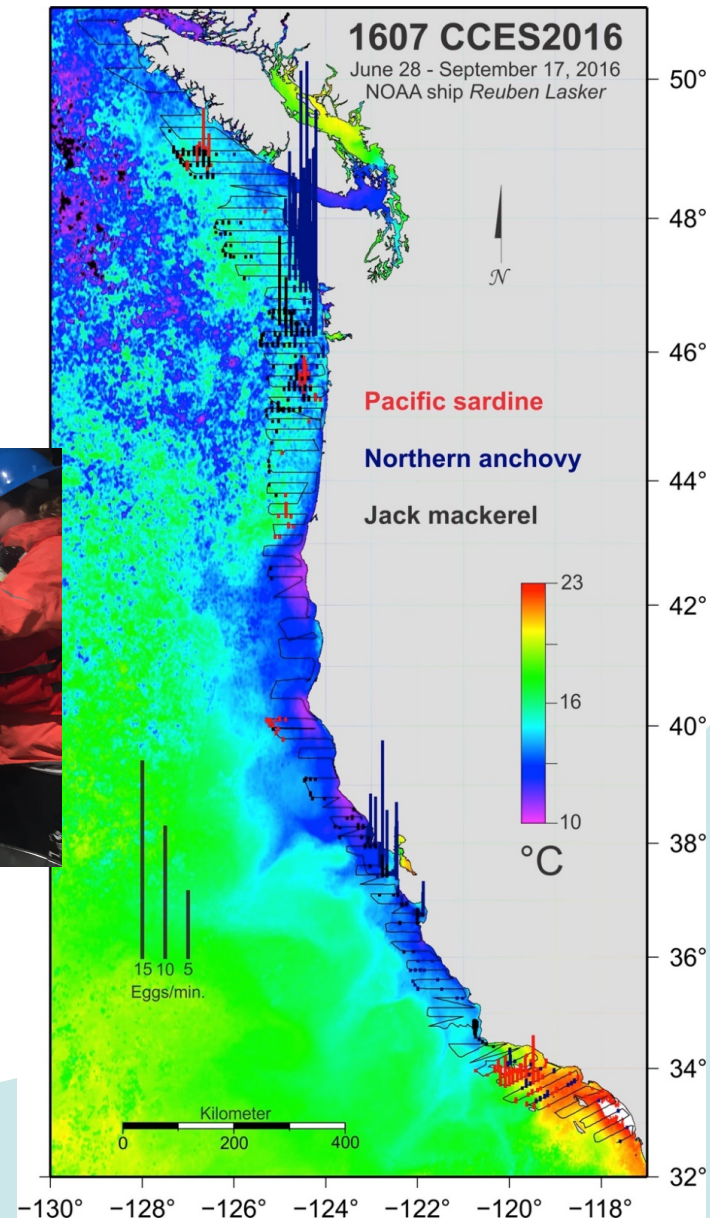
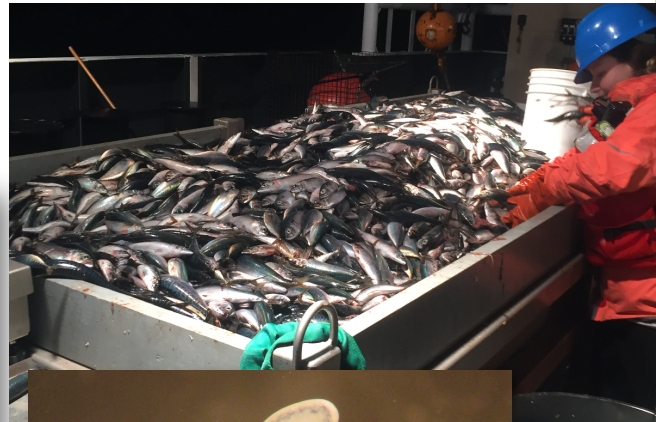


**NOAA**  
**FISHERIES**

Southwest  
Fisheries  
Science Center

# NMFS Report SWFSC Activities

Cisco Werner  
Gerard DiNardo



# 2016 Meetings/Workshops

- **Data-Limited** International Workshop on Coastal Pelagic Species (May 2016).
  - Report generated and submitted at Sept. 2016 PFMC Meeting
  - SWFSC tasked with light-DEPM application to Central subpopulation of Northern anchovy
- PFMC **SSC CPS Subcommittee** Workshop (October 2016)
  - Review of SWFSC report Egg and Larval Production of the Central Subpopulation of Northern Anchovy in the Southern California Bight (Saturday Agenda Item G .4.a –SWFSC Report)
- **EK80** Workshop completed at the SWFSC from 6-9 and 12-16 Sept 2016; including sea-going/field component. Conveners: David Demer (NOAA) and Rolf Korneliussen (IMR)
  - **Aim:** To expedite the use of wideband echosounder in surveys and science
  - **Participants:** IMR, CMR, Simrad, KUTi, Echoview, PIFSC, AFSC, NWFSC, SEFSC, SWFSC, S&T
  - **Evaluations included:**
    - Compression of EK80 data
    - Noise measurements in active vs passive modes
    - Uncertainty in standard sphere calibrations
    - Scattering spectra from mixed assemblages, etc.
- US-Mexico – **MexUS** – Bilateral (September 2016)
- **MARVLS** (**M**aturity **A**ssessment, **R**eproductive **V**ariability, and **L**ife **S**trategies) Workshop (Nov 2016)
  - Share analytical methods and knowledge, and to the extent possible standardize collection methodologies



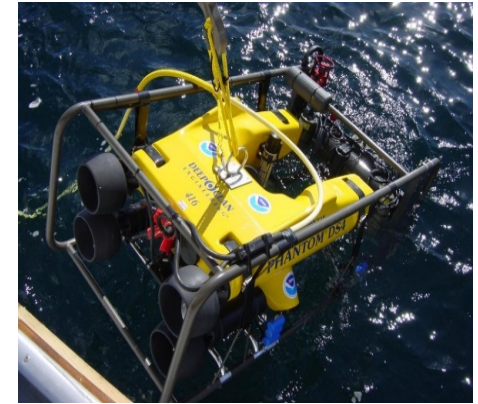
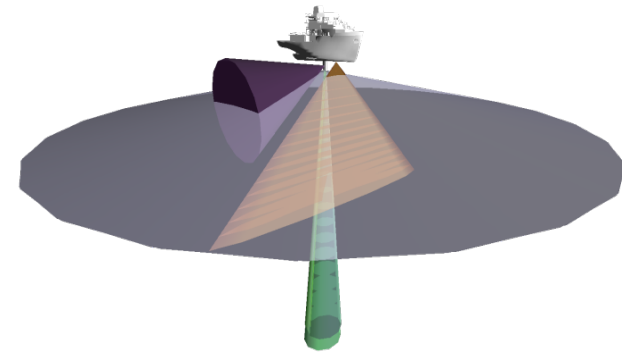
# EK60 to EK80 transition

After 10+ years of service Simrad has discontinued EK60 series and introduced EK80 series of transceivers and control software.

Shift from narrow-bandwidth transmit pulses to **wide-bandwidth** pulses using existing hull-mounted transducers

## Benefits

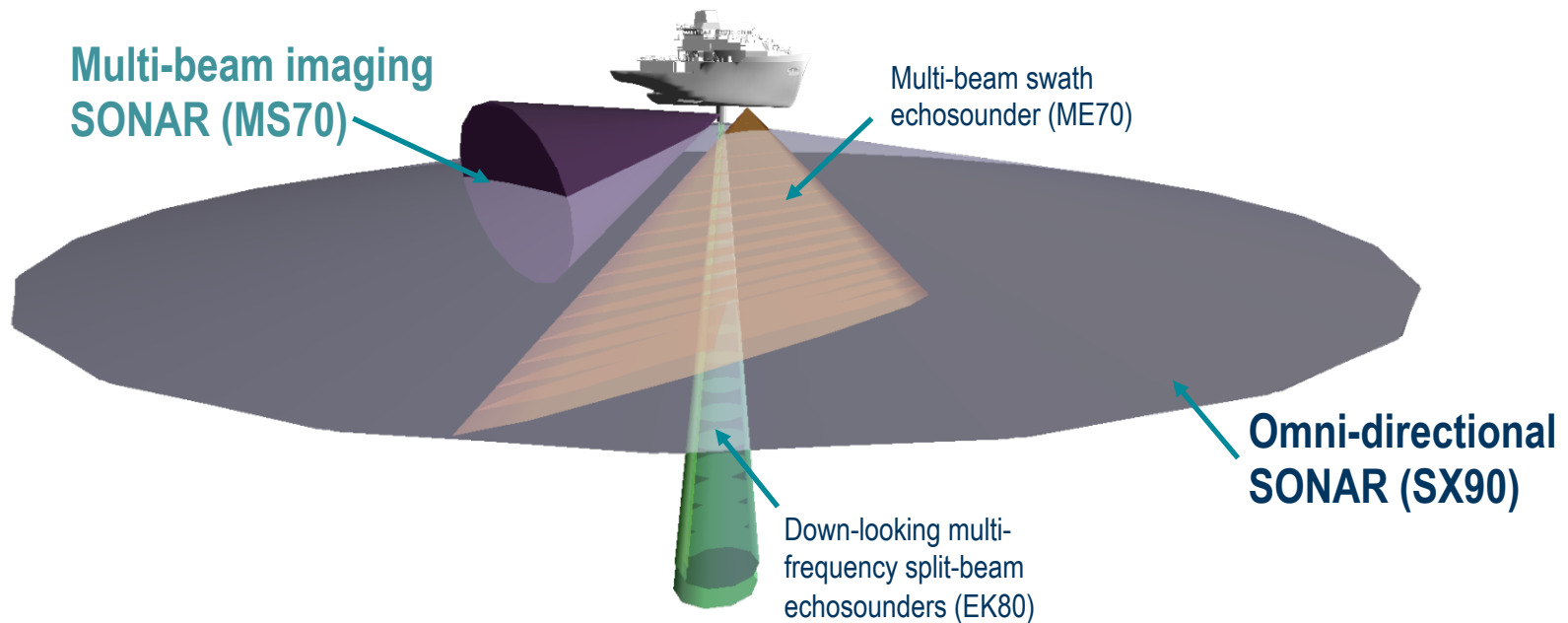
- Fish echoes captured from more complete band of frequencies allowing **improvement in species identification**
- Increased range resolution allowing **detection of fish close to the bottom and individual fish within an aggregation**
- Increased signal-to-noise ratio allowing **improvements in detection capabilities and effective range**
- Extension and miniaturization of wide-band technology allowing **autonomous deployment on surface buoys, deep moorings, ROVs**





# Acoustic capabilities of NOAA Ship *Reuben Lasker*

Side-looking SONARS provide additional capability to map epi-pelagic fish schools and conduct behavioral observations



Plus:

- ADCP current profiler
- Additional hydrophones and transceivers for passive sonar, self-noise monitoring, acoustic releases, ROV and AUV tracking, net mensuration

# Challenges to be resolved

- Data processing and storage
- Recommended protocols for data collection and analyses
- Improvements to EK80 firmware and software
- Implementation (SWR and US)



# Future meetings



## CalCOFI

CALIFORNIA COOPERATIVE OCEANIC FISHERIES INVESTIGATIONS



www.calcofi.org

- **CalCOFI Conference** December 5-7 at SWFSC. The Symposium topic will be The Next 70 Years of CalCOFI. The goals of CalCOFI have expanded from concentrating on small pelagic fishes to ecosystem and climate trends and variability.
- The 17<sup>th</sup> annual meeting of the **Trinational Sardine and Small Pelagics Forum** will be held immediately after the CalCOFI Conference at the SWFSC on December 8-9. We have expanded the forum to include additional species.
- PICES, the North Pacific Marine Science Organization and ICES, the International Council for the Exploration of the Sea, are cohosting (6-11 March 2017 in Victoria, BC, Canada) on **Drivers of Dynamics of Small Pelagic Fish Resources**.

### International Symposium

Victoria, BC, Canada  
March 6-11, 2017

### Drivers of dynamics of small pelagic fish resources

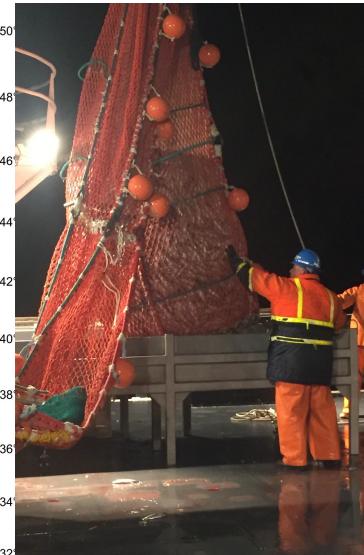
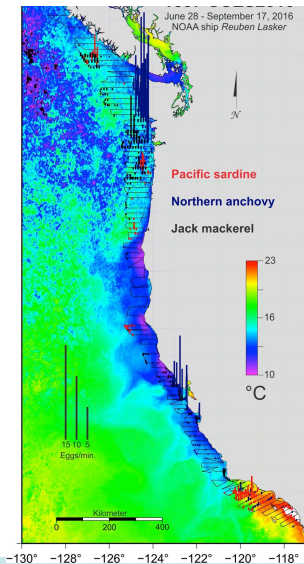
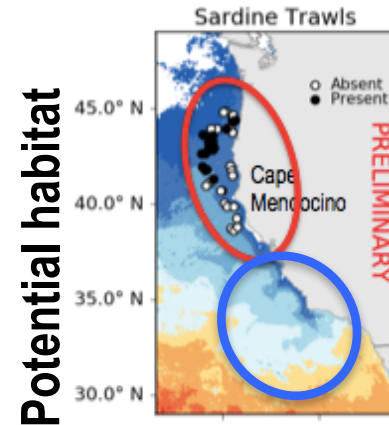
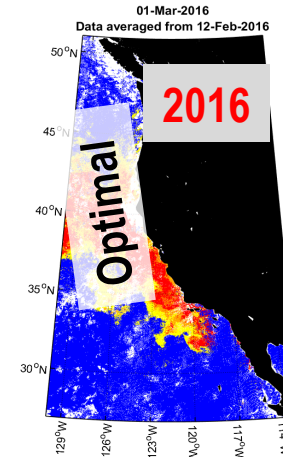


NOAA FISHERIES



# 2016 Coastal Pelagic Species Surveys Completed and Underway

- Quarterly CalCOFI surveys: the fourth and final 2016 CalCOFI survey is underway aboard the Scripps new research vessel *Sally Ride*.
- Spring 2016 CPS/DEPM survey which normally surveys sardine spawning habitat off central California was redirected to optimal habitat continuing off of Central Oregon 445 to 556km north of normal spawning habitat.
- Summer 2016 California Current Ecosystem Survey (CCES) using *FSV Lasker* started in June at the northern end of Vancouver Island and ended at the U.S. Mexico border 78 days later:
  - 4,500 nautical miles of east-west transects
  - Continuous Fish Egg Sampler (CUFES)
  - 260 CTD casts
  - 119 trawls
  - 1000's of fish were measure and counted.



# 2017 Coastal Pelagic Species Surveys planned

- The four quarterly CalCOFI surveys are scheduled
- The Spring CPS/DEPM survey is scheduled for 30 days aboard the *FSV Lasker*.
- The Summer CCES survey is scheduled for 50 days aboard the *FSV Lasker*. This is 28 days shorter than the DAS we had last year so there will have to be some attention to specific areas. The *FSV Shimada* will be surveying hake to produce an abundance index for 2017 (no "SaKe" survey in 2017).