Preventing Albatross Bycatch in the West Coast Sablefish Longline Fishery

Ed Melvin & Troy Guy

Sea Grant Washington

Rob Suryan & Amanda Gladics

Oregon State University

Today Share Results

- 2014 research with WC sablefish longline fleet
- Overlap Analysis of Fishing Effort and Albatrosses
- WC observer data analysis
  - Bycatch rate as a function of individual vessel, vessel size, season, and night vs. day.
  - In the context of AK data analysis

Timelines Unaligned

Research and Outreach

- 2008 to 2015 outreach
- Overlap Analysis 2009 to 2013
- Vessel Research 2012-2014

Management under ESA

- BiOp Nov 2012
- EA Draft August 2013
- Council Action on regulation November 2013

Consequences

- Most of the information you will hear today was not considered in the BiOp or EA
- Difficulties engaging with longliners prior to Council action

Albatross Bycatch Policy Questions

- Is the pending seabird bycatch avoidance requirement appropriate for larger vessels (55 feet and longer)?
- Should streamer lines be voluntary or required for small vessels?
- Should night fishing be an option? If so, what is the definition of night and how does it interact with floating gear or the streamer line requirement?
- Where and when should avoidance measures be applied?
- What about individual vessel accountability?

Short-tailed Albatross & ESA Incidental Take Statement

Alaska Longline

Groundfish: 4 birds/ 2 years

Pacific Halibut: 2 birds/ 2 years

Alaska Trawl

Groundfish: 2 birds/5 years plus?

West Coast*

Groundfish: 2 birds in 2 years

Pacific Halibut: ? In preparation

- **Based on takes of short-tailed and black-footed albatross**

Hawaii

Deep Set Longline: 2 birds/ 5 years

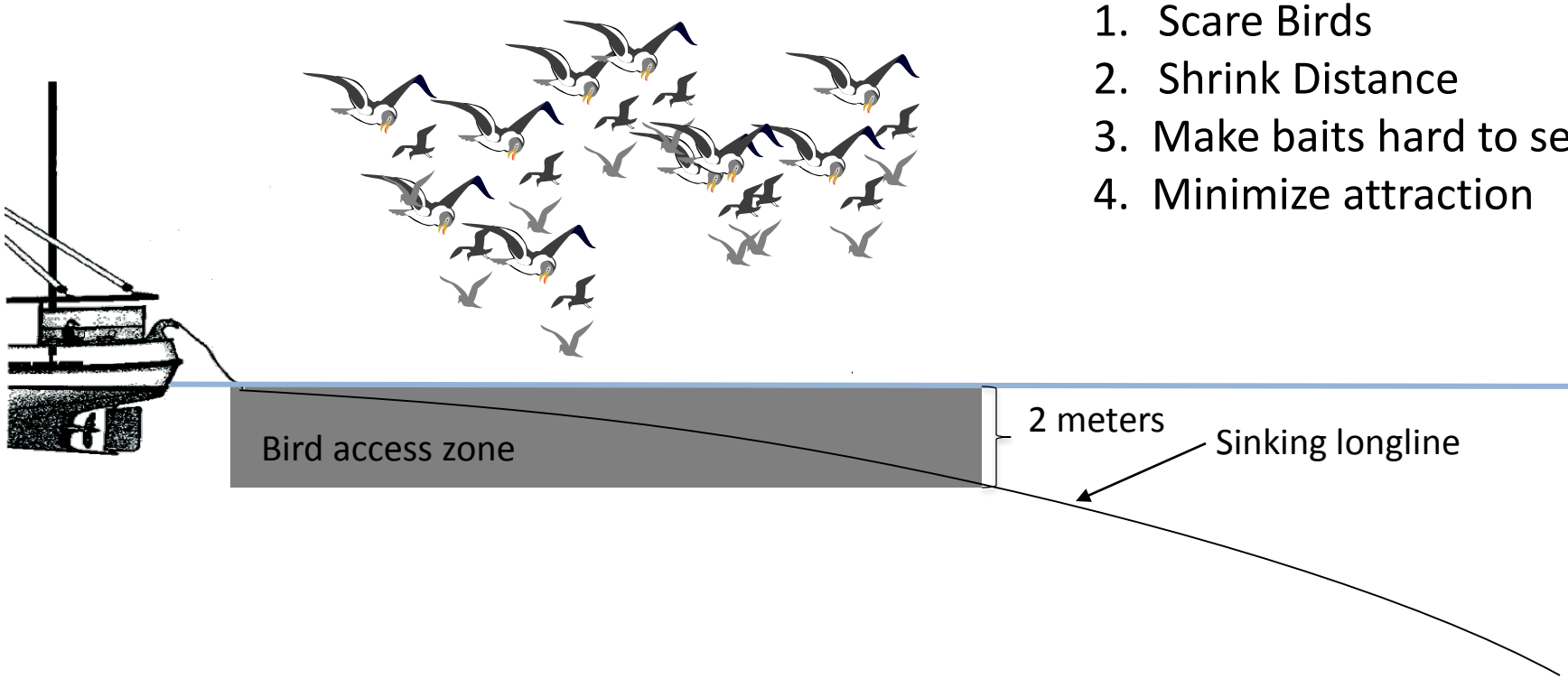
Shallow Set Longline: 1 bird/ 5 years

Photo by Rob Suryan

Terms and Conditions of the Biological Opinion

- Promulgate regulations requiring mandatory use of streamer lines longline vessels by November 20, 2014
  - Non-treaty
  - 55 feet and longer
  - Follow AK streamer line standards
  - Implement Voluntary use of streamer lines by small vessels
- Adaptive management process
  - New info can change terms and conditions

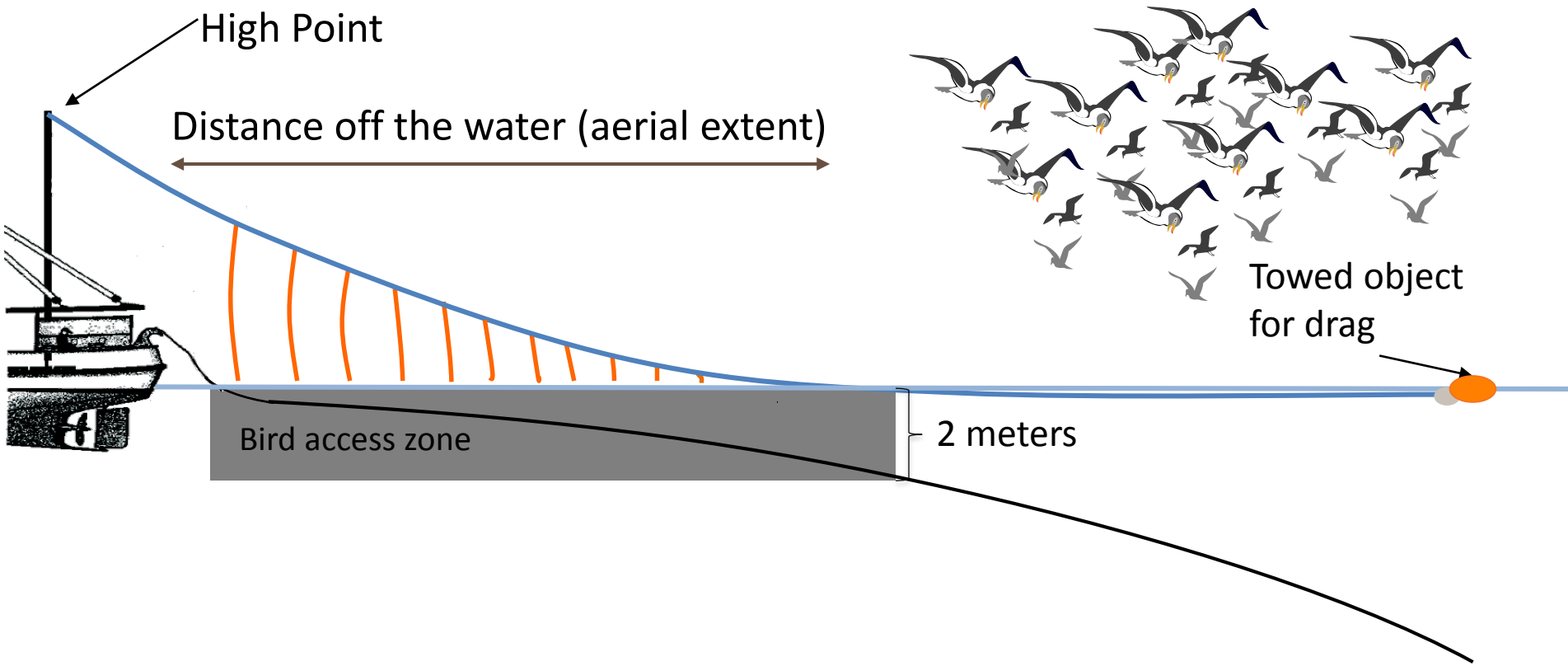
Keeping seabirds away from the gear



Options

1. Scare Birds
2. Shrink Distance
3. Make baits hard to see
4. Minimize attraction

Streamer Lines



Paired Streamer Lines

Single Streamer Line

AK regulations for Large Vessels (> 55 ft)

Requirements are a function of vessel size and gear type

Fixed Gear

↓

Two Streamer Lines

Snap-on gear

↓

One Streamer Line

	<100 ft	**≥100 ft**		
Aerial Extent	131.2 ft. (40m)	196.9 ft (60m)		65.6 ft. (20m)

Wind > 30 kts ——— One Streamer Line ———

>45 kts ——— discretionary use of streamer lines and buoy bags ———

AK Regulations for Small Vessels > 26 ft to 55 ft

Requirements are a function of gear type and infrastructure: mast/poles/rigging

One Streamer Line

Fixed Gear

Snap-on Gear

Buoy Bag

Aerial Extent

131.2 ft. (40 m)

65.6 ft. (20 m)

Wind > 30 kts

Discretionary use of streamer lines and buoy bags

Outreach Program

- Focus on Tribal fishermen starting in 2008
- Port based meetings in 2014 and 2015
  - 12 meetings Fort Bragg to Neah Bay
- Port visits 2013
- Facilitate free streamer line program
  - Design, distribution, production
- Mailing to IFQ sablefish permit holders
- http://seabirdbycatch.washington.edu/
- Survey of fishing gear and practices

Results of Outreach

- Hundreds of streamer lines in the hands of longliners;
- Awareness increased on how to prevent albatross mortality;
- The Quinault Tribe made streamer lines mandatory in 2014;
- 16 of 24 longline vessels in the Makah fleet are using streamer lines voluntarily;
- In 2014, all Quileute Tribal longliners are using streamer lines voluntarily;
- Night setting emerges as a possible seabird bycatch reduction tool.

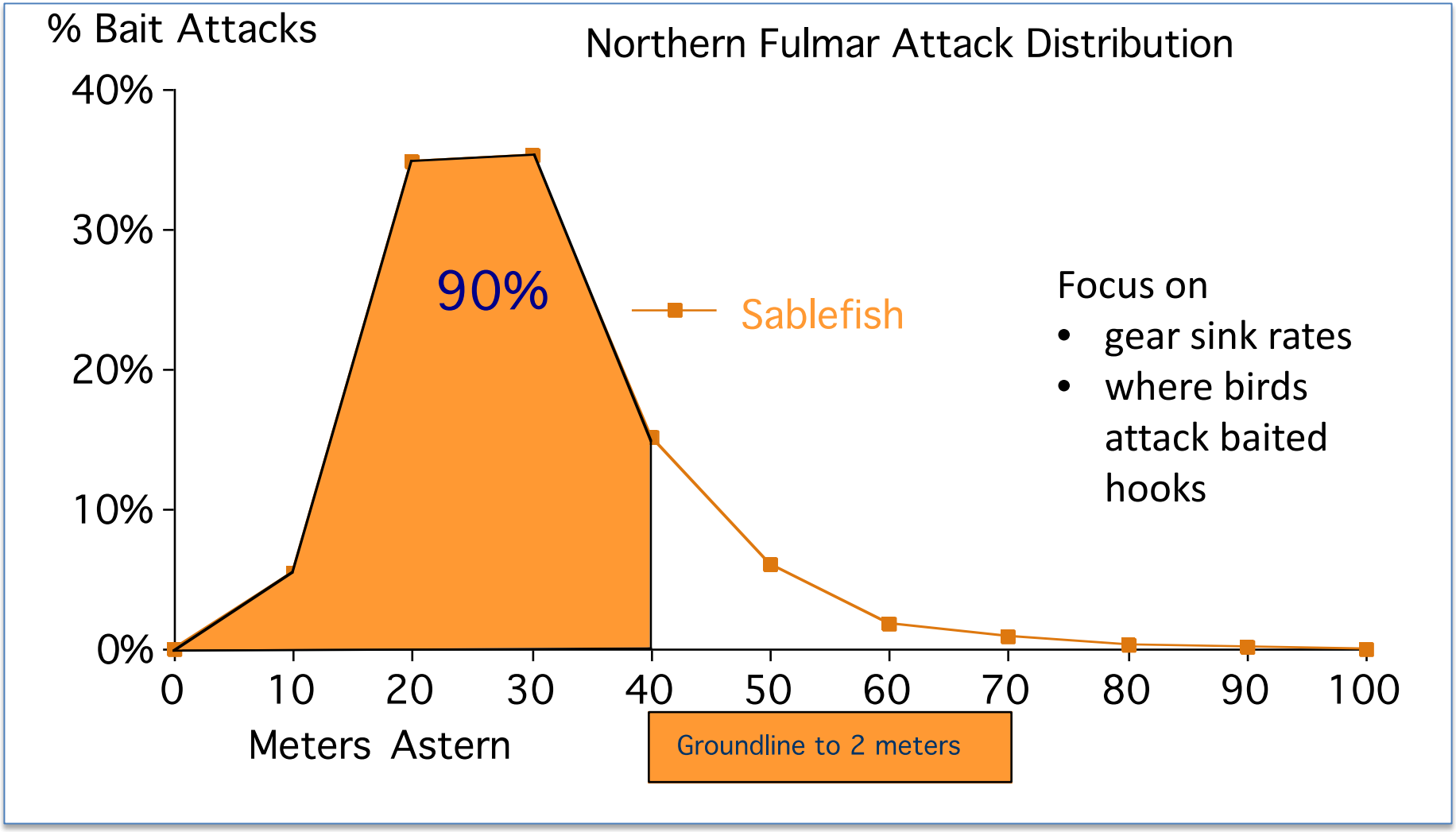
Research Program

- Are Alaska-style streamer lines effective for West Coast?
- Increase awareness of seabird bycatch avoidance best practices.
- Work on volunteer host vessels

Tub gear

autoBait gear

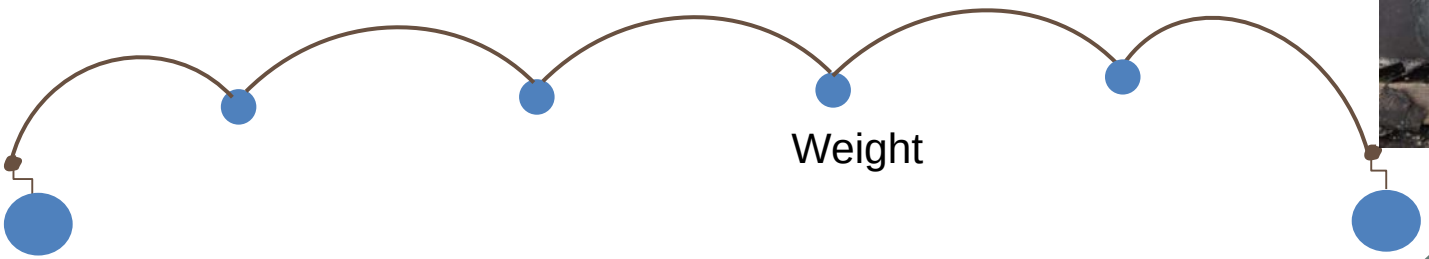
Rationale: Streamer Line Performance Standards

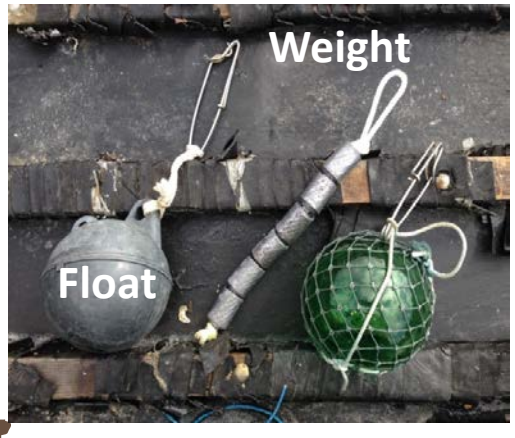


Focus on

- gear sink rates
- where birds attack baited hooks

Gear without Floats – Alaska gear

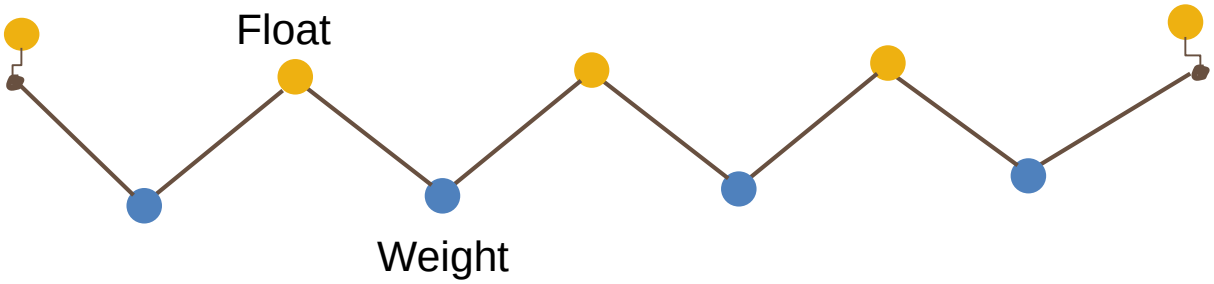


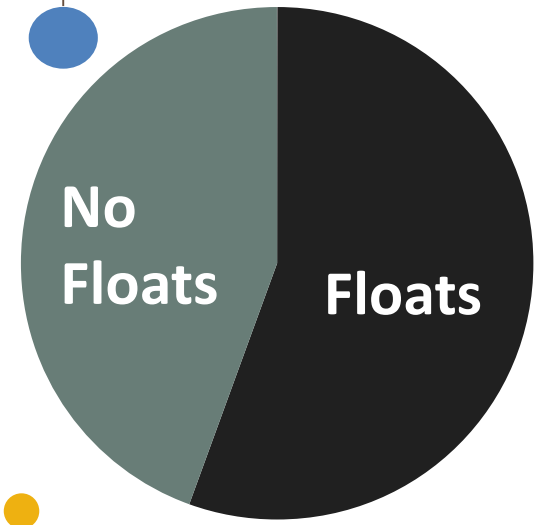


Gear with Floats – Unique to WC

Conserve baits from scavengers (fleas – hagfish)

Maintain catch and catch quality



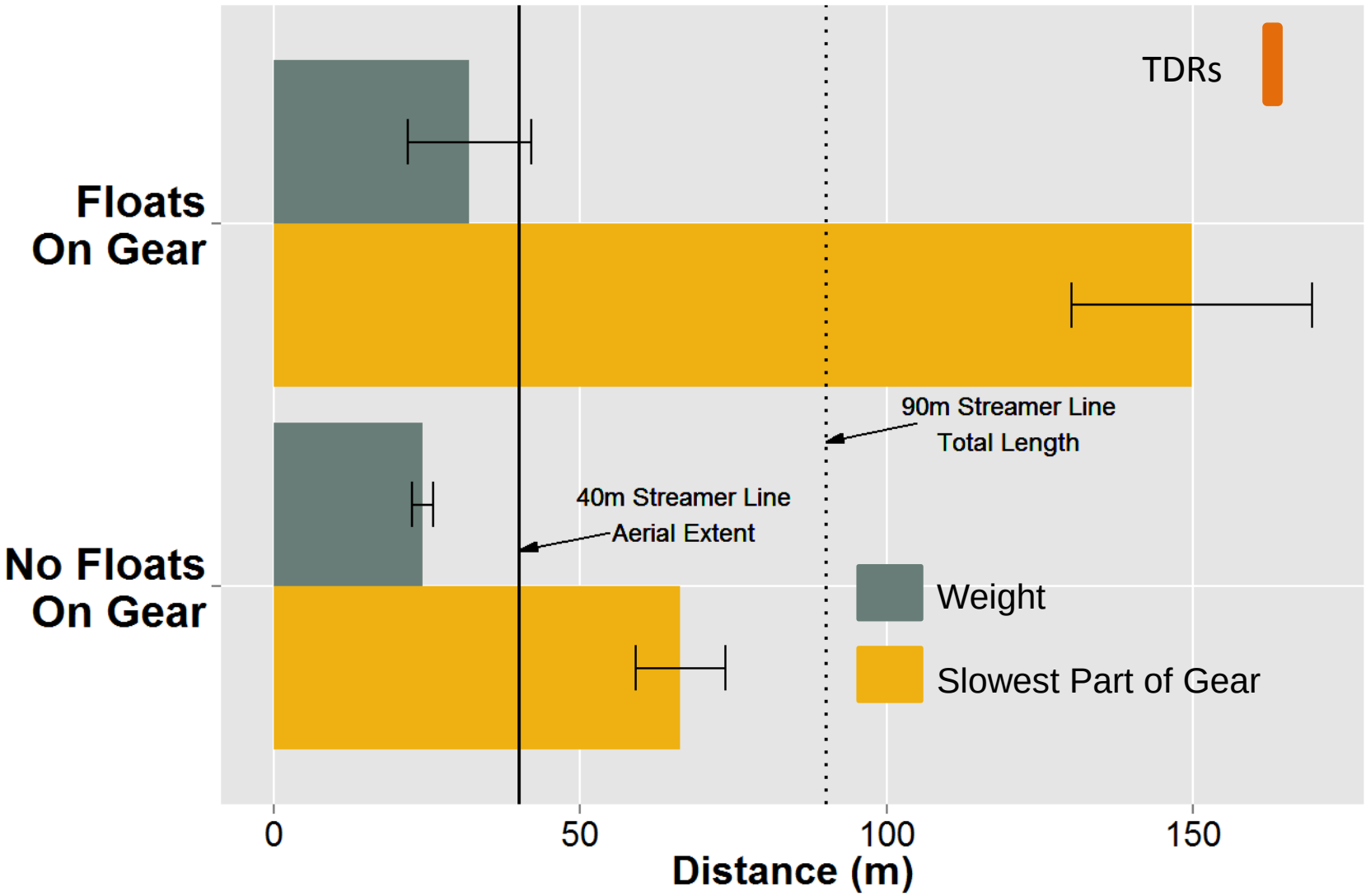


27 surveys

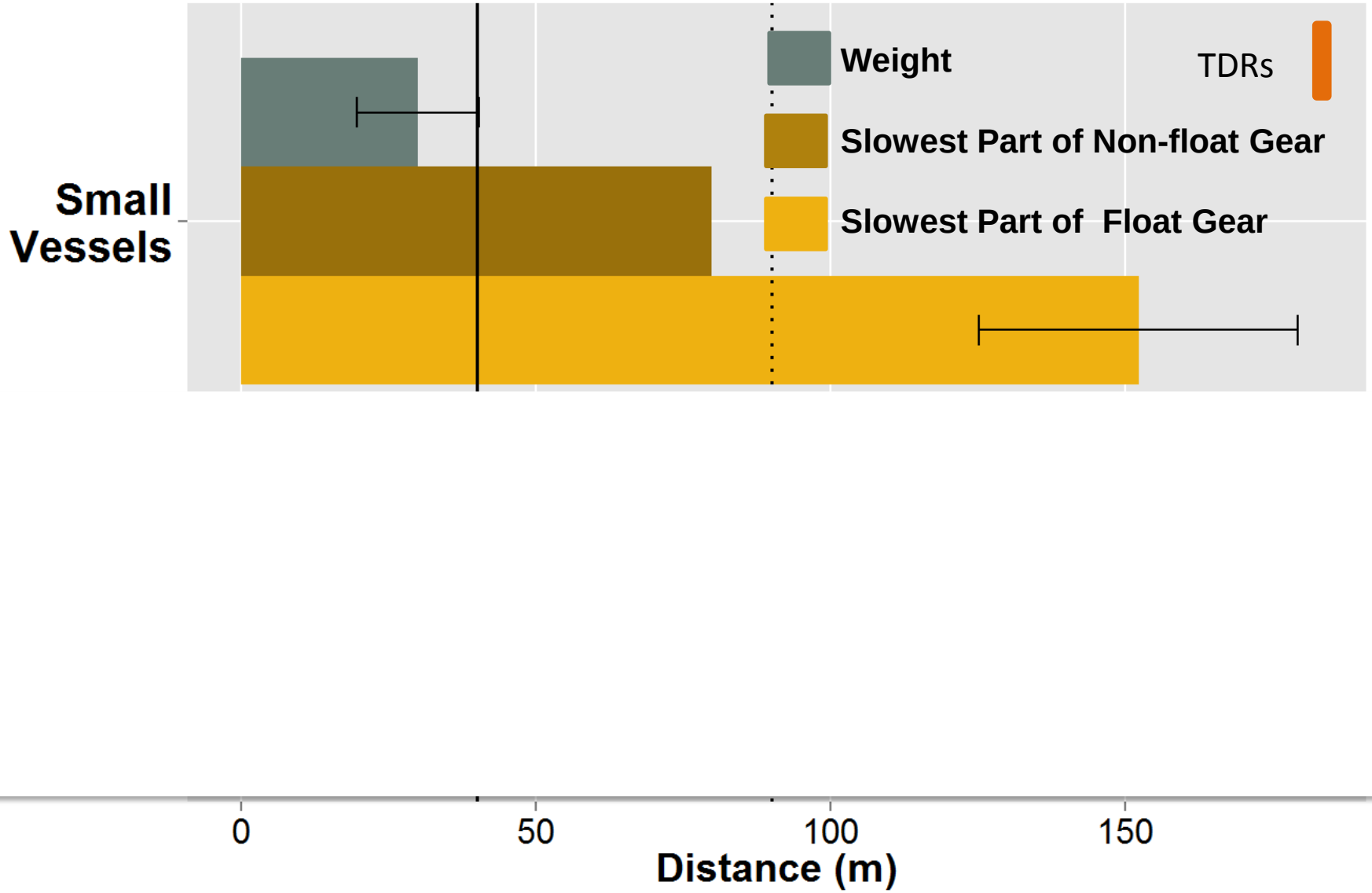
Data collected on host vessels was representative of the fishery

	Floats	No Floats	Total
TDR sets	29	28	57
TDR vessels	6	3	9
Attack obs sets	29	12	41
Attack obs hooks	92,330	27,050	119, 380
Attack obs vessels	6	2	8

Float gear sinks to depth of one fathom twice as far astern



No difference in distance astern between small and large vessels



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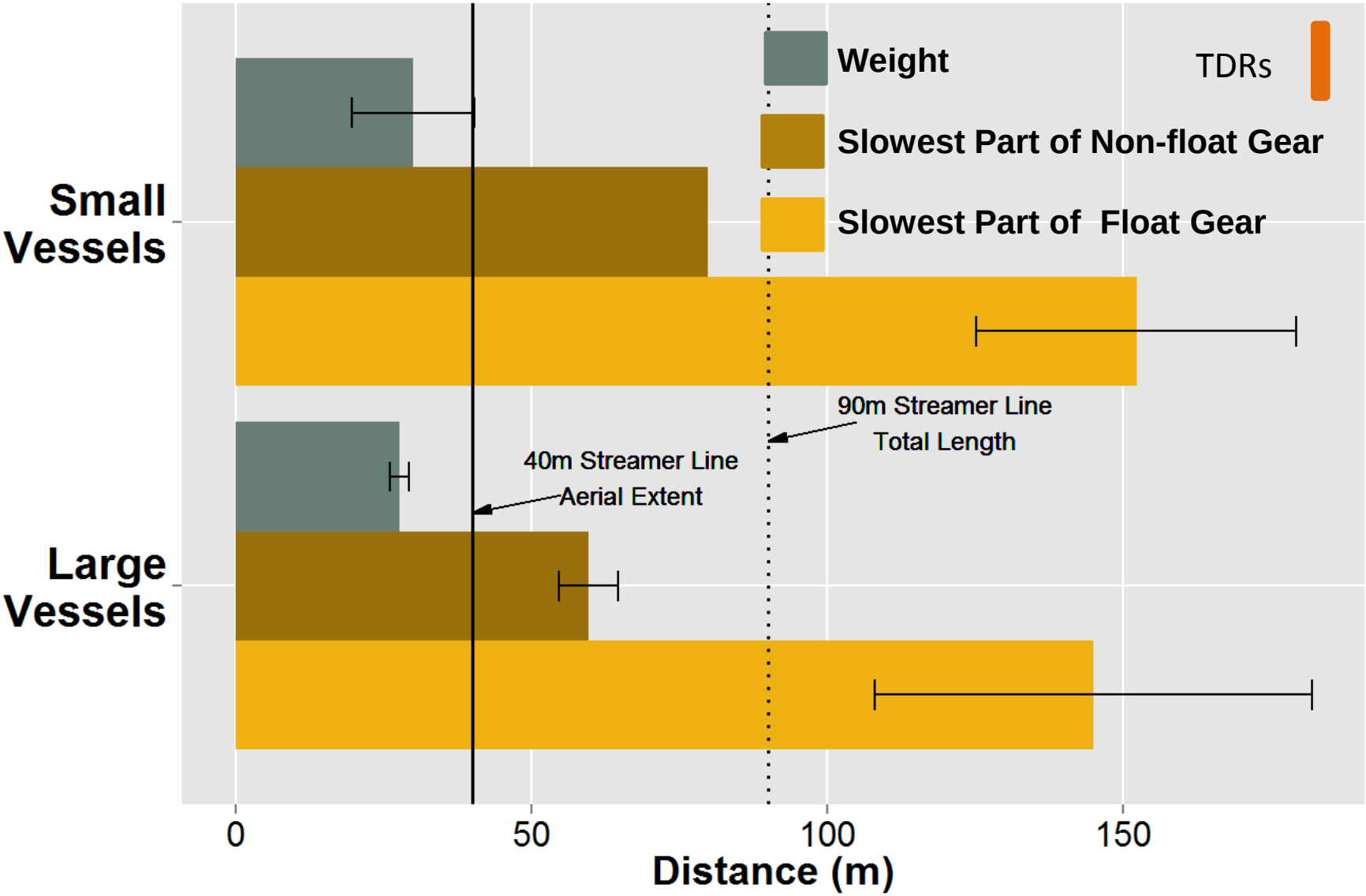
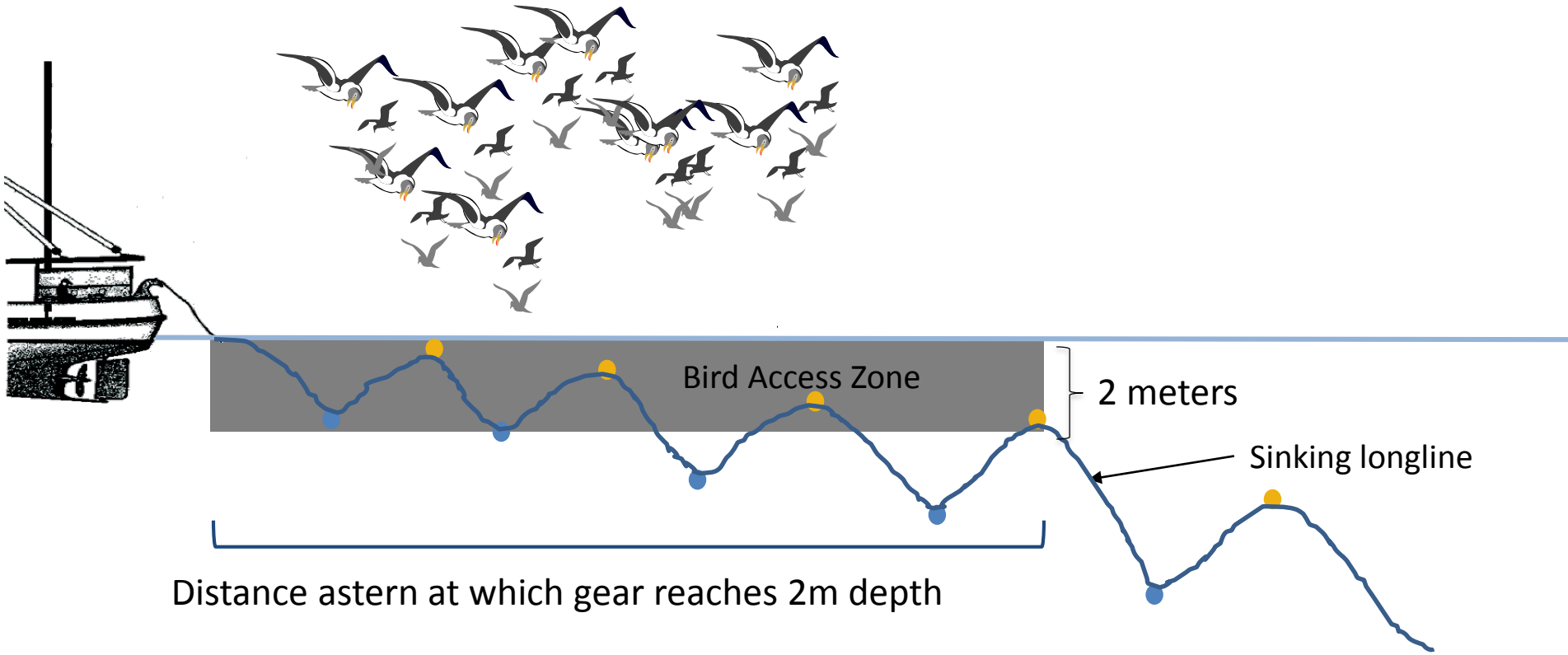
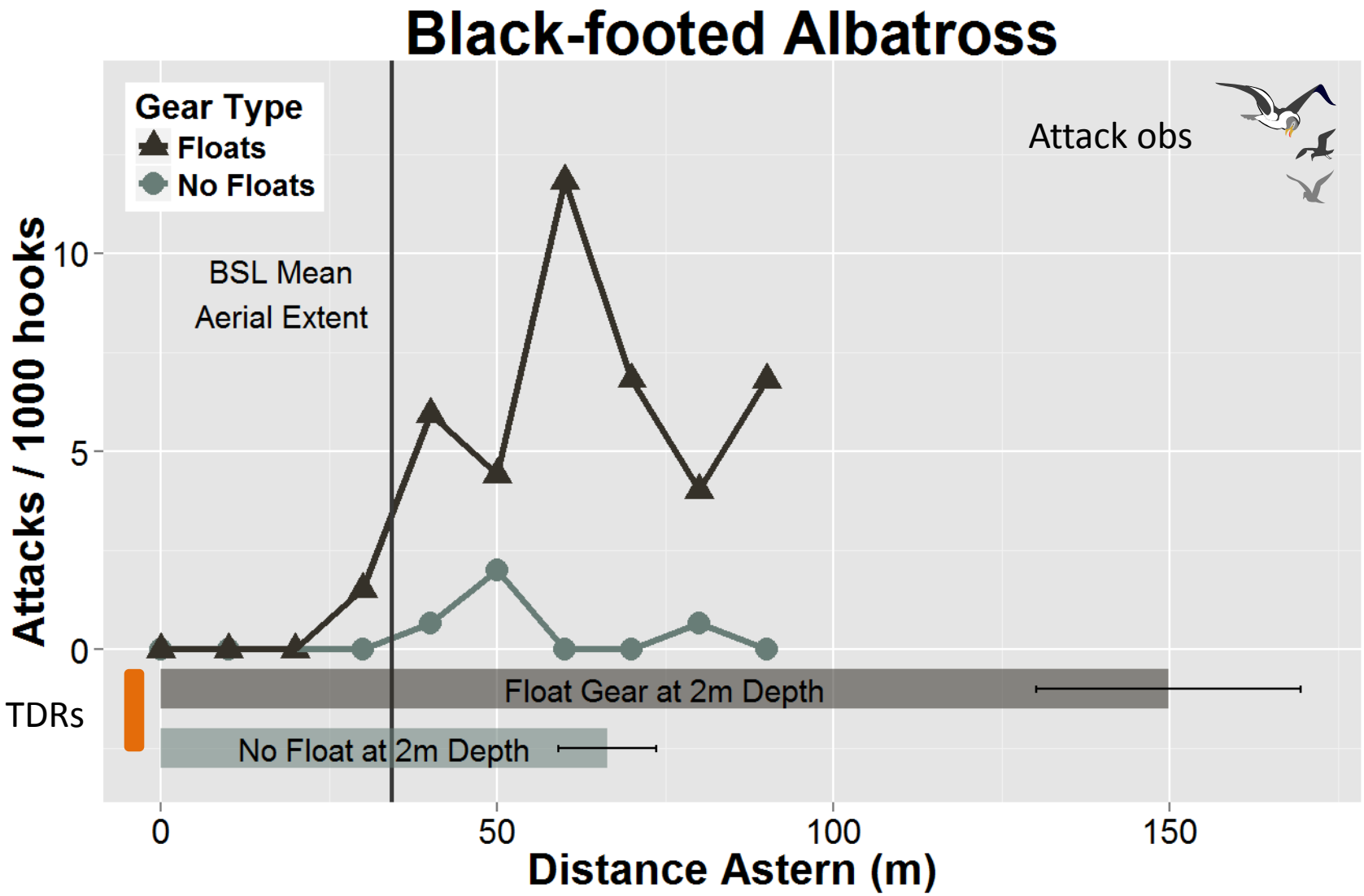


Do birds react differently to gear with floats?



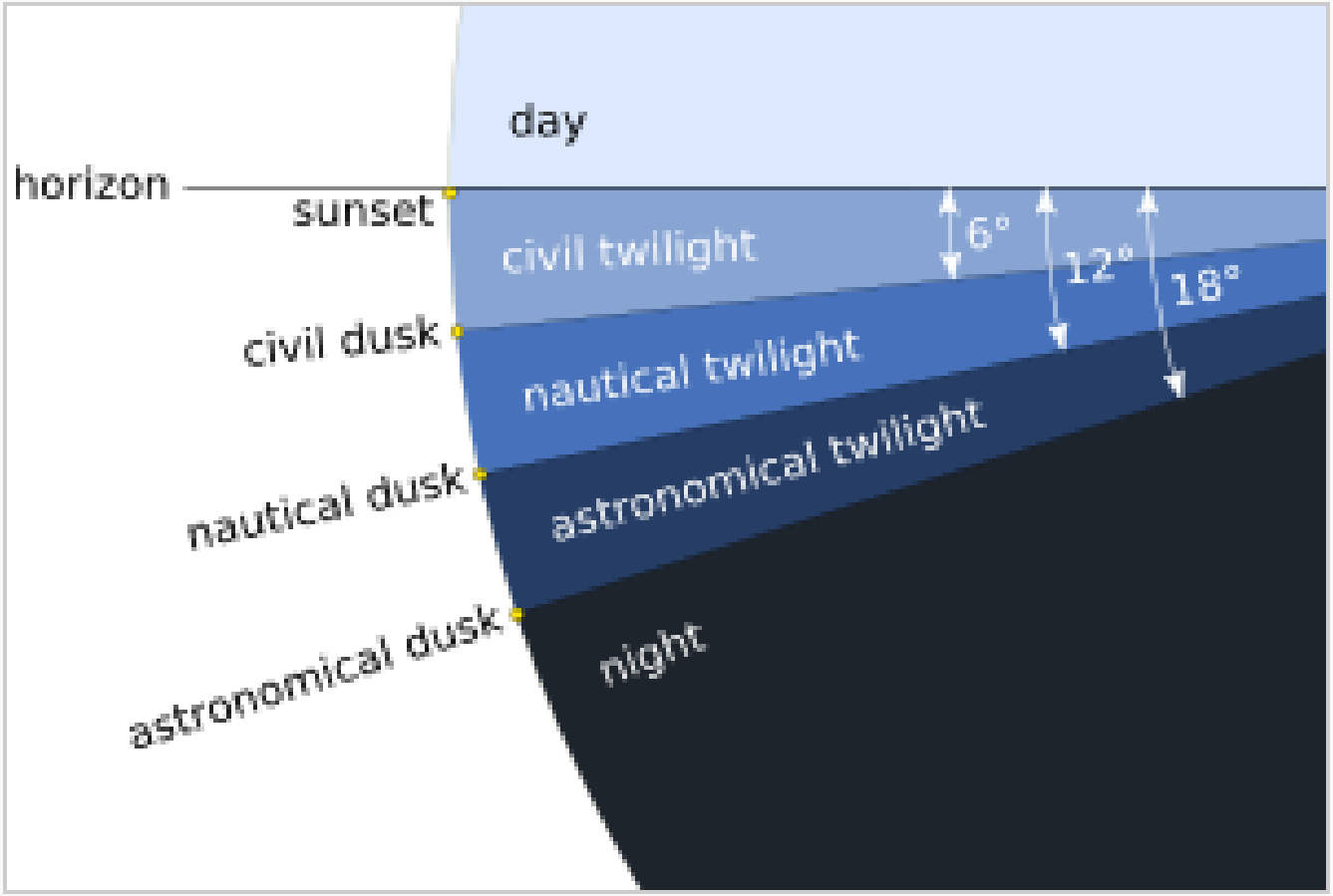
Albatross attacks are greater on vessels with floats – but variable



Summary

- The number and variety of host vessels was small, but representative of the fishery;
- Regardless of vessel size, AK streamer line specifications are:
  - Likely to prevent albatross mortalities on vessels using gear without floats
  - Unlikely to prevent albatross mortalities on vessels using gear with floats
- Individual vessel make a difference

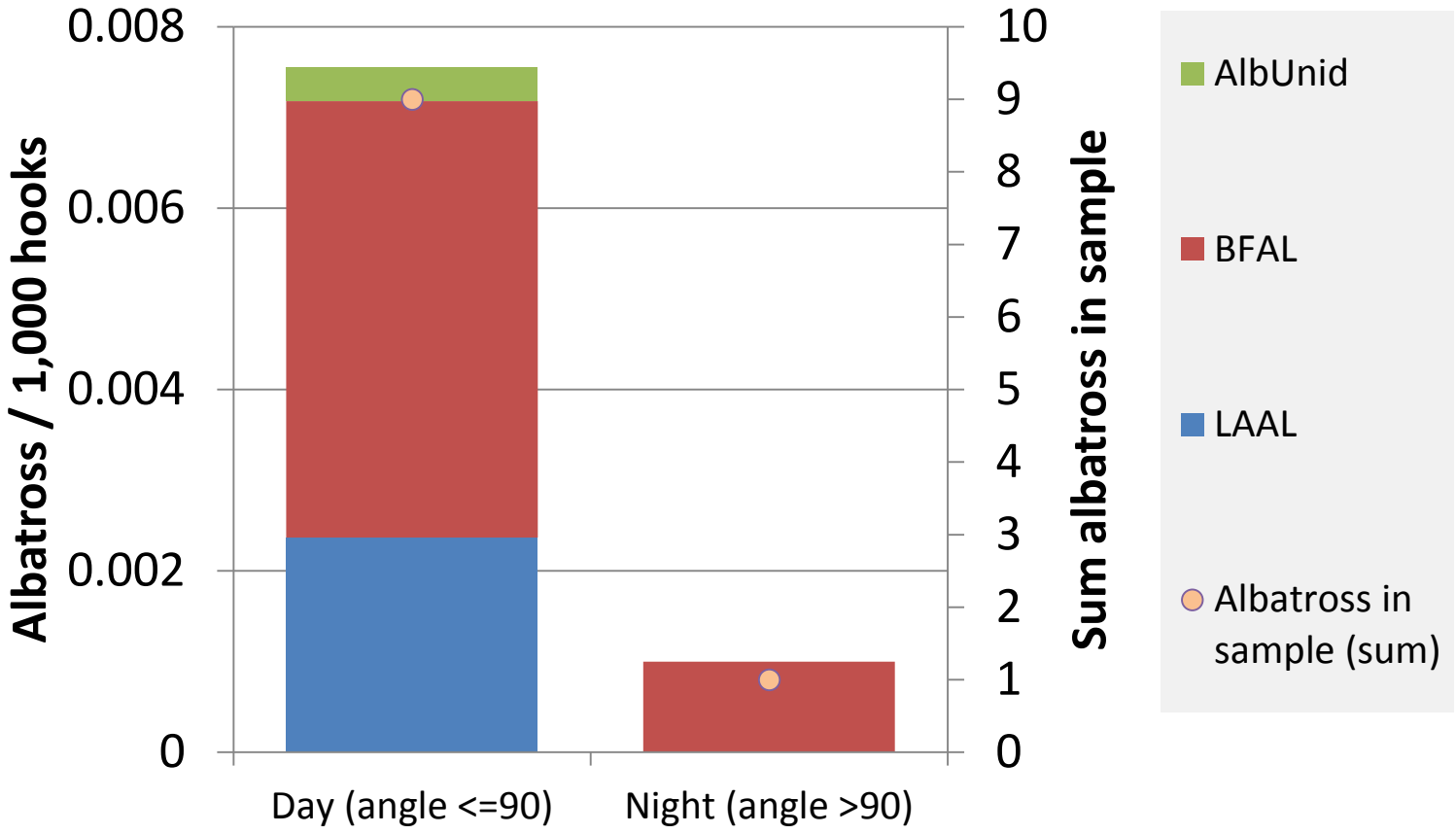
Night can be defined several ways



Civil, nautical, and astronomical twilight. The Sun is shown to scale.[2]

Day vs. Night Alaska 2013 Catcher Vessels

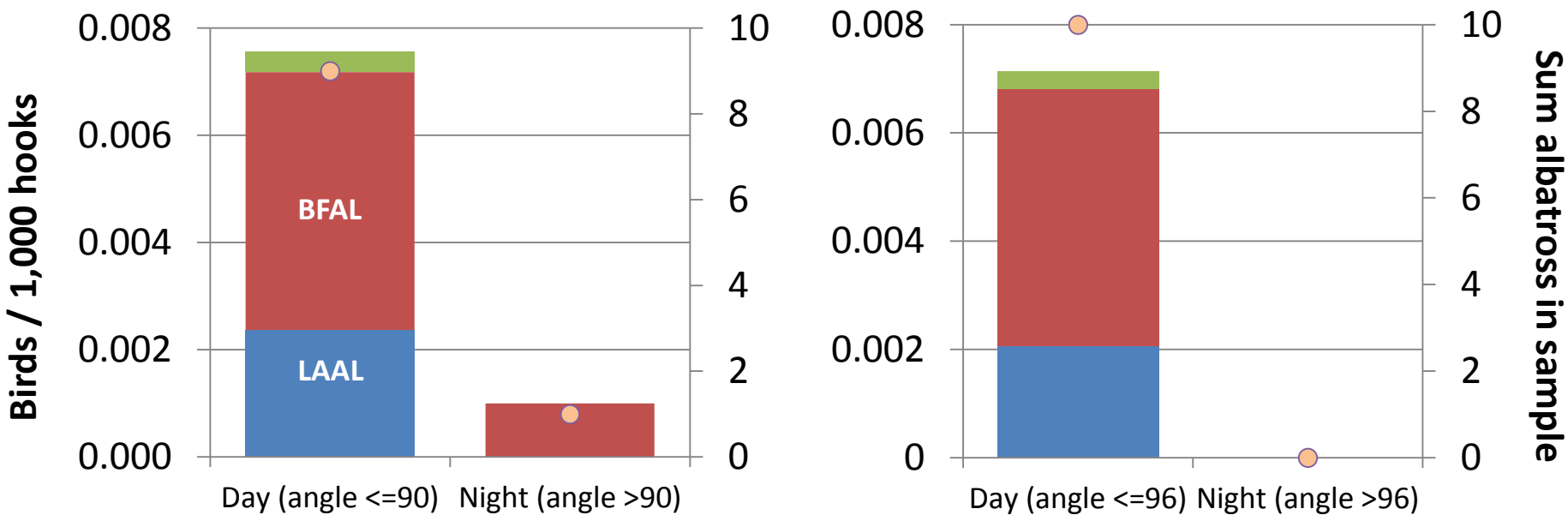
Night defined as Sunset to Sunrise



Albatross bycatch rates 6 times lower at night

Day vs. Night Alaska 2013 Catcher Vessels

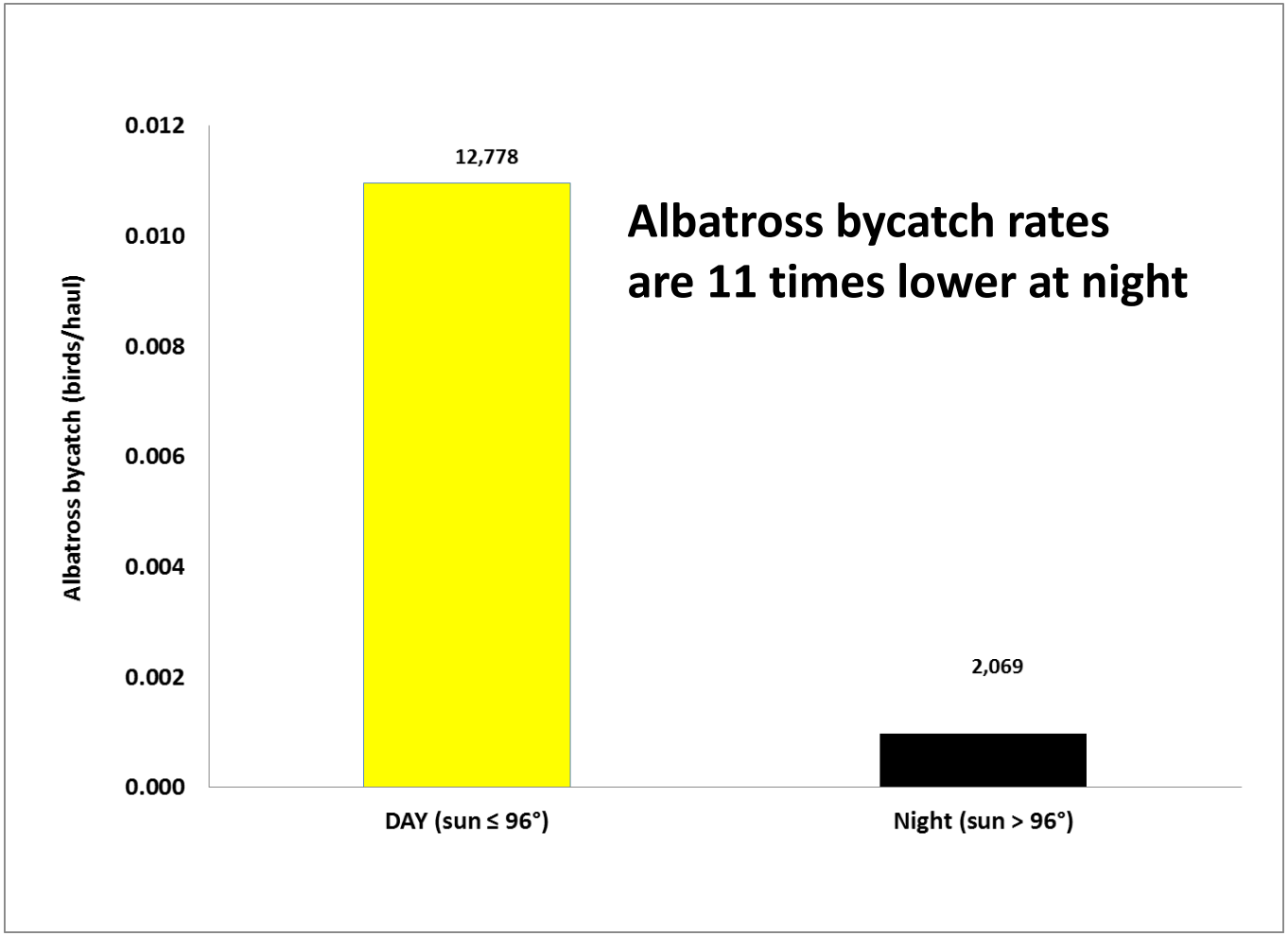
sunset to sunrise vs. civil twilight (6%)



Night albatross bycatch went to zero using civil twilight

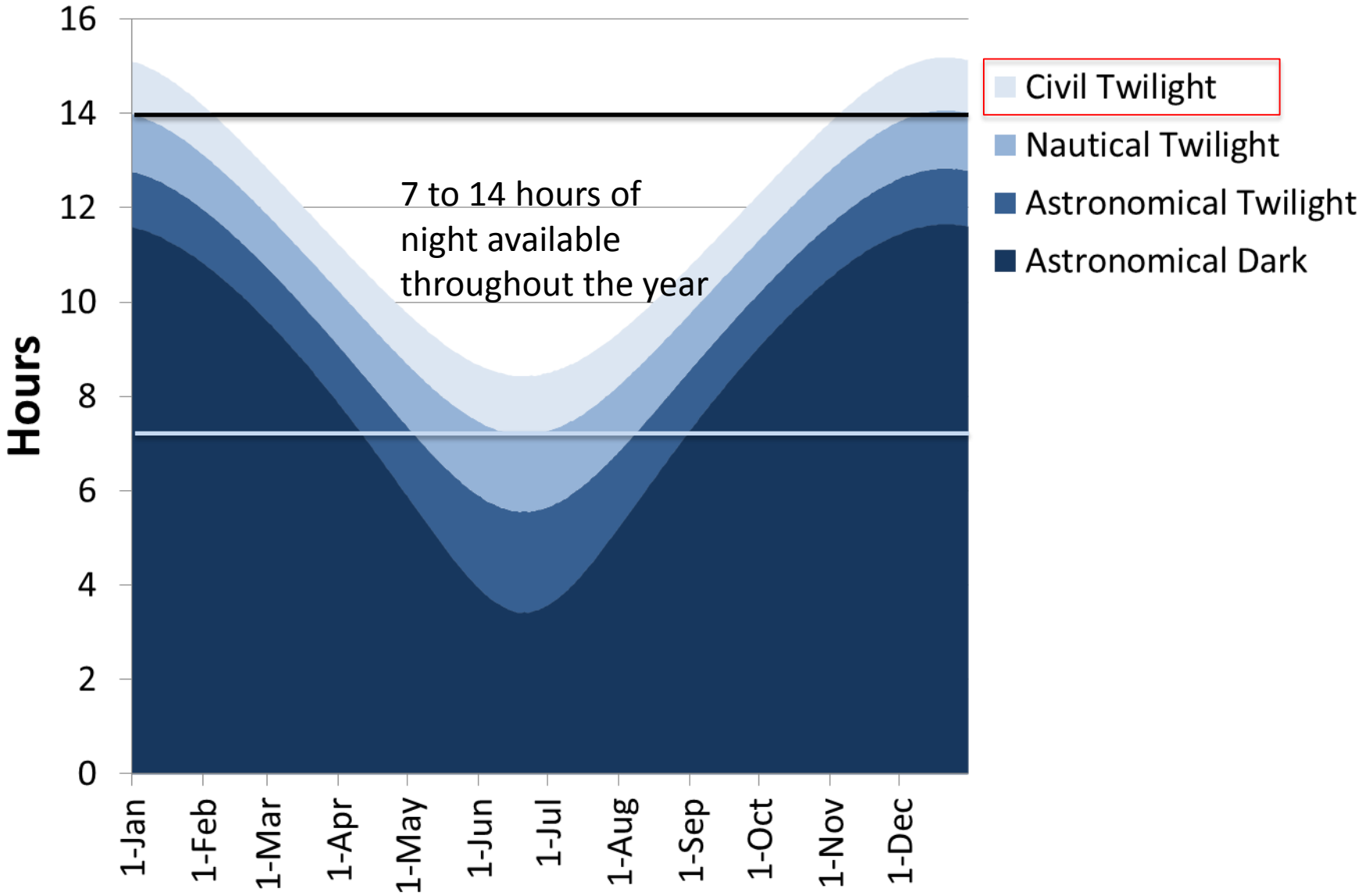
West Coast Preliminary OP Data

Night Defined by Civil Twilight (6°)



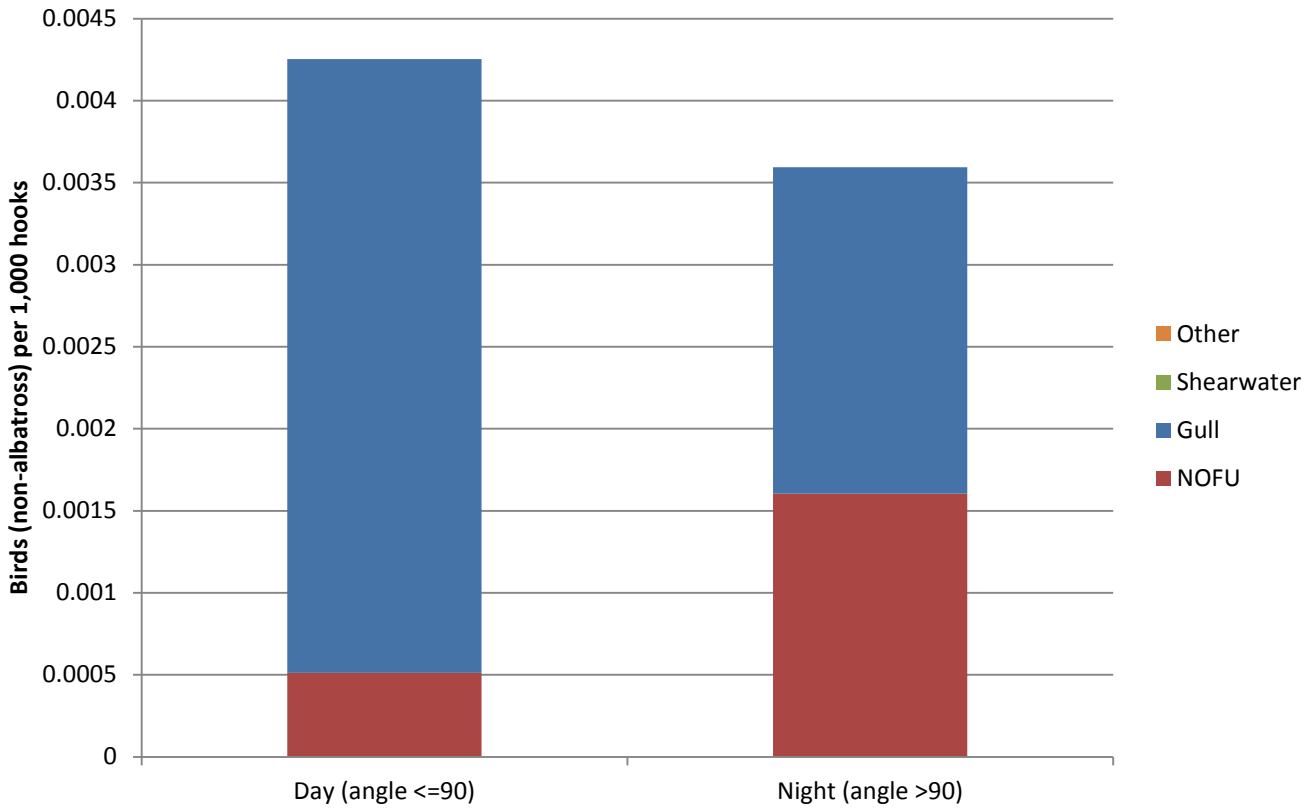
Source: Tom Good, NW Fisheries Science Center

Hours of Night in Newport, OR



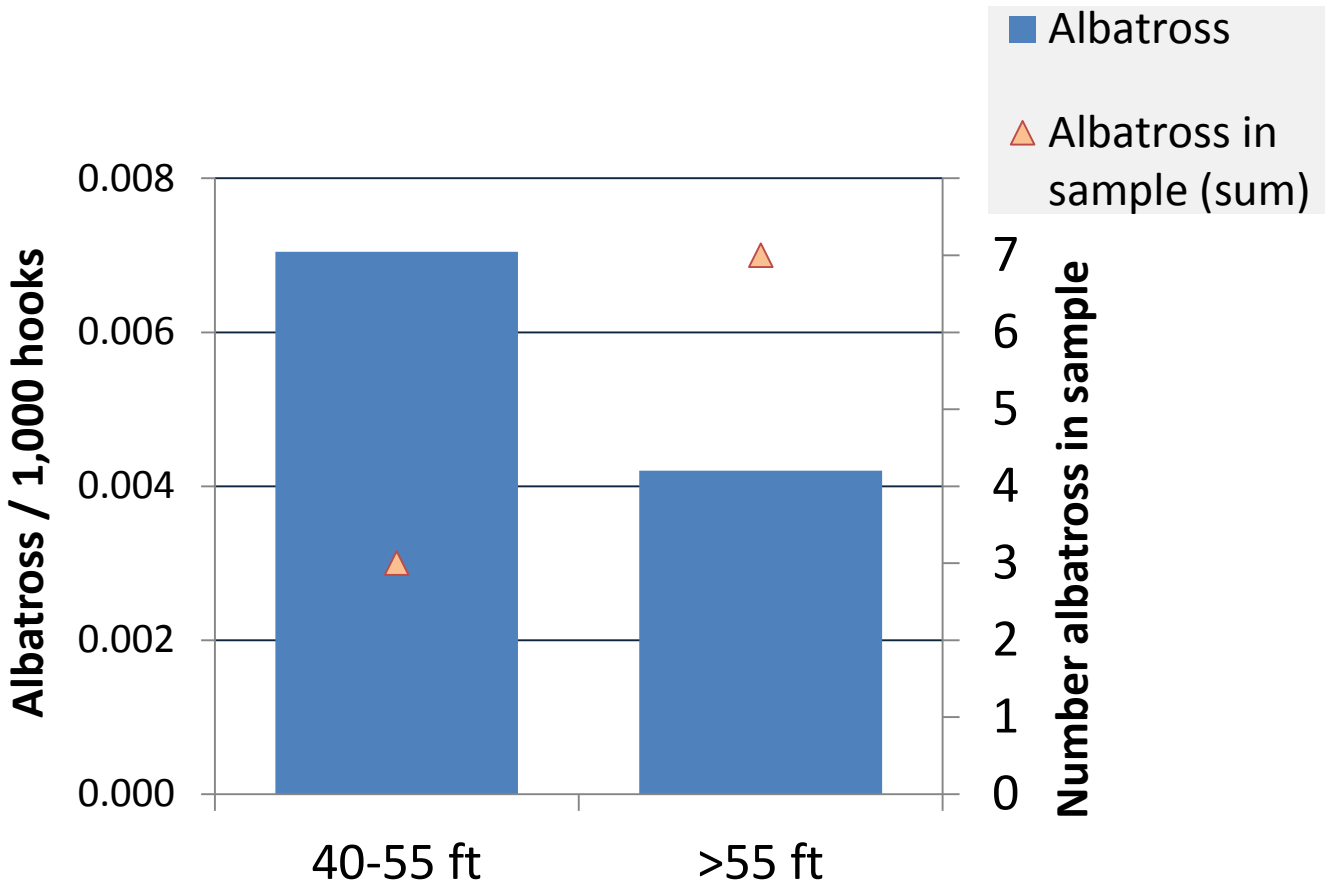
Non-Albatross 2013 Alaska CVs

Night as Sunset to Sunrise



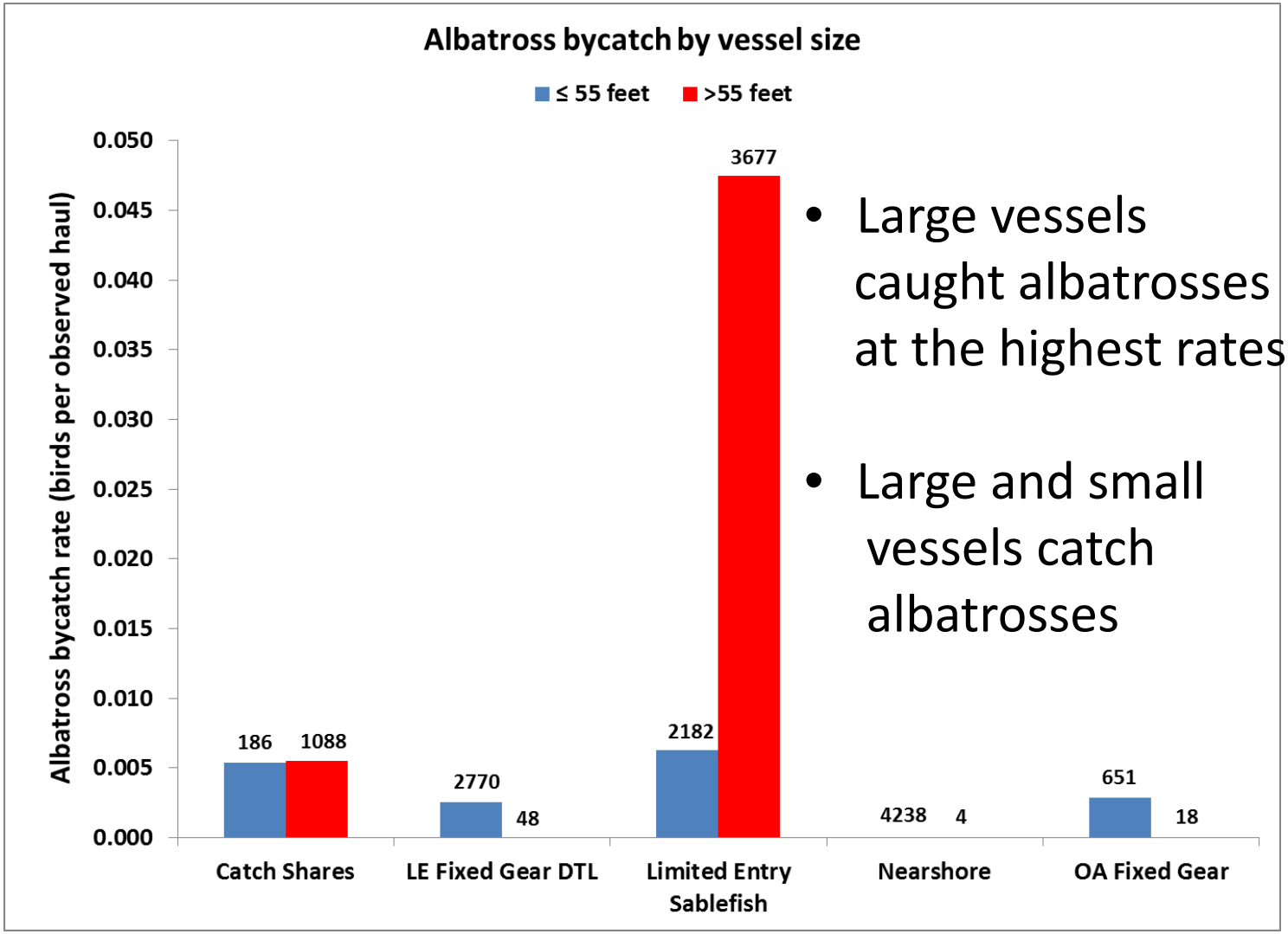
Bycatch rates of Northern fulmar 3 times higher at night

Albatross Rate by Vessel Length
Alaska Catcher Vessels 2013



Smaller vessels had a higher albatross bycatch rate Than larger vessels

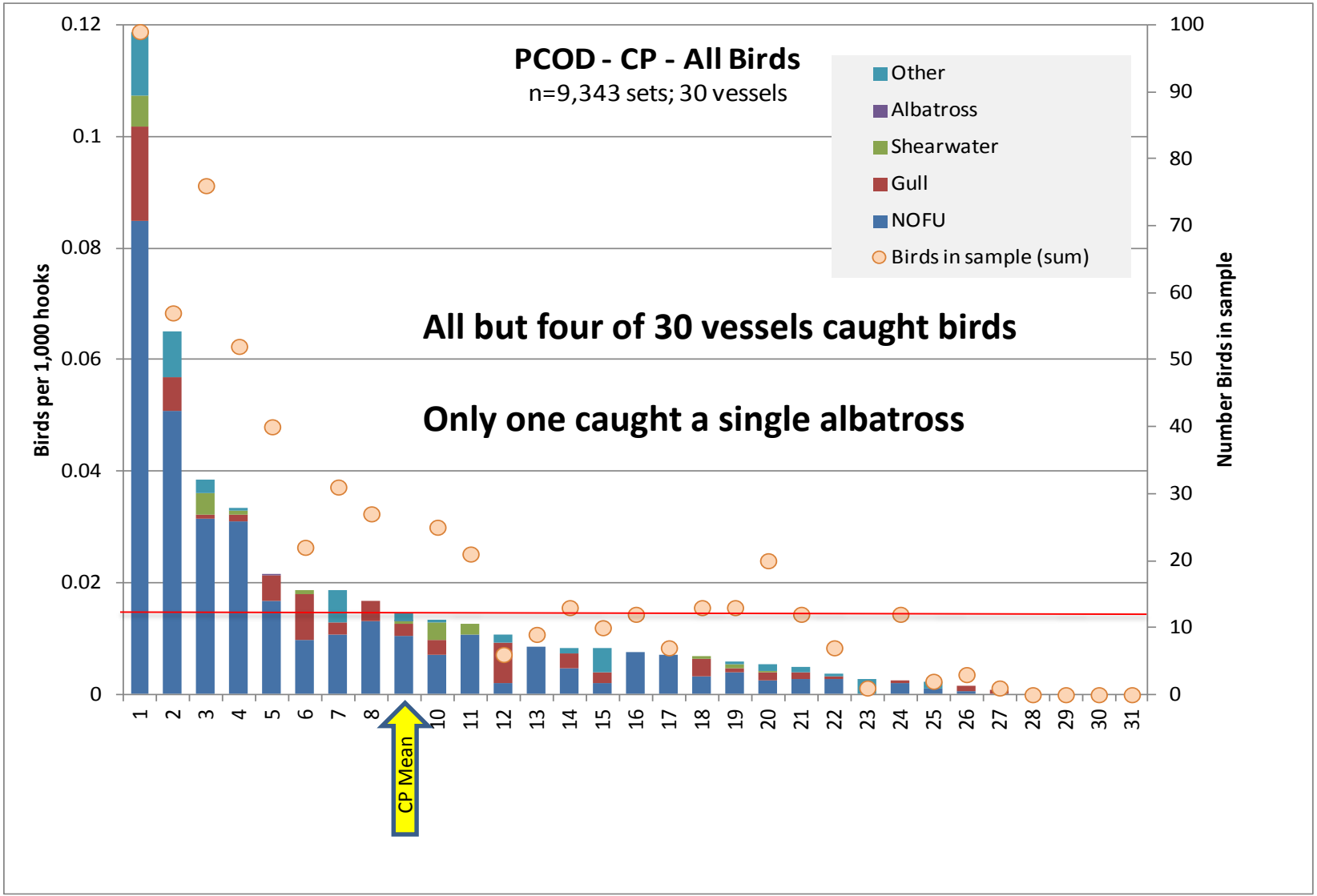
West Coast Preliminary OP Data



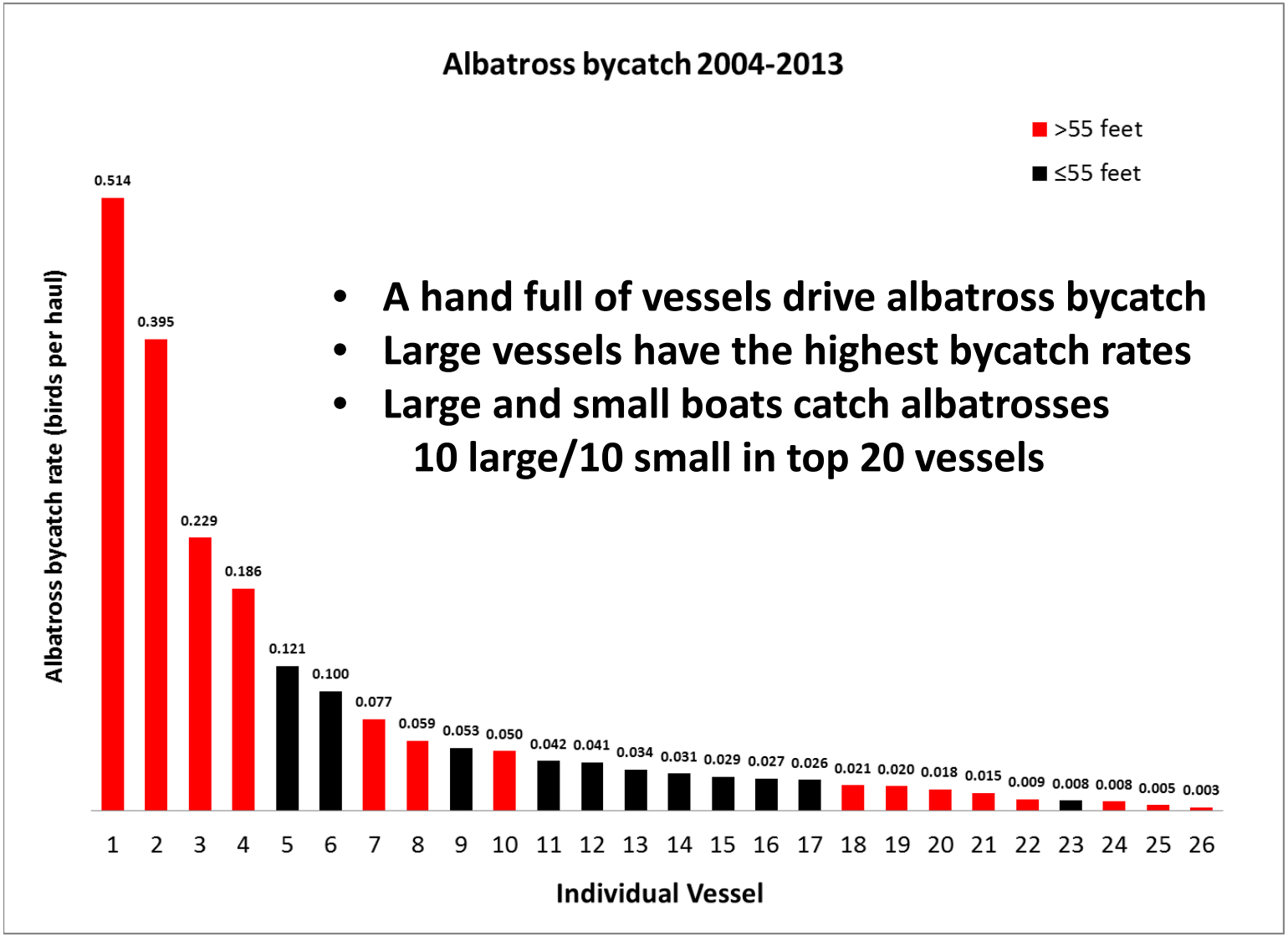
- Large vessels caught albatrosses at the highest rates
- Large and small vessels catch albatrosses

Source: Tom Good, NW Fisheries Science Center

Alaska Longline OP Data 2013



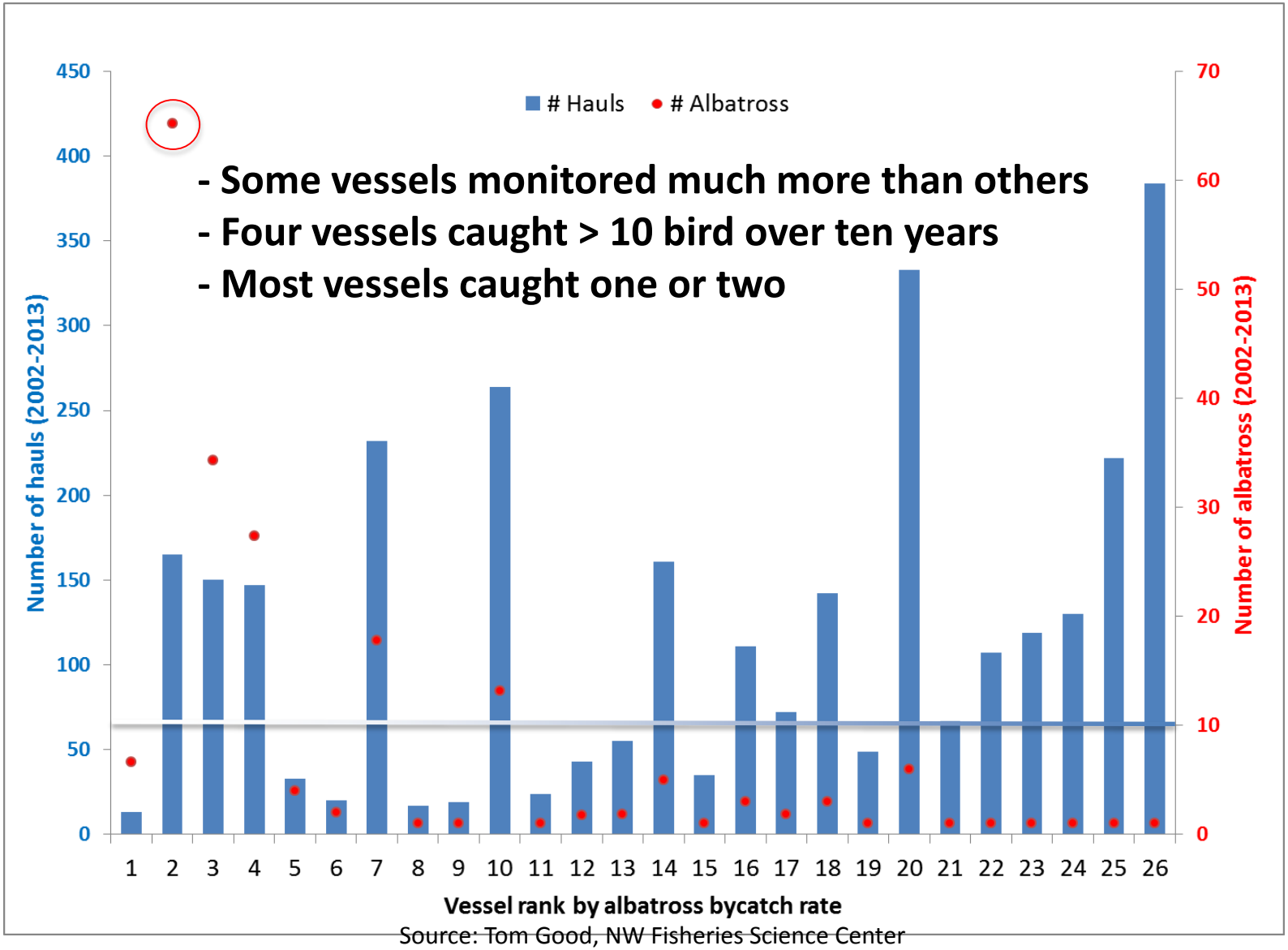
West Coast Preliminary OP Data



- **A hand full of vessels drive albatross bycatch**
- **Large vessels have the highest bycatch rates**
- **Large and small boats catch albatrosses**
  10 large/10 small in top 20 vessels

Source: Tom Good, NW Fisheries Science Center

West Coast Preliminary OP Data



Source: Tom Good, NW Fisheries Science Center

Fisheries Research 147 (2013) 222–234

Contents lists available at SciVerse ScienceDirect

Fisheries Research

journal homepage: www.elsevier.com/locate/fishres

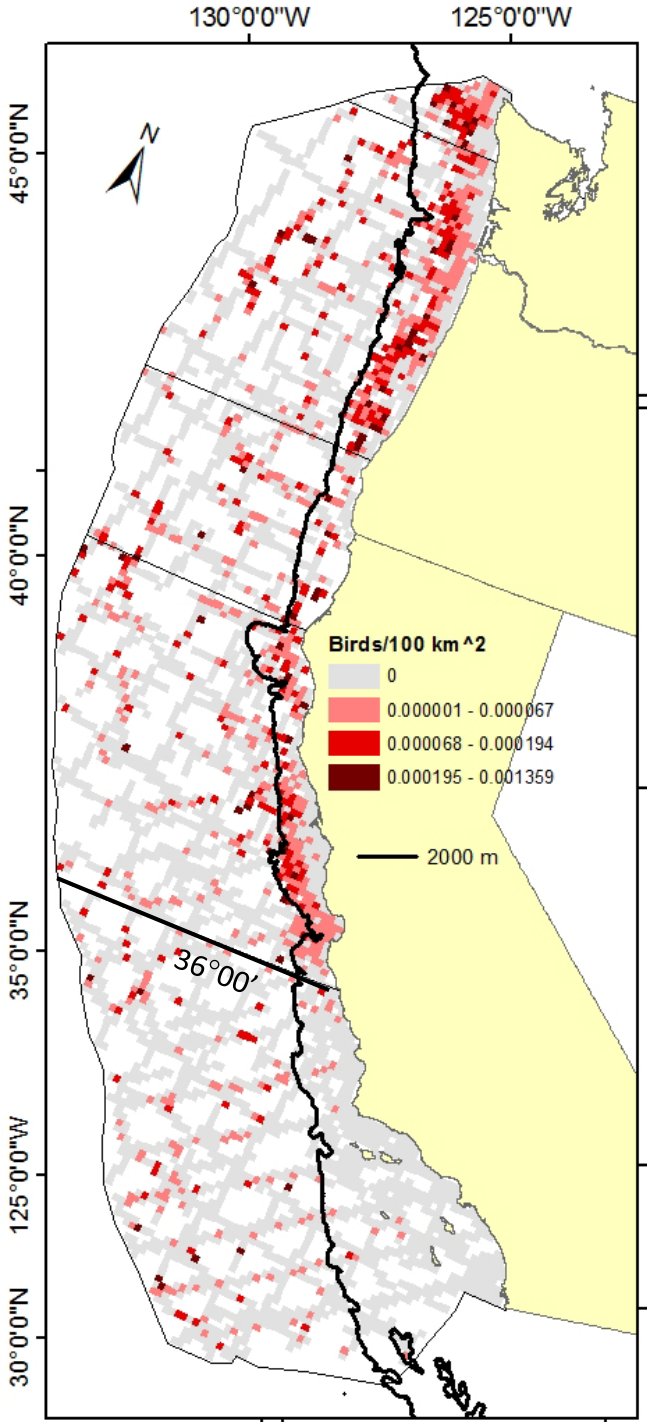
Overlap of North Pacific albatrosses with the U.S. west coast groundfish and shrimp fisheries

T.J. Guy[a,*], S.L. Jennings[a,1], R.M. Suryan[b], E.F. Melvin[a], M.A. Bellman[c], L.T. Ballance[d], B.A. Blackie[e,2], D.A. Croll[f], T. Deguchi[g], T.O. Geernaert[h], R.W. Henry[f], M. Hester[i], K.D. Hyrenbach[j], J. Jahncke[k], M.A. Kappes[f,3], K. Ozaki[g], J. Roletto[l], F. Sato[g], W.J. Sydeman[m], J.E. Zamon[n]

Map of Black-footed albatross

At-Sea Surveys (2005 -2008)

- Most abundant albatross
  - 4075 recorded
- Majority are located
  - north of 36° N latitude (99%)
  - along the shelf break
- Other Albatross
  - Laysan uncommon (not shown)
    - 184 recorded
    - 75% outside of 2000m contour
    - Throughout EEZ
  - Short-tailed rare (2 recorded/not shown)



Map of Satellite Tracked Albatrosses (1998-2010)

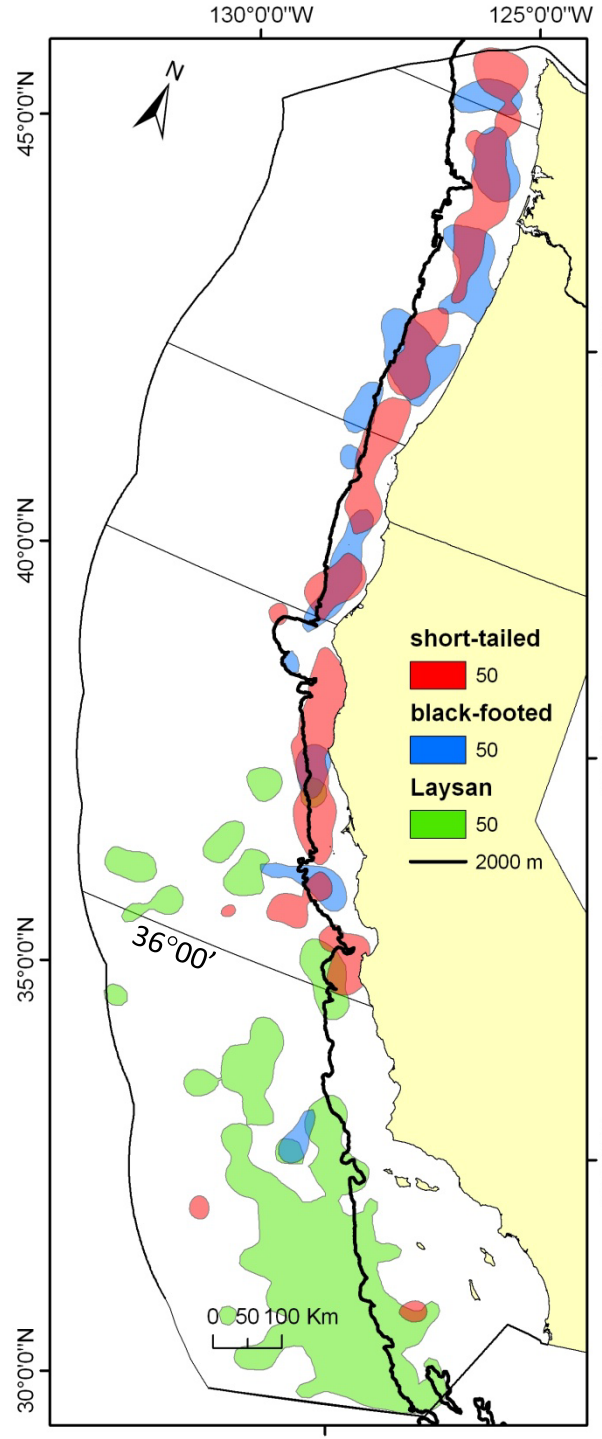
Map of 50% kernel density distributions

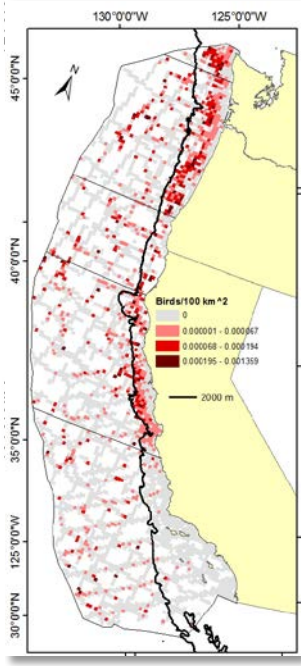
Most black-footed and short-tailed albatrosses

- North of 36°
- Along the shelf break

Most Laysan

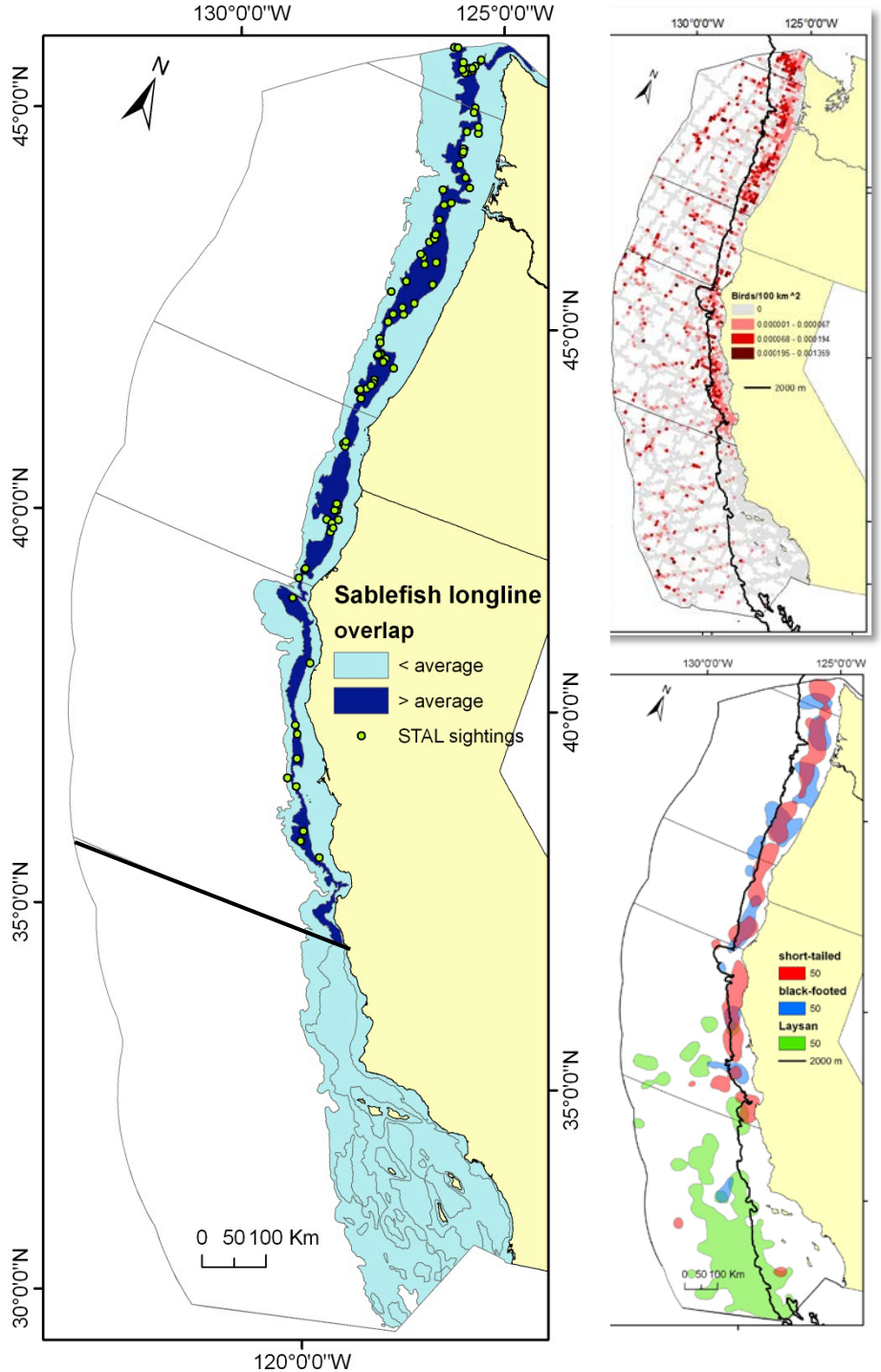
- South of 36°
- Outside of the shelf break





Overlap of Opportunistic short-tailed sightings 2002 -2010 from the Observer Program with Footprint of the sablefish Longline fishery

STAL count = 114



Overlap – Longline

(albatross density x fisheries effort)

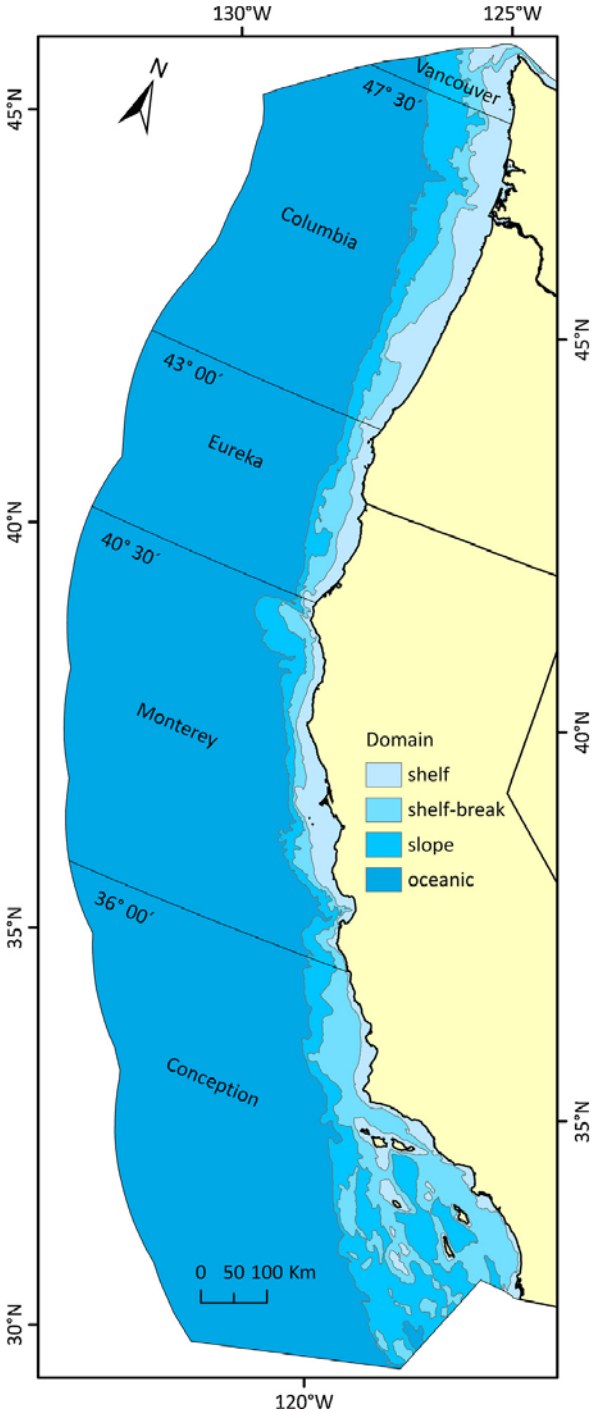
Red above average, yellow below average

Management Area	Longline (10,000 bird hooks/km2)					
	Sablefish longline			Near-shore longline		
	Shelf	Break	Slope	Shelf	Break	Slope
Vancouver	99.43	1575.01	2.90			
Columbia	46.60	2118.77	11.64	48.78		
Eureka	0.23	504.06	0.00	55.37		
Monterey	0.62	261.28	53.83	55.11		
Conception		20.80	0.02			

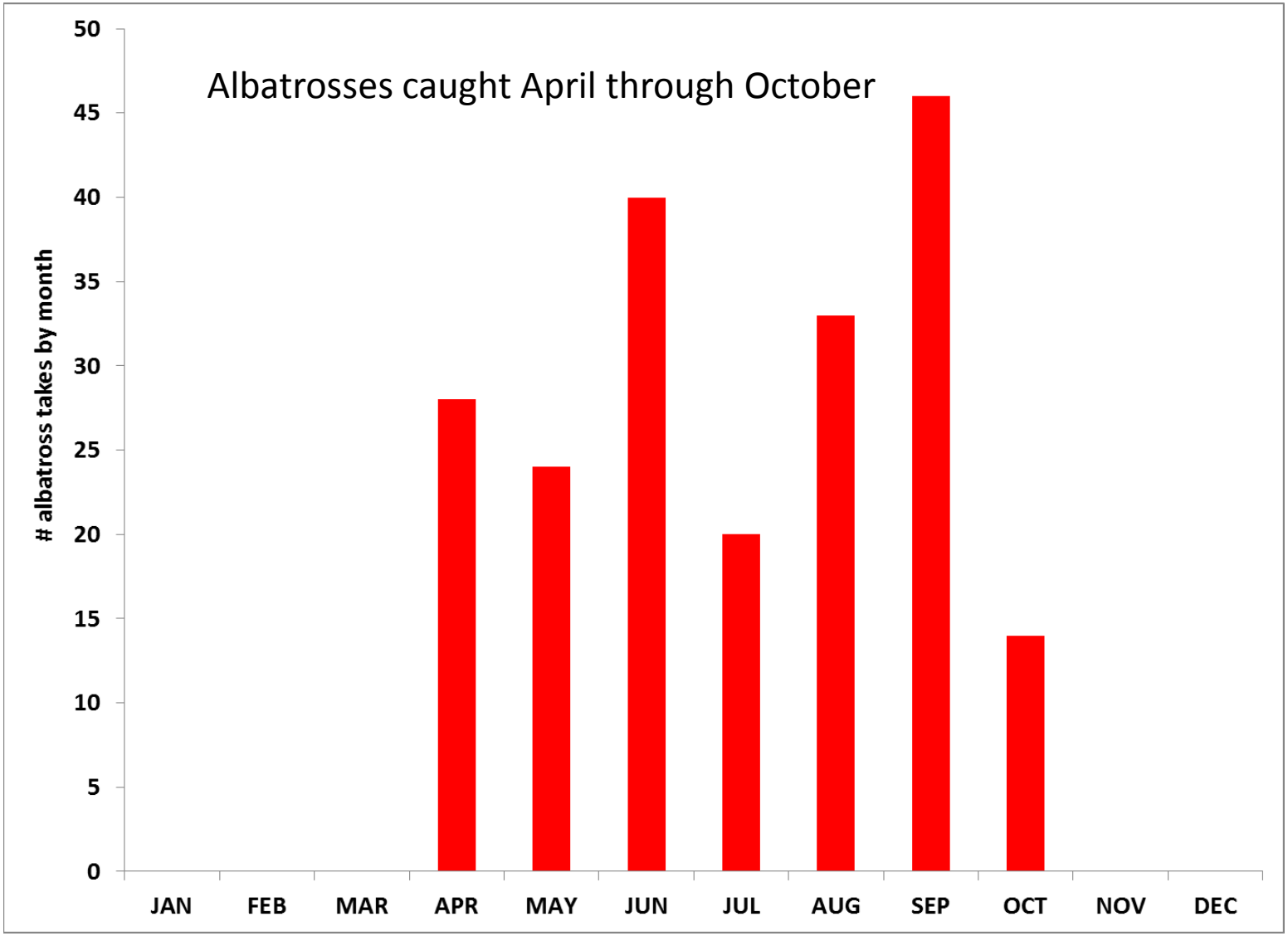
Highest overlap north of 36° along the shelf break

INFPC Management Area	# albatross mortalities
Vancouver	40
Columbia	132
Eureka	14
Monterey	12
Conception	6

Source: Tom Good, NW Fisheries Science Center



West Coast Preliminary OP Data



Source: Tom Good, NW Fisheries Science Center

Only a small proportion of the limited entry sablefish fleet are vessels >55’

172 Permits, >75 vessels

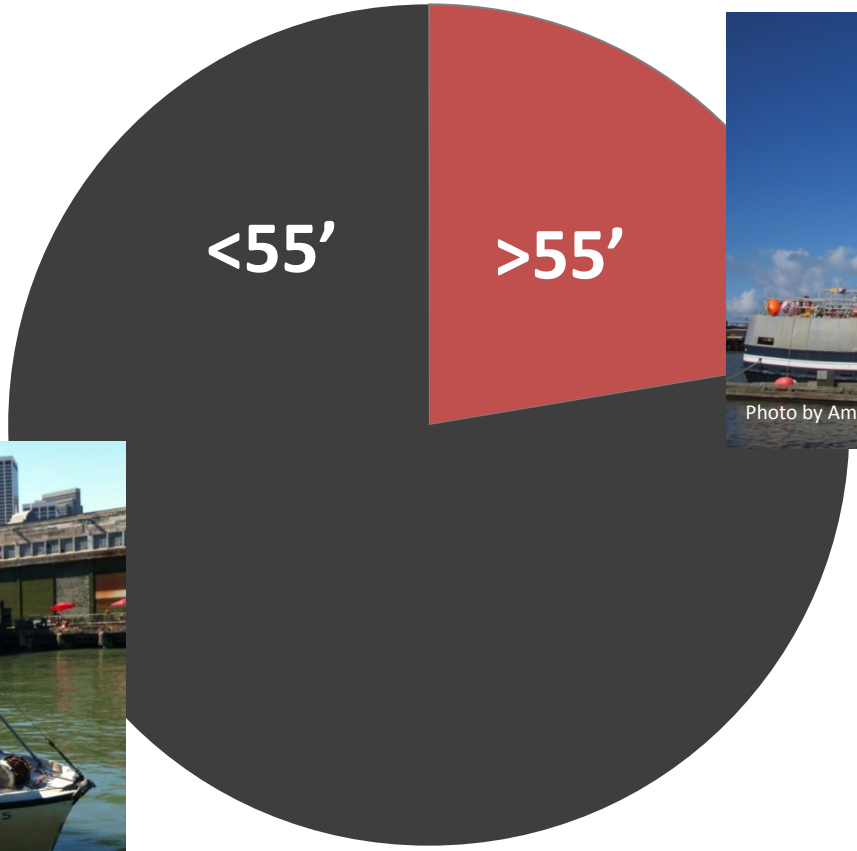
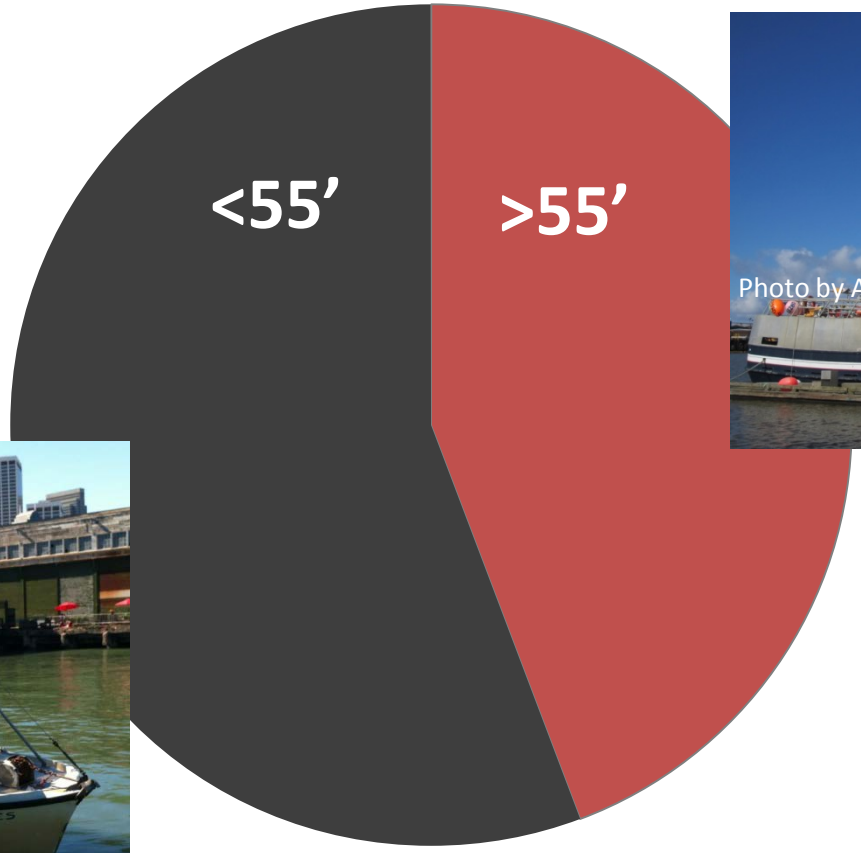


Photo by Amanda Gladics

Photo by Troy Guy

The allowed catch is split evenly between vessels above and below 55’

% of allowed catch



Is the pending seabird bycatch avoidance requirement appropriate for larger vessels (55 feet and longer)?

Available Evidence:

- AK SL specifications are likely to prevent seabird takes on vessels using gear without floats regardless of vessel size
- Unlikely to fully protect floating gear
- Large vessels have the highest bycatch rates over 10 years of observation.
- No evidence that large vessels can't use two SLs

Feedback: No disagreement

Should streamer lines be voluntary or required for small vessels (< 55 feet)?

Available Evidence:

- Over 75% of limited entry permits and over 50% of allowed catch are to small vessels;
- Small vessels catch albatrosses;
- Rates lower than that of larger vessels in most cases, but 10 of 20 in the top ten of APUE;
- No evidence that small vessels with mast, poles or rigging can't use streamer lines.

Feedback: Small vessels should be required to use at least one streamer line but provide some flexibility.

Should night fishing be an option? definition of night? How would it pertain to the streamer line requirement or gear with floats?

Available Evidence:

- Albatross CPUE was 11x less at night using civil twilight as a definition of night (based on OP data);
- Similar to results from AK longline in 2013
- 7 n to 14 hours of "night" available throughout the year.
- Feedback:
  - Define night as a number of minutes before and after sunset and sunrise as in hunting regulations
  - Some in favor of requiring those using floating gear to fish at night
  - Others favor the option of using streamer lines or setting gear at night

Should policy take special action to address the vessels with poor performance

Available Evidence:

- Most vessels monitored catch few albatrosses;
- Albatross bycatch numbers for WC and AK are driven by a small number of vessels.
- Many bycatch prevention schemes for other species have provisions for individual vessel accountability.

Feedback: poor performing vessels should be notified of their relative performance and observed at a higher level or penalized in some way.

Where and when should avoidance measures be required?

Available Evidence:

- Black-footed and short-tailed albatross:
  - Most occur North of 36°N (tracking, at sea surveys and opportunistic sightings);
  - Overlap with sablefish fishery high from Monterey, North along the shelf break;
  - Most bycatch documented north of ~ 36°N
  - Bycatch occurs from April through October

<u>Feedback</u>: few comments

Thank you

Englund Marine
LFSI
FVOA
WCGOP
NOAA Fisheries Staff
NOAA Northwest Fishery Science Center
David and Lucille Packard Foundation
National Fish and Wildlife Foundation
NOAA Northwest Region

Alrita
Augustine
Blackhawk
Celtic Aire
Eagle III
High Hopes
Top Gun
Grizzly
Pacific Hustler

Photo by Amanda Gladics