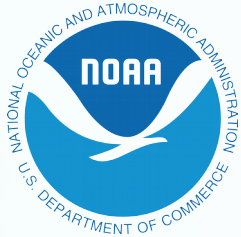# Collaborative recreational fisheries data collection led by the Sportfishing Association of California (SAC)

Alayna Siddall
Director, Science & Communications

The Sportfishing Association of California (SAC)

- Non-profit founded in 1972

- Based in San Diego

- Represent ~200 companies and over 400 vessels

- Conduct cooperative fisheries research with NOAA, CDFW, SIO

- Work with U.S. Congress, U.S. Coast Guard, Mexican government at all levels

- Serve formally on several advisory bodies, panels, & PFMC

California CPFV Fleet

- **Strictly recreational fishing**

- Up to 113ft LOA

- Typically 25-60 passengers

- Operate up to 2,600km from port

- Trips 6 hours to 3 weeks in length

Project Collaborators

- Lead - Sportfishing Association of California (SAC)

- NOAA Fisheries

- Pacific States Marine Fisheries Commission (PSMFC)

- CA Dept. of Fish and Wildlife (CADFW)
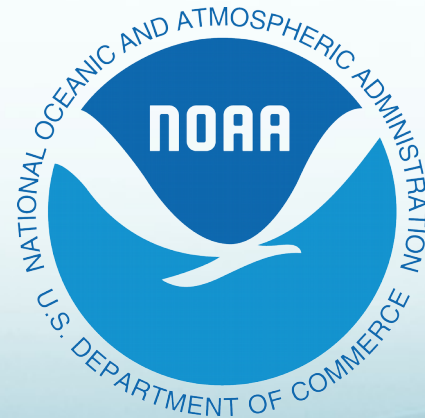
Programs

Electronic CPFV logbooks
- transition from paper logbooks to electronic tablets
- collect catch & effort data in near real-time
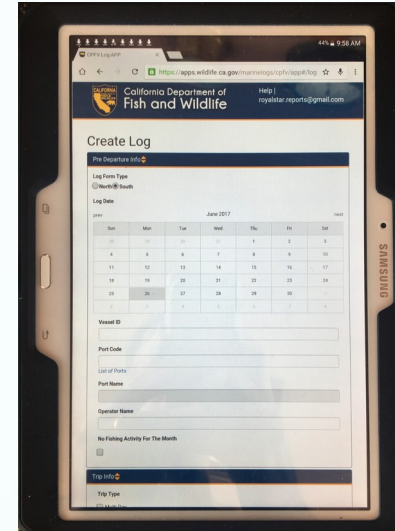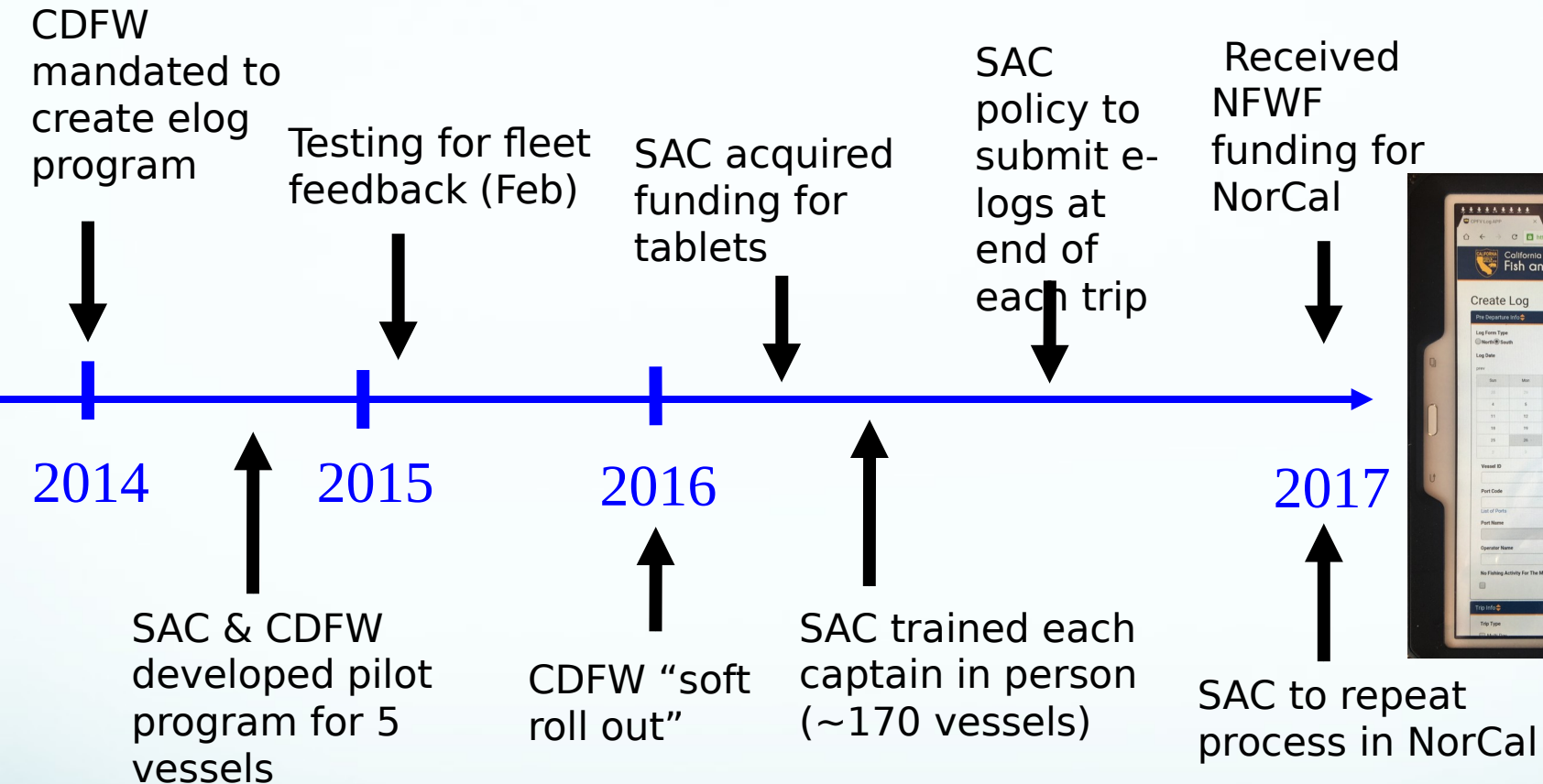
Tuna at-sea and dockside sampling
- data collected by CPFV Captains and crew, not scientists
- size structure time series for stock assessments
- 1st ever fisheries data set collected by the CPFV fleet used directly in management in California

Barotrauma mitigation for protected rockfishes
- post-release mortality using descending devices
- SAC distributed descending devices & training to every vessel in fleet

Fleet input highly valuable, especially in data-limited fisheries

eLog Timeline

CDFW mandated to create elog program

Testing for fleet feedback (Feb)

SAC acquired funding for tablets

SAC policy to submit e-logs at end of each trip

Received NFWF funding for NorCal

2014   **2015**   **2016**   **2017**

SAC & CDFW developed pilot program for 5 vessels

CDFW "soft roll out"

SAC trained each captain in person (~170 vessels)

SAC to repeat process in NorCal

Impacts

- Incentivizes timely reporting by the fleet

- Catch and effort data now reported in near real-time

- Data processing lags now only one month or less (rather than one year in previous paper log model)

- Significant fleet support
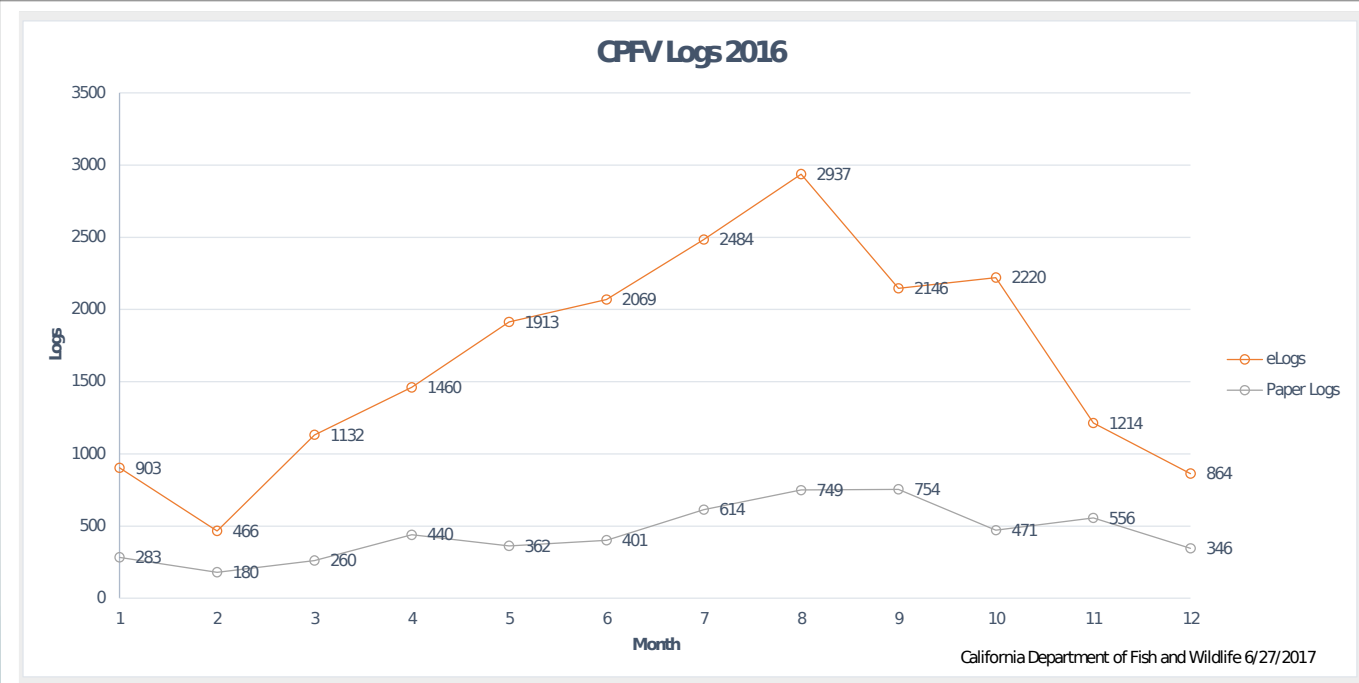
CPFV Logs 2015
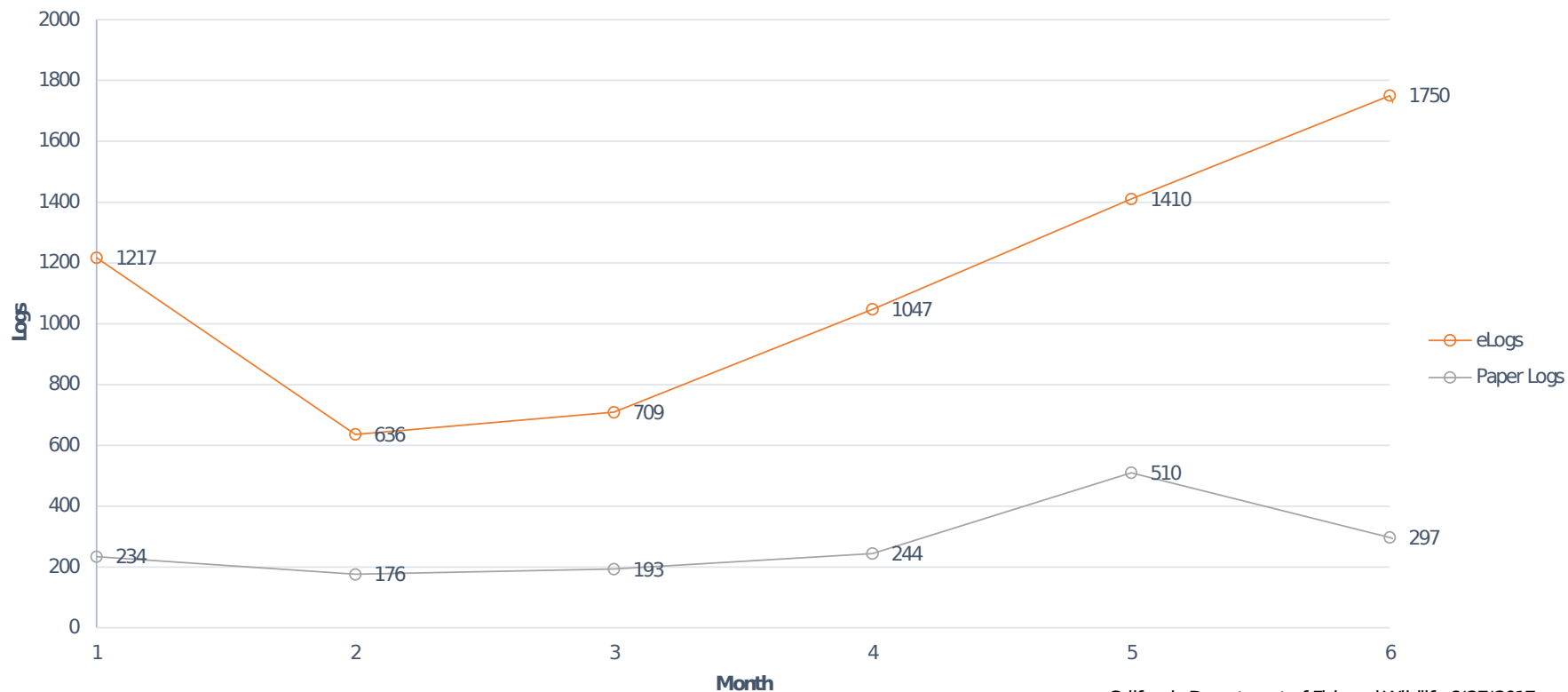Pilot year (first half)
Only SoCal

CPFV Logs 2015

California Department of Fish and Wildlife 6/27/2017
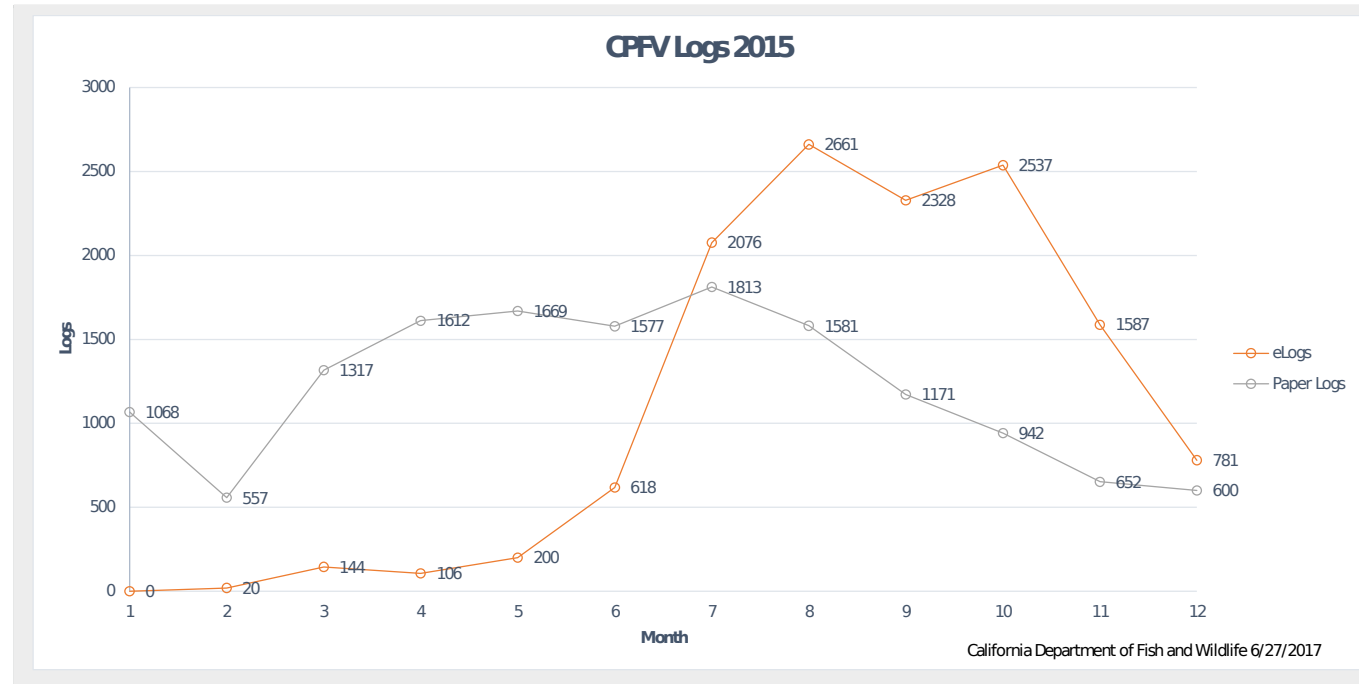
CPFV Logs 2016
Second year
Only SoCal

CPFV Logs 2016

California Department of Fish and Wildlife 6/27/2017

CPFV Logs 2017
ONLY SoCal (Jan-Oct)
ALL California (November on)

California Department of Fish and Wildlife 6/27/2017

Sampling

- 2015 – present

- Pacific bluefin, yellowfin, bigeye, albacore, skipjack

- Approved/validated by NOAA, CDFW, RecFIN Technical Committee

- Previously, tuna size structure data collected only from "long-range" CPFVs (4-18 days)

- But, "long-range" CPFVs contribute limited portion of total tuna catch

- Long-range concentrate on larger fish off central Baja, Mexico

- Yielded biased estimates of size structure within overall CPFV fishery

- Virtually no data collected from "medium-range" trips (1-3 days) that contribute the majority (70% for bluefin) of catch

- "Medium-range" catch smaller fish (typically) in greater numbers

Overview of Sampling Plan

- Sample 12 tuna vessels per season (Mexico/USA)

- Captains collecting data

- Vessels sample angler bags randomly one day per week

- Fork length measured for all tuna species
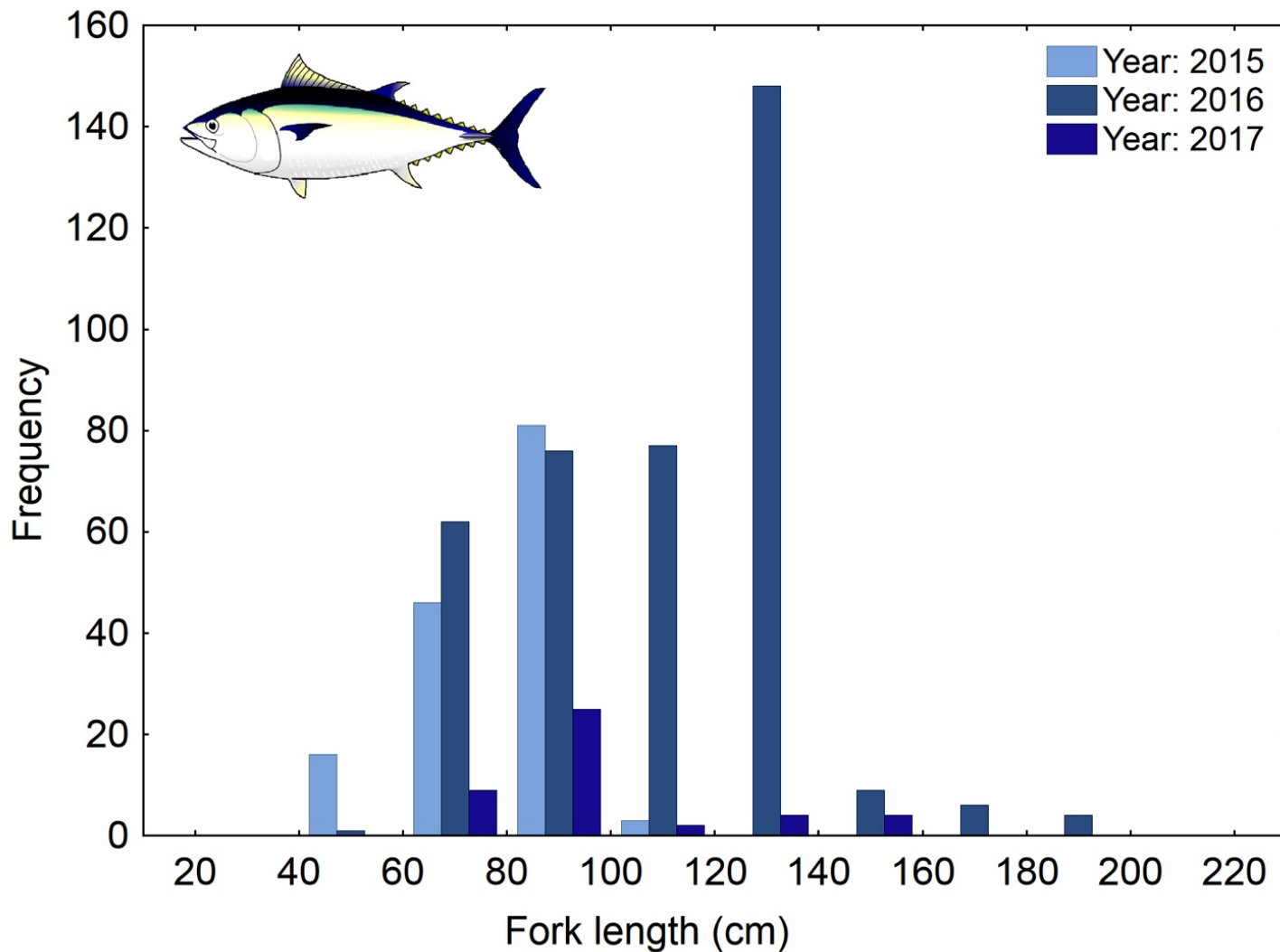
- Monetary incentive: $300/per week

- Data sent to NOAA

2015-2017 Data Collection

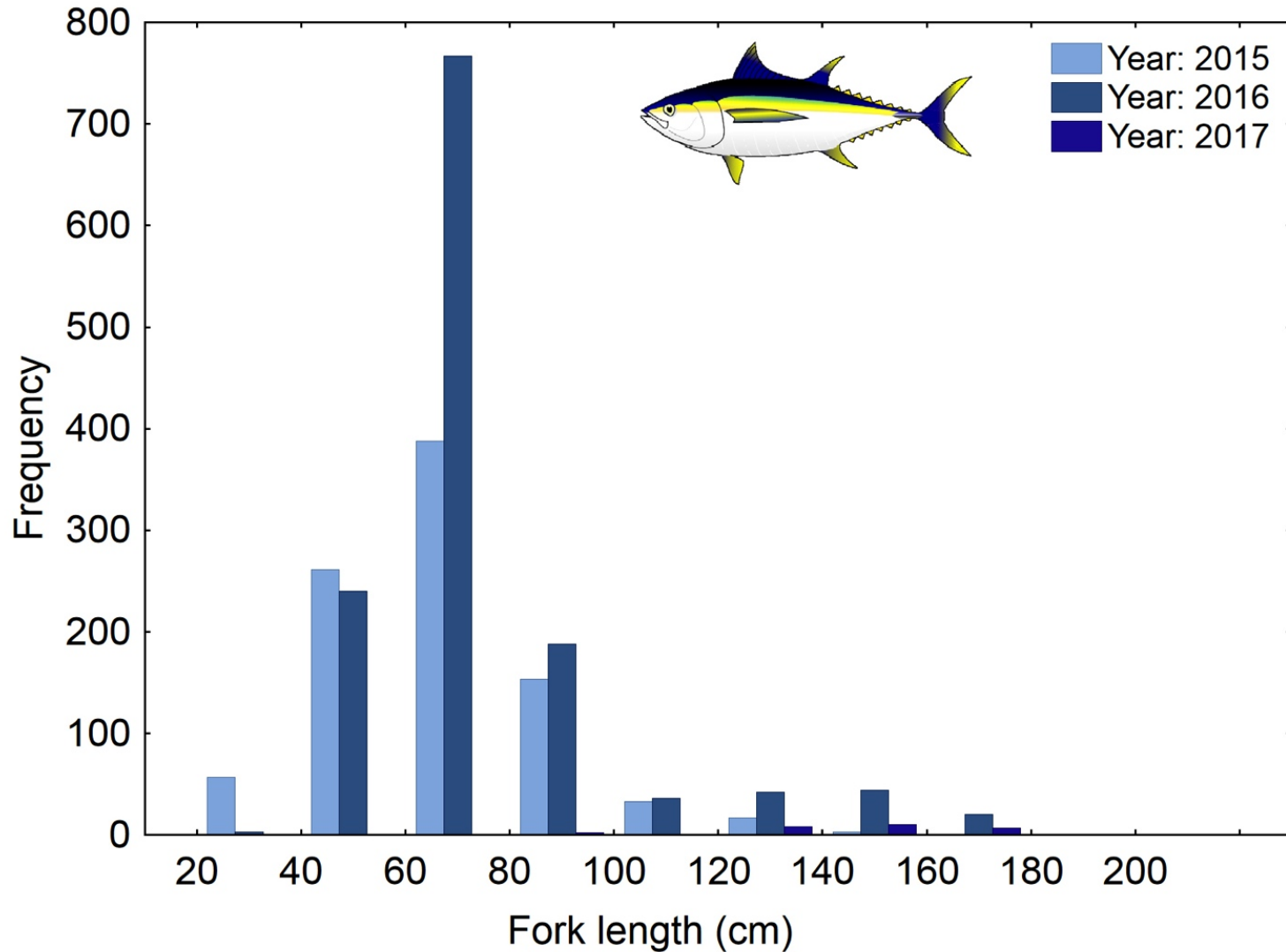|	2015	2016	2017
# vessels trained	23 of 23	13 of 13	13 of 13
# vessels submitted data	15 of 23	11 of 13	13 of 13
# samples	714	1246	In progress
# of species	3	4	In progress

Results: Bluefin

Results: Yellowfin

Length-Weight Data (Pacific bluefin) 2015 & 2016

- Why? Fleet concerned that existing length-weight curve was inaccurate, yielding over-estimates of impact

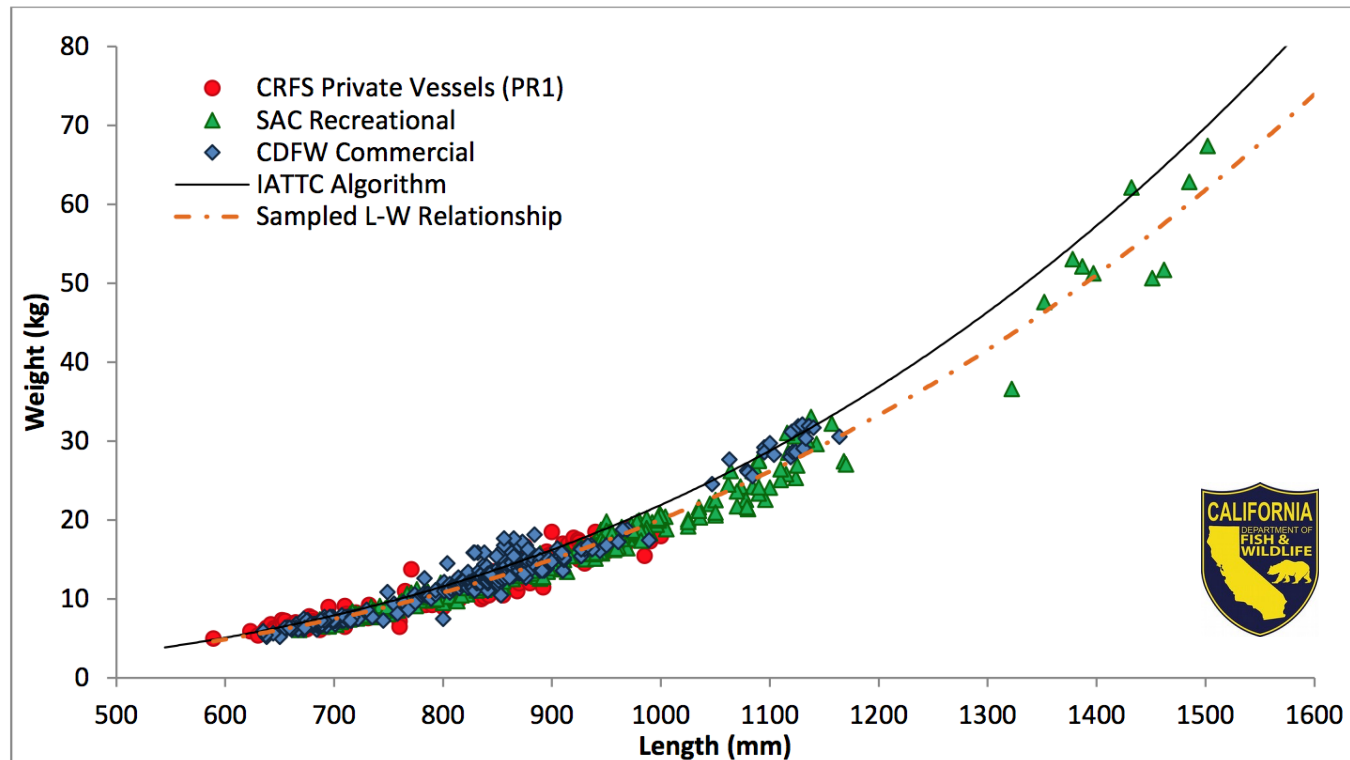- SAC completed dockside length-weight survey 336 lengths and weights of whole bluefin collected
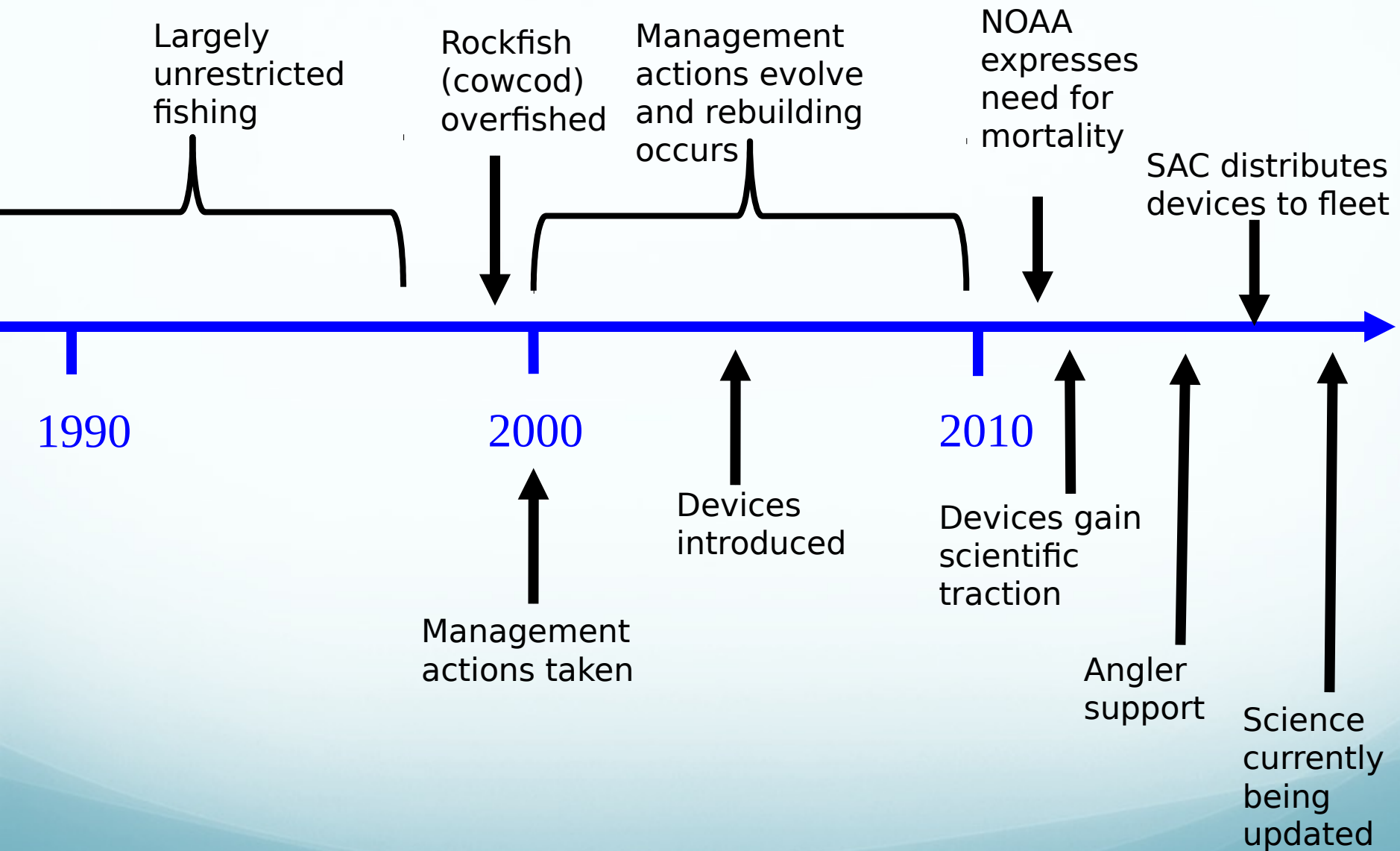

Figure 1. Summary of preliminary biological length-weight data for Pacific bluefin tuna as collected by multiple sources. *Data Source: IATTC dockside sampling (1993-2012); CDFW CRFS Data Portal (PR1 sample data 2012-2016, extracted 10/10/16); Sportfishing Association of California (SAC) CPFV sampling (2015-2016); CDFW Commercial port sampling (2015-2016).*

Barotrauma Mitigation for Protected Rockfishes

- Post-release mortality of Cowcod, Yelloweye, Boccacio
- Effectiveness of (and preference for) descending device types

Timeline

Largely unrestricted fishing

Rockfish (cowcod) overfished

Management actions evolve and rebuilding occurs

NOAA expresses need for mortality

SAC distributes devices to fleet

1990

2000

2010

Management actions taken

Devices introduced

Devices gain scientific traction

Angler support

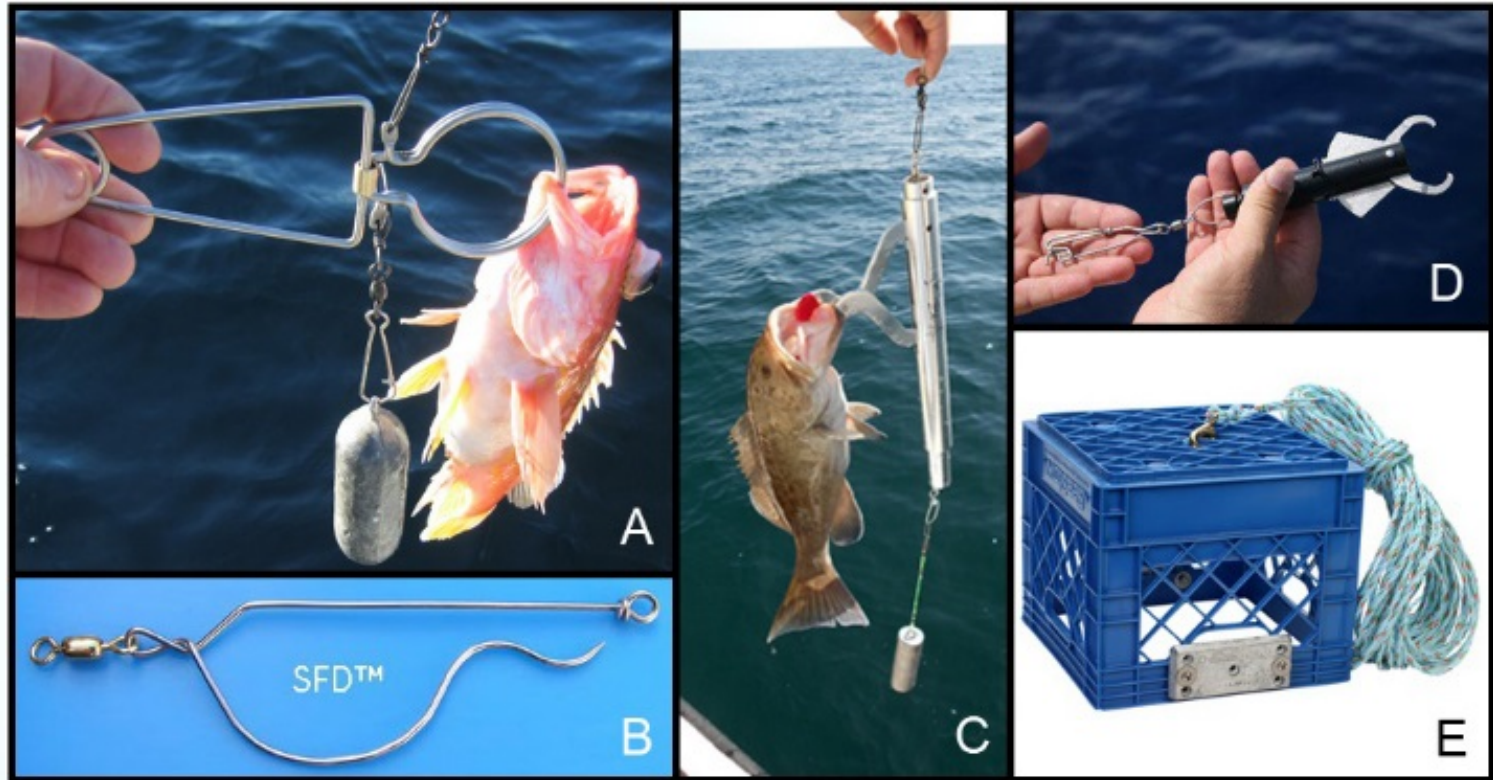Science currently being updated

Rebuilding Stocks Led to an Increased Need for Descending Devices

Increased catches of:

- small, less desirable species
- protected species (e.g., cowcod)

Most Common Descending Device Types in CA

A: Roklees (www.ecoleeser.com).
B: Shelton descending device (www.sheltonproducts.com)
C: Blacktip Catch and Release Recompression Tool (www.git-r-down.com).
D: SeaQualizer (www.theseaqualizer.com).
E. Inverted, weighted milk crate (www.westmarine.com).

Angler Preference for Different Device Types

Central California

|	SeaQuilizer	Roklees	Shelton	Blacktip	Milk Crate
Most successful	1.47	2.34	3.32	3.23	3.45
Easiest to use	1.44	2.27	3.60	3.19	3.21
Recommended for party boat	1.42	2.23	3.53	3.22	3.42
Recommended for private boat	1.64	2.26	2.97	3.17	3.46
Currently own	12.07	16.38	7.76	0.00	2.59
Currently use	10.34	12.07	5.17	1.72	2.59
Preference if provided for free	72.41	19.83	6.90	5.17	1.72
Preference if purchasing	47.41	25.00	30.17	0.86	4.31

Southern California

	SeaQuilizer	Roklees	Shelton	Blacktip	Milk Crate
Most Successful	1.3	2.6	3.1	3.2	3.4
Easiest to Use	1.6	2.1	3.1	3.1	3.5
Recommend For Party Boat	1.5	2.4	3.2	3.1	3.2
Recommend For Private Boat	1.7	2.4	2.5	3.2	3.8
Currently Own/Use	23.2	7.1	23.2	5.4	7.1
Preference if provided for free	74.1	20.7	12.1	3.5	1.7
Preference if purchasing a	38.6	28.1	31.6	15.8	1.8
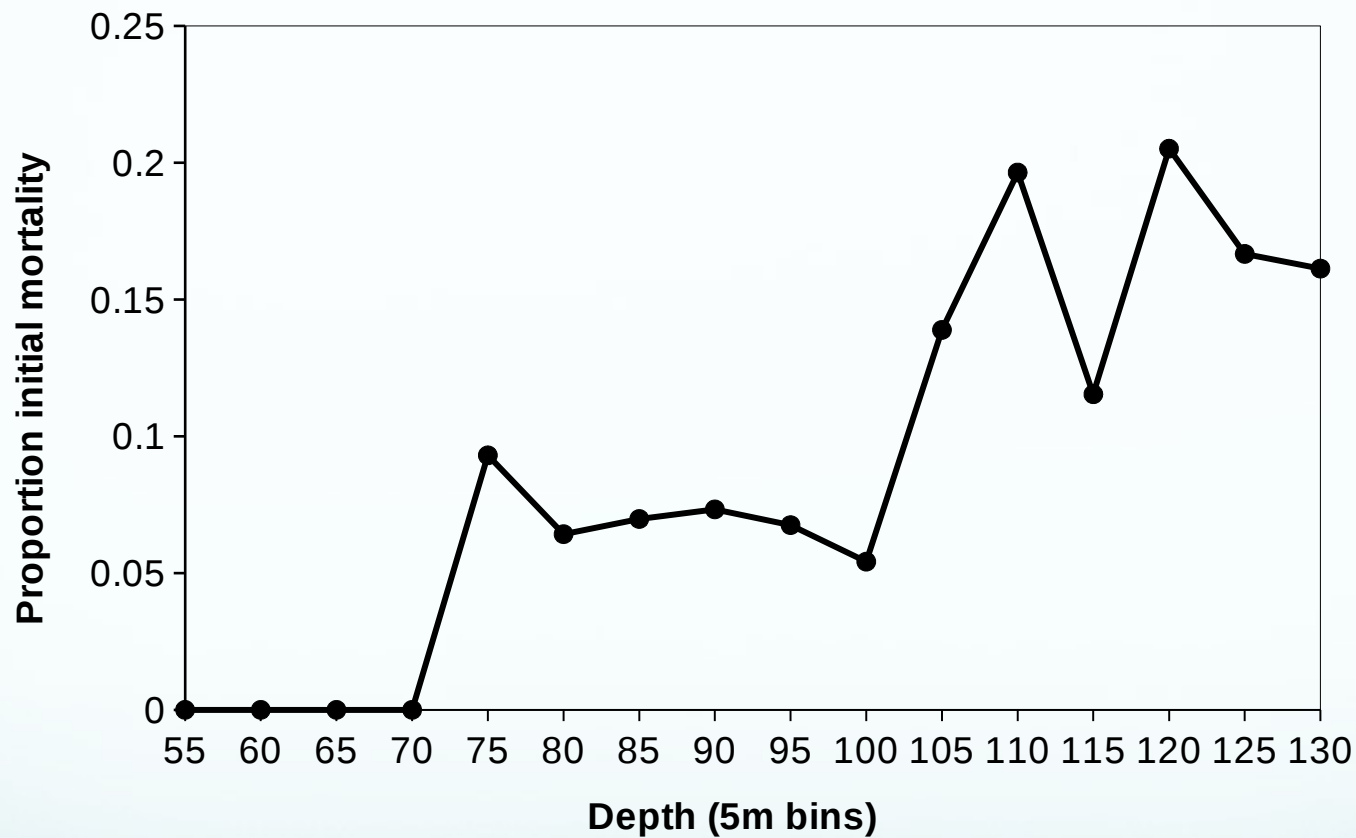
Impacts of this Research

Rockfish survival rates

Sportfishing Groups

- Sportfishing Association of CA
- Golden Gate Fishing Association

WWF & SAC purchased 400+ SeaQualizers to distribute to commercial passenger fishing vessels.

Groundfish Management Team
(part of the Pacific Fisheries Management Council)

Anglers given credit for rockfish released using descending devices

Changed the current depth closure from 50 to 60 fathoms

Regulatory Impacts

Original depth restriction:
Less than 90m (300ft)

Increased to:
Less than 110m (360ft)

This added significantly more area for bottom fishing

Acknowledgements