

# SARDINE

## REBUILDING PLAN ~ final action



# Sound bites from SSC and CPSMT

- We greatly appreciate (unanimous) recognition of these points:
  - **Environmental conditions are key to stock rebuilding**  
Environmental conditions drive sardine abundance (even without fishing)
  - **Actual catch of “northern” sardine** (av. 472 mt 2015-2020)  
**less than 1% (0.6% ~  $E=0.006$ ) of “northern” stock biomass (NSP)**
    - Actual catches = close to rebuilding analysis for 0 US catch.
  - **Alt. 1 Rebuilder model analysis assumed full ABC ( $E=18\%$ ) was taken every year, and assumed all landings were NSP**
    - But actual catches = far below ABC and **most were ‘southern’ stock sardines**
  - **Rebuilder could not model sardine dynamics and cannot predict the future**  
(No model can predict the future with accuracy)
- **Rebuilding analysis followed Terms of Reference: based on 2020 assessment, taking into consideration the current environment.**
  - Assessments were based on poor environment with no recruitment
- **Rebuilding Analysis and Plan will be updated when more information is available -- nothing set in stone.**

# CPSMT EA ~ Sardine Rebuilding Plan

- We thank the CPSMT for its thoughtful deliberations that considered realities beyond the Rebuilder Analysis.
  - Rebuilder model excluded high productivity time periods
- CPSMT recognized that a **rebuilding program is already built into current sardine HCR**
  - Current HCR provides flexibility to adjust harvest as biomass changes
  - Also incorporates automatic actions typically made under rebuilding plans
    - Reduced incidental catch rates have already seriously constrained fishing operations
  - **Further tightening restrictions would precipitate even higher level economic impacts, but would not guarantee stock rebuilding**

# Range of Alternatives

- We support Alternative 1 (status quo) ~
  - **Allowing fishing** as under current HCR has negligible impact on stock but **keeps fisheries and industry alive**
    - Rebuilding Target of 150,000 mt 1+ biomass makes sense
      - Fishery is managed by age 1+, not by spawning biomass
      - Equivalent to 121,650 mt of SSB ~ higher than median SB<sub>msy</sub> 116,374 mt
    - Rebuilding timelines will be determined by Mother Nature
      - California CPS fishermen have been reporting recruitment
      - CWPA field research is now documenting it
- We oppose Alternative 3
  - Alt. 3 would precipitate economic disaster
    - ~ But would NOT GUARANTEE sardine recovery
  - 5% harvest rate (e.g. 1,400 mt for all uses) = death by a thousand cuts

# Re: Socio-Economic Impact Analysis

- Long-term Economic importance of Sardine fishery in CA ~  
(really not addressed in Socio Econ. Analysis CPSMT Report 3)
  - **Average 2000-2007** (last year before in-season closures began)  
**sardines = 38.1% of total CPS catch in CA (including squid)**
    - ~ more than a third of CA's "3 legged stool" of sustainability  
(CWPA public comment ~ Source: Table 2.1.1-1 CPS FMP)
  - **Average 2012-16 value of CA squid fishery: \$54.7 million.**
- Live Bait Fishery ~
  - Inability to land sardines would curtail almost 5,000 jobs, \$602 million in sales impacts, \$222 million in income and \$309 million in gross domestic product  
(SAC public comment)
  - **CA wetfish industry and live bait fishery need sardines to survive and Alternative 3 means that they wouldn't!**

# 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 (based on av. landings 2000-2012)
- 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	<b>82%</b>	<b>37%</b>

One picture is worth a thousand words...

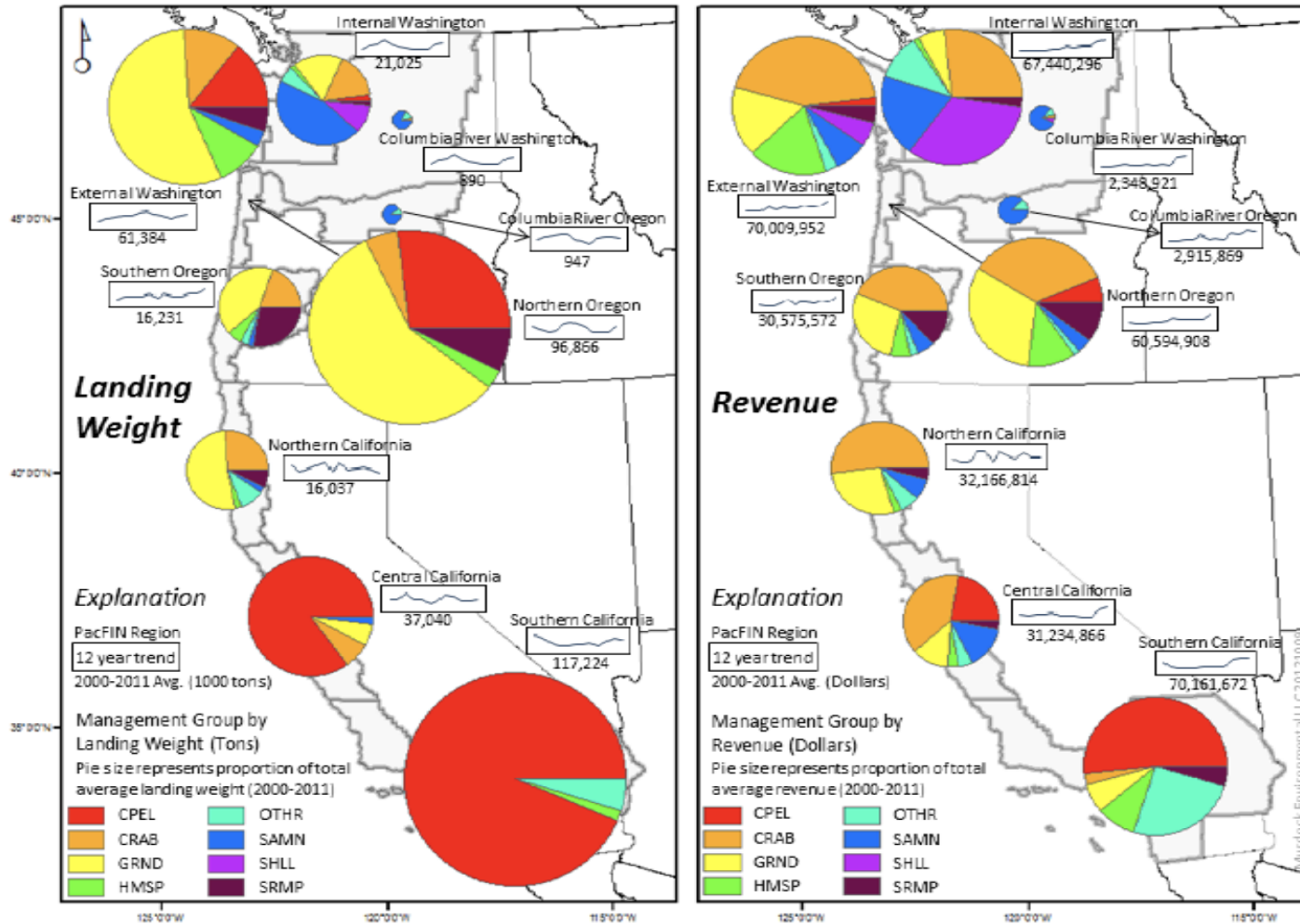


Figure 3.4.14. Regional landings by weight and value, with 12-year trends and average proportions for each major West Coast management group, 2000-2011. (Maps courtesy of Murdock Environmental, data source: PacFIN. Pacific Coast Fishery Ecosystem Plan p.72 2013

# MSA Regulatory Requirements:

- MSA requires end to overfishing “immediately” for overfished stocks... *BUT*
  - **MSA also provides flexibility in rebuilding timelines** to consider “stocks with unusual life history characteristics”
  - MSA also **requires every action to be consistent with all 10 National Standards. Councils are required to consider impacts to fishing communities, as well as biology, when developing a rebuilding plan**
    - Courts have upheld rebuilding plans that allow fishing at status quo levels to continue for a certain number of years in order to mitigate economic hardships.
    - The MSA does not require that the most drastic action be taken.
  - **MSA does allow directed fishing during rebuilding**
  - **MSA does not require instant recovery**
    - OY is long-term goal, measured as an average
  - **The rebuilding plan should not require US fishermen to make up for Mexican harvest – it has to reflect their “relative” participation**



# *In Summary ~ Please consider:*

- **Curtailling fishing unlikely to hasten recovery** (CPSMT Report)
- MSA allows flexibility in rebuilding plans: permits directed fishing to continue in order to meet the needs of fishing communities
- **Further restrictions would precipitate socio-economic disaster**
- **Please support the CPSMT Recommendations for Alternative 1 “Status Quo” as the Rebuilding Plan**
  - and retain the flexibility of current “status quo” management
- **We also support CPSAS request for review of rebuilding plan and analysis in 2021 as soon as possible after 2021 NOAA summer AT survey**
  - 2020 survey was cancelled due to COVID restrictions
  - 2021 survey should include both AT survey of offshore and AT survey of nearshore using industry vessels
  - plus CDFW/CWPA Aerial Survey in CA

# Evidence of Recruitment & Abundance

## *the good news*

From CWPA testimony Agenda Item G.1.b, Supp. Pub. Comm. June 2020

- Thanks to Council support for our "directed fishing" EFP, NMFS approved it and we are producing new evidence:



10-70g = YOY

70-90g = 1yr

90-110g = 2 yr

122g = 4 yr

200g+ = 5-6 yr

Based on  
Butler et al 1993  
CalCOFI  
&  
R.Parrish model

Sample from 32 ton landing in Monterey on 6/8/20

# Images from CDFW/CWPA 2020 Aerial Survey + Directed Sardine Fishing

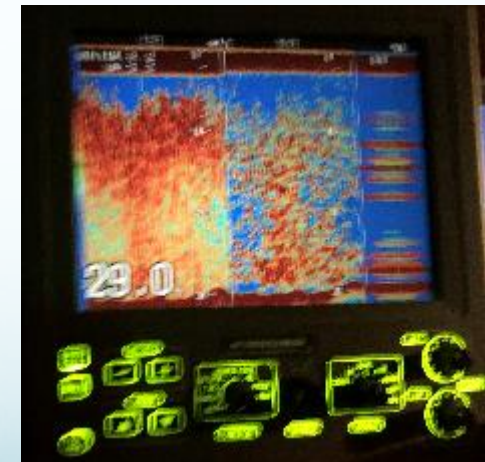
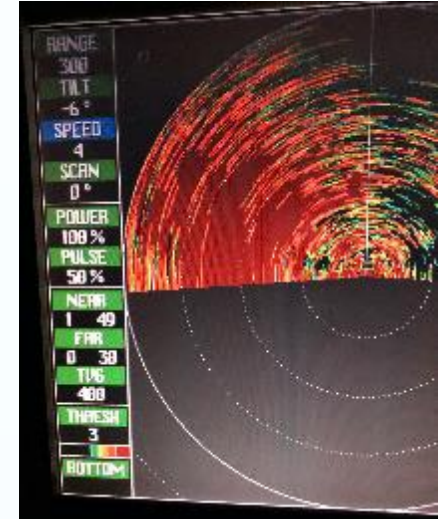
- Central Coast Survey going on now
- Sampling schools to collect biological data
- Directed sardine fishing also collecting bio data
- CWPA thanks CDFW for their dedication to help us improve the science behind stock assessments



Sardine sample ~ Stratum N8



Orange sky (from fires)  
grounded plane for a few days



Sonar & fathom –  
50 t sardine set near  
HMB 9/13

# Questions?

