NOAA FISHERIES
Alaska Region

Alaska Groundfish and Halibut Seabird Working Group

Update

Presented by Anne Marie Eich (NMFS) and Liz Labunski (USFWS)

April 2019

Outline

- 2010 – 2018 Seabird Bycatch Estimates

- Alaska Groundfish and Halibut Seabird Working Group

Seabird Occurrence on Fishing Grounds off Alaska

Albatross Species in Alaska

- Laysan Albatross

- Black-footed Albatross

- Short-tailed Albatross

Short-tailed Albatross

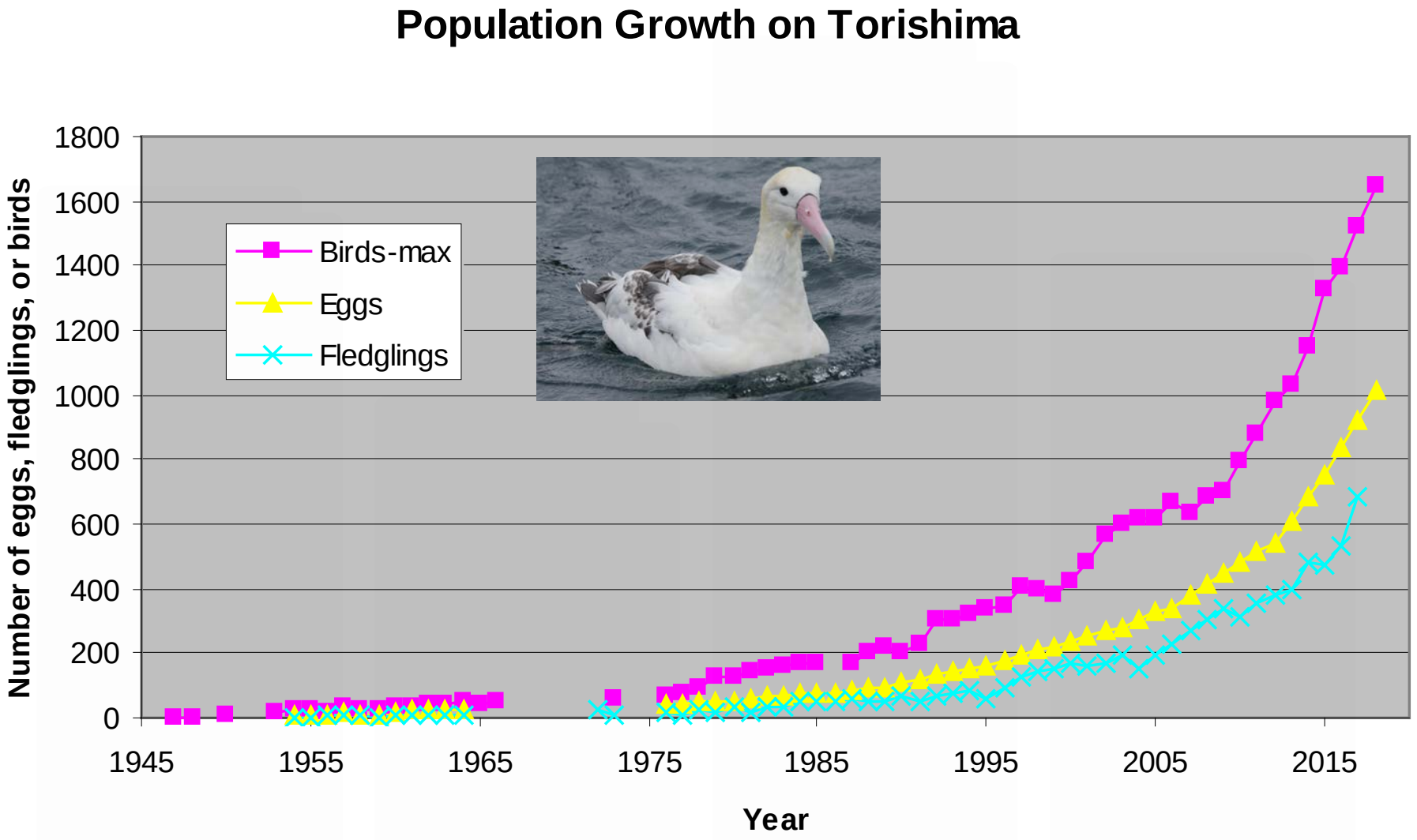
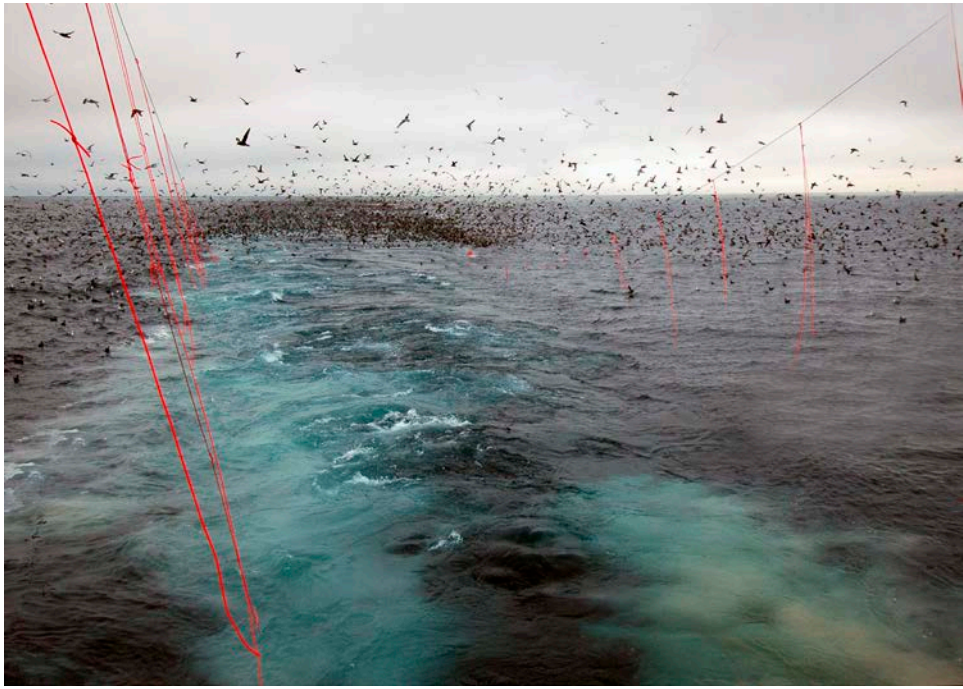


Photo credits: Rob Suryan, Oregon State University

Seabirds

- Attracted to offal discharge
- Most vulnerable to gear interactions during gear deployment
- Deterred by streamer lines



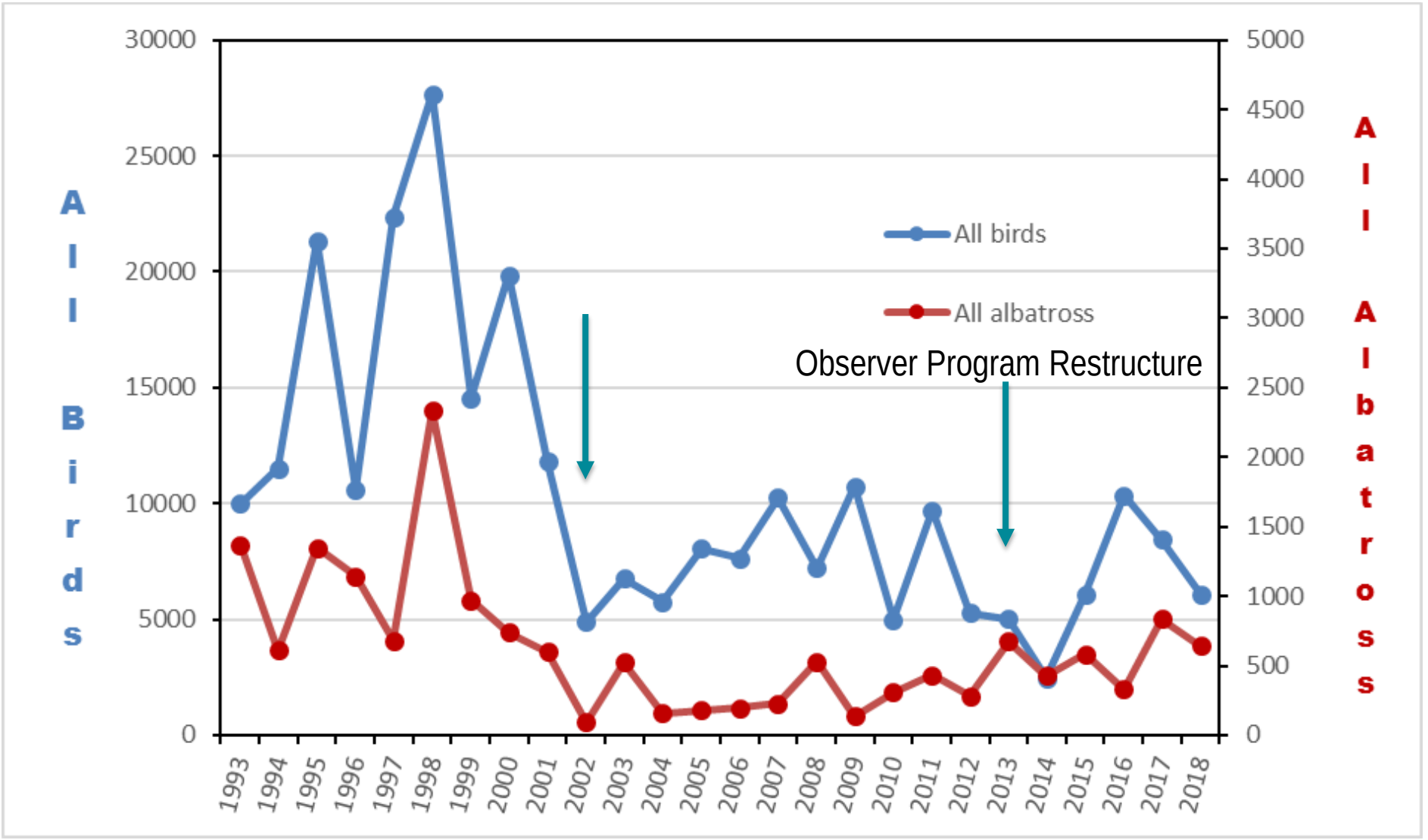
Seabird Bycatch Estimates

- Hook-and-line, trawl, and pot gear
- BSAI and GOA

Species/Species Group	2010	2011	2012	2013	2014	2015	2016	2017	2018	Annual Average
Unidentified Albatrosses	0	10	0	28	35	0	0	0	58	15
Short-tailed Albatross	15	5	0	0	11	0	0	0	0	3
Laysan Albatross	223	208	141	200	99	221	131	47	284	173
Black-footed Albatross	72	211	142	449	284	364	201	790	300	313
Northern Fulmar	2,472	6,337	3,148	3,197	822	3,546	5,452	4,441	3,290	3,634
Shearwaters	657	264	585	253	187	392	3,416	2,082	780	957
Storm Petrels	0	0	0	0	0	0	0	0	197	22
Gulls	1,176	2,258	898	583	742	1,265	758	680	782	1,016
Kittiwakes	0	6	5	3	4	12	5	22	30	10
Murres	102	14	6	3	47	0	58	10	0	27
Puffins	9	0	0	0	0	0	10	0	0	2
Auklets	0	0	7	4	107	69	29	36	103	39
Other Alcids	0	0	0	0	39	0	0	0	5	5
Cormorants	0	0	0	0	0	31	0	0	0	3
Other Birds	0	0	0	0	0	0	0	63	0	7
Unidentified Birds	270	387	343	295	78	193	301	279	245	266
Grand Total	**4,996**	**9,700**	**5,275**	**5,015**	**2,455**	**6,093**	**10,361**	**8,450**	**6,074**	**6,491**

Notes: Observer Program was restructured in 2013. 2018 data are preliminary.

Seabird Bycatch



Conservation Biology

DOI: 10.1111/cobi.13288

Contributed Paper

Lessons from seabird conservation in Alaskan longline fisheries

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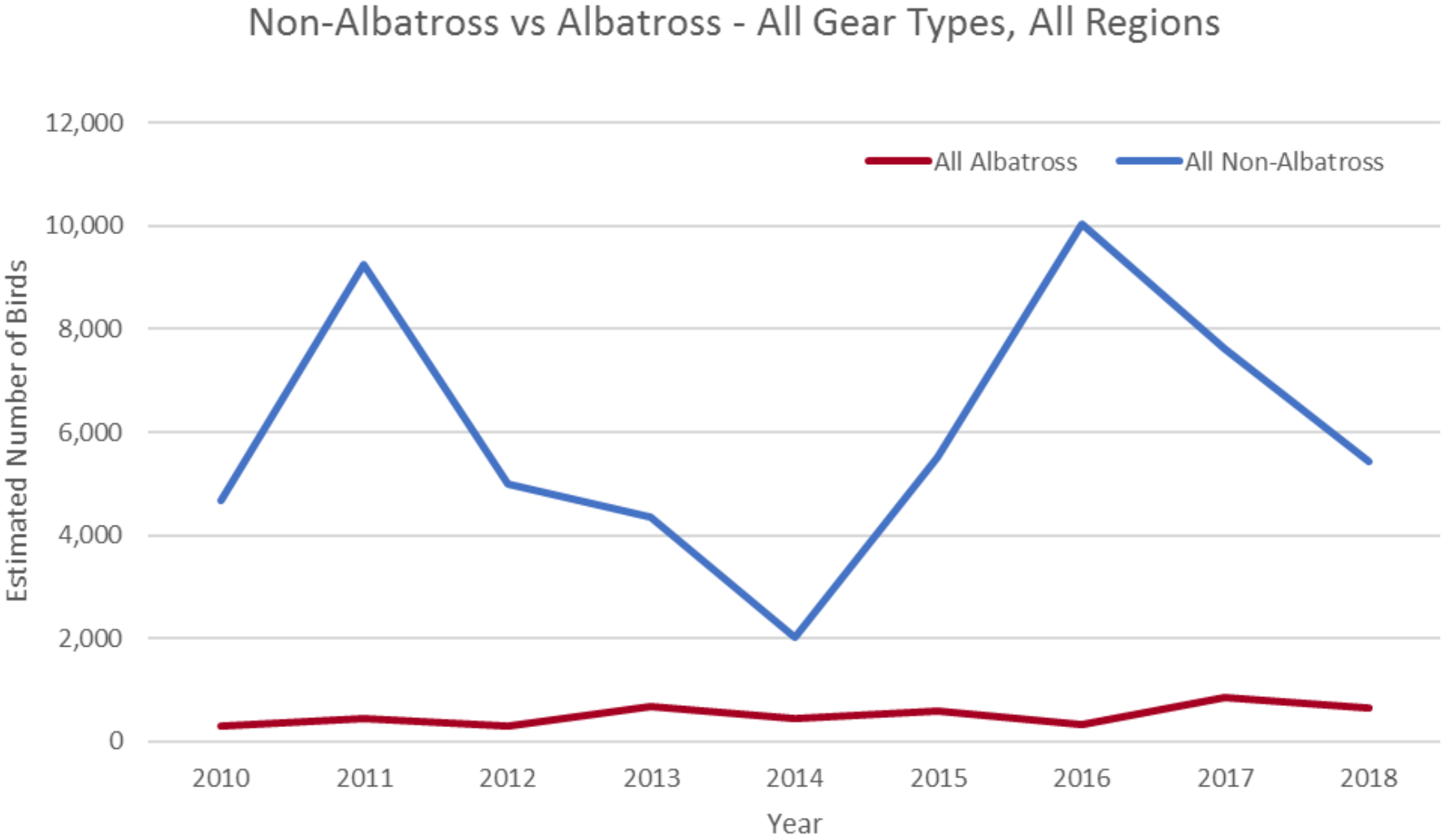
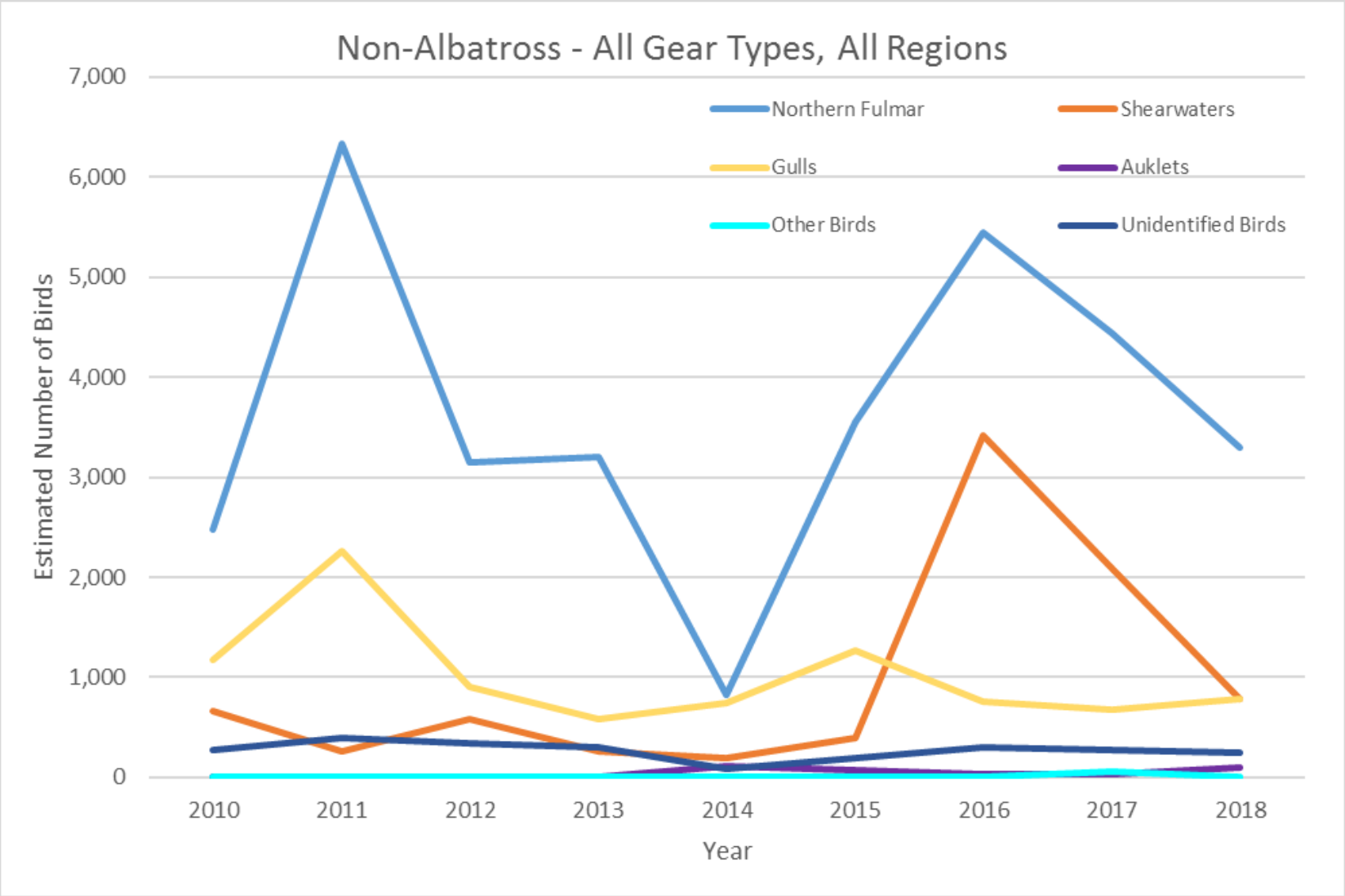
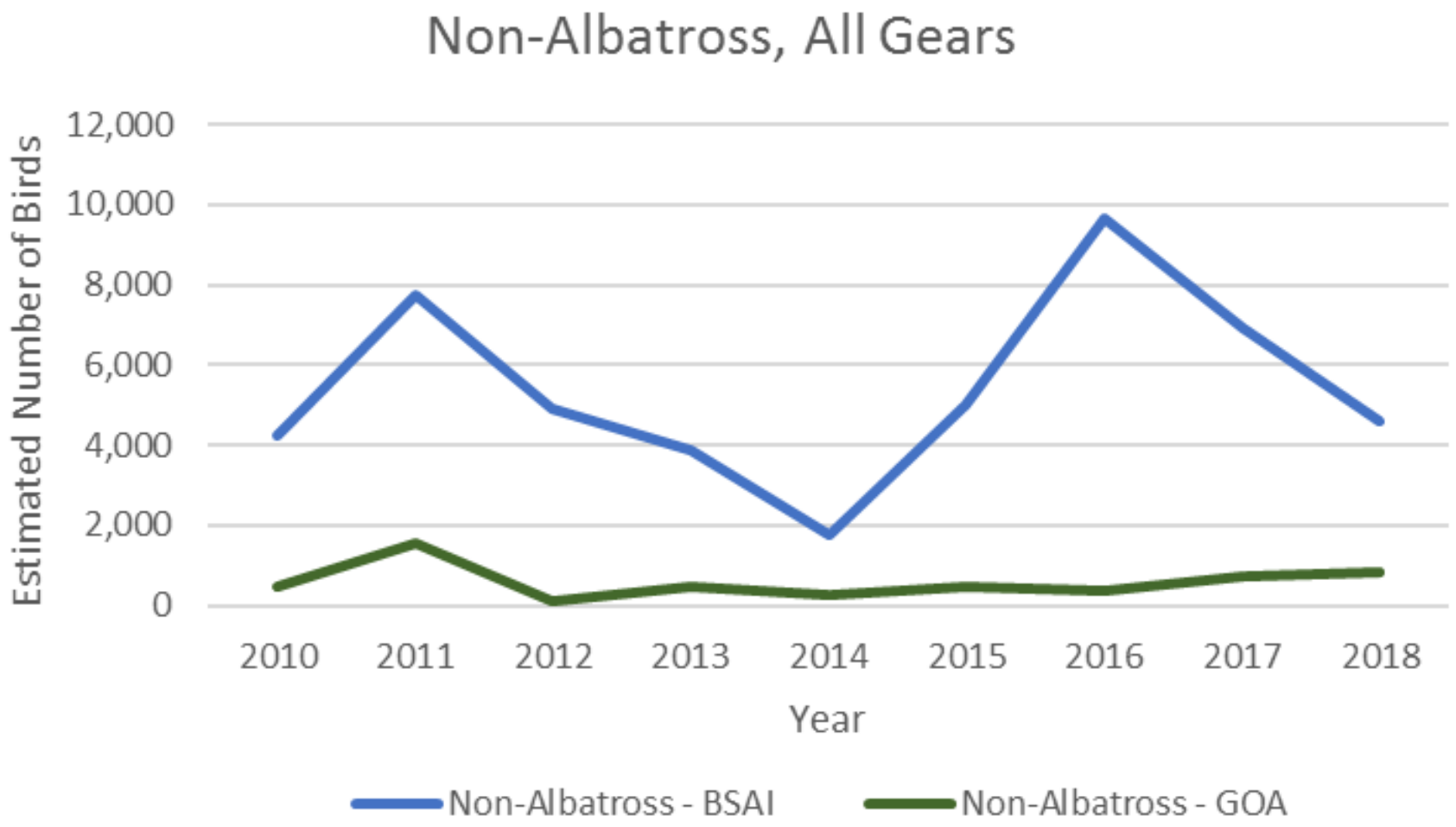
Seabird Bycatch



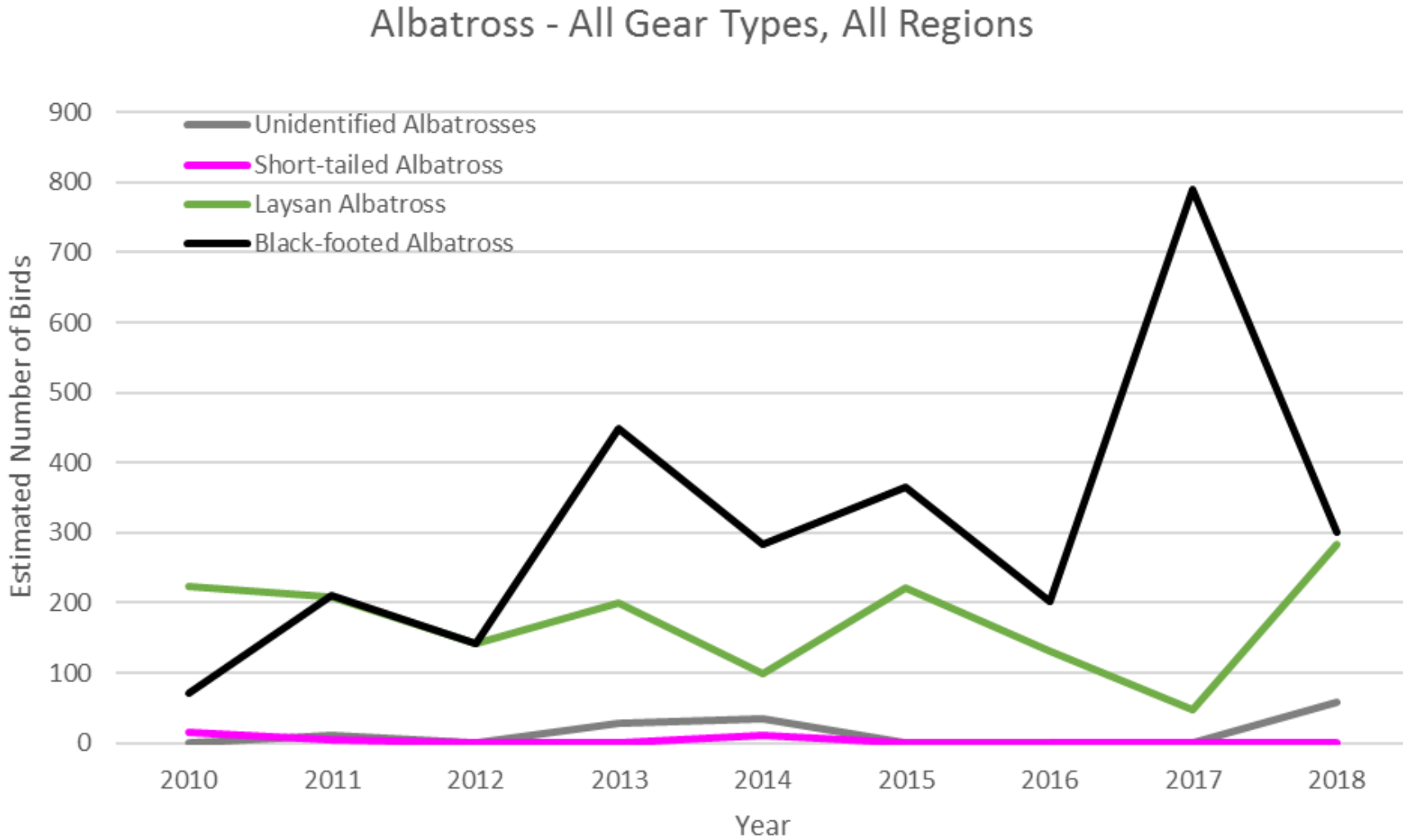
Non-Albatross Bycatch



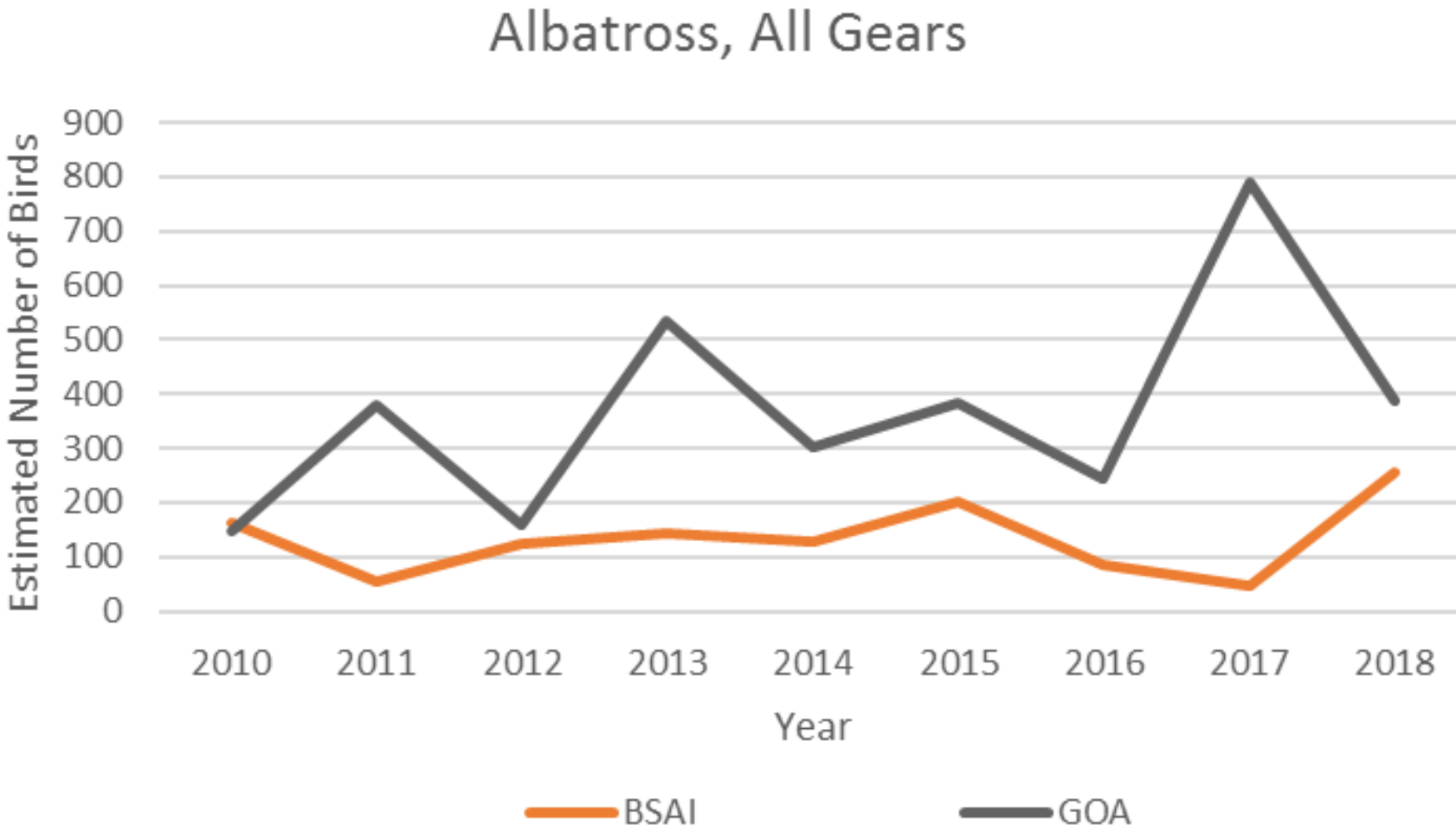
Non-Albatross Bycatch, by Location



Albatross Bycatch

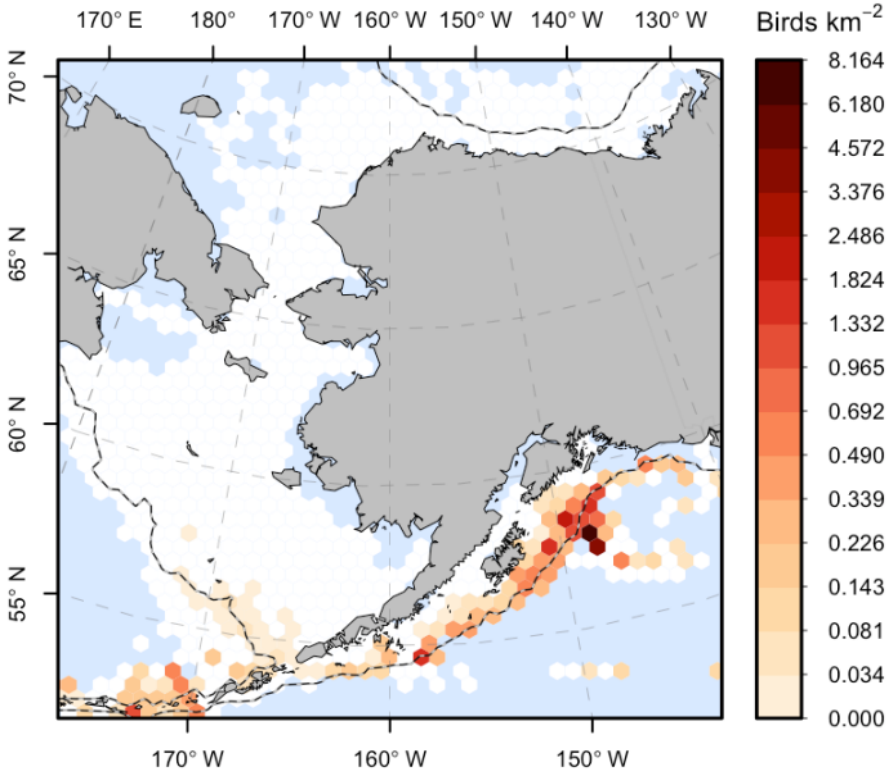


Albatross Bycatch, by Location

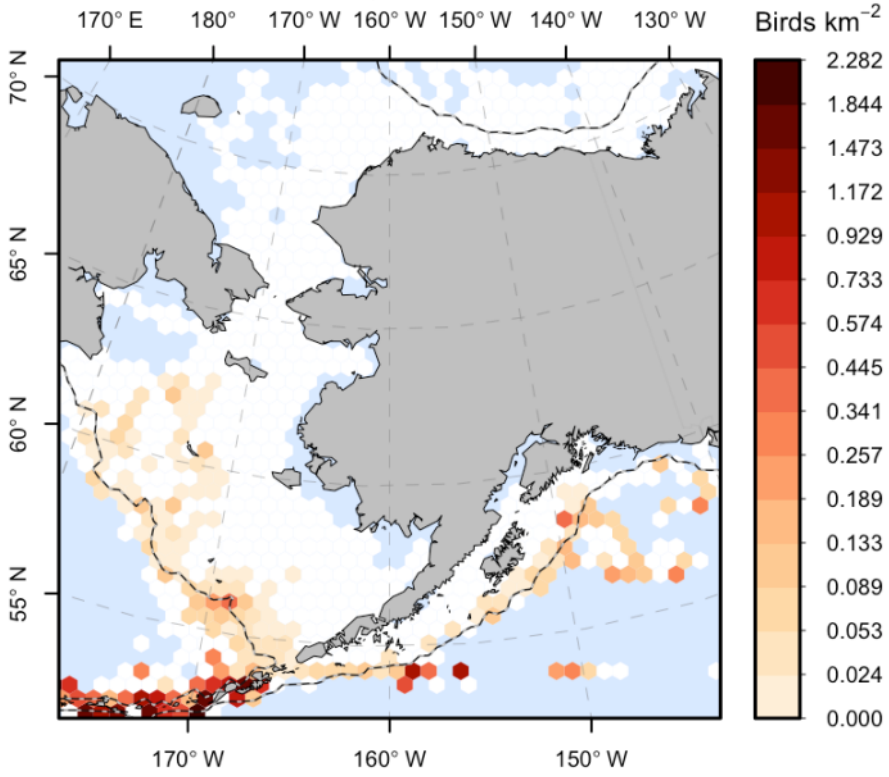


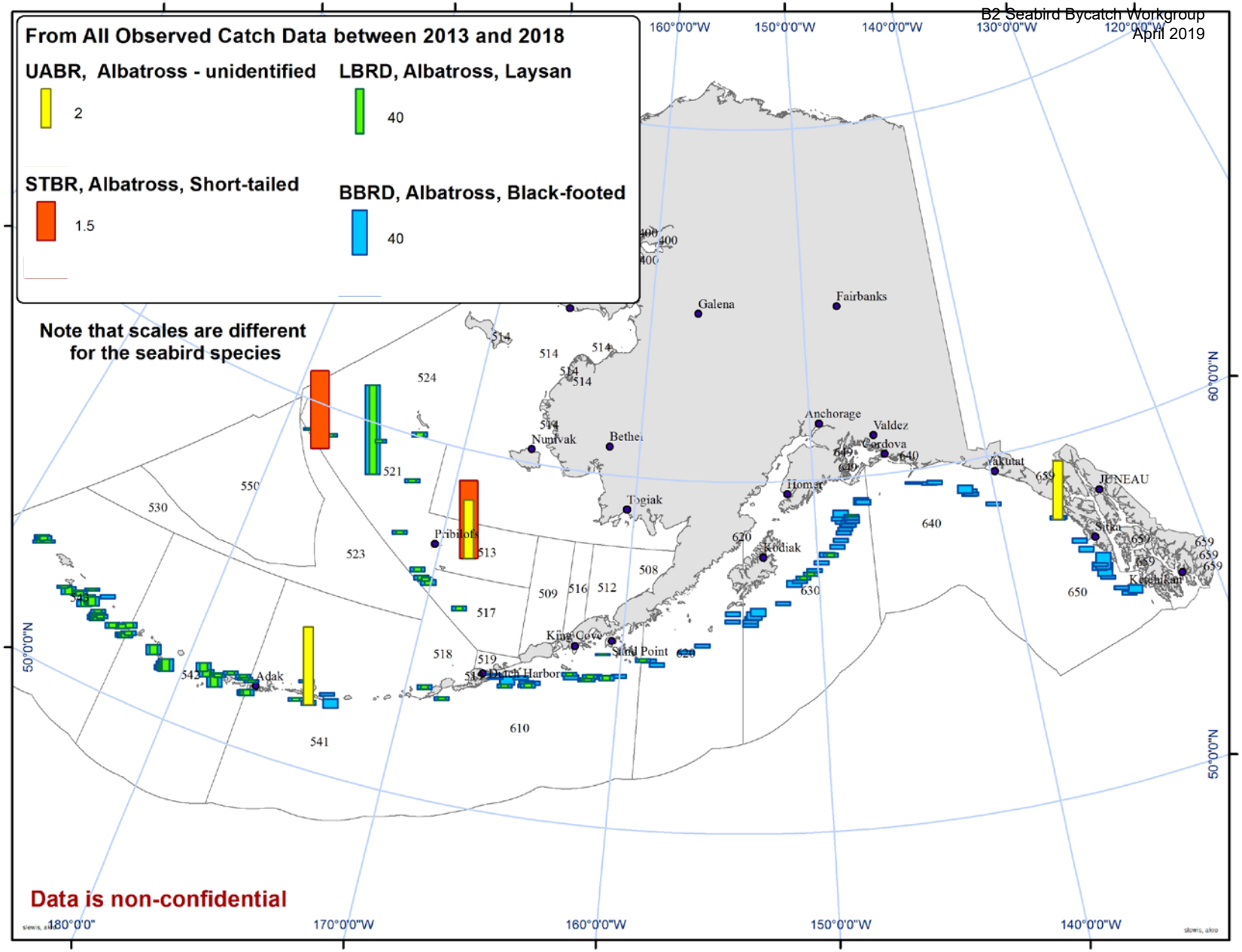
Albatross Distribution

Black-footed Albatross

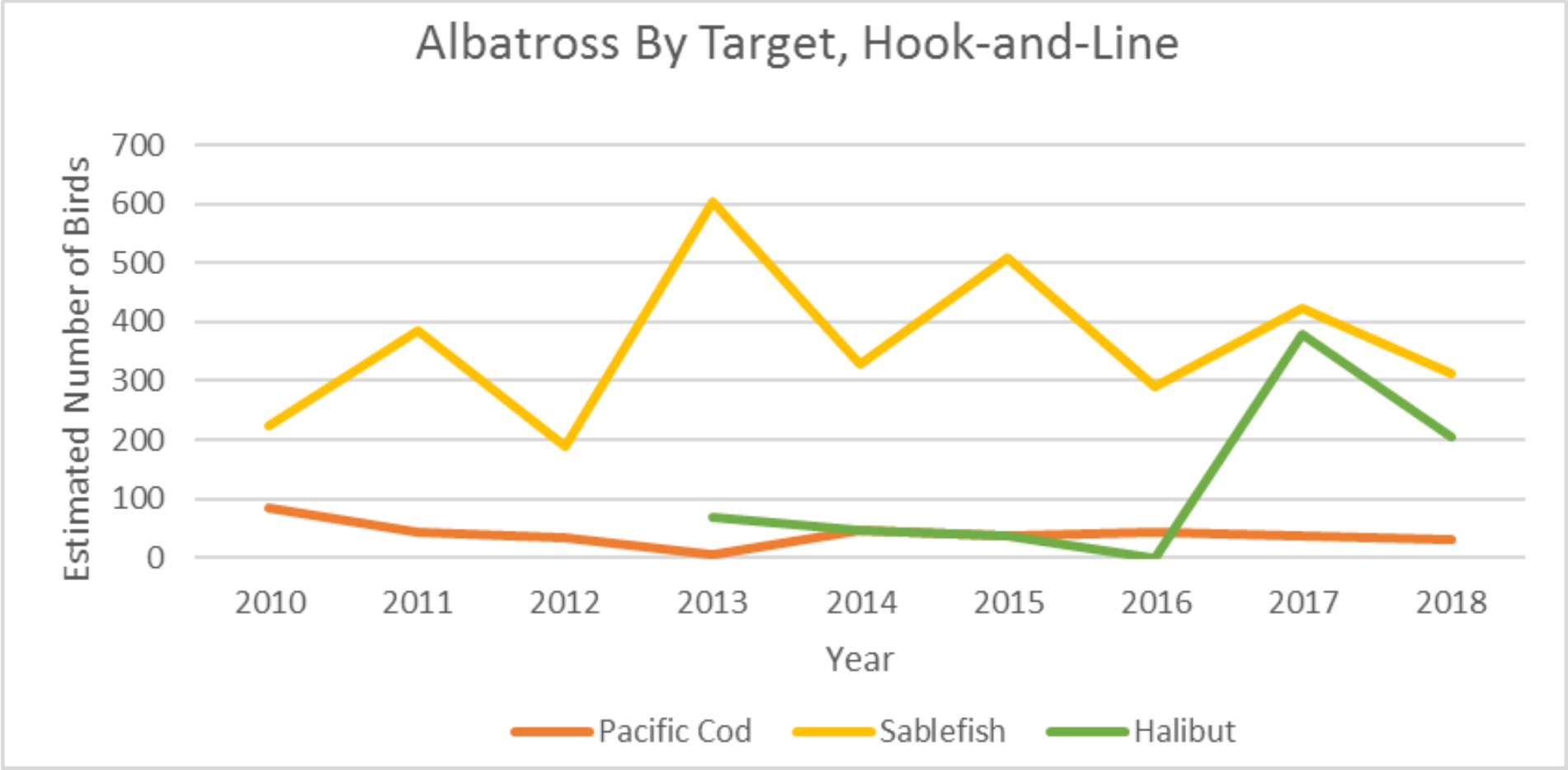


Laysan Albatross




From All Observed Catch Data between 2013 and 2018
UABR, Albatross - unidentified
2
LBRD, Albatross, Laysan
40
STBR, Albatross, Short-tailed
1.5
BBRD, Albatross, Black-footed
40
Note that scales are different for the seabird species
Data is non-confidential
Galena
Fairbanks
Anchorage
Valdez
Cordova
Yakutat
JUNEAU
Sitka
Ketchikan
Nunivak
Bethel
Togiak
Homer
Kodiak
Pribilofs
King Cove
Sand Point
Dutch Harbor
Adak
160°0'0"W
150°0'0"W
140°0'0"W
130°0'0"W
120°0'0"W
60°0'0"N
50°0'0"N
180°0'0"
170°0'0"W

Albatross Bycatch, by Fishery Target



Outline

- 2010 – 2017 Seabird Bycatch Estimates

- Alaska Groundfish and Halibut Seabird Working Group

Short-tailed albatross bycatch

NOAA Fisheries Alaska Groundfish and Halibut Seabird Working Group

Members:

- NOAA Fisheries
- USFWS
- Alaska Department of Fish & Game
- Oregon Department of Fish & Wildlife
- Washington Department of Fish & Wildlife

Goal: Review available information for mitigating effects of the groundfish and halibut fisheries on short-tailed albatross and other seabirds.

Action: NMFS will report the resulting recommendations to the North Pacific Fishery Management Council. *Any changes to seabird avoidance regulations are expected to follow the standard Council process.

NOAA Fisheries Alaska Groundfish and Halibut Seabird Working Group

Terms of Reference

The Working Group shall

- Recommend new analyses, reports, or changes to sampling protocols to improve bycatch estimates of seabird species.
- Consider whether the amount or extent of incidental take stipulated in the biological opinions is exceeded.
- Consider whether new information reveals effects in a manner or to an extent not previously considered in the biological opinions.
- Propose, for Council consideration, conservation and management measures to minimize bycatch of seabird species.

NOAA Fisheries Alaska Groundfish and Halibut Seabird Working Group

Priorities (in no particular order)

- Explore emerging seabird mitigation technologies
- Quantify seabird bycatch in the trawl fisheries
- Determine which seabirds (if any) the working group should focus on besides albatross?
- Explore use of electronic monitoring (EM) to report seabird bycatch
- Explore vessel-specific bycatch mortality
- Explore leading indicators as tool to assess inseason bycatch risk
- Explore ways to improve seabird bycatch mitigation measures in the trawl fisheries
- Determine best practices for estimating and reporting bycatch of rare species or events such as seabird bycatch
- Outreach - explore and implement additional efforts

Agenda Topics

- Explore vessel-specific bycatch mortality
- Explore leading indicators as tool to assess inseason bycatch risk
- Explore ways to improve seabird bycatch mitigation measures in the trawl fisheries

Recommendations/Take-homes (March 2019)

- Explore vessel-specific bycatch mortality
  - Studies have shown there is a vessel effect

Dietrich, K. S., and S. M. Fitzgerald. 2010. Analysis of 2004-2007 vessel-specific seabird bycatch data in Alaska demersal longline fisheries. AFSC Processed Rep. 2010-04, 52 p. Alaska Fish. Sci. Cent., NOAA, Natl. Mar. Fish. Serv., 7600 Sand Point Way NE, Seattle WA 98115.

A small number of vessels have a large effect on seabird bycatch rates

(2013 to 2015: post restructuring of the Observer Program)

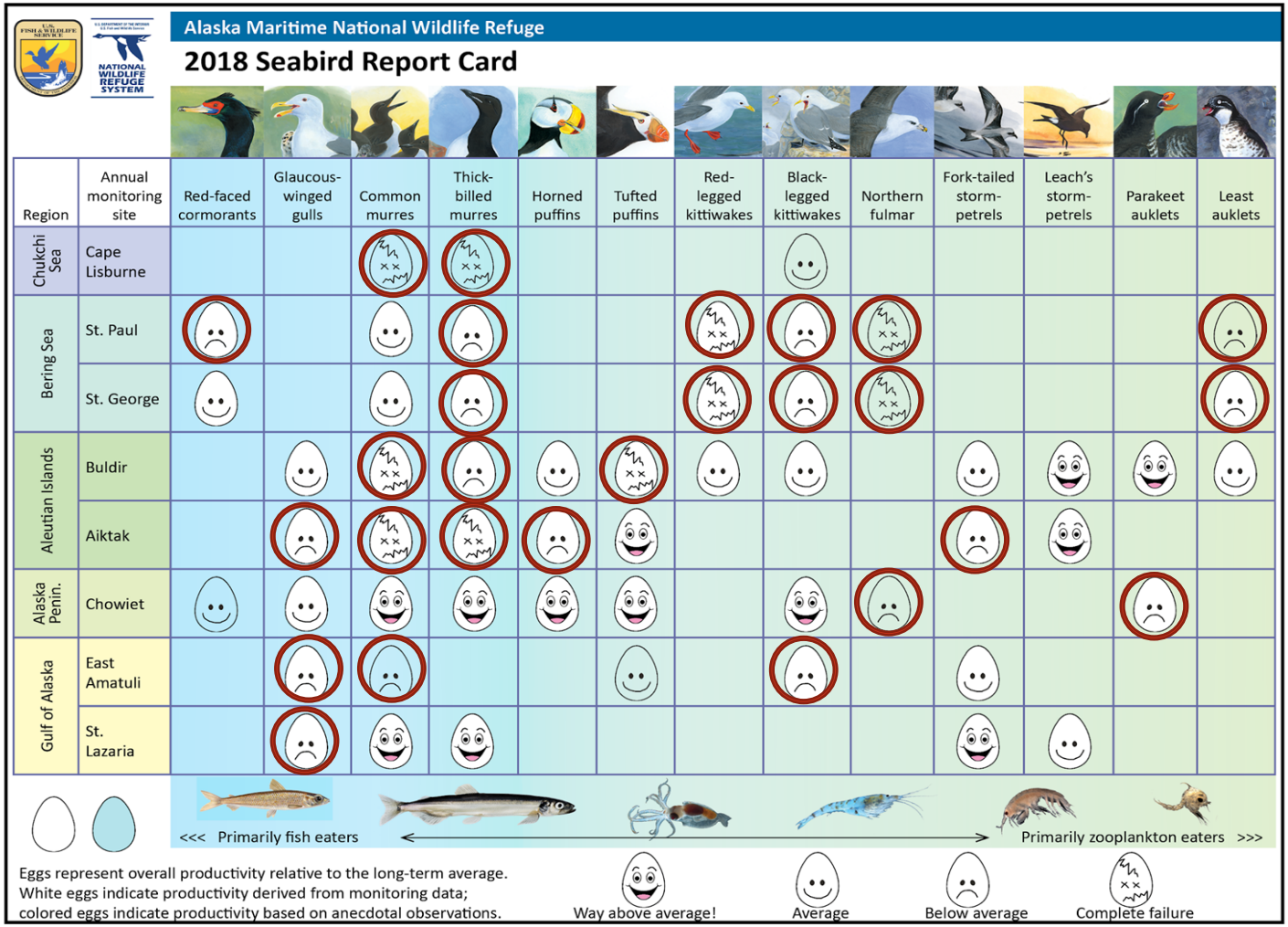
	Vessels Numbers (%)	
	Sablefish	Pacific cod
Unique vessels sampled	178	98
With no seabird bycatch	128 (72%)	66 (67%)
	Bird takes of highest three vessels	
	Birds (%)	Birds (%)
Albatross number	43 of 94 (46%)	14 of 18 (78%)
Non-albatross number	25 of 49 (51%)	468 of 1,524 (31%)

Melvin et al., 2019

Recommendations/Take-homes (March 2019)

- Assess the effectiveness of using leading indicators as a tool for predicting in-season bycatch risk
  - Low reproductive success seen at many seabird colonies
  - Sea surface temperatures have been warmer than average the last few years in Alaska
    - Potential impact on prey availability and seabird foraging strategies in Alaska

Recommendations/Take-homes (March 2019)



Recommendations/Take-homes (March 2019)

- Explore ways to improve seabird bycatch mitigation measures in the trawl fisheries
  - Work being conducted in at-sea hake fishery off west coast
    - 2016: 1st year of Fisheries Observers monitoring cable strikes at-sea P. hake Catcher-Processors
    - 2018 Pilot study Seabird Observers (A. Gladics)
    - 2019 1st year Seabird Observers, 4th year Fisheries Observers

Recommendations/Take-homes (March 2019)

- Explore ways to improve seabird bycatch mitigation measures in the trawl fisheries (cont.)
  - 2017: U.S. West Coast and Alaska Trawl Fisheries Seabird Cable Strike Mitigation Workshop November 7-8, 2017 in Seattle, WA
    - https://doi.org/10.7289/V5/TM-NWFSC-142

Bycatch Reduction Engineering Program

- Funding for innovative bycatch solutions – includes seabirds
- Approximately $2.5 million for projects that increase collaborative research and partnerships for innovation in bycatch reduction
- Timing
  - Pre-proposals by January 30, 2019
  - Full proposals are due March 29, 2019
- https://www.fisheries.noaa.gov/national/bycatch/bycatch-reduction-engineering-program

Next Steps

- Maps overlaying fishing effort/seabird bycatch and seabird density maps
- Subgroup to explore different funding sources available to support seabird work
- Next in-person meeting March 2020

Acknowledgements

- NOAA Fisheries North Pacific Observer Program, especially the observers who collect data on bycatch of marine species, including seabirds.
- The Alaska Fisheries Science Center, U.S. Fish and Wildlife Service, Washington Sea Grant, and other researchers for their seabird and fisheries bycatch work that has led to lower numbers of seabird bycatch on Alaska fishing grounds.
- Thank you to the fishermen, fishing communities, and fishing industry for their continued dedication to minimizing interactions between commercial fisheries and seabirds.

USFWS 2015 BIOLOGICAL OPINION for the Effects of Alaska Groundfish Fisheries

- Conclusion: The groundfish fisheries are not likely to jeopardize the continued existence of short-tailed albatross.
- Exempted the incidental take of up to 6 short-tailed albatross in a 2 year period from the Take Prohibitions of Section 9 of the ESA.
  - Combined for hook-and-line and trawl
  - Floating 2-year period

USFWS 2018 BIOLOGICAL OPINION for the Effects of Alaska Halibut Fisheries

- Conclusion: The halibut fisheries are not likely to jeopardize the continued existence of short-tailed albatross.
- Exempted the incidental take of up to 2 short-tailed albatross in a 2 year period from the Take Prohibitions of Section 9 of the ESA.
  - Floating 2-year period

Seabird Bycatch in Hook-and-Line Fisheries

- BSAI and GOA

Species/Species Group	2010	2011	2012	2013	2014	2015	2016	2017	2018	Annual Average
Unidentified Albatrosses	0	10	0	28	35	0	0	0	58	15
Short-tailed Albatross	15	5	0	0	11	0	0	0	0	3
Laysan Albatross	223	208	141	200	99	221	131	47	192	162
Black-footed Albatross	72	211	82	449	284	364	201	790	300	306
Northern Fulmar	1,904	5,972	2,851	2,714	726	2,887	4,911	3,475	2,794	3,137
Shearwaters	502	261	529	195	115	330	3,178	1,154	641	767
Gulls	1,119	2,257	898	580	742	1,265	755	680	781	1,009
Kittiwakes	0	6	5	3	4	12	5	22	30	10
Murres	0	0	6	0	0	0	0	9	0	2
Puffins	9	0	0	0	0	0	10	0	0	2
Auklets	0	0	7	0	6	11	0	0	0	3
Other Alcids	0	0	0	0	0	0	0	0	5	1
Cormorants	0	0	0	0	0	28	0	0	0	3
Unidentified Birds	267	387	323	295	78	187	295	279	245	262
Grand Total	**4,111**	**9,317**	**4,842**	**4,464**	**2,100**	**5,305**	**9,486**	**6,456**	**5,046**	**5,681**

Notes: Observer Program was restructured in 2013. 2018 data are preliminary.

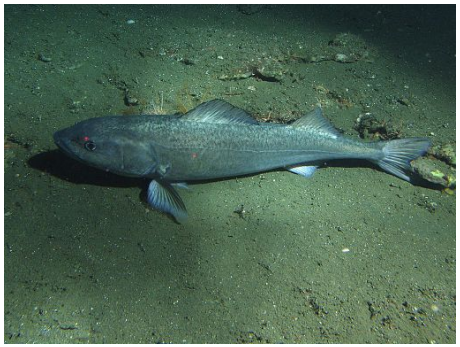
Seabird Bycatch in Pacific Cod Hook-and-Line Fishery

Species/Species Group	2010	2011	2012	2013	2014	2015	2016	2017	2018	Annual Average
Unidentified Albatrosses	0	10	0	0	12	0	0	0	0	2
Short-tailed Albatross	15	5	0	0	5	0	0	0	0	3
Laysan Albatross	51	28	34	4	20	38	12	9	30	25
Black-footed Albatross	18	0	0	0	8	0	30	28	0	9
Northern Fulmar	1,687	4,641	2,497	2,510	594	2,700	4,684	2,689	2,584	2,732
Shearwaters	492	125	490	135	44	243	2,984	1,071	591	686
Gulls	879	1,681	859	440	636	974	606	430	724	803
Kittiwakes	0	6	5	3	4	12	5	13	30	9
Murres	0	0	6	0	0	0	0	9	0	2
Puffins	9	0	0	0	0	0	10	0	0	2
Auklets	0	0	7	0	6	11	0	0	0	3
Other Alcids	0	0	0	0	0	0	0	0	5	1
Unidentified Birds	249	378	308	270	78	156	277	247	245	245
Grand Total	**3,400**	**6,874**	**4,206**	**3,362**	**1,407**	**4,134**	**8,608**	**4,496**	**4,209**	**4,522**

Seabird Bycatch in Sablefish Hook-and-Line Fishery

Species/Species Group	2010	2011	2012	2013	2014	2015	2016	2017	2018	Annual Average
Unidentified Albatrosses	0	0	0	28	23	0	0	0	58	12
Laysan Albatross	172	175	107	179	79	145	118	0	22	111
Black-footed Albatross	53	211	82	397	228	364	171	423	232	240
Northern Fulmar	46	832	0	138	58	128	19	64	137	158
Shearwaters	6	97	0	0	71	32	20	0	0	25
Gulls	223	577	39	47	8	148	90	250	57	160
Cormorants	0	0	0	0	0	28	0	0	0	3
Unidentified Birds	6	9	0	0	0	28	19	0	0	7
Grand Total	**506**	**1,901**	**228**	**789**	**467**	**873**	**437**	**737**	**506**	**716**

Notes: Observer Program was restructured in 2013. 2018 data are preliminary.



Seabird Bycatch in Greenland Turbot Hook-and-Line Fishery

Species/Species Group	2010	2011	2012	2013	2014	2015	2016	2017	2018	Annual Average
Short-tailed Albatross	0	0	0	0	6	0	0	0	0	1
Laysan Albatross	0	5	0	0	0	0	0	0	3	1
Northern Fulmar	170	499	354	65	55	17	82	130	73	161
Shearwaters	4	38	40	60	0	55	174	14	0	43
Gulls	17	0	0	0	0	0	0	0	0	2
Kittiwakes	0	0	0	0	0	0	0	9	0	1
Unidentified Birds	11	0	15	5	0	0	0	0	0	3
Grand Total	**202**	**542**	**409**	**130**	**61**	**72**	**256**	**153**	**76**	**211**

Notes: Observer Program was restructured in 2013. 2018 data are preliminary.

Seabird Bycatch in Pacific Halibut Hook-and-Line Fishery

Species/Species Group	2013	2014	2015	2016	2017	2018	Annual Average
Laysan Albatross	17	0	38	0	38	137	38
Black-footed Albatross	51	48	0	0	340	69	85
Northern Fulmar	0	19	41	127	589	0	129
Shearwaters	0	0	0	0	69	50	20
Gulls	89	99	144	59	0	0	65
Unidentified Birds	19	0	0	0	32	0	9
Grand Total	**176**	**166**	**223**	**186**	**1,068**	**256**	**346**

Notes: Observer Program was restructured in 2013. 2018 data are preliminary.

Seabird Bycatch in Trawl Fisheries

- BSAI and GOA

Species/Species Group	2010	2011	2012	2013	2014	2015	2016	2017	2018	Annual Average
Laysan Albatross	0	0	0	0	0	0	0	0	93	10
Black-footed Albatross	0	0	60	0	0	0	0	0	0	7
Northern Fulmar	503	329	297	463	85	463	307	372	445	363
Shearwaters	155	3	56	1	72	62	238	928	139	184
Storm Petrels	0	0	0	0	0	0	0	0	197	22
Gulls	57	1	0	3	0	0	3	0	1	7
Murres	102	14	0	3	47	0	45	1	0	24
Auklets	0	0	0	4	66	0	0	0	103	19
Cormorants	0	0	0	0	0	3	0	0	0	0
Other Birds	0	0	0	0	0	0	0	63	0	7
Unidentified Birds	3	0	0	0	0	6	6	0	0	2
Grand Total	**820**	**347**	**413**	**474**	**270**	**534**	**599**	**1,364**	**978**	**644**

Notes: Observer Program was restructured in 2013. 2018 data are preliminary.

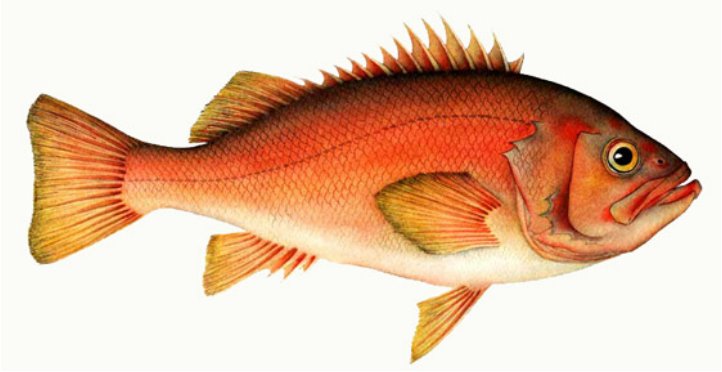
Seabird Bycatch in Atka Mackerel Trawl Fishery

Species/Species Group	2010	2011	2012	2013	2014	2015	2016	2017	2018	Annual Average
Northern Fulmar	84	29	8	0	0	92	0	0	221	48
Shearwaters	75	0	44	0	0	0	184	156	139	66
Storm Petrels	0	0	0	0	0	0	0	0	197	22
Auklets	0	0	0	0	0	0	0	0	54	6
Grand Total	**159**	**29**	**52**	**0**	**0**	**92**	**184**	**156**	**611**	**143**

https://eng.atlant-group.info/product/fish/atka-mackerel

Seabird Bycatch in Rockfish Trawl Fishery

Species/Species Group	2010	2011	2012	2013	2014	2015	2016	2017	2018	Annual Average
Laysan Albatross	0	0	0	0	0	0	0	0	93	10
Black-footed Albatross	0	0	60	0	0	0	0	0	0	7
Northern Fulmar	34	27	0	0	20	38	0	44	50	24
Shearwaters	0	0	0	0	0	0	0	772	0	86
Auklets	0	0	0	0	0	0	0	0	49	5
Grand Total	**34**	**27**	**60**	**0**	**20**	**38**	**0**	**816**	**192**	**132**



Notes: Observer Program was restructured in 2013. 2018 data are preliminary.

Seabird Bycatch in Pollock Trawl Fishery

Species/Species Group	2010	2011	2012	2013	2014	2015	2016	2017	2018	Annual Average
Northern Fulmar	69	214	90	123	51	112	84	109	42	99
Shearwaters	22	3	12	1	3	6	9	0	0	6
Gulls	0	1	0	3	0	0	3	0	0	1
Murres	0	14	0	3	3	0	6	1	0	3
Auklets	0	0	0	4	0	0	0	0	0	0
Cormorants	0	0	0	0	0	3	0	0	0	0
Unidentified Birds	3	0	0	0	0	6	6	0	0	2
Grand Total	**94**	**232**	**102**	**134**	**57**	**127**	**108**	**110**	**42**	**112**

Notes: Observer Program was restructured in 2013. 2018 data are preliminary.

Seabird Bycatch in Pot Fisheries

Species/Species Group	2010	2011	2012	2013	2014	2015	2016	2017	2018	Annual Average
Northern Fulmar	65	37	0	20	11	197	234	593	51	134
Shearwaters	0	0	0	57	0	0	0	0	0	6
Murres	0	0	0	0	0	0	13	0	0	1
Auklets	0	0	0	0	35	58	29	36	0	18
Other Alcids	0	0	0	0	39	0	0	0	0	4
Unidentified Birds	0	0	20	0	0	0	0	0	0	2
Grand Total	**65**	**37**	**20**	**77**	**85**	**255**	**276**	**629**	**51**	**166**