH SCHOOLS TO AVOID SARDINE**

Take Home Message ~ 2

- Processors (as well as fishermen) are already hurting:
 - @50% reduction in processing crews since sardine fishery closure in 2015
- Before 2015, CA's sardine fishery produced **average** annual sales impact > **\$16 million**
 - That value plummeted to **\$61,453 (1%)** in 2017
- S.CA. CPS processors rely on mackerel and squid to keep the fleet fishing and doors open
- Monterey processors rely on anchovy @6 months a year to fill in after squid season
- **ENSO outlook remains at ALERT – 70% chance of developing**
- **CA'S WETFISH INDUSTRY CANNOT AFFORD MORE CUTS**

Importance of CA Wetfish Industry to CA

- Until recent years, CA's complex of of CPS fisheries produced **80+% of volume, 37% dockside value** of total statewide commercial fishery harvest
- Important to many harbor communities
 - Volume is essential to maintain infrastructure, jobs

Port	Wetfish % of Total Port Landings	Wetfish % of Total Port XV Value
Monterey Harbor	97.5%	76.3%
Moss Landing	96.2%	66.3%
Ventura	98.7%	82% (squid)
Port Hueneme	99.9%	99.9%
San Pedro	99.6%	93.4%
Terminal Island	97.7%	81.4%
Contribution to Statewide Landings	82%	37%

Demographics of the Industry

- Federal CPS Limited Entry Fleet = 55 vessels
 - Approx. 300 fishermen (5-6 crew per vessel)
- Category 4 processors in S.CA. = 7 to 9 major (in 2004)
 - In 2004 : 1,400 - 1,500 workers, including seasonal employees, and the maximum packing capacity was estimated between 1,900 and 2,000 tons per 24 hour day.
 - 2017-18 CPS Harvest, all species = 61,086 mt *
- Category 4 processors in Monterey = 3 major
 - In 2011: 764 workers, max. packing capacity in 24 hr day est. 1,400 tons
 - 2017-18 CPS Harvest – all species = 31,617 mt *
- Now : employment reduced up to 50% due to loss of fishing opportunity

* Source: 2018 CALIFORNIA COASTAL PELAGIC SPECIES FISHERY, CDFW

Problem: No flexibility in policy in update assessments

- Major issues identified in 2017 sardine STAR panel review and 2018 ATM methods review ~ not considered here
- SSC CPS Subcommittee did acknowledge
 - Very high CV (73%) ~ far higher than default level
 - Model ALT ~ Q is increasing every year ~ 1.1, 1.15, 1.17
 - (but CIE scientists called Q=1 “unrealistic”)
 - Update continued assumption that selectivity is uniform, but **assuming logistic selection raised biomass significantly!**
 - Logistic selection also implies that some age 1+ animals aren't available to AT survey
 - **But all sardines are NOT surveyed**, including upper water column and nearshore
- **Q is not 1!**

More problems (tip of the iceberg)

- Current assumption ~ no CPS below 70 meters depth
 - Both sardine and anchovy go deep!
 - BUT 2018 redo scrubbed deep backscatter and reduced 2017 biomass below MSST
- **Update also missed @13,000 mt NORTHERN stock in Cen. CA**
 - As well as thousands of tons of sardine in nearshore S.CA documented in aerial surveys and point sets this spring
- Update assumed 35,000 mt sardine observed offshore in S.CA. by AT survey was 'southern' stock and omitted it from assessment
- Update also included abnormally high catch from Ensenada ~ but significant catch caught south of Ensenada
 - **Sensitivity run to set Ensenada catch to normal exploitation RAISED the assessment ABOVE 50,000 mt**

If boats are tied to the dock, processors' doors closed

- If CA's wetfish industry is decimated because of further severe (and unwarranted) cuts in an already precautionary harvest policy ...
- **Then the Council has not taken into account the socio-economic needs of fishing communities...**
 - Balance is a key tenet of the Magnuson Act
- Please consider these issues and uncertainties raised and **"combine scientific underpinning with practicality and common sense."**

(Chris Oliver, Assistant Administrator for Fisheries)

So what now?

- In reality, sardines are **NOT OVERFISHED** and overfishing is **NOT** occurring!
- **Please conduct a new STAR panel review ASAP**
 - Use all available age-length comp. data including live bait fishery and incidental take from CPS fisheries
 - Review basis for habitat model and “southern” stock assumptions
 - **Account for nearshore biomass**
 - **Include CDFW aerial survey data**
 - Include Juvenile Rockfish Survey and evidence of sardine incidental to other non CPS fisheries (i.e. whiting)
 - Correct problems identified with AT surveys
 - Assumptions about Q and 70-meter depth limit
 - Target strength

In the meantime...

- Common sense would suggest suspending this flawed assessment until STAR panel review
- **Please allow fisheries to continue with current harvest specifications in the interim**
 - "Overfished" requirement dropping incidental rate to 20% would seriously limit fishing for other CPS
 - Also would punish live bait sardine fishery (if it was curtailed)
- **Difference between status quo 7,000 mt all uses and $P^* 0.4$ Tier 2 ABC of 4,514 mt = only 2,486 mt**
 - The difference is not going to harm ecosystem function
- Rebuilding plan provisions are not required in 2019-20 ~
 - **Please correct assessment flaws in STAR panel before declaring stock 'overfished'.**
- Please do no further harm to all our CPS fisheries.

Questions?

