INITIAL REVIEW DRAFT

Regulatory Impact Review/Initial Regulatory Flexibility Analysis for Proposed Regulatory Amendment under the Pacific Coast Groundfish Fishery Management Plan

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Abstract: The proposed action is to require commercial groundfish longline vessels 26 feet length overall (LOA) and longer managed under the Pacific Coast Groundfish Fishery Management Plan to employ streamer lines, consistent with Alaska streamer line regulations, or to set longlines after civil sunset (or civil dusk defined as one hour after local sunset) when fishing in Federal waters. The action responds to a 2017 biological opinion published by the United States Fish and Wildlife Service that includes the proposed action as a term and condition to address takes of endangered short-tailed albatross. It extends, and potentially modifies, current requirements for vessels 55 feet LOA and longer. Four options are considered for application of the requirement: an exemption when fishing south of 36° N latitude, an exemption when fishing shoreward of 250 fathoms, a requirement for vessels using a floated mainline to fish at night, and a specific weather safety exemption for vessels between 26 and 54 feet LOA.

List of Acronyms and Abbreviations

B.O.	Biological opinion
Council	Pacific Fishery Management Council
E.O.	Executive Order
EA	Environmental Assessment
EEZ	Exclusive Economic Zone
ESA	Endangered Species Act
FMP	fishery management plan
FR	*Federal Register*
IFQ	Individual fishing quota
IRFA	Initial Regulatory Flexibility Analysis
LOA	Length overall
m	meter or meters
Magnuson-Stevens Act	Magnuson-Stevens Fishery Conservation and Management Act
NAICS	North American Industry Classification System
NMFS	National Marine Fishery Service
NOAA	National Oceanic and Atmospheric Administration
PCGFMP	Pacific Coast Groundfish Fishery Management Plan
PPA	Preliminary preferred alternative
PacFIN	Pacific Fishery Information Network
RFA	Regulatory Flexibility Act
RIR	Regulatory Impact Review
SBA	Small Business Act
STAL	Short-tailed albatross
USFWS	United States Fish and Wildlife Service
VMS	vessel monitoring system
WCGOP	West Coast Groundfish Observer Program

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Executive Summary

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Purpose and Need

The purpose and need for this proposed action is an extension of the action taken in 2013 to apply streamer line requirements to vessels 55 feet LOA and longer, as described in the final EA prepared by NMFS (2013):

- The purpose of the proposed action is to further reduce interactions between ESA-listed seabirds and groundfish longline gear relative to current levels of take.
- The proposed action is needed to comply with the 2017 USFWS Biological Opinion by minimizing endangered short-tailed albatross take to levels judged not to jeopardize the continued existence of the species.

Alternatives

In November 2018 the Council adopted an action alternative in addition to the No Action Alternative. The alternatives are:

No Action: Vessels 26 feet and longer but less than 55 feet length overall (LOA) are not required to use seabird bycatch mitigation measures.

Alternative 1: Require vessels 26 feet and longer but less than 55 feet LOA using longline gear either use streamer lines or begin setting gear only after civil dusk and before civil dawn (approximated by one hour after local sunset/before local sunrise) when fishing in Federal waters.

- Option A, when fishing south of 36° N latitude, vessels would be exempted from the requirement to deploy streamer lines or night set.

- Option B, when fishing shoreward of the 250 fathom depth contour, vessels would be exempted from the requirement to deploy streamer lines or night set.

- Option C, vessels using floated mainline gear would be required to begin setting gear after civil dusk (i.e. the streamer line option would not be available to these vessels).

- Option D, a weather safety exemption different than the one currently established for vessels 56 feet LOA and longer would be established for vessels 26 feet and longer but less than 55 feet LOA.

Regulatory Impact Review

Alternative 1 would result in an unquantified net benefit to the Nation by reducing takes of short-tailed albatross, contributing to the population's recovery. Options A, C, and D under Alternative 1 generally result in an equivalent or potentially greater net benefit by providing comparable mitigation of short-tailed albatross takes while modestly decreasing costs to fishery participants. Option B may have a lower net benefit; while reducing costs for vessels fishing shoreward of 250 fathoms, this exemption could increase the risk of short-tailed albatross takes.

Comparison of Alternatives for Decision-making

To be completed after selection of the preliminary preferred alternative.

1 Introduction

As determined by the Groundfish Endangered Species Act Workgroup, estimated take of endangered short-tailed albatross in groundfish longline fisheries exceeded the incidental take level in the applicable biological opinion (USFWS 2012) in 2015. Therefore, National Marine Fisheries Service (NMFS) reinitiated consultation with the U.S. Fish and Wildlife Service (USFWS) on the operation of the fisheries managed under the Pacific Coast Groundfish Fishery Management Plan (PCGFMP) pursuant to Section 7 of the Endangered Species Act. On May 2, 2017 USFWS published its Biological Opinion. The Pacific Fishery Management Council (Council) was briefed on the contents of the Biological Opinion (B.O.) in November 2017 (Agenda Item F.7). The Incidental Take Statement in the B.O. lists nondiscretionary term and conditions, one of which mandates amending current PCGFMP regulations to require vessels fishing for groundfish in Federal watersthat use longline gear to:

i) Employ streamer lines in the commercial longline fishery of the Pacific Coast Ground Fishery consistent with the Alaska streamer line regulations for Federal waters, including the use of single streamer lines on boats 26-55 feet in length,[1] OR
ii) Set longlines after civil sunset.

NMFS must implement these regulation changes as soon as practical, but initiation of implementation shall not exceed a three-year period after the biological opinion issuance date. Current regulations (50 CFR 660.21) require the use of streamer lines for PCGFMP longline vessels 55 feet and longer.

The Council adopted a range of alternatives to address this requirement in November 2018.

This document is a Regulatory Impact Review/Initial Regulatory Flexibility Analysis (RIR/IRFA). NMFS has concluded that this action is a technical correction or a change to a fishery management action or regulation, which does not result in a substantial change in any of the following: fishing location, timing, effort, authorized gear types, or harvest levels, and therefore can be categorically excluded from further analysis under the National Environmental Policy Act. NMFS documents its rationale for this conclusion in a memo to file.

An RIR/IRFA provides assessments of the economic benefits and costs of the action alternatives, as well as their distribution (the RIR), and the impacts of the action on directly regulated small entities (the IRFA). This RIR/IRFA addresses the statutory requirements of the Magnuson Stevens Fishery Conservation and Management Act, Presidential Executive Order 12866, and the Regulatory Flexibility Act.

1.1 Purpose and Need

The purpose and need for this proposed action is an extension of the action taken in 2013 to apply streamer line requirements to vessels 55 feet LOA and longer, as described in the final EA prepared by NMFS (2013):

- The purpose of the proposed action is to further reduce interactions between ESA-listed seabirds and groundfish longline gear relative to current levels of take.

[1] Current regulations apply to vessels 55 feet and longer so the extension of requirements would apply to vessels 26 feet and longer but less than 55 feet LOA.

- The proposed action is needed to comply with the 2017 USFWS B.O. by minimizing endangered short-tailed albatross take to levels judged not to jeopardize the continued existence of the species.

1.2 History of this Action

National Marine Fisheries Service (NMFS) and Pacific Fishery Management Council (Council) staffs began discussions with the U.S. Fish and Wildlife Service (USFWS) in 2008 on the need to develop measures to mitigate take of short-tailed albatross (*Phoebastria albatrus*), an endangered species, in fisheries managed under the Pacific Coast Groundfish Fishery Management Plan (PCGFMP). Subsequently, in 2011, the first take was observed in the sablefish longline fishery. NMFS then initiated formal consultation with the USFWS under Section 7 of the Endangered Species Act (ESA). In response, USFWS issued its biological opinion (B.O.) on November 12, 2012 (USFWS 2012). Non-discretionary terms and conditions in the B.O. required NMFS to promulgate regulations within two years mandating the use of streamer lines by longline vessels 55 feet length overall (LOA) or greater, patterned on the Alaska streamer line regulations. Seabirds are known to dive on the baited hooks near the surface when the longline gear is being deployed. Birds can become entangled with or hooked by the gear and drown. Streamer lines have been shown to deter seabirds from the fishing gear mainline for a distance beyond the stern of the vessel sufficient for the mainline to sink to a depth where bait is no longer accessible to diving birds.

NMFS presented a draft environmental assessment (EA) to the Council at its June 2013 meeting, which evaluated implementation of the aforementioned mandated regulatory measures (NMFS 2013). The Council took final action on proposed regulations at its November 2013 meeting. The final rule implementing these measures was published on November 18, 2015 (80 FR 71975) with an effective date of December 18, 2015. The rule established the following requirements:

- Requires the use of streamer lines in the commercial longline fishery of the Pacific Coast Groundfish Fishery for non-tribal vessels 55 feet in length or greater;
- Requires vessels to deploy one or two streamer lines depending on the type of longline gear being set;
- Requires that streamer lines meet technical specifications and be available for inspection; and
- Allows for a rough weather exemption from using streamer lines for safety purposes. The threshold for the rough weather exemption is a Gale Warning as issued by the National Weather Service.

The Council's Groundfish ESA Workgroup biennially reviews bycatch estimates for certain ESA-listed species taken in PCGFMP fisheries including short-tailed albatross. The Workgroup may make recommendations on management actions necessary to mitigate take of these species. At its 2015 meeting the Workgroup reviewed updated short-tailed albatross take estimates and concluded that the threshold in the 2013 B.O. Incidental Take Statement had been exceeded in two of the four years between 2010 and 2013, the most recent period for which estimates were available at that time.[2] The Workgroup reported this finding along with a recommendation to reinitiate consultation at the June 2015 Council meeting (Agenda Item D.4.a, Supplemental Groundfish ESA Workgroup Report). The Workgroup reported an analysis of night setting as an alternative to deploying streamer lines, which was prepared in response to a public comment during the rulemaking process. NMFS subsequently reinitiated consultation; a new B.O.

[2] These estimates were based on a ratio estimation method that has since been superseded by statistical modeling approach determined to produce more accurate estimates of annual bycatch. Retrospective analysis shows that the ITS take level in the 2012 B.O. was probably not exceeded during that time period.

was published on May 2, 2017. An overview of this B.O. was presented to the Council at its November 2017 meeting (Agenda Item F.7).

The incidental take statement in the B.O. identifies five reasonable and prudent measures (RPMs) that are necessary and appropriate for NMFS to minimize take of short-tailed albatross, and lists associated non-discretionary terms and conditions necessary to implement the RPMs. Term and Condition 1 under RPM 1 directly involves the Council, because it requires a regulatory amendment under the PCGFMP. Because the action is non-discretionary it can also be considered the proposed action that the Council must undertake. This proposed action is to amend or refine regulations to mandate vessels that use the longline gear to:

1. Employ streamer lines in the commercial longline fishery of the Pacific Coast Ground Fishery consistent with the Alaska streamer line regulations for Federal waters, including the use of single streamer lines on boats 26-55 feet in length overall (LOA),[3] OR
2. Set longlines after civil sunset.

NMFS must implement these regulation changes as soon as practical, but initiation of implementation shall not exceed a three-year period after the biological opinion issuance date, or by May 2020.

1.3 Description of Management Area and Affected Fisheries

The management area for this action is the Exclusive Economic Zone (EEZ)—defined as 3–200 nautical miles from state baselines along the coasts of Washington, Oregon, and California—and communities that engage in fishing in waters off these states. PCGFMP Figure 3-1 depicts this management area and is incorporated by reference.

The USFWS 2017 B.O. proposed action considered the fisheries managed by the PCGFMP, including the Federal groundfish longline fisheries. The state-managed nearshore groundfish fisheries, which occur in state waters, were not analyzed as part of the proposed action and are therefore not subject to the Incidental Take Statement from the 2017 B.O. As such, vessels exclusively fishing in the nearshore groundfish fisheries are excluded from the action under consideration in this analysis.

[3] Although the B.O. specifies "boats 26-55 feet in length" implementing regulations impose the requirement on vessels greater than or equal to 55 feet. Thus, strictly speaking, the requirement is being extended to vessels 26 and longer but less 55 feet LOA. Throughout this document groundfish longline vessels 55 feet and longer are referred to as "large vessels" while groundfish longline vessels 26 and longer but less than 55 feet are referred to as "small vessels."

2 Description of Alternatives

The alternatives in this chapter were designed to accomplish the stated purpose and need for the action. The alternatives are designed to address Term and Condition #1 from the USFWS 2017 B.O., while taking into account more recent information about the distribution of short-tailed albatross and the operation of the groundfish longline fishery presented to the Council in November 2018.

The Council adopted the following alternatives for analysis in November 2018 based on a recommendation from its Groundfish Management Team (GMT). The GMT proposed the alternatives to represent a broad suite of possible options that include extending the streamer line use requirement to small vessels (26 feet and longer but less than 55 feet LOA), area and seasonal exemptions to the streamer line requirement, and requiring vessels to fish during the night if streamers are not used. There is one action alternative that includes 4 options that are not mutually exclusive and could be selected alone or in concert with any other options.

2.1 No Action

No regulatory amendment to address the requirements of Term and Condition #1 in the 2017 USFWS B.O. is implemented. This alternative would be out of compliance with the 2017 USFWS B.O.

2.2 Alternative 1: Require Vessels 26 feet and longer but less than 55 feet LOA either use streamer lines or begin setting gear only after civil dusk (approximated by one hour after local sunset).

Employ streamer lines in the commercial groundfish longline fishery in Federal waters consistent with Alaska streamer line regulations (50 CFR 679.24(e)), including use of single streamer lines on vessels 26 and longer but less than 55 feet LOA. As an alternative to using a streamer line, vessels could instead set gear between civil dusk and civil dawn (when the sun angle>6° below horizon). For the purpose of enforcing this requirement, a standard time interval of one hour after local sunset and before local sunrise would be used.[4] Vessels would be required to use one of these two mitigation measures when fishing in the commercial groundfish longline fishery in Federal waters.

Following Alaska regulations, the streamer line requirements for vessels between 26 and 54 Feet LOA would be as follows (see 50 CFR 679.24(e)(2)):[5]

Vessels <u>with superstructure and not using snap gear</u>: a single streamer with the following configuration

1. Be a minimum of 300 feet (91.4 m) in length;
2. Have streamers spaced every 16.4 ft (5 m);
3. Be deployed before the first hook is set in such a way that streamers are in the air for a minimum of 131.2 ft (40 m) aft of the stern and within 6.6 ft (2 m) horizontally of the point where the main groundline enters the water.

[4] The longest duration of twilight (sunset/sunrise to civil dusk/dawn), at the northernmost extent of the west coast EEZ, approximated by 48°30' N latitude, at the summer solstice, is 42 minutes.

[5] Illustrations of these requirements may be found at https://www.fisheries.noaa.gov/alaska/bycatch/seabird-avoidance-gear-and-methods.

4. Have individual streamers that hang attached to the mainline to 9.8 in (0.25 m) above the waterline in the absence of wind.
5. Have streamers constructed of material that is brightly colored, UV-protected plastic tubing or 3/8 inch polyester line or material of an equivalent density.

Vessels <u>with superstructure and using snap gear:</u> a single streamer deployed as follows

1. Be deployed before the first hook is set in such a way that streamers are in the air for 65.6 ft (20 m) aft of the stern and within 6.6 ft (2 m) horizontally of the point where the main groundline enters the water.
2. Have a minimum length of 147.6 ft (45 m).

Vessels <u>without superstructure:</u> deploy at least one buoy bag line

2.2.1 Option A, when fishing south of 36° N latitude, vessels would be exempted from the requirement to deploy streamer lines or night set.

All commercial groundfish longline vessels would be exempt from the seabird mitigation measures requirement when fishing south of 36° N latitude. An analysis of available data on the distribution of albatrosses off the west coast (Guy et al. 2013) found that short-tailed albatross rarely occur south of 36° N. latitude. Note the current regulations for large vessels (≥55 feet LOA) do not include this exemption.

2.2.2 Option B, when fishing shoreward of the 250 fathom depth contour, vessels would be exempted from the requirement to deploy streamer lines or night set.

All commercial groundfish longline vessels would be exempt from the seabird mitigation measures requirement when fishing shoreward of the 250 fathom (457 m) depth contour represented by waypoints published at 50 CFR 660.74(m). Note the current regulations for large vessels do not include this exemption.

Short-tailed albatrosses prefer ocean areas at the continental shelf break (Guy et al. 2013). The continental shelf break represents the transition from the continental shelf with an average gradient of approximately one degree to the continental slope with an average gradient of approximately four degrees. Guy et al. (2013) define the shelf break as the region between 201 and 1,000 m (109-547 fathoms).

The nearshore component of the commercial groundfish longline fishery targets rockfish and does not catch sablefish. To target these species it operates primarily, but not exclusively, in state waters (within 3 nautical miles of the territorial sea baseline). The 250 fathom depth contour best represents the operational footprint of this nearshore fishery. However, the 250 fathom depth contour falls within the continental shelf break region as defined by Guy, et al (2013), see Figure 3.

2.2.3 Option C, vessels using floated mainline gear would be required to begin setting gear after civil dusk (i.e. the streamer line option would not be available to these vessels).

Under this option all commercial longline vessels greater than or equal to 26 feet LOA would be subject to the night setting requirement described above when using floated mainline gear rather than having the option of using a streamer line.

2.2.4 Option D, establish a specific weather safety exemption for vessels 26-54 feet LOA

Current seabird avoidance regulations for Alaska and the west coast do not require the use of streamer lines when severe weather conditions are in effect. The current west coast regulations (50 CFR 660.21(c)(2)(iii)) exempt large vessels (≥55 feet LOA) from the streamer requirements when a National Weather Service Gale Warning is in effect (winds 34 to 47 knots). Seabird avoidance regulations for the Alaska Region have a different weather safety exemption for small vessels versus large vessels. Use of seabird avoidance gear for small vessels is discretionary when winds exceed 30 knots (50 CFR 679.24(e)(4)(v)). This threshold or a lower wind threshold could be adopted for west coast regulations for small vessels. The National Weather Service Small Craft Advisory could be used as a threshold, since it is a standardized and broadcast threshold. For the west coast a Small Craft Advisory is issued when sustained winds are 21 to 33 knots, and/or wave heights exceed 10 feet.

2.3 Comparison of Alternatives

To be completed after selection of the preliminary preferred alternative.

2.4 Alternatives Considered but not Analyzed Further

At the November 2018 Council meeting the Groundfish Management Team recommended that the option of a seasonal exemption be explored further based on information presented in Agenda Item G.5, Attachment 1. They noted that "[s]ome research suggests that [short-tailed albatross] is present throughout the year, while other analysis suggests that the sub-adult population is only present in winter and spring." They recommended further exploration of risks associated with a seasonal exemption. The following information is provided by Dr. Tom Good, NMFS Northwest Fisheries Science Center and seabird specialist on the Council's Groundfish Endangered Species Workgroup. Dr. Good's review of reported telemetry and observer data show that while there may be a seasonal pattern in abundance, short-tailed albatross occur off the west coast year round. Thus, a seasonal exemption is likely to result in an unacceptable risk of take and is not considered further as a potential management measure under this action.

Telemetry Data on the Distribution of Distribution of Short-Tailed Albatross

As referenced in Agenda Item G.5, Attachment 1, November 2018, Orben et al. (2018) suggest some seasonality to the use of the California Current by tagged short-tailed albatross, they also emphasized that the patterns resulted from fairly small sample sizes of tags that lasted long enough to get year-round location data. They also state "…of the birds tracked from May to January during the first flight year (n = 13), 85% visited the Canadian EEZ and 69% visited the EEZ off the US west coast."

The authors also suggest that the use of the west coast of North America was common and broadly supported previous tracking studies and summaries of at-sea observations (Guy et al. 2013; Suryan et al. 2006). The one bird that entered the Mexican EEZ near Baja was not "…surprising given that short-tailed albatrosses were regularly seen in Mexican waters prior to 1900, and in more recent years a few individuals have been seen" (Grinnell 1928; L and Sada 1991).

The authors also suggest that observations of immature short-tailed albatrosses off the west coast of North America likely constitute reoccupation of historical foraging areas. The short-tailed albatross is one of the most common seabirds found in archaeological sites on the Channel Islands in California, and stable isotope mixing models show that these ancient short-tailed albatross spent more time in the California Current than their modern congeners (Vokhshoori et al. 2019). If the growing population of short-tailed

albatrosses continues to re-occupy historical California Current foraging areas, observations in all seasons may be expected to increase.

West Coast Groundfish Observer Interactions of Short-Tailed Albatross

Observer data from 2002-2016 demonstrate short-tailed albatross (STAL) have been observed from West Coast groundfish fishing vessels, regardless of gear type, throughout the year.

For all gear types combined, winter/spring observations account for around 74% of interactions and 71% of all STAL, while summer/fall observations account for around 26% of interactions and 29% of all STAL (Table 1a and 2a).

For hook and line gear, spring observations (no winter observations) account for around 57% of interactions and 57% of all STAL, while summer/fall observations account for around 43% of interactions and 43% of all STAL (Table 1b and Table 2b).

For trawl gear, winter/spring observations account for 80% of interactions and 77% of all STAL, while summer/fall observations account for 20% of interactions and 23% of all STAL (Table 1c and Table 2c).

For pot gear, winter/spring observations account for 64% of interactions and 47% of all STAL, while summer/fall observations account for 36% of interactions and 53% of all STAL ((Table 1d and Table 2d).

The extent of short-tailed albatross interactions (primarily sub-adults) with groundfish fishing vessels appears to represent much greater visitation in summer and fall months (20% of interactions in trawl fisheries up to 43% and 53% of interactions in hook and line and pot fisheries, respectively) than data collected in tagging studies. This is not surprising, as fishing vessels act as attractants for seabirds in general.

Table 1. Short-tailed albatross interactions with west coast groundfish fisheries vessels summarized as count and percentage of interactions. Data are raw counts from observer data and not expansions.

a. All gear	WINTER	SPRING	SUMMER	FALL	Total
Count of Interactions	34	65	20	14	133
% of Interactions	25.6%	48.9%	15.0%	10.5%	
b. Hook and Line	**WINTER**	**SPRING**	**SUMMER**	**FALL**	**Total**
Count of Interactions		13	7	3	23
% of Interactions		56.5%	30.4%	13.0%	
c. Trawl	**WINTER**	**SPRING**	**SUMMER**	**FALL**	**Total**
Count of Interactions	32	47	12	8	99
% of Interactions	32.3%	47.5%	12.1%	8.1%	
d. Pot	**WINTER**	**SPRING**	**SUMMER**	**FALL**	**Total**
Count of Interactions	2	5	1	3	11
% of Interactions	18.2%	45.5%	9.1%	27.3%	

Table 2. Short-tailed albatross interactions with west coast groundfish fisheries vessels summarized as sum and percentage of all STAL encountered. Data are raw counts from observer data and not expansions.

a. All gear	WINTER	SPRING	SUMMER	FALL	Total
Sum of STAL	54	71	20	30	175
% of STAL	30.9%	40.6%	11.4%	17.1%	
b. Hook and Line	**WINTER**	**SPRING**	**SUMMER**	**FALL**	**Total**
Sum of STAL		13	7	3	23
% of STAL		56.5%	30.4%	13.0%	
c. Trawl	**WINTER**	**SPRING**	**SUMMER**	**FALL**	**Total**
Sum of STAL	51	53	12	19	135
% of STAL	37.8%	39.3%	8.9%	14.1%	
d. Pot	**WINTER**	**SPRING**	**SUMMER**	**FALL**	**Total**
Sum of STAL	3	5	1	8	17
% of STAL	17.6%	29.4%	5.9%	47.1%	

3 Regulatory Impact Review

This Regulatory Impact Review (RIR)[6] examines the benefits and costs of a proposed regulatory amendment to require the use of single streamer lines on boats 26 feet and longer but less than 55 feet LOA, or set longlines between civil dusk and civil dawn as required by the 2017 USFWS B.O.

The preparation of an RIR is required under Presidential Executive Order (E.O.) 12866 (58 FR 51735, October 4, 1993). The requirements for all regulatory actions specified in E.O. 12866 are summarized in the following Statement from the E.O.:

> *In deciding whether and how to regulate, agencies should assess all costs and benefits of available regulatory alternatives, including the alternative of not regulating. Costs and Benefits shall be understood to include both quantifiable measures (to the fullest extent that these can be usefully estimated) and qualitative measures of costs and benefits that are difficult to quantify, but nonetheless essential to consider. Further, in choosing among alternative regulatory approaches agencies should select those approaches that maximize net benefits (including potential economic, environmental, public health and safety, and other advantages; distributive impacts; and equity), unless a statute requires another regulatory approach.*

E.O. 12866 requires that the Office of Management and Budget review proposed regulatory programs that are considered to be "significant." A "significant regulatory action" is one that is likely to:

- Have an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, local or tribal governments or communities;
- Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;
- Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or
- Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in this Executive Order.

3.1 Statutory Authority

Under the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) (16 U.S.C. 1801, *et seq*.), the United States has exclusive fishery management authority over all marine fishery resources found within the exclusive economic zone (EEZ). The management of these marine resources is vested in the Secretary of Commerce (Secretary) and in the regional fishery management councils. In the West Coast Region, the Council has the responsibility for preparing fishery management plans (FMPs) and FMP amendments for the marine fisheries that require conservation and management, and for submitting its recommendations to the Secretary. Upon approval by the Secretary, NMFS is

[6] The proposed action has no potential to effect individually or cumulatively on the human environment. The only effects of the action are economic, as analyzed in this RIR/IRFA. As such, it is categorically excluded from the need to prepare an Environmental Assessment.

charged with carrying out the Federal mandates of the Department of Commerce with regard to marine and anadromous fish.

The commercial groundfish longline fishery in the EEZ off Washington, Oregon and California is managed under the PCGFMP. The proposed action under consideration would amend Federal regulations at 50 CFR 660. Actions taken to amend FMPs or implement other regulations governing these fisheries must meet the requirements of Federal law and regulations.

3.2 Purpose and Need for Action

The purpose and need for the proposed action is described in Section 1.1.

3.3 Alternatives

The range of alternatives is described in Chapter 2.

3.4 Methodology for analysis of impacts

The evaluation of impacts in this analysis is designed to meet the requirement of E.O. 12866, which dictates that an RIR evaluate the costs and benefits of the alternatives, to include both quantifiable and qualitative considerations. Additionally, the analysis should provide information for decision-makers "to maximize net benefits (including potential economic, environment, public health and safety, and other advantages; distributive impacts; and equity), unless a statute requires another regulatory approach." The costs and benefits of this action with respect to these attributes are described in the sections that follow, comparing the No Action Alternative 1 with the action alternatives. The analyst then provides a qualitative assessment of the net benefit to the Nation of each alternative, compared to no action.

This analysis was prepared using data from the Pacific Fishery Information Network (PacFIN) and the NMFS West Coast Groundfish Observer Program (WCGOP). These sources provide the best available data on fishery participation and vessel characteristics.

Current regulations for vessels 55 feet and longer LOA state that seabird avoidance measures are applicable to "commercial fishing for groundfish with bottom longline gear" excluding vessels participating in Pacific Coast treaty Indian fisheries and anglers engaged in recreational fishing for groundfish. For the purpose of evaluating the proposed action vessels may be divided between small vessels between 26 and 54 feet LOA and large vessels 55 feet LOA and longer. The USFWS 2017 B.O. (USFWS 2017) Term and Condition #1 mandates extending streamer line requirements, consistent with NOAA Alaska Region regulations, to the small vessel category. However, the components of the proposed action, including allowing night setting as an alternative to the use of streamer lines, options for area exemptions, and a requirement to set at night when using a floated mainline, would also affect large vessels. Therefore, the description of vessel characteristics below includes and distinguishes between these size categories.

For the purposes of analysis, potentially affected vessels are defined based on data from the PacFIN database using the following criteria:

- Commercial vessels that used bottom longline gear (does not include tribal or recreational vessels) and
- Fished in Federal waters and

- Made at least one groundfish landing between 2013 and 2017[7] within either the non-nearshore or shoreside IFQ nontrawl sectors defined in the PacFIN database,[8] and
- Vessel length is between 26 and 54 feet LOA for "small vessels" or
- Vessel length greater than or equal to 55 feet LOA or "large vessels."

3.5 Description of the West Coast Groundfish Longline Fishery

3.5.1 Management Pursuant to the Pacific Coast Groundfish FMP

The management regime for affected vessels is described in the EA prepared for the 2013 action leading to implementation of streamer line requirements for large vessels (NMFS 2013). This information is summarized below.

From a management perspective vessels catching groundfish with longline gear can be described as follows:

- Vessels with a sablefish fixed gear endorsed Federal groundfish limited entry permit may participate in the primary sablefish fishery with vessel-specific sablefish catch limits assigned according to permit possession. Vessels with the federal permit but without the sablefish endorsement and vessels without a Federal permit are subject to daily and weekly trip limits for groundfish species. Vessels without a Federal permit are still subject to state permitting requirements.
- Vessels with a trawl endorsed groundfish limited entry permit participate in the shoreside individual fishing quota (IFQ) fishery and may use any legal groundfish gear. A significant portion of vessels possessing these endorsed permits and the necessary quota pounds use longline gear to catch sablefish ("gear switchers"). From an operational standpoint these vessels are comparable to the limited entry category described above.
- Overlapping with these permit categories, vessels may be described as participating in the "non-nearshore" or nearshore fishery. The non-nearshore fishery principally targets sablefish on the continental slope and may also land other associated species such as thornyheads. The nearshore fishery, as the name implies, fishes closer to shore, principally landing various rockfish species. Vessels that fished exclusively in the nearshore fishery are excluded from the estimates of the number of affected vessels, because it is presumed they primarily fished in state waters and the 2017 B.O. does not apply to state fisheries.

3.5.2 Number of Vessels Affected by the Proposed Action

Based on PacFIN landings information, 37 large vessels and 387 small vessels participated in the non-nearshore fishery using longline gear during the 2013-2017 baseline period. Of these vessels 42 small vessels and one large vessel also participated in the nearshore fishery. There are an additional 34 small vessels that fished exclusively in the nearshore sector. WCGOP observed 273 hauls by 28 vessels fishing longline gear in the nearshore fishery from 2013-2017. The nearshore fishery occurs primarily, although possibly not exclusively, in state waters. For that reason this analysis focuses on vessels fishing in the non-nearshore fishery. Due to the small sample size and the potential error when analyzing haul location

[7] Participation in the fishery varies from year to year, so the longer the time period, the more vessels will be in the population, although the rate of increase generally decreases as years are added to the time frame. While the choice of five years to characterize fishery participation is arbitrary, it is a compromise between a census of all vessels that may have participated in the fishery and recent participation.

[8] See http://pacfin.psmfc.org/wp-content/uploads/2015/10/PacFIN_groundfish_sector_codes.pdf

data at small spatial scales, estimate of fishing effort by nearshore vessels in Federal waters cannot be precisely estimated from WCGOP data, but approximately 8% of observed hauls by these nearshore vessels occurred partially or wholly in Federal waters. A small number of vessels accounted for the majority of these hauls; only 3 vessels (approximately 11% of those observed) fished more than one haul outside of state waters.

Table 3 presents a breakdown of vessel participation in the non-nearshore fishery by year for this period based on PacFIN landings data. On average, 22 large vessels and 199 small vessels participated in the fishery annually. The smaller number of vessels participating in any one year compared to the total number of vessels suggests that many vessels move in and out of the fishery over time.

Table 3. Number of commercial longline vessels with groundfish landings in the non-nearshore fishery by size category, 2013-2017.

Year	Large vessels	Small vessels
2013	21	172
2014	19	166
2015	20	200
2016	25	235
2017	25	224

Option C would require vessels to fish at night when using floated mainline gear. WCGOP data on the use of floated mainline gear are available for 2016 and 2017 and reported in Table 4.

Table 4. Proportion of observed groundfish longline vessels using a floated mainline at any time during 2016-2017. The panel on the right shows the proportion of observed vessels that switched between floated and unfloated gear during this period. (Source: WCGOP.)

Year	Fished with floated mainline		Switched between floated and unfloated mainline	
	26 - 55 ft.	> 55 ft.	26 - 55 ft.	> 55 ft.
2016	35%	58%	4%	8%
2017	37%	55%	4%	9%
2016-17 combined	34%	56%	8%	13%

3.5.3 Fishery Participation and Revenue

Table 5 provides summary statistics for participation in the non-nearshore fishery by vessels size measured by the average number of trips. For both size classes the distributions are positively skewed indicating that observations are concentrated near the lower end of the distribution. Kurtosis is a measure of the number of observations in the tails relative to the central tendency. For small vessels it is highly positive or "leptokurtic," suggesting more outlier observations, while it is near to zero for large vessels, or "platykurtic," suggesting a flatter distribution of observations. Taken together these statistics show that most vessels make few trips in the fishery while a few vessels have a high level of participation. Ex-vessel revenue show a similar highly skewed pattern as shown in Table 6.

Table 5. Summary statistics of annual average number of trips in the non-nearshore fishery for small and large vessels.

Size	Mean	Standard Deviation	Median	Minimum	Maximum	Skew	Kurtosis
Small vessels (n = 387)	7.5	13.4	2.0	0.2	93.8	3.0	10.5
Large vessels (n = 37)	3.5	3.8	1.8	0.2	13.2	1.1	0.1

Table 6. Summary statistics for annual average ex-vessel revenue (current dollars) by vessel size by fishery sector.

Sector	Mean	Standard Deviation	Median	Minimum	Maximum	Skew	Kurtosis
Small (n = 387)							
Non-Nearshore	$24,275	$42,631	$4,796	$3	$242,404	2.3	5.2
Nearshore	$783	$4,476	$0	$0	$51,300	8.1	74.3
Other	$2,575	$7,484	$0	$0	$61,603	4.2	20.1
Large (n= 37)							
Non-Nearshore	$103,854	$157,325	$46,479	$760	$704,567	2.3	5.4
Nearshore	$2	$13	$0	$0	$79	5.6	30.2
Other	$8,324	$19,148	$0	$0	$85,147	2.5	5.9

The skewed distribution of these two metrics is illustrated graphically, in Figure 1.

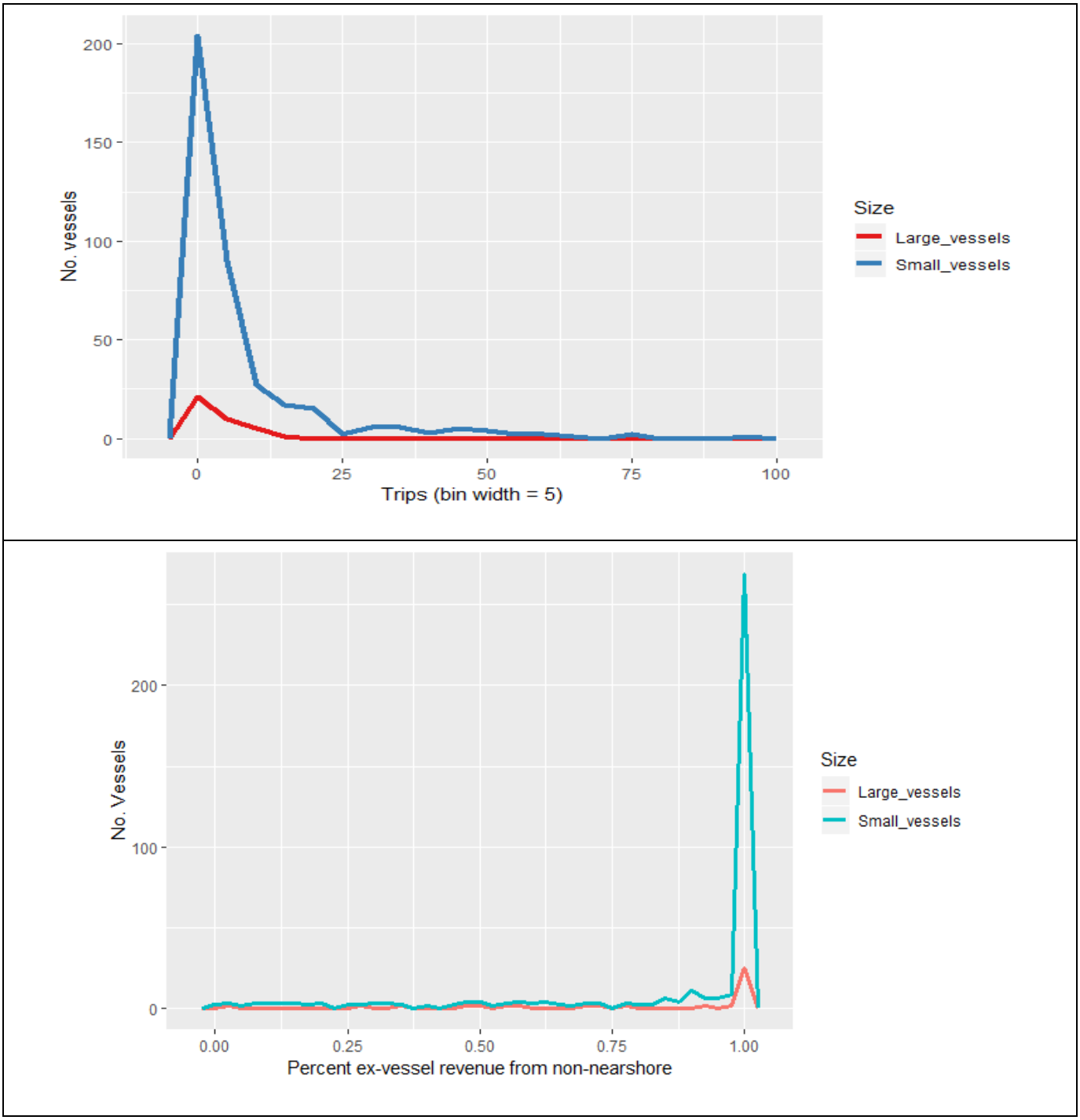

Figure 1. Frequency distribution of participation in the non-nearshore groundfish fishery as measured by average number of trips per year (top) and ex-vessel revenue from the non-nearshore fishery as a percentage of total revenue (bottom), 2013-2017, by size class.

3.5.4 Vessel Engagement and Dependency

The statistics presented in Figure 1 can be used to assess vessel engagement in the non-nearshore fishery (using average annual number of landings trips) and dependency (using the percent of total ex-vessel

revenue derived from landings in this fishery). The distribution of these two metrics is illustrated in Figure 2. Vessels represented by points in the upper right quadrant are both highly engaged and dependent; conversely, vessels represented by points in the lower left quadrant are not very engaged or dependent on the fishery.

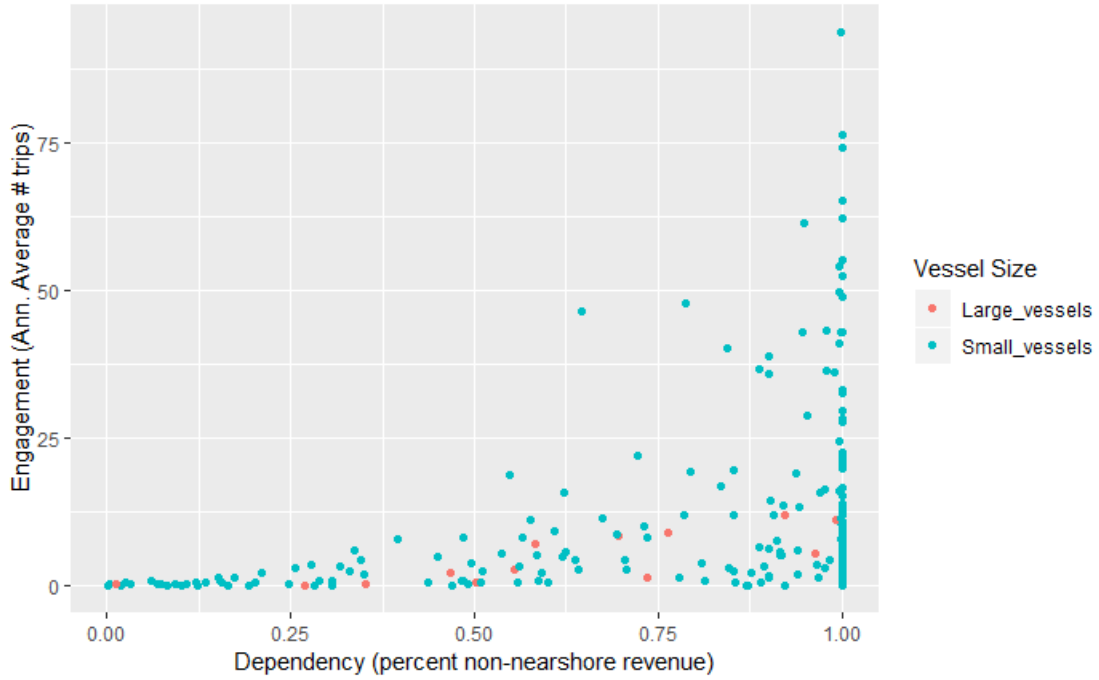

Figure 2. Vessel dependence and engagement in the non-nearshore fishery.

Because the two statistics are skewed in contrasting ways, overall it can be said that these vessels are overwhelmingly dependent on the non-nearshore fishery but many are not highly engaged in the sense that they make relatively few trips. The median value for the percentage of total revenue derived from the non-nearshore fishery is 100%; put another way 77% of small vessels and 73% of large vessels derive 90% or more of total ex-vessel revenue from the non-nearshore fishery. In terms of participation, the median for average annual number of trips is two. This compares to a maximum value of 94. In terms of the frequency distribution of trips; 80% of small vessels and 90% of large vessel make 10 or fewer trips per year. If we class vessels greater than or equal to the mean value for these statistics as highly engaged and highly dependent, and those below the mean as having low dependence and engagement, it is possible to produce the matrix shown in Table 7. For both vessel size classes and using this typology most vessels are categorized as high dependence and low engagement.

Table 7. Matrix of dependence and engagement in the non-nearshore fishery by vessel size class. (Mean values for metrics used as cut-off.)

		Engagement			
		Large Vessels		Small Vessels	
Dependence		Low	High	Low	High
	Low	7 (19%)	3 (8%)	65 (17%)	20 (5%)
	High	23 (62%)	4 (11%)	225(58%)	77 (20%)

3.5.5 Communities

Table 8 shows the distribution of average annual fishing effort (trips, as measured by landings receipts) and ex-vessel revenue (current dollars) for commercial groundfish longline vessels by the port area. These statistics are reported separately for large and small vessels. For reference, the ports from Morro Bay southward are south of 36° N latitude; an option is considered to exempt fishing vessels fishing south of that line from the streamer line requirement. Landings and revenue from large vessels is concentrated in relatively few port areas: Puget Sound, ports at the entrance of the Columbia River, Newport, Coos Bay, and Fort Bragg. In contrast, small vessel landings and revenue are highest in the Southern California ports of Morro Bay and Santa Barbara but occur in every port area on the coast.

Table 8. Distribution of average annual non-nearshore longline fishing effort (trips) and ex-vessel revenue (current dollars) by small and large vessels by port areas, 2013-2017. Ports south of 36° N latitude shown in bold.

	Average Annual Trips		Average Annual Revenue	
Port	Large vessels	Small vessels	Large vessels	Small vessels
Puget Sound	23	15	$1,367,123	$425,742
North WA Coast	*	115.8	*	$606,031
South And Central WA Coast	18.2	107	$853,034	$592,604
Astoria	1.2	14.2	$33,499	$199,239
Tillamook	*	*	*	*
Newport	32.2	116.2	$827,685	$813,555
Coos Bay	30	104.6	$336,474	$361,687
Brookings	*	216	*	$692,883
Crescent City	*	11.2	*	$36,431
Eureka	*	137.2	*	$402,737
Fort Bragg	19	137	$364,657	$238,195
Bodega Bay	-	108.2	-	$407,564
San Francisco	*	65.8	*	$223,743
Monterey	-	277	-	$493,379
Morro Bay	**-**	**514.4**	**-**	**$1,212,525**
Santa Barbara	**-**	**478.4**	**-**	**$1,917,311**
Los Angeles	*****	**134.6**	*****	**$196,904**
San Diego	**-**	**338.2**	**-**	**$566,492**

*Excluded due to data confidentiality requirements.
- No data

3.6 Impacts of No Action

Under No Action regulations requiring the use of streamer lines on commercial groundfish longline vessels less than 55 feet LOA would not be implemented. These vessels would not have to change their fishing operations to accommodate streamer lines (or to set at night) and would not bear the cost of acquiring streamer lines. Under this alternative, the Pacific Coast groundfish fishery would be out of compliance with the B.O.

3.7 Impacts of Alternative 1

Alternative 1 extends streamer line requirements to small vessels consistent with current requirements in the NOAA Fisheries Alaska Region. For small vessels there are different standards for vessels 1) with superstructure (masts, poles, or rigging) not using snap gear; 2) with superstructure and using snap gear;[9] and 3) without superstructure. As referenced in Section 2.2, Alaska regulations include a weather exemption specific to small vessels.

3.7.1 Effectiveness in Reducing Short-Tailed Albatross Bycatch

3.7.1.1 Streamer Lines

The 2013 EA (NMFS 2013) describes a research program led by Washington Sea Grant and Oregon State University in collaboration with the fishing industry to develop effective and practical tools to reduce the mortality of albatrosses and other seabirds in the West Coast longline fishery targeting sablefish. This research program responds to the 2012 B.O. (USFWS 2012) requirement for an adaptive management process that includes a research component to find "new or improved methods of reducing bycatch of short-tailed albatross that are safe and effective for the Fishery to use..." (USFWS 2017, p. 35). Such new information could be used to revise the regulations.

A recent peer-reviewed publication by Gladics, et al. (2017) reports the results of this research. It assesses the efficacy of seabird avoidance gear and methods (including streamer lines, called bird scaring lines in the paper, and night setting, as mentioned above) based on the standards established in Alaska regulations. The researchers collaborated with seven vessels in the limited entry sablefish endorsed longline sector. Four of the seven vessels studied were small vessels. Fishing occurred along the southern Washington, Oregon, and Northern California coasts. To understand how long baited hooks were available to seabirds, fishing gear was fitted with time-depth recorders to obtain gear sink profiles. The time it took the recorders to sink below 2 m and 5 m was obtained and the distance behind the vessel was calculated using vessel speed. The two depth thresholds reflect the diving capabilities of different types of seabirds. Albatrosses are surface foraging birds, not diving below 2 m. A linear mixed-effects model was constructed to estimate the distance astern the average floated and non-floated longline sank below these diving depth limits. On floated longline gear, floats are attached to the mainline at the midpoint between the weights that sink the gear to keep it on the seafloor. The floats elevate the mainline off the seafloor to minimize depredation by "sea lice" (isopods), which can occur when fish are immobile on the seafloor. Attack rates on baited hooks were observed as a proxy for bycatch risk, because actual bycatch events are rare. This allowed an assessment of attack rates for the portion of the gear below the bird scaring line and that portion beyond the bird scaring line.

The research confirms that the Alaska regulations are sufficient to protect baits from bird attacks on longlines without floats on the mainline. But an important finding reported in the paper is that current seabird avoidance measures are less effective in mitigating seabird bycatch when floats are attached to the mainline. With floated gear, that portion adjacent to the float, having the slowest sink rate, sank below the threshold depths at more than twice the distance astern compared to the slowest sinking portion of non-floated gear. The estimated distance astern when the 2 m threshold (relevant to albatrosses) was reached was 157.7 m (+/- 44.8 m) for floated gear compared to 68.8 m (+/- 37.8 m) for non-floated gear. The distances are greater for the 5 m threshold. The slowest sinking portion of floated gear is thus exposed to seabird attacks beyond the extent of the streamer lines. Black-footed albatrosses attack rates under bird

[9] With snap gear the gangion and hook are attached to the groundline by means of a mechanical fastener, usually during gear deployment.

scaring lines (0–40 m astern) and beyond bird scaring lines (40–90 m astern) were compared. Overall, attack rates were higher on floated longlines compared to non-floated lines. While the difference in attack rates under bird scaring lines was not statistically significant, the difference was significant for the area beyond the extent of the bird scaring line.

Although the abundance and assemblage of seabirds in the North Pacific is somewhat different than off the west coast, a recent paper by Melvin et al. (2019) shows that the use of streamer lines in Alaska longline fisheries led to a very substantial reduction in seabird bycatch. Across four target fisheries using longline gear (sablefish, Pacific cod, turbot, and Pacific halibut) albatross bycatch-per-unit-of-effort (BPUE) in observed sets declined by 88.7% (the effect on short-tailed albatross bycatch could not be separately estimated, because too few takes were observed). However, this analysis of observer data reveals that a very small proportion of vessels account for the balance of seabird bycatch. For example in the sablefish fishery, of the 178 vessels monitored from 2013 to 2015, three vessels accounted for 46% of albatross bycatch and only 28% of these 178 vessels had any seabird bycatch at all. The authors suggest that targeted outreach is necessary to understand why relatively few vessels account for a larger fraction of bycatch and to encourage them to alter their fishing practices to reduce seabird bycatch.

3.7.1.2 Night Setting

Gladics et al. (2017) report a retrospective analysis of West Coast Groundfish Observer Program data. Observer data were available across different sectors using hook-line-gear but most data come from the limited entry sablefish fishery, because of the variation in observer coverage across different fishery sectors and the amount of fishing effort actually expended in different sectors. The authors conclude that "results show that night setting reduced bycatch of albatrosses without increasing the bycatch of non-albatross seabirds, increased retained sablefish catch, and had little effect on the total amount of discarded catch" (p. 93).

Melvin et al. (2019) also evaluated observer data for the Alaska longline fisheries to assess the effect of night setting. Albatross BPUE declined by 91% while CPUE for the target species in the sablefish fishery increased by 6.7% while non-target catch increased by 4.7%. An increase in non-target catch could result in increased levels of finfish bycatch if the species are unmarketable or retention is prohibited by regulation. While seabird BPUE declined overall with nigh-setting, rates for some non-albatross species increased, in particular Northern fulmar. While Northern fulmar are present off the west coast, they are much less abundant than in waters off Alaska. Estimated Northern fulmar mortality in U.S. West Coast groundfish fishery sectors 2010-2016 for groundfish vessels fishing with hook-and-line gears, reported in Jannot et al. (2018, see Table 4), ranged from a high of 9.15 in 2012 to a low of 1.52 in 2013. Furthermore, the population of Northern fulmar is relatively large, presenting less of a conservation concern than the take of short-tailed albatross (and other albatross species).

3.7.2 Costs

A single streamer line costs about $125 in materials and labor. As part of its outreach program, Washington Sea Grant has distributed streamer lines to groundfish longline vessels in the past. While this effort focused on the limited entry sector, and especially participants in the primary fishery, some streamer lines were distributed to small vessels. The USFWS Coastal Program has also been granted $23,000 (sufficient to cover the cost of distributing about 130 streamer lines) to distribute streamer lines to small longline vessels in Washington, Oregon, and Northern California, with Oregon Sea Grant coordinating the distribution. Finally, NMFS obtained funding to distribute 28 streamer lines as of November 2018, and pending interest, NMFS may pursue further funding and/or support efforts to provide subsidized streamer lines through partner groups such as Sea Grant and partner agencies such as U.S. Fish and Wildlife Service.

If all the small vessels that fished in the 2013-2017 baseline period continued to participate in the commercial longline fishery after this alternative was implemented, 387 vessels would have to acquire and deploy streamer lines or restrict themselves to night-setting (see Section 3.5.2). The direct cost, whether borne by the vessels themselves or other entities distributing streamer lines to them, would be $48,375 based on the estimated cost per streamer line of $125; which would be the maximum cost under the assumption that all vessels chose the streamer line option. Based on PacFIN landings data, there were an additional 34 small vessels that made landings exclusively in the nearshore fishery during the baseline period. If these vessels only fish in state waters they would not have to acquire or deploy streamer lines but if any of these vessels also fish in Federal waters they would be subject to the requirements. There is also the indirect cost, in terms of the effect on vessel operations, of having to deploy the streamer lines, which cannot be quantified.

Most vessels make relatively few trips in the non-nearshore fishery per year (81% make 10 or fewer trips annually). In Section 3.5.4 this was used as a metric of engagement in the fishery and it was suggested that the majority of vessels exhibit low engagement and high dependence (measured by the percentage of total ex-vessel revenue derived from the non-nearshore fishery). Vessel operators with low participation rates (noting that the median value is two trips per year) could decide to stop participating entirely rather than comply the streamer line requirement.

Some vessels subject to the proposed action may not have the deck lighting and navigational equipment necessary to conduct fishing operations at night. However, vessels could instead choose using streamer lines as their preferred seabird bycatch mitigation measure if they wanted to avoid incurring any associated equipment costs associated with fishing at night.

The retrospective analysis of observer data cited above (Gladics et al. 2017) found that “average retained catch per set was more than 40% greater during night-time sets (0.61 mt) compared with day sets (0.43 mt), which has clear biological as well as statistical significance. Discarded catch was only slightly higher at night (0.27 mt) compared with day sets (0.23 mt), which was statistically significant but of questionable biological significance” (p. 91). The increase in retained catch would translate into higher ex-vessel revenue on average. However, this research focuses on vessels targeting sablefish on the continental slope. Melvin et al. (2019) found a similar effect analyzing observer data from Alaska hook-and-line fisheries for sablefish and Pacific cod, suggesting that the effect may apply across a range of fishery targets. No comparable analysis has been done for vessels targeting other west coast species assemblages (e.g., rockfish, thornyheads) although vessels or sets targeting these species likely represent a very small proportion of total groundfish longline fishing effort in Federal waters.

3.7.3 Vessel Operations

Using streamer lines adds to the complexity of deploying the gear. This would result in a modest increase in indirect cost (any additional labor involved) and as discussed elsewhere, there is a risk of the streamer lines entangling in the fishing gear if deployed improperly, which could reduce fishing time and thus catch.

WCGOP data indicates that 3.7% of small vessels and 5.9% of large vessels observed in the baseline period used snap gear. However, these proportions include vessels that switched between using snap gear and other configurations; 1.5% of small vessels switched between snap gear and other configurations while all 5.9% of large vessels did so. Vessels switching between gear configurations would have to also switch between the streamer line configurations. Anecdotal information suggests that no groundfish longline vessels participating in the non-nearshore fishery lack the necessary superstructure to deploy streamer lines and would therefore have to deploy buoy bags. (It is possible that some vessels fishing

exclusively in the nearshore fishery may lack superstructure but are unlikely to fish in Federal waters.) If there are in fact vessels without superstructure they would be less than 55 feet LOA.

Reduced visibility at night could make it more difficult to operate the vessel and conduct fishing operations if night setting was chosen as an alternative to using streamer lines. However, vessels participating in the fishery make multi-day trips and some vessels already set gear at night, suggesting that the impact of having to operate at night would be negligible.

3.7.4 Safety

The deployment of streamer lines raises potential safety issues. For example, streamer lines may become entangled in the propeller or the fishing gear during the setting of the longline and create a safety hazard. Entanglement is a greater risk when vessels are operating at slow speeds, although a slower speed allows the gear to sink to a depth inaccessible to surface diving birds before reaching the extent of streamer lines (Melvin and Wainstein 2006). Vessels using snap-on gear generally must operate at slower speeds; performance standards specific to this gear configuration are intended to provide sufficient protection from bird strikes and gear deployment can be conducted in a way to minimize the risk of fouling the streamer lines. According to the 2013 EA (NMFS 2013), industry experts with experience in the Alaskan groundfish fisheries report safety issues are rare there, because of long-term experience using streamer lines and a regulatory exemption from using streamer lines in rough weather (50 CFR 679.24(e)).

Because large vessels have been subject to streamer line requirements since 2015, those vessel operators are familiar with deployment and use. Some small vessel operators have likely voluntarily adopted the use of single streamer lines based on outreach efforts by Washington Sea Grant and thus have experience with their use. Further, low-tensile strength "break-aways" can be integrated into streamer lines so that if entanglements occur, the line breaks without creating a safety hazard such as entanglement in the prop (Melvin 2000). Outreach efforts (for example, by state Sea Grant extension programs) could reduce the risk of safety hazards by teaching fishermen safe deployment techniques.

Reduced visibility at night could increase the risk of injury to crew during gear deployment or vessel collisions. Proper equipment such as deck lighting could mitigate these safety concerns.

3.8 Option A (Area Exemption South of 36° N. lat.)

3.8.1 Effectiveness in Reducing Short-Tailed Albatross Bycatch

An analysis of overlap between the distribution of albatrosses off the west coast and west coast groundfish fisheries (Guy et al. 2013) found that black-footed albatrosses, used as a proxy for short-tailed albatrosses, rarely occur south of 36° N. latitude. (Black-footed albatrosses were used as a proxy, because short-tailed albatrosses are relatively rare, making statistically valid inferences on fisheries overlap impossible.) Guy et al. (2013) computed an overlap index for black-footed albatross by fishery and region. The index value for the shelf break domain south of 36° N. latitude is well below the mean value and zero or near-zero for continental shelf and slope domains. Also, no short-tailed albatross have been observed south of 36° N. latitude in surveys.

While this option would slightly elevate the risk of short-tailed albatross take compared requiring the use of streamer lines throughout the west coast EEZ, as Melvin and Wainstein (2006) note, based on risk analysis "seabird mitigation requirements should be adjusted or eliminated wherever risk of seabird mortalities is minimal or absent." In conclusion, this exemption merits consideration based on the associated low risk.

3.8.2 Costs

Under this option, vessels operating exclusively south of 36°N latitude would not need to acquire streamer lines, a cost saving. Using PacFIN landings data, of the 387 small vessels in the fishery during the 2013-2017 baseline period, 65 vessels only made landings south of this line based on the port of landing. Only one of the 37 large vessels in the fishery made all of its landings in the south during the baseline period.

For all commercial groundfish longline vessels (i.e., in both size categories) the average proportion of observed vessels fishing south of 36°N latitude was 27% according to WCGOP. The proportion varied annually from 40% to 13%. However, some of these vessels switched between the two areas, varying from none in 2016-2017 to slightly more than 3% in 2013. WCGOP data show that 19% of fishing effort, measured by observed hauls, occurred south of 36°N latitude during the baseline period.

This option would provide relief for vessels fishing only in the south. If fishing patterns in the future are like they were during the baseline period, 16% of small vessels would benefit from this exemption according to PacFIN landings data while WCGOP data suggests the proportion could be as high as 40%. However, PacFIN landings data would not account for vessels that landed fish in a port north of 36°N latitude while fishing for all or part of a trip south of that line. WCGOP data suggests that overall slightly less than a third of observed fishing effort occurred south of this line. Vessels fishing both north and south of 36°N latitude would bear the cost of acquiring the gear but would only assume any indirect costs stemming from streamer line deployment (or night setting) when fishing north of the line.

3.8.3 Vessel Operations

Vessels operating south of 36°N latitude would be exempt from using streamer lines, so vessel operations would be unaffected in that region. Vessels fishing near or across this latitude boundary would need to ensure that the streamer lines are deployed when setting gear north of the line. Compliance would be slightly more complicated for these vessels if they do not monitor their exact position in relation to the boundary when setting gear.

3.8.4 Safety

Vessels operating south of 36°N latitude would be exempt from using streamer lines, so vessels operating in that region would not encounter any elevated safety risks associated with their deployment.

3.9 Option B (Area Exemption Shoreward of 250 fathoms)

3.9.1 Effectiveness in Reducing Short-Tailed Albatross Bycatch

The aforementioned overlap analysis (Guy et al. 2013) also found that black-footed albatross overlap, and by extension short-tailed albatross, was low in the continental shelf, or nearshore, domain. As noted above, the index value for longline fisheries is zero for the shelf domain. However, as shown in Figure 3, using the 250 fathom contour to define the exemption would allow the fishery to operate in the shelf break region defined in the overlap analysis as between 201 and 1,000 meter depth contours (109-547 fathoms). While this exemption is intended to encompass the operational area of the nearshore (non-sablefish) fishery it would present an elevated risk of short-tailed albatross take in the region north of 36° N. latitude. As noted in Section 3.5.2, 34 small vessels fished exclusively in the nearshore fishery. This fishery operates primarily in state waters but these vessels may occasionally fish beyond state waters.

Operational data derived from WCGOP show that the proportion of annual estimates of fishing effort by all non-nearshore groundfish longline vessels, measured by observed hauls, occurred shoreward of the 250 fathom depth contour varied between 46% and 71% during the baseline period. This suggests that a substantial proportion of fishing effort would not be subject to the mitigation requirements (streamer lines, night setting) under this option. Therefore, this option would be expected to have a higher risk of short-tailed albatross bycatch and would likely not meet the purpose and need of this action.

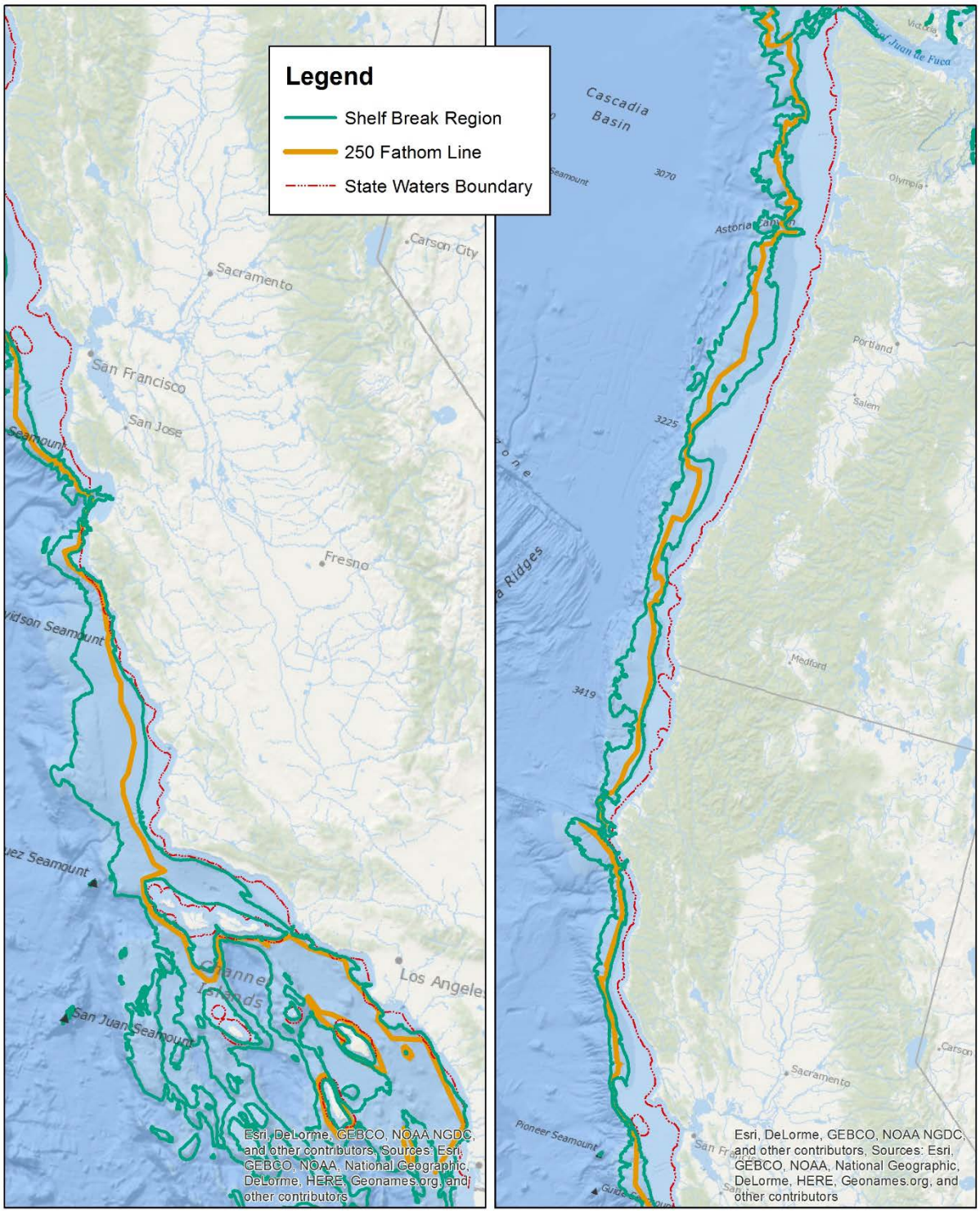

Figure 3. Comparison of shelf break region and 250 fathom contour as defined in Federal regulations.

3.9.2 Costs

Under this option, vessels operating exclusively shoreward of the 250 fathom depth contour line would not need to acquire streamer lines, a cost saving. The 250 fathom depth contour is intended to encompass the operational area of the nearshore fishery. However, for this analysis it is assumed that the nearshore fishery operates exclusively in state waters and would be exempt from the streamer line requirement. Therefore, the estimated number of affected vessels presented here (424 in total) do not include vessels operating exclusively in the nearshore fishery. In the PacFIN database trips are classified as nearshore based on landings including any one of a number of nearshore species.

As noted above, a large proportion of observed fishing effort occurring shoreward of the 250 fathom contour during the baseline period. Fifty-three percent of observed vessels accounted for this fishing effort, although between 27% and 42% of these vessels fished both shoreward and seaward of the 250 fathom depth contour.

Given the criteria used here, based on PacFIN data all 387 small vessels would have to acquire streamer lines. To the degree that streamer line deployment represents an indirect cost (due the impact on vessel operations) costs could be avoided on those trips occurring shoreward of the 250 fathom contour. As shown in Figure 3, along a lot of the coast there is substantial area between the 250 fathom contour and the state waters boundary. Operational costs would be avoided in this area.

3.9.3 Vessel Operations

As with Option A, vessel operations would be unaffected in the exemption area. Vessels fishing both seaward and shoreward of the 250 fathom depth contour line would need to carry streamer lines and deploy them when required.

3.9.4 Safety

Vessels operating shoreward of the 250 fathom depth contour line would be exempt from using streamer lines, so vessels operating in that region would not encounter any elevated safety risks associated with their deployment.

3.10 Option C (Require Vessels Using Floated Mainline to Fish at Night)

3.10.1 Effectiveness in Reducing Short-Tailed Albatross Bycatch

Many vessels attach floats to the mainline of the longline at the midpoint between the weights that sink the gear to keep it on the seafloor. The floats elevate the mainline off the seafloor to minimize depredation by “sea lice” (isopods), which can occur when fish are immobile on the seafloor.

Research reported by Gladics et al. (2017) demonstrates that current seabird avoidance measures are less effective in mitigating seabird bycatch when floats are attached to the mainline. With floated gear, that portion adjacent to the float, having the slowest sink rate, sank below the threshold depths at more than twice the distance astern compared to the slowest sinking portion of non-floated gear. The estimated distance astern when the 2 m threshold (relevant to albatrosses) was reached was 157.7 m (+/- 44.8 m) for floated gear compared to 68.8 m (+/- 37.8 m) for non-floated gear. The distances are greater for the 5 m threshold. The slowest sinking portion of floated gear is thus exposed to seabird attacks beyond the extent of the streamer lines. Black-footed albatrosses attack rates under bird scaring lines (0–40 m astern) and beyond bird scaring lines (40–90 m astern) were compared. Overall, attack rates were higher on floated longlines compared to non-floated lines. While the difference in attack rates under bird scaring lines was

not statistically significant, the difference was significant for the area beyond the extent of the bird scaring line.

As discussed above, a retrospective analysis of observer data shows that albatross bycatch is significantly reduced at night, especially if gear is set between civil dusk and dawn. Requiring gear setting during this time interval would therefore more effectively mitigate against albatross bycatch when a floated mainline is used, compared to requiring the use of streamer lines.

3.10.2 Costs

WCGOP data on the use of a floated mainline are available for 2016 and 2017 only. Fifty-six percent of observed large vessels used a floated mainline in those years while 34% of observed small vessels did. However, 8% of observed small vessels and 12% of observed large vessels used both floated mainline and mainline without floats on different sets.

If not already equipped with the equipment needed to fish at night, vessels using a floated mainline would have to incur that additional cost of purchasing such equipment. As discussed above, vessels fishing at night may experience higher catch rates, potentially increasing ex-vessel revenue. This could offset some or all of any additional costs associated with fishing at night.

3.10.3 Vessel Operations

Reduced visibility at night could make it more difficult to operate the vessel and conduct fishing operations. However, vessels participating in the fishery make multi-day trips and a significant proportion of vessels already set gear at night, suggesting that the impact of having to operate at night would be negligible.

As noted by Melvin et al. (2019), in waters around Alaska, day lengths are long in the summer months making it difficult to set at night at that time of the year. This would be less of an issue off the west coast. The shortest nighttime period, approximating the northern-most location in the west coast EEZ (48° 30’ N latitude), is 7 hours and 53 minutes (U.S. Naval Observatory, Astronomical Applications Department). (This is the duration from sunset to sunrise; the interval between civil dusk and civil dawn would be approximately two hours less.)

3.10.4 Safety

Reduced visibility at night could increase the risk of injury to crew during gear deployment or vessel collisions. Vessels would need to be equipped with the requisite navigational equipment to reduce the risk of collisions and deck lighting for safe fishing operations to mitigate safety concerns. As already stated, these vessels already operate at night during multi-day trips and therefore should be sufficiently equipped.

3.11 Option D (Different Weather Safety Exemption for Small Vessels)

Under this option, the Council could choose a different weather safety exemption from the one currently in regulations for large vessels, which is when a Weather Service Gale Warning is in effect (winds 34 to 47 knots). Depending on the rough weather exemption chosen, the effect would differ slightly based on the frequency of such conditions. While any wind speed threshold could be used, Weather Service warning and advisory thresholds offer the advantage of being announced. Another announced condition is the Weather Service Small Craft Advisory (winds 21 to 33 knots, and/or wave heights exceed 10 feet). Alternatively, a wind speed threshold could be chosen that is not associated with a specific Weather

Service warning/advisory as the case with Alaska Region regulations that allow discretionary use of streamer lines for small vessels when winds exceed 30 knots (50 CFR 679.24(e)(4)(v)).

3.11.1 Effectiveness in Reducing Short-Tailed Albatross Bycatch

If vessel operators decide to continue fishing during daylight hours when sea conditions are above the weather safety exemption threshold streamer lines do not need to be used, and the risk of short-tailed albatross takes would be increased. A lower threshold weather safety exemption for small vessels could potentially increase the range of conditions when streamer lines would not have to be deployed, increasing this risk compared to applying the current weather safety exemption for large vessels to small vessels. Albatross are visual hunters so may be less prevalent around fishing boats during rough weather; however, there isn't any research that specifically addresses this behavior.

3.11.2 Costs

A lower weather safety exemption for small vessels would result in a very modest or negligible reduction in operational costs. Other things being equal, small vessels would still need to acquire streamer lines but would not have to deploy them when sea conditions exceed the threshold. The indirect costs of deployment during rough seas could be higher compared to calmer sea conditions due to the greater risk of fouling with the gear or vessel.

3.11.3 Vessel Operations

Smaller vessels are likely to have a harder time operating in rough seas. While many other vessel characteristics are factors, vessel length is a good proxy for seaworthiness. Generally, the smaller the vessel the harder time it will have as weather deteriorates. As shown in Figure 4, vessel lengths of the potentially affected vessels (based on participation in the non-nearshore fishery during the baseline period) skew to smaller values. The smaller vessels are likely to benefit from a lower weather safety exemption threshold in terms of avoiding risks involved in operating the vessel during rough weather.

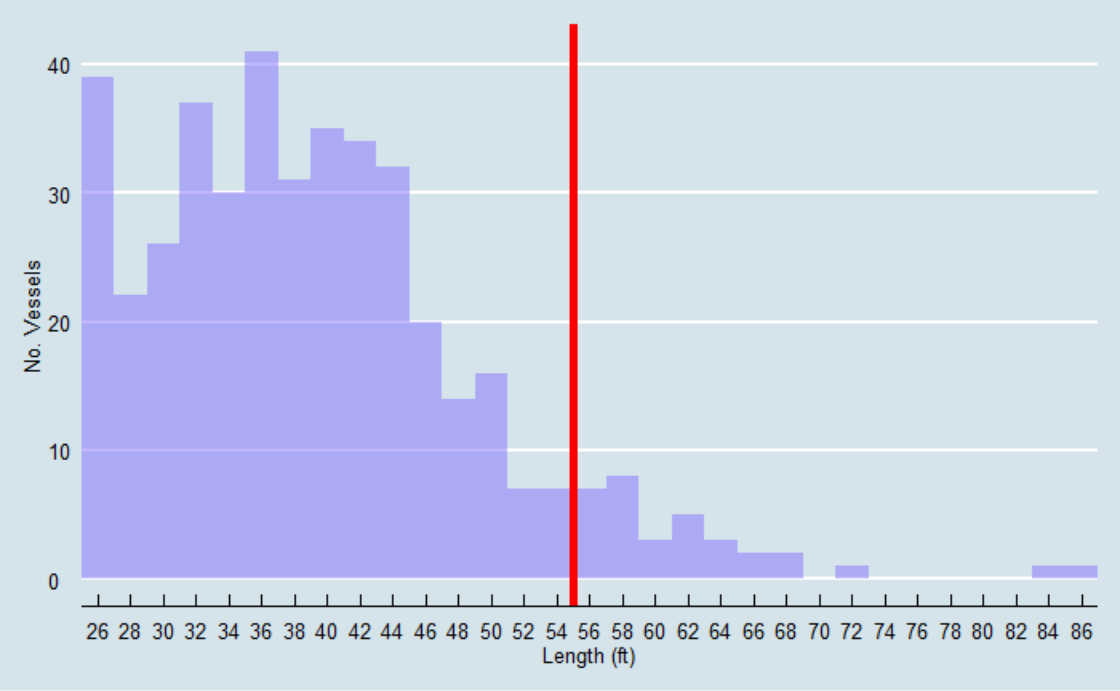

Figure 4. Distribution of vessel lengths during the baseline period. (Vessels in the non-nearshore fishery.)

3.11.4 Safety

A lower weather safety exemption threshold for smaller vessels would increase safety since there is a higher risk of fouling the gear or vessel when deploying streamer lines during rough weather. Smaller vessels may be less seaworthy to begin with and thus confront these safety risks in more moderate sea conditions compared to larger vessels.

3.12 Management and Enforcement Considerations

Extending the streamer line requirement to small vessels under Alternative 1 would increase the management and enforcement burden because compliance would have to be monitored for a greater number of vessels than is the case under the current requirement for vessels 55 feet LOA and above. Alternative 1 Options A and B, implementing area exemptions, would complicate management and enforcement because enforcement personnel would have to determine whether a vessel was operating in an exempted or un-exempted area (i.e., north or south of 36° N latitude or shoreward/seaward of the 250 fathom depth contour).

Requiring night setting either as a voluntary or mandatory alternative to streamer line use under Alternative 1 and Option C would require enforcement personnel to determine whether gear had been set after civil dusk and before civil dawn (e.g., at least one hour after local sunset/before sunrise). Option C would require enforcement personnel to determine whether the vessel operator is using a floated mainline to decide whether the vessel operator was in compliance. This would not be possible during the period when the gear was on the seabed between gear deployment and retrieval. Enforcement personnel would have to observe the vessel when the gear is onboard or being set or retrieved.

3.13 Summation of the Alternatives with Respect to Net Benefit to the Nation

Alternative 1 would result in an unquantified net benefit to the Nation by reducing takes of short-tailed albatross, contributing to the population's recovery. Options A, C, and D under Alternative 1 generally result in an equivalent or potentially greater net benefit by providing comparable mitigation of short-tailed albatross takes while modestly decreasing costs. Option B may have a lower net benefit; while reducing costs for vessels fishing shoreward of 250 fathoms, this exemption could increase the risk of short-tailed albatross takes.

4 Initial Regulatory Flexibility Analysis

4.1 Introduction

This Initial Regulatory Flexibility Analysis (IRFA) addresses the statutory requirements of the Regulatory Flexibility Act (RFA) of 1980, as amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (5 U.S.C. 601-612). This IRFA evaluates the potential adverse economic impacts on small entities directly regulated by the proposed action.

The RFA, first enacted in 1980, was designed to place the burden on the government to review all regulations to ensure that, while accomplishing their intended purposes, they do not unduly inhibit the ability of small entities to compete. The RFA recognizes that the size of a business, unit of government, or nonprofit organization frequently has a bearing on its ability to comply with a Federal regulation. Major goals of the RFA are 1) to increase agency awareness and understanding of the impact of their regulations on small business, 2) to require that agencies communicate and explain their findings to the public, and 3) to encourage agencies to use flexibility and to provide regulatory relief to small entities.

The RFA emphasizes predicting significant adverse economic impacts on small entities as a group distinct from other entities, and on the consideration of alternatives that may minimize adverse economic impacts, while still achieving the stated objective of the action. When an agency publishes a proposed rule, it must either 'certify' that the action will not have a significant adverse economic impact on a substantial number of small entities, and support that certification with the 'factual basis' upon which the decision is based; or it must prepare and make available for public review an IRFA. When an agency publishes a final rule, it must prepare a Final Regulatory Flexibility Analysis, unless, based on public comment, it chooses to certify the action.

In determining the scope, or 'universe', of the entities to be considered in an IRFA, NMFS generally includes only those entities that are directly regulated by the proposed action. If the effects of the rule fall primarily on a distinct segment, or portion thereof, of the industry (e.g., user group, gear type, geographic area), that segment would be considered the universe for the purpose of this analysis.

4.2 IRFA Requirements

Until the Council makes a final decision on a preferred alternative, a definitive assessment of the proposed management alternatives cannot be conducted. In order to allow the agency to make a certification decision, or to satisfy the requirements of an IRFA of the preferred alternative, this section addresses the requirements for an IRFA. Under 5 U.S.C., section 603(b) of the RFA, each IRFA is required to contain:

- A description of the reasons why action by the agency is being considered;
- A succinct statement of the objectives of, and the legal basis for, the proposed rule;
- A description of and, where feasible, an estimate of the number of small entities to which the proposed rule will apply (including a profile of the industry divided into industry segments, if appropriate);
- A description of the projected reporting, record keeping, and other compliance requirements of the proposed rule, including an estimate of the classes of small entities that will be subject to the requirement and the type of professional skills necessary for preparation of the report or record;
- An identification, to the extent practicable, of all relevant Federal rules that may duplicate, overlap, or conflict with the proposed rule;

- A description of any significant alternatives to the proposed rule that accomplish the stated objectives of the proposed action, consistent with applicable statutes, and that would minimize any significant economic impact of the proposed rule on small entities. Consistent with the stated objectives of applicable statutes, the analysis shall discuss significant alternatives, such as:

    1. The establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities;
    2. The clarification, consolidation, or simplification of compliance and reporting requirements under the rule for such small entities;
    3. The use of performance rather than design standards;
    4. An exemption from coverage of the rule, or any part thereof, for such small entities.

In preparing an IRFA, an agency may provide either a quantifiable or numerical description of the effects of a proposed action (and alternatives to the proposed action), or more general descriptive statements, if quantification is not practicable or reliable.

4.3 Definition of a Small Entity

The RFA recognizes and defines three kinds of small entities: 1) small businesses, 2) small non-profit organizations, and 3) small government jurisdictions.

Small businesses. Section 601(3) of the RFA defines a 'small business' as having the same meaning as 'small business concern', which is defined under section 3 of the Small Business Act (SBA). 'Small business' or 'small business concern' includes any firm that is independently owned and operated and not dominant in its field of operation. The SBA has further defined a "small business concern" as one "organized for profit, with a place of business located in the United States, and which operates primarily within the United States or which makes a significant contribution to the U.S. economy through payment of taxes or use of American products, materials or labor…A small business concern may be in the legal form of an individual proprietorship, partnership, limited liability company, corporation, joint venture, association, trust or cooperative, except that where the firm is a joint venture there can be no more than 49 percent participation by foreign business entities in the joint venture."

Section 601(3) of the RFA provides that an agency, after consultation with SBA's Office of Advocacy and after an opportunity for public comment, may establish one or more definitions of ''small business'' which are appropriate to the activities of the agency. In accordance with this provision, NMFS has established a small business size standard for all businesses in the commercial fishing industry, for the purpose of compliance with the Regulatory Flexibility Act only. A business is considered to be a small business if it is independently owned and operated and not dominant in its field of operation (including its affiliates) and if it has combined annual gross receipts not in excess of $11.0 million for all its affiliated operations worldwide. The $11.0 million standard applies to all businesses classified under the North American Industry Classification System (NAICS) code 11411 for commercial fishing, including all businesses classified as commercial finfish fishing (NAICS 114111), commercial shellfish fishing (NAICS 114112), and other commercial marine fishing (NAICS 114119) businesses.

For fish processing businesses, the agency relies on the SBA size criteria. A seafood processor (NAICS 311710) is a small business if it is independently owned and operated, not dominant in its field of operation, and employs 750 or fewer persons on a full-time, part-time, temporary, or other basis, at all its affiliated operations worldwide. A business that both harvests and processes fish (i.e., a catcher/processor) is a small business if it meets the criteria for the applicable fish harvesting operation (i.e., the $11.0 million standard described above). A wholesale business servicing the fishing industry is a

small business if it employs 100 or fewer persons on a full-time, part-time, temporary, or other basis, at all its affiliated operations worldwide.

The SBA has established "principles of affiliation" to determine whether a business concern is "independently owned and operated." In general, business concerns are affiliates of each other when one concern controls or has the power to control the other, or a third party controls or has the power to control both. The SBA considers factors such as ownership, management, previous relationships with or ties to another concern, and contractual relationships, in determining whether affiliation exists. Individuals or firms that have identical or substantially identical business or economic interests, such as family members, persons with common investments, or firms that are economically dependent through contractual or other relationships, are treated as one party with such interests aggregated when measuring the size of the concern in question. The SBA counts the receipts or employees of the concern whose size is at issue and those of all its domestic and foreign affiliates, regardless of whether the affiliates are organized for profit, in determining the concern's size. However, business concerns owned and controlled by Indian Tribes, Alaska Regional or Village Corporations organized pursuant to the Alaska Native Claims Settlement Act (43 U.S.C. 1601), Native Hawaiian Organizations, or Community Development Corporations authorized by 42 U.S.C. 9805 are not considered affiliates of such entities, or with other concerns owned by these entities solely because of their common ownership.

Affiliation may be based on stock ownership when 1) a person is an affiliate of a concern if the person owns or controls, or has the power to control 50 percent or more of its voting stock, or a block of stock which affords control because it is large compared to other outstanding blocks of stock; or 2) if two or more persons each owns, controls or has the power to control less than 50 percent of the voting stock of a concern, with minority holdings that are equal or approximately equal in size, but the aggregate of these minority holdings is large as compared with any other stock holding, each such person is presumed to be an affiliate of the concern.

Affiliation may be based on common management or joint venture arrangements. Affiliation arises where one or more officers, directors, or general partners, controls the board of directors and/or the management of another concern. Parties to a joint venture also may be affiliates. A contractor and subcontractor are treated as joint venturers if the ostensible subcontractor will perform primary and vital requirements of a contract or if the prime contractor is unusually reliant upon the ostensible subcontractor. All requirements of the contract are considered in reviewing such relationship, including contract management, technical responsibilities, and the percentage of subcontracted work.

Small organizations. The RFA defines "small organizations" as any not-for-profit enterprise that is independently owned and operated, and is not dominant in its field.

Small governmental jurisdictions. The RFA defines "small governmental jurisdictions" as governments of cities, counties, towns, townships, villages, school districts, or special districts with populations of fewer than 50,000.

4.4 Reason for Considering the Proposed Action

The reason for the propose action is described in Section 1.1, Purpose and Need.

4.5 Objectives of Proposed Action and its Legal Basis

Under the authority of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), the Secretary of Commerce (NMFS West Coast Regional Office) and the Pacific Fishery Management Council have the responsibility to prepare fishery management plans and associated

regulations for the marine resources found to require conservation and management. NMFS is charged with carrying out the Federal mandates of the Department of Commerce with regard to marine fish, including the publication of Federal regulations. The West Coast Regional Office of NMFS, and Northwest Fisheries Science Center, research, draft, and support the groundfish management actions recommended by the Council. Commercial groundfish long fisheries are managed under the Pacific Coast Groundfish Fishery Management Plan. The proposed action represents an amendment, as required, to the fishery management plan, as well as amendments to associated Federal regulations.

The principal objective of the proposed action is to reduce take of short-tailed albatross by groundfish commercial longline vessels operating off the states of Washington, Oregon, and California to the smallest level practicable, consistent with the Endangered Species Act and National Standard 9 of the Magnuson-Stevens Act.

4.6 Number and Description of Directly Regulated Small Entities

Small entities affected by the proposed action are groundfish commercial longline vessels. All these vessels are defined as small entities based on the criteria provided in Section 4.3. Baseline information reported in Section 3.5.2 suggest that as many as 387 of such vessels between 26 and 54 feet LOA could be subject to the requirement to use streamer lines or set gear at night, depending on the option chosen. An additional 37 vessels 55 feet LOA and longer could subject to elements of the proposed action (area exemptions, night setting requirement) and also qualify as small entities. Finally, there were 34 vessels that only made landings classified in the nearshore fishery based on PacFIN data, or 28 observed vessels classified as nearshore by WCGOP. These vessels fish mostly in state waters and would not be subject to the proposed action when doing so. However a small proportion of observed fishing effort by these vessels occurred in Federal waters according to WCGOP data.

There is not a strict one-to-one correlation between vessels and entities; some persons or firms likely have ownership interests in more than one vessel. Furthermore, as discussed in Section 3.5.4, most of these vessels had a relatively low level of participation in the fishery during the baseline period, although in principal any level of participation would trigger seabird avoidance requirements (streamer line use, night setting). Given these factors, the actual number of entities regulated by this action could be lower than the preceding estimates.

Because the proposed action is not expected to affect the amount of catch by these vessels, processing entities are not expected to be affected.

4.7 Recordkeeping, Reporting, and Other Compliance Requirements

No additional reporting or recordkeeping is required of the regulated entities under the proposed action.

4.8 Federal Rules that may Duplicate, Overlap, or Conflict with Proposed Action

An IRFA is required to identify whether relevant Federal rules have been identified that would duplicate or overlap with the proposed action. *This section will be completed once the Council has identified a preferred alternative.*

4.9 Description of Significant Alternatives to the Proposed Action that Minimize Economic Impacts on Small Entities

An IRFA also requires a description of any significant alternatives to the proposed action(s) that accomplish the stated objectives, are consistent with applicable statutes, and that would minimize any significant economic impact of the proposed rule on small entities. *This section will be completed once the Council has identified a preferred alternative.*

5 Magnuson-Stevens Act

5.1 Magnuson-Stevens Act National Standards

Below are the 10 National Standards as contained in the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), and a brief discussion of how each alternative is consistent with the National Standards, where applicable. In recommending a preferred alternative, the Council must consider how to balance the national standards.

National Standard 1 — Conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery for the United States fishing industry.

The PCGFMP determines how overfishing and optimum yield are determined for all Pacific Coast groundfish stocks and provides measures by which the fisheries are managed in order to prevent overfishing and achieve optimum yield. Neither the no action nor the action alternative would change these measures.

National Standard 2 — Conservation and management measures shall be based upon the best scientific information available.

The proposed action analyzed in this document utilizes the best scientific information available on seabird bycatch and fishery operation off the West Coast.

National Standard 3 — To the extent practicable, an individual stock of fish shall be managed as a unit throughout its range, and interrelated stocks of fish shall be managed as a unit or in close coordination.

The PCGFMP manages stocks as a unit and utilizes stock complex designations and measures in order to manage interrelated stocks of fish as a unit. The proposed action does not affect the management of the stocks of PCGFMP management unit species.

National Standard 4 — Conservation and management measures shall not discriminate between residents of different states. If it becomes necessary to allocate or assign fishing privileges among various United States fishermen, such allocation shall be; (A) fair and equitable to all such fishermen, (B) reasonably calculated to promote conservation, and (C) carried out in such a manner that no particular individual, corporation, or other entity acquires an excessive share of such privileges.

The proposed action would apply to any commercial groundfish longline vessel authorized to fish in the west coast EEZ with specific requirements varying depending on vessel length. The proposed action would not allocate or assign fishing privileges.

National Standard 5 — Conservation and management measures shall, where practicable, consider efficiency in the utilization of fishery resources, except that no such measure shall have economic allocation as its sole purpose.

This proposed action would provide two options available to commercial groundfish longline vessels in order to allow each operator to choose the most efficient option for their purposes while achieving seabird bycatch mitigation.

National Standard 6 — Conservation and management measures shall take into account and allow for variations among, and contingencies in, fisheries, fishery resources, and catches.

The proposed action includes two main options for seabird bycatch mitigation measures, night setting and deployment of streamer lines. Within the streamer line option, this proposed action allows for multiple set-ups of streamer lines depending on whether a vessel has a superstructure or whether a vessel uses snap or non-snap gear. These different options allow for each vessel to determine the most efficient and effective seabird bycatch mitigation measure for their unique operation.

National Standard 7 — Conservation and management measures shall, where practicable, minimize costs and avoid unnecessary duplication.

The proposed action does not create unnecessary duplication.

National Standard 8 — Conservation and management measures shall, consistent with the conservation requirements of this Act (including the prevention of overfishing and rebuilding of overfished stocks), take into account the importance of fishery resources to fishing communities by utilizing economic and social data that meet the requirements of National Standard 2, in order to (A) provide for the sustained participation of such communities, and (B) to the extent practicable, minimize adverse economic impacts on such communities.

While not a direct component of this proposed action, the Oregon Sea Grant program in collaboration with the U.S. Fish and Wildlife Service are providing free streamer lines to fishermen affected by this action. This would be expected to help minimize any economic costs to small vessels and their communities posed by the requirement to obtain new equipment.

National Standard 9 — Conservation and management measures shall, to the extent practicable, (A) minimize bycatch, and (B) to the extent bycatch cannot be avoided, minimize the mortality of such bycatch.

The intent of this proposed action is to mitigate and minimize seabird bycatch in the West Coast groundfish fisheries. This proposed action would bring the fishery into compliance with the 2017 USFWS B.O. on the subject of bycatch of endangered short-tailed albatross.

National Standard 10 — Conservation and management measures shall, to the extent practicable, promote the safety of human life at sea.

As part of this proposed action, the Council may select weather safety exemptions that provide fishermen with the ability to not use streamer lines in bad weather out of concern for the safety of the vessel.

6 Preparers and Persons Consulted

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7 References

Gladics, A. J., and coauthors. 2017. Fishery-specific solutions to seabird bycatch in the U.S. West Coast sablefish fishery. Fisheries Research 196:85-95.

Grinnell, J. 1928. A distributional summation of the ornithology of Lower California. Univ. California Press, Berkeley, CA.

Guy, T. J., and coauthors. 2013. Overlap of North Pacific albatrosses with the U.S. west coast groundfish and shrimp fisheries. Fisheries Research 147:222-234.

Jannot, J. E., T. P. Good, K. Somers, V. Tuttle, and J. McVeigh. 2018. Seabird Mortality in U.S. West Coast Groundfish Fisheries 2002-2016. NOAA Fisheries, NWFSC Observer Program, Seattle, WA.

L, S., and A. M. Sada. 1991. A short-tailed albatross observed near San Benedicto Island, Revillagigedo Islands, Mexico. West Birds 22:33–34.

Melvin, E. F. 2000. Streamer lines to reduce seabird bycatch in longline fisheries. Washington Sea Grant Program.

Melvin, E. F., K. S. Dietrich, R. M. Suryan, and S. M. Fitzgerald. 2019. Lessons from seabird conservation in Alaskan longline fisheries. Conservation Biology 0(0).

Melvin, E. F., and M. D. Wainstein. 2006. Seabird avoidance measures for small Alaskan longline vessels. Washington Sea Grant Program.

NMFS. 2013. Measures to Minimize Take of Short-Tailed Albatross in the Pacific Coast Groundfish Fisheries including the Environmental Assessment (EA) And Initial Regulatory Flexibility Analysis (IRFA) – Draft. National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Northwest Regional Office, Agenda Item H.1.b, Preliminary Draft EA, November 2013, Seattle, WA.

Orben, R., and coauthors. 2018. Ontogenetic changes in at-sea distributions of immature short-tailed albatrosses *Phoebastria albatrus*. Endang Species Res 35:23-37.

Suryan, R. M., and coauthors. 2006. Foraging destinations and marine habitat use of short-tailed albatrosses: a multi-scale approach using first-passage time analysis. Deep-Sea Research II 53:370–386.

USFWS. 2012. Biological Opinion Regarding the Effects of the Continued Operatoin of the Pacific Coast Groundfish Fishery as Governed by the Pacific Coast Fishery Management Plan and Implementing Regulations at 50 CFR Part 660 by the National Marine Fisheries Service on California Least Tern (*Sterna antillarum browni*), Southern Sea Otter (*Enhydra lutris nereis*), Bull trout (*Salvelinus confluentus*), Marbled Murrelet (*Brachyramphus marmoratus*), and Short-tailed Albatross (*Phoebastria albatrus*). United States Fish and Wildlife Service, Oregon Fish and Wildlife Office, FWS Reference Number 01EOFW00-2012-F-0086, Portland (OR).

USFWS. 2017. Biological Opinion Regarding the Effects of the Continued Operation of the Pacific Coast Groundfish Fishery as Governed by the Pacific Coast Groundfish Fishery Management Plan and Implementing Regulations at 50 CFR Part 660 by the National Marine Fisheries Service on California Least Tern (*Sterna antillaruin browni*), Southern Sea Otter (*Enhydra lutris nereis*), Bull trout (*Salvelinus cojifluentus*), Marbled Murrelet (*Brachyramphus marmoratus*), and Short-tailed Albatross (*Phoebastria albatrus*). United States Fish and Wildlife, FWS Reference Number O1EOFWOO-2017-F-03 16, Portland, Oregon.

Vokhshoori, N. L., and coauthors. 2019. Broader foraging range of ancient short-tailed albatross populations into California coastal waters based on bulk tissue and amino acid isotope analysis. Mar. Ecol. Prog. Ser. 610: 1–13.