FINAL

Environmental Assessment for the Harvest Specifications of the Cook Inlet Salmon Fisheries in the EEZ Off Alaska

May 2025

Lead Agency:	National Marine Fisheries Service, National Oceanic and Atmospheric Administration
Responsible Official:	Jonathan M. Kurland, Regional Administrator Alaska Regional Office, National Marine Fisheries Service
For further information contact:	Adam Zaleski, National Marine Fisheries Service P.O. Box 21668, Juneau, AK 99802-1668 (907) 586-7228

Abstract

This Environmental Assessment (EA) analyzes proposed harvest specifications for salmon fishing in the Cook Inlet Exclusive Economic Zone Area (CI EEZ). The *Fishery Management Plan for the Salmon Fisheries in the EEZ off Alaska* (Salmon FMP) governs management of the salmon fisheries in the United States EEZ off Alaska's coast. The North Pacific Fishery Management Council (Council) developed the Salmon FMP under the Magnuson-Stevens Fishery Conservation and Management Act (MSA) and National Standard Guidelines. In 2024, amendment 16 to the Salmon FMP and its implementing regulations established management of the Federal salmon fishery in the CI EEZ—including methods for establishing and assessing stock tiers, status determination criteria (SDC), and harvest specifications—for five species of Pacific salmon (*Oncorhynchus spp.*). This EA analyzes the impacts to the human environment of adopting the 2025 harvest specifications under a range of proposed alternatives. This EA addresses the requirements of the MSA and National Environmental Policy Act (NEPA) by providing analyses to support informed decision-making regarding the 2025 harvest specifications.

List of Commonly Used Acronyms and Abbreviations

Acronym or Abbreviation	Meaning
1954 Act	North Pacific Fisheries Act of 1954
1992 Stocks Act	North Pacific Anadromous Stocks Act of 1992
AAC	Alaska Administrative Code
ABC	acceptable biological catch
ACL	annual catch limit
ADEC	Alaska Department of Environmental Conservation
ADF&G	Alaska Department of Fish and Game
ADOR	Alaska Department of Revenue
AFSC	Alaska Fisheries Science Center
AIS	Automated Information System
AKFIN	Alaska Fisheries Information Network
AKRO	NMFS Alaska Regional Office
AM	accountability measure
AMMOP	Alaska Marine Mammal Observer Program
ANCSA	Alaska Native Claims Settlement Act
ANILCA	Alaska National Interest Lands Conservation Act
APA	Administrative Procedure Act
AS	Alaska Statute
BEG	biological escapement goal
BiOp	biological opinion
BLS	U.S. Bureau of Labor Statistics
BOF	Alaska Board of Fisheries
BSAI	Bering Sea and Aleutian Islands
CFEC	Commercial Fisheries Entry Commission
CFR	Code of Federal Regulations
COAR	Commercial Operator Annual Reports
Council	North Pacific Fishery Management Council
CPUE	catch per unit effort
CWT	coded-wire tag
DCCED	Department of Commerce, Community, and Economic Development
DNR	Alaska Department of Natural Resources
DPS	distinct population segment
E.O.	Executive Order
EA	Environmental Assessment
EDPS	Eastern Distinct Population Segment
EEZ	Exclusive Economic Zone
EFH	essential fish habitat
EIS	Environmental Impact Statement

Acronym or Abbreviation	Meaning
ESA	Endangered Species Act
FFP	Federal Fisheries Permit
FMA	Fisheries Management Area
FMP	fishery management plan
FMU	fishery management unit
FONSI	Finding of No Significant Impact
FR	Federal Register
Ft	foot or feet
GOA	Gulf of Alaska
GSI	genetic stock identification
IRFA	initial regulatory flexibility analysis
LOA	length overall
M	meters
MFMT	maximum fishing mortality threshold
MSA	Magnuson-Stevens Fishery Conservation and Management Act
MSC	Marine Stewardship Council
MMPA	Marine Mammal Protection Act
MSST	minimum stock size threshold
MSY	maximum sustainable yield
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NOAA OLE	NOAA Office of Law Enforcement
NPFMC	North Pacific Fishery Management Council
NS	National Standard
OEG	optimal escapement goal
OFL	overfishing limit
OY	optimum yield
PBF	physical or biological feature
PBR	potential biological removal
PCFA	principal components factor analysis
PPI	Producer Price Index
RFA	Regulatory Flexibility Act
RIR	Regulatory Impact Review

List of Commonly Used Acronyms and Abbreviations (Continued)

Acronym or Abbreviation	Meaning
SAFE	Stock Assessment and Fishery Evaluation
SBRM	Standardized Bycatch Reporting Methodologies
SDC	Status Determination Criteria
Secretary	Secretary of Commerce
SEG	sustainable escapement goal
SFHS	Alaska Sport Fishing Harvest Survey
SSC	Scientific and Statistical Committee
State	State of Alaska
TAC	total allowable catch
UCI	Upper Cook Inlet
UCIDA/CIFF	United Cook Inlet Drift Association and Cook Inlet Fishermen's Fund
U.S.	United States
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VMP	vessel monitoring plan
VMS	vessel monitoring system
WDPS	Western Distinct Population Segment

Table of Contents

List of Tables

List of Figures

Executive Summary

This EA examines proposed harvest specifications for salmon fishing in the Federal CI EEZ salmon fishery as established in the Salmon FMP (https://www.npfmc.org/wp-content/PDFdocuments/fmp/Salmon/SalmonFMP.pdf) under the terms of the MSA and National Standard Guidelines (50 CFR 600.305 – 600.355). The proposed harvest specifications analyzed in this EA includes the following alternatives.

- **Alternative 1 –** *The no action alternative*. Harvest specifications are not established, total allowable catch (TAC) is not set for any salmon species, and salmon fishing would not be permitted in the CI EEZ.
- **Alternative 2 –** *Status quo and the preferred alternative*. Harvest specifications are established following the methods and procedures in the Salmon FMP. To account for uncertainty, TACs are set below the preseason overfishing limit (OFL_{PRE}) and equal to the combined acceptable biological catch (ABC) of the salmon stocks and stock complexes for each salmon species.
- **Alternative 3 –** *The alternative that represents the highest allowable harvest under the Salmon FMP*. Harvest specifications are established. The TACs are set equal to the OFL_{PRE}, which is the equivalent of a 0% buffer applied to the OFL_{PRE} to account for scientific uncertainty and a 0% buffer applied to the ABC to account for management uncertainty such that OFL_{PRE} = ABC = TAC.

This EA analyzes the impacts to the human environment of adopting the 2025 harvest specifications under a range of proposed alternatives. This EA addresses the requirements of NEPA to provide the analytical background for decision-making.

Proposed Action, Purpose and Need

In accordance with the MSA, National Marine Fisheries Service's (NMFS) proposed action is the adoption of the 2025 harvest specifications for the CI EEZ salmon fishery.

This proposed action would implement harvest specifications for the federally-managed salmon fishery in the CI EEZ that are consistent with the methods and procedures in the Salmon FMP; provide for the sustained participation of fishing communities, harvesters, and processors; and balance the allowable harvest of target salmon stocks with ecosystem needs. This proposed action is necessary for the continued implementation of the Salmon FMP and for NMFS to manage a viable salmon fishery in the CI EEZ while preventing overfishing.

Alternatives

This EA considers three alternative harvest specification scenarios. Because salmon of the same species originate from separate stocks but cannot be visually distinguished in the fishery, TACs may be set at the species level based on the cumulative estimated available harvest across stocks, unless inseason methods become available (e.g., genetic methods) that would enable the management of TACs at the stock level. Under the terms of the MSA and the Salmon FMP, the TAC must be less than or equal to the ABCs established for each component stock(s) and their estimated proportional contribution to total catch, and account for allowable de minimis harvest amounts and projected removals from the recreational salmon fishery. The TACs may be

reduced from ABCs if warranted on the basis of concerns about the harvest of weak salmon stocks, bycatch considerations, management uncertainty, ecosystem requirements, or social and economic considerations. The criteria used in determining these management objectives are the SDC, which are comprised of the OFL, ABC, ACL, and TAC, for each stock or stock complex as described in the Salmon FMP and annual CI EEZ SAFE documents (Appendix 1). If a preseason forecast suggests that the escapement target will not be achieved for a given stock, de minimis harvest on the stock may be allowed to reduce the risk of fishery restrictions that impose severe economic consequences to fishing communities without substantive management or conservation benefits. The following alternatives are considered in this EA.

Alternative 1 – *The no action alternative*. Harvest specifications are not established, TAC is not set for any salmon species, and salmon fishing would not be permitted in the CI EEZ salmon fishery.

Under Alternative 1 the CI EEZ salmon fishery would be closed. This alternative does not meet the purpose and need for the proposed action, and would result if NMFS did not publish the annual harvest specifications for this fishery. Under this alternative, harvest could still occur within State of Alaska (State) waters.

Alternative 2 – *Status quo*[1] *and the preferred alternative.* Harvest specifications are established following the methods and procedures in the Salmon FMP. To account for uncertainty, TACs are set below the OFL_{PRE} and equal to the combined ABC of the salmon stocks and stock complexes for each salmon species.

The OFLs, ABCs, and TACs for each stock or stock complex are based on Tier assignment and buffers to account for uncertainty that are described in the Salmon FMP and 2025 CI EEZ SAFE report (Appendix 1). NMFS would implement these Federal management measures according to the Salmon FMP and the Federal rulemaking process. This alternative was the management strategy adopted in 2024 and is the preferred alternative.

Alternative 3 – *The alternative that represents the highest allowable harvest under the Salmon FMP*. Harvest specifications are established. The TACs are set equal to the preseason OFL_{PRE}, which is the equivalent of a 0% buffer applied to the OFL_{PRE} to account for scientific uncertainty and a 0% buffer applied to the ABC to account for management uncertainty such that OFL_{PRE} = ABC = TAC.

Under Alternative 3 the TACs would be set to the maximum permissible harvest levels described in the 2025 CI EEZ SAFE report for each stock or stock complex (Appendix 1). Alternative 3 is not the preferred alternative due to conservation concerns for less abundant stocks of salmon.

Environmental Assessment

Section 3 considers impacts to the human environment under a range of alternative harvest strategy scenarios for the CI EEZ salmon fishery. This EA and the documents incorporated by

[1] Status quo refers to the fishery management regime as established by amendment 16 to the Salmon FMP.

reference provide the best available information on the status of the salmon stocks in Cook Inlet, interactions between the EEZ and State water salmon fisheries, ESA-listed Pacific salmon, marine mammals, and essential fish habitat. Pursuant to section 7 of the ESA, NMFS consulted on the impacts of salmon fishing activities in the EEZ on ESA-listed species and designated critical habitat when implementing amendment 16 (NOAA Fisheries 2024). Under the proposed action, Alternative 2 (*preferred alternative*) would not affect endangered and threatened species or critical habitat in any manner that was not previously considered in the amendment 16 ESA section 7 consultation. The potential impacts from the proposed action to Pacific salmon, marine mammals, non-salmon finfish, and essential fish habitat are also discussed in this section.

The primary effects of each alternative would derive from the harvest limits that are allocated to the directed commercial drift gillnet and the recreational salmon fisheries in the CI EEZ salmon fishery. The environmental effects of these alternatives are summarized in Table 1.

The preferred alternative (Alternative 2) would set TACs below OFL_{PRE} and equal to the combined ABC of the salmon stocks and stock complexes for each salmon species to account for necessary uncertainty, which is consistent with the Salmon FMP and the harvest specifications for the 2024 CI EEZ salmon fishery. This action is expected to establish annual harvest limits that would be consistent with historical harvest estimates in the CI EEZ. As a result, no significant environmental impacts are anticipated with this alternative.

Community and Economic Considerations
Section 4 analyzes the economic considerations of the three alternatives considered in this EA.

Under the preferred alternative (Alternative 2), some harvest of CI salmon stocks in the CI EEZ by the Upper Cook Inlet (UCI) drift gillnet fishing fleet may be restricted in order to prevent overfishing less abundant stocks; however, over the long term, annual harvest totals of salmon in the CI EEZ are expected to be fairly consistent with estimated historical harvest levels from this area under State management. Federal harvest limits that account for scientific uncertainty will help avoid depleting weak stocks that would ultimately limit harvests and/or result in overfishing/rebuilding plans over the long term that would result in more restrictive management strategies limiting fishing opportunity. Overfishing would be more likely to occur under Alternative 3. Given the extremely small harvest of the recreational salmon fishery in the CI EEZ, combined with the recreational fishery's ability to avoid or release weak stocks, it is unlikely recreational harvests would change significantly under Alternative 2. In any case, it is likely that salmon surplus to escapement needs are expected to be harvested in State water salmon fisheries.

A primary impact of all alternatives considered in this EA is on revenue from commercial salmon and charter salmon fisheries. The final Environmental Assessment/Regulatory Impact Review for amendment 16 (A16 EA/RIR) (NMFS 2024a) notes that because the commercial and charter salmon fishing operations are distributed among many communities the impacts of the alternatives are likely to be broadly shared, but somewhat diffuse among various communities. The social and economic impacts of the alternatives are summarized in Table 1.

Description of Terms

Briefly, OFL_{PRE} is the preseason overfishing limit and the preseason basis for establishing preseason ABC. As described in the Salmon FMP, the ABC must be less than or equal to the OFL. The Council's Scientific and Statistical Committee (SSC) may recommend reducing ABC from the OFL to account for scientific uncertainty, including uncertainty associated with the assessment of spawning escapement goals, forecasts, harvests, and other sources of uncertainty. For Tier 1 and 2 stocks, the OFL_{PRE} is based on the preseason total run size forecast and defined as the maximum stock-specific EEZ harvest (number of fish) that could occur while still achieving the spawning escapement target and estimated non-EEZ (State) harvests for the coming fishing season. For Tier 3 stocks, the OFL is the largest cumulative EEZ harvest (number of fish) across a species generation time in the time series under consideration. For Tier 3 stocks, the OFL_{PRE} is the largest average harvest from the stock that occurred in the EEZ across a single generation. For Tier 3 stocks, in addition to being the basis for setting the preseason ABC, the OFL is also the postseason basis for the assessment of overfishing. For Tier 1 and 2 stocks, overfishing is assessed postseason by comparing the actual stock-specific harvest rate in the EEZ (F_{EEZ}) with the maximum fishing mortality threshold.

Table 1. Comparison of alternatives and major impacts.

	Alternative 1 (no action alternative)	Alternative 2 (Preferred alternative)	Alternative 3
Description of Alternative	The no action alternative. Harvest specifications are not established and TACs are not set. Salmon fishing is closed.	Establish harvest specifications following the methods and procedures in the Salmon FMP. The TACs are set below OFL_{PRE} and equal to the combined ABC of the salmon stocks and stock complexes for each salmon species to account for uncertainty. For 2025, the proposed TACs are equal to the ABC for each stock. This alternative balances harvest of the most abundant stocks with the need to conserve less abundant stocks.	Establish harvest specifications at the highest allowable level. The TACs are set equal to the preseason overfishing limit (OFL_{PRE}) and therefore do not account for scientific or management uncertainty. This EA assumes that fully harvesting the TAC for the most abundant stocks will result in exceeding the TACs for some less abundant stocks.
Comparison of Alternatives -- (Section 2)			
Commercial Catch Limits	No commercial salmon harvests are permitted.	The commercial catch limits (TACs) account for uncertainty. The OFL_{PRE} for each stock is reduced by a buffer such that the resulting ABC accounts for scientific uncertainty (e.g., uncertainty in forecast estimates); the ABC may also be reduced by a buffer such that the resulting TAC accounts for management uncertainty (e.g., uncertainty due to the mixed-stock nature of the fishery). For 2025, the proposed TACs are equal to the aggregate ABC for each species.	The commercial catch limits (TACs) are set at the OFL_{PRE} and do not account for scientific or management uncertainty. Commercial catch limits (OFL_{PRE} = ABC =TACs) for Tier 1-2 stocks represent total potential yield in the EEZ after the achievement of the spawning escapement target and predicted harvests in State fisheries. For Tier 3 stocks, TACs are set at the largest average harvest for a single generation in the historical time series.

Recreational Management Measures	No recreational salmon harvests are permitted.	Recreational management measures are outlined in 50 CFR 679.119	Recreational management measures are outlined in 50 CFR 679.119

Environmental Impacts -- (Section 3)			
Alaska Salmon Stocks	Kenai and Kasilof sockeye salmon may exceed spawning escapement targets in some years, which could result in future reductions in productivity. No detrimental effects expected to other salmon stocks. Impacts to salmon stocks would be dependent upon compensatory harvest opportunities provided in non-EEZ fisheries.	No detrimental effects to Alaska salmon stocks expected due to harvest specifications that account for scientific uncertainty. Escapement targets are expected to be achieved at a rate that is similar to recent years. UCI salmon stocks of high abundance (Kenai and Kasilof sockeye salmon) may continue to exceed spawning escapement targets during some years without detrimental effects.	Harvest at the OFL_{PRE} level for stocks of high abundance may result in overfishing the less abundant stocks. Escapement targets may not be achieved for indicator stock(s) of Aggregate coho and Aggregate Other sockeye salmon. Aggregate coho salmon in particular may enter an overfished condition. Impacts to Aggregate Chinook salmon are unclear due to a lack of evidence that this stock is harvested in the CI EEZ. No expected detrimental effects to pink or chum salmon stocks.
ESA-listed Pacific Salmon	No effects are expected as there are no ESA-listed species of Pacific salmon originating from freshwater habitats in Alaska and no evidence that ESA-listed salmon species are harvested in the CI EEZ.	No effects are expected as there are no ESA-listed species of Pacific salmon originating from freshwater habitats in Alaska and no evidence that ESA-listed salmon species are harvested in the CI EEZ.	No effects are expected as there are no ESA-listed species of Pacific salmon originating from freshwater habitats in Alaska and no evidence that ESA-listed salmon species are harvested in the CI EEZ.
Other non-salmon finfish	No notable effects are expected as incidental bycatch is minimal.	No notable effects are expected as incidental bycatch is minimal and logbook reporting is required for non-salmon species.	No notable effects are expected as incidental bycatch is minimal and logbook reporting is required for non-salmon species.

Marine Mammals	Potential positive effects to ESA-listed CI beluga whales and some other marine mammals due to enhanced availability of salmon as prey, especially coho salmon, within the CI EEZ, unless harvest increases correspondingly within State waters.	No detrimental effects to marine mammals.	Potential for adverse effects to ESA-listed beluga whales and some other marine mammals due to reduced availability of salmon as prey, especially coho salmon.
Essential Fish Habitat	No detrimental effects expected to marine habitat.	No detrimental effects expected. There is a risk of gear loss which may have minor impacts to habitat.	No detrimental effects expected. May increase the risk of gear loss with associated impacts to habitat.
Social and Economic Impacts -- (Section 4)			
Commercial and Charter Revenue	Potentially forgone revenue of up to $3.4 million, de-minimis changes in charter revenue	Revenue of approximately $3.4 million or more depending on TACs and market conditions no expected change in charter revenue	Potentially increased revenue in 2025 with TAC set at OFL_{PRE}, depending on market conditions, no expected change in charter revenue.
Community Impacts	Potentially adverse impacts on communities if revenue cannot be made up in State waters	Maintains or potentially increased revenue and; therefore; is beneficial to fishery dependent communities with scale depending on TAC level and market conditions.	

1 Introduction

The Salmon FMP manages the salmon fisheries in the United States EEZ (3 nautical miles to 200 nautical miles offshore) off Alaska. The Council developed the Salmon FMP under the MSA and National Standard Guidelines. Amendment 16 to the Salmon FMP was approved by the Secretary of Commerce on April 30, 2024 (89 FR 34718) and correction (89 FR 46333) published May 29, 2024, which established Federal fishery management for all salmon fishing that occurs in the CI EEZ salmon fishery.

This EA analyzes the impacts to the human environment of adopting the 2025 harvest specifications under a range of proposed alternatives. This EA addresses the statutory requirements of NEPA to provide the analytical background for decision-making, and examines three alternative CI EEZ salmon fishery harvest scenarios:

- **Alternative 1 –** *The no action alternative.* Harvest specifications are not established, TAC is not set for any salmon species, and salmon fishing would not be permitted in the CI EEZ salmon fishery.
- **Alternative 2 –** *Status quo and the preferred alternative*. Harvest specifications are established following the methods and procedures in the Salmon FMP. To account for uncertainty, TACs are set below the OFL_{PRE} and equal to the combined ABC of the salmon stocks and stock complexes for each salmon species.
- **Alternative 3 –** *The alternative that represents the highest allowable harvest under the Salmon FMP*. Harvest specifications are established. The TACs are set equal to the OFL_{PRE}, which is the equivalent of a 0% buffer applied to the OFL_{PRE} to account for scientific uncertainty and a 0% buffer applied to the ABC to account for management uncertainty such that OFL_{PRE}= ABC = TAC.

There are six key components described in this EA: a statement of purpose and need (Section 1.1); a description and comparison of the alternatives (Section 2), the probable environmental impacts of the proposed action and alternatives in this section (Section 3), community and economic impacts of this action (Section 4), Magnuson-Stevens Act considerations (Section 5), and a list of agencies and persons consulted (Section 6).

1.1 Proposed Action, Purpose and Need

In accordance with the MSA, NMFS's proposed action is to adopt the 2025 harvest specifications for the CI EEZ salmon fishery.

This proposed action would implement harvest specifications for the federally-managed salmon fishery in the CI EEZ that are consistent with the methods and procedures in the Salmon FMP; provide for the sustained participation of fishing communities, harvesters, and processors; and balance the allowable harvest of target salmon stocks with ecosystem needs. This proposed action is necessary for the continued implementation of the Salmon FMP and for NMFS to manage a viable salmon fishery in the CI EEZ while preventing overfishing.

1.2 History of this Action

A comprehensive history of the Salmon FMP can be found in the A16 EA/RIR.

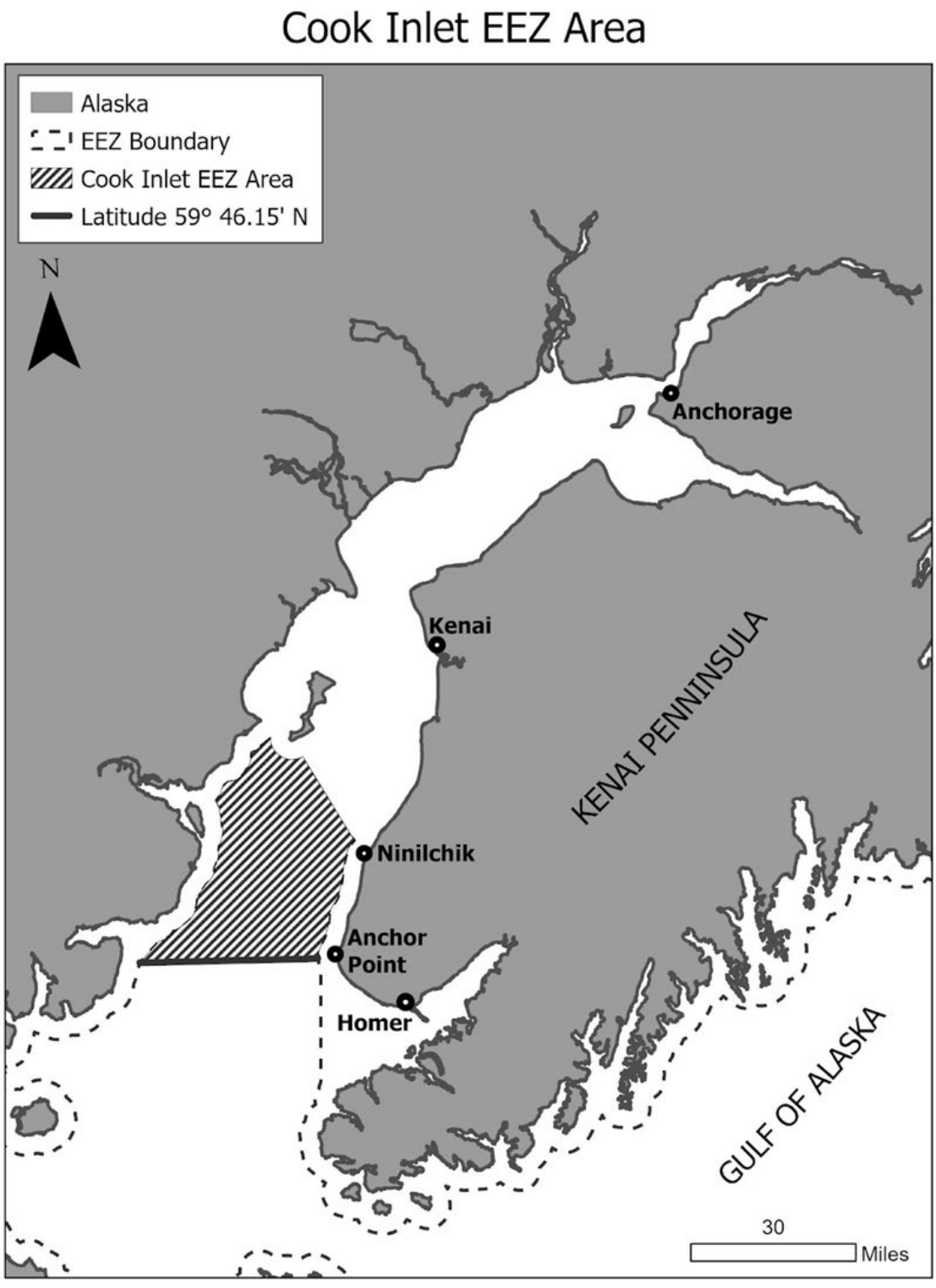
On April 9, 2024, the Secretary of Commerce approved amendment 16 to the Salmon FMP (89 FR 34718 April 30, 2024), and correction (89 FR 46333 May 29, 2024), which was necessary to ensure that the Salmon FMP was consistent with the MSA. Along with implementing regulations in the final rule, amendment 16 established Federal fishery management for commercial (drift gillnet) and recreational salmon fishing in the CI EEZ. In particular, amendment 16 established the methods and procedures to establish SDC for the annual harvest specifications and the Federal action of approving the harvest specifications for the CI EEZ salmon fishery for 2025 follows the amended Salmon FMP.

1.3 Description of Management Area

The geographic scope of this management area is shown in Figure 1 and additional maps and charts can be found on the NOAA webpage for salmon management (https://www.fisheries.noaa.gov/sustainable-fisheries/cook-inlet-eez-area-maps#maps-and-charts).

The federally managed Cook Inlet EEZ salmon fishery occurs within the area that the State of Alaska defines as the Central District in the State's UCI Management Area (Barclay 2020). The Central District includes all waters between a line extending from Boulder Point at 60º46'23" N. lat., to Shell Platform C, to a point on the west shore at 60º46'23" N. lat., and the latitude of Anchor Point. The District is approximately 75 miles long and averages 32 miles in width, with a total area of approximately 2,267 square miles. The State manages the fisheries within 3 miles of their coastlines while Federal management for the commercial drift gillnet and recreational salmon fishery occurs in the area shown in Figure 1.

Figure 1. NMFS regulatory area for the Cook Inlet EEZ Pacific salmon fishery.



1.4 Description of Fisheries

A thorough and comprehensive description of fisheries can be found in the final A16 EA/RIR (Section 4.5). The following section of this EA provides a brief summary of those conclusions and considerations to the harvest specifications.

In the UCI salmon drift gillnet fishery, gillnets may not be more than 200 fathoms long and 45 meshes in depth with a maximum mesh size of six inches (described in 50 CFR 679.118(f)). Floats are positioned along a line on top of the net, and lead weights line the bottom. Mesh openings are designed to be large enough to allow fish to get their heads stuck or "gilled" in the mesh. Net deployment and retrieval are accomplished using a hydraulic-powered rotating drum on which the net is rolled. The drum is mounted near the bow ("bow picker") or stern ("stern picker") (Petterson and Glazier 2004). Primarily stern picking is used by the UCI salmon drift gillnet fleet. The net stays attached or in close proximity to the vessel and is suspended by the floats as it soaks. The duration of sets can vary from 20 minutes to four or more hours, depending on fishing conditions and other variables, with between four and 20 sets per day (NMFS 2012). Fish are removed from the net by hand "picking" them from the mesh as the net is reeled aboard (Petterson and Glazier 2004).

Under Federal management the current regulations stipulate that the CI EEZ salmon fishery opens to commercial drift gillnet salmon fishing the day on or after the third Monday in June, whichever is later. After the season begins the Cook Inlet EEZ Area is open from 7:00 a.m. to 7:00 p.m. for the following dates: Mondays and Thursdays until July 15; on Thursdays from July 16 until July 31; and on Mondays and Thursday from August 1 until August 15.

The temporal differences in harvest among species are largely a function of differences in run timing. Chinook salmon are the first species to enter CI, followed by sockeye salmon, which is the most consistently abundant species and the mainstay of the UCI salmon drift gillnet fishery. Chum, pink, and coho salmon appear later in the season, although there is considerable overlap across all five species with respect to both run timing and migration routes. In 2024, the total TAC harvested and peak date of harvest for each species were: sockeye - 66%, July 15; chum - 29%, July 11; pink - 5%, July 15; coho - 18%, July 25; and Chinook - 13%, July 11.
The A16 EA/RIR (Table 4-1) shows a range of harvest percentages by average date harvested.

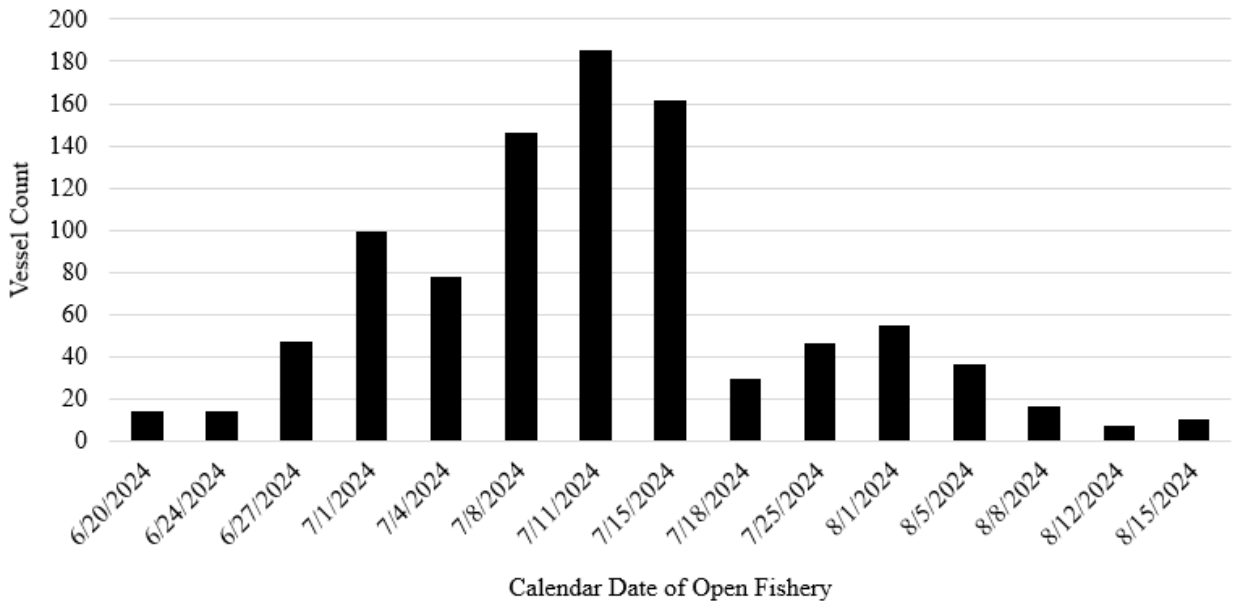
The proportion of the TACs harvested for each salmon species in 2024 were: sockeye (66% of TAC), chum (29% of TAC), coho (18% of TAC), Chinook (13% of TAC), and pink salmon (5% of TAC). These TACs were set less than the ABCs for each stock or stock complex and there were concerns of potentially exceeding the Chinook and coho TACs as fishing effort peaked by the second week in July. However, by the latter half of July 2024 the majority of sockeye passed between the eastern border of the EEZ and the shoreline, primarily in State managed waters. Because these fish were not passing through the EEZ there was a marked decline in fishery participation and harvest; vessel participation peaked between July 8 and July 15, 2024 ranging between 146 - 185 vessels reporting landings and approximately 81% of the total sockeye harvest was landed between June 20 and July 15, 2024. The estimated proportion of fish harvested from within the EEZ from 1999 - 2021 was 47% and 21% in 2024, as described above, TACs in some years may not be achieved because of the variability in run timing and location (described in Section 3 of this EA and Section 4.5.1.2.3 of the A16 EA/RIR).

Approximately 74 % of the total reported Chinook salmon landings were harvested by July 11, 2024; 49 % (11 fish) of that was harvested on July 11, 2024. The largest harvest of coho salmon was on July 25, 2024 which accounted for 65 % (2,081 fish) of the overall harvest but only 18 % of the TAC. Similarly, 29 % (93,019 fish) of the sockeye salmon harvest occurred on July 15, 2024. The spatial distribution of the fleet at the beginning of the season has historically congregated near the Anchor Point line at the southeastern line of the EEZ and gradually shifts northward as salmon migrate up the Inlet, as described in Section 4.5.1.2.1 of the A16 EA/RIR. This is similar to how the fleet was distributed in 2024 as salmon moved north through Cook Inlet; although, as evidenced by the steep drop in harvest rates in the latter portion of July, sockeye salmon abundance in particular was concentrated closer to State managed waters between the shoreline and the eastern border of the EEZ.

Under State management, the estimated historical (1999-2021) harvest of salmon from within the CI EEZ salmon fishery is described in Section 3 of this EA and in the A16 EA/RIR (Section 4.5.1.2.3, Figure 4-11 of the A16 EA/RIR). The average estimated proportion of sockeye salmon harvested by the UCI drift gillnet fleet from within the EEZ was 47 % of the total UCI sockeye salmon harvest from 1999-2021. However, to be clear, there was no Federal management of the EEZ until 2024 such that historical estimates of harvests in the EEZ cannot be independently verified.

Under Federal management in 2024, the proportion of sockeye salmon harvested by the drift gillnet fleet in the CI EEZ was 20 % of the combined Federal and State total for this gear type. Relative to the historical estimate, the reduction of estimated CI EEZ drift gillnet harvest during 2024 may be attributed to low participation –in the first year of Federal management and greater abundance of salmon runs in State managed waters. Total harvest of all salmon species by the UCI drift gillnet fleet from within the EEZ was 21 % of the combined Federal and State total for this gear type. The peak of participation in the CI EEZ drift gillnet salmon fishery was on July 11, 2024 with 185 vessels reporting landings. The bulk of effort occurred between July 8 - July 15, 2024, ranging from 146- 185 vessels landing salmon. Vessel participation for the remainder of the season ranged from 7 - 185 and a season average of 63 vessels reporting landings (Figure 2).

Figure 2. Vessel participation (distinct vessel count) for the full Cook Inlet EEZ salmon fishery shown by season open dates in 2024.



For the 2024 CI EEZ salmon fishery, there were a total of 244 registered Federal Fishing Permits (FFPs) and 6 Federal Processing Permits (FPPs). Since the CI EEZ salmon fishery was first implemented in 2024 there is no historical participation data to compare with fishery participation during 2024; however, section 4.5.1.3.1.1 of the A16 EA/RIR shows trends in CFEC permitted drift gillnet vessels in UCI from 1975 - 2021. That analysis estimated that between 1975 - 2021 there were an annual average of 580 drift gillnet permits (SO3H is the CFEC permit type specific to the UCI drift gillnet fishery) that participated in the fishery and that since 1995 active permits show a downward trend. Section 4.5.1.4 of the A16 EA/RIR showed an average of 12 shorebased processors from 2009 - 2021 and further details the variability and trends in that data, which has experienced declines in processors and buyers during recent years. Section 4 of this EA describes the currently available economic data and other considerations as it relates to the CI EEZ salmon fishery.

The saltwater sport fishery sector is the only other fishery sector harvesting salmon inside the CI EEZ and the A16 EA/RIR Section 4.5.2 describes both saltwater and freshwater sport fishing in the UCI, which is briefly summarized in the remainder of this section.

The Federal management measures for recreational salmon fishing in the CI EEZ salmon fishery are specified at 50 CFR 679.119. In the Federal regulations, NMFS establishes bag and possession limits, with recreational fishing open for the entire calendar year. Regulations at 50 CFR 679.118(c)(1)(ii), stipulates that NMFS may prohibit, through an inseason management action, retention of individual salmon species while still allowing harvest of other salmon species if necessary. In addition to prohibiting retention, NMFS may also prohibit fishing for one or more salmon species if required for conservation. Inseason management actions for the recreational sector will be published in the **Federal Register** and subject to the same process and

timing limitations outlined for the commercial sector in the CI EEZ salmon fishery concurrent with the established harvest specifications.

By regulation, recreational fishing for salmon in the CI EEZ salmon fishery may only be conducted using hook and line gear with a single line per angler with a maximum of two hooks. Salmon harvested in the recreational fishery must not be fileted or otherwise mutilated in a way that could prevent determining how many fish had been retained prior to landing. Gills and guts may be removed from retained fish prior to landing. Any salmon that is not returned to the water with a minimum of injury counts toward an angler's bag limit.

For Chinook salmon, from April 1 to August 31, the bag limit is one Chinook salmon per day, including a total limit of one in possession of any size. From September 1 to March 31, the bag limit is two Chinook salmon per day, including a total limit of two in possession of any size. For coho (silver) salmon, sockeye salmon, pink salmon, and chum salmon there is a combined six fish bag limit per day, including a total limit of six in possession of any size. However, only three fish per day, including a total limit of three in possession, may be coho salmon.

In addition to Federal bag limits, recreational anglers are constrained by State bag and possession limits if landing fish in Alaska. Because of this, an angler cannot exceed State limits when landing fish in Alaska, or otherwise have both an EEZ limit and a State limit on board at the same time in either area.

On May 30, 2024 NMFS prohibited recreational fishing for Chinook salmon in the CI EEZ for conservation and management purposes. The factors considered for this closure were: the low proposed Chinook salmon acceptable biological catch in the CI EEZ Area, anticipated harvest rates, expected mortality, and the potential number of participants. This closure remained in effect through August 15, 2024 and was published in the Federal Register, 89 FR 47107 May 31, 2024.

Federal managers will review any available developing inseason information, including escapement data, and may prohibit retention of one or more salmon species if additional harvest could not be supported. The Cook Inlet salmon harvest specifications do not establish a TAC specific to the recreational sector because the recreational harvest in the CI EEZ salmon fishery has historically averaged 66 fish per year, which is described in the A16 EA/RIR Section 4.5.2.2 Table 4-44. As Federal management of this fishery continues then recreational harvest data will be used to update catch statistics and inform management. The estimated recreational removals in combination with commercial harvests are evaluated against the ACL to ensure they are not exceeded and to implement accountability measures, if required, for future seasons.

The State's existing Saltwater Charter Logbook, the Statewide Harvest Survey, and creel surveys provide the information needed to account for recreational harvest in the CI EEZ salmon fishery, as well as satisfy the MSA Standard Bycatch Reporting Methodology requirement (86 FR 51833). Because recreational fishing data is gathered through mail in surveys there is currently limited information to estimate 2024 recreational harvest from within the CI EEZ.

1.5 Management Considerations

The annual harvest specifications are established consistent with the MSA, National Standard Guidelines (50 CFR 600.305 – 600.355) and the Salmon FMP. As such, the management objectives of the Salmon FMP are: prevent overfishing and achieve optimum yield over the long term, manage salmon as a unit throughout their range to the extent practicable, minimize bycatch and bycatch mortality, maximize economic and social benefits to the nation over time, protect wild stocks and fully utilize hatchery stocks, promote safety, and identify and protect salmon habitat.

Annually, under the terms outlined in Chapter 4 of the Salmon FMP, NMFS prepares a stock assessment and fishery evaluation (SAFE) report that provides information needed to inform the annual harvest specifications. The SAFE report provides the SSC, the Council's Advisory Panel (AP), and Council with a summary of the most recent biological condition of the salmon stocks, including recommended "Tiers" for each stock based on the quality and quantity of available data to assess the stock, SDC reference points based on those tiers, and recommended buffers to account for scientific uncertainty that reduce the preseason overfishing limit (OFL) to the resulting ABC. To the extent practicable, the SAFE includes estimates of all annual harvest specifications, all reference points needed to compute such estimates, and all information needed to make "overfishing" and "overfished" determinations based on the SDC. Additional details can be found within Section 3 of this EA and the SAFE reports.

In consultation with the Council, the Secretary will establish harvest specifications prior to the commercial salmon fishing season each year, by means of regulations published in the Federal Register. As soon as practicable after post-season information becomes available, NMFS will prepare the SAFE for Council, AP, and SSC review. The Council will recommend proposed harvest specifications to the Secretary. The Council's recommendation will include proposed harvest specifications for each stock or stock complex, including the TAC for each species, the basis for each proposed harvest specification, and a description of any information that may be relevant to the final harvest specifications. As soon as practicable after considering the Council's recommended proposed harvest specifications, the Secretary will publish in the Federal Register a notice of proposed harvest specifications and make available for public review and comment all information regarding the basis for the proposed harvest specifications. The public review and comment period on the notice of proposed harvest specifications will be a minimum of 15 days. As soon as practicable thereafter and after considering any public comments, the Secretary will publish final harvest specifications.

Under all of the Alternatives, enforcement conditions for the CI EEZ salmon fishery would be similar to the conditions during 2024. For commercial salmon harvests occurring in State waters, State law enforcement would be primarily responsible for the enforcement of State harvest regulations. NOAA Office of Law Enforcement (OLE) would continue their existing enforcement activity in Cook Inlet and respond to any illegal commercial salmon fishing occurring in the CI EEZ. Amendment 16 (NOAA Fisheries 2024) contains details related to OLE procedures and additional information is available on the NOAA Salmon Management webpage, https://www.fisheries.noaa.gov/alaska/commercial-fishing/salmon-management-federal-waters-cook-inlet-cook-inlet-eez, including the Small Entity Compliance Guide.

2 Alternatives

This EA analyzes the impacts to the human environment of adopting the 2025 harvest specifications under a range of proposed harvest strategies for the CI EEZ salmon fishery. alternatives. At the national level, National Standard 1 Guidelines at 50 CFR 600.310 define harvest specifications and what must be taken into account when specifying them. The alternatives (listed below) were selected because they accomplish the stated purpose and need of the action. An alternative of "no action," is also included as it provides a baseline for comparison of environmental effects. The alternatives selected represent a range of TAC setting and harvest specification options for the CI EEZ salmon fishery as described in Chapter 4 of the Salmon FMP, which was developed under the terms of the MSA and consistent with all National Standards.

2.1 Comparison of Alternatives

The alternatives compared in this section were selected because they represent a reasonable range of alternatives in light of the purpose and need for this action (Section 1.1). These alternatives span a range of potential harvest levels from no fishing (Alternative 1), TACs are set equal to the combined ABC of the salmon stocks and stock complexes for each salmon species (Alternative 2, Preferred Alternative), and fishing at the maximum permissible level allowed under the Salmon FMP where TAC = ABC = OFL_{PRE} (Alternative 3). The three alternatives are as follows.

2.1.1 Alternative 1 – The no action alternative.

Harvest specifications are not established, TAC is not set for any salmon species, and salmon fishing would not be permitted in the CI EEZ salmon fishery. As stated, this alternative would not meet the statement of purpose and need but is included for analytical purposes. Under this alternative, no commercial or recreational fishing would be permitted within the CI EEZ salmon fishery and TACs are therefore not set for any salmon stocks.

Under Alternative 1, no action, NMFS would not establish harvest specifications, TACs would not be set, and harvests of salmon would not be permitted in the CI EEZ salmon fishery. Neither commercial or recreational fishing within the CI EEZ salmon fishery would be permitted and all effort would be expected to occur within State of Alaska waters. Alternative 1 would likely result in increased effort and increased harvest rates over less area in State management areas. As this could have potentially negative consequences for salmon stocks listed as "Stocks of Concern" by the State, or for achieving in-river escapement goals; State management could consider alternative strategies to spread out fishing effort and to allow for additional fish passage. Salmon harvests from within the CI EEZ salmon fishery were estimated to account for 20 % of sockeye and 21 % of all salmon species harvested in the UCI 2024 drift gillnet fishery. As Alternative 1 (no action) would prohibit salmon fishing in the CI EEZ salmon fishery, there would not be any need for management measures to account for harvest; however, OLE would need to continue their existing enforcement activity in the area to monitor for illegal activities.

2.1.2 Alternative 2 – Status quo and the preferred alternative.

Harvest specifications are established following the methods and procedures in the Salmon FMP. The TACs are set below the preseason overfishing limit (OFL_{PRE}) and equal to the combined acceptable biological catch (ABC) of the salmon stocks and stock complexes for each salmon species to account for uncertainty**.** This preferred method of specifying TACs for each species or species complex is based on tier assignment and conservative buffers to account for scientific uncertainty. NMFS would implement these measures through the Federal rulemaking process. This was the management framework adopted in 2024 and TACs were not exceeded for any salmon species.

Under Alternative 2, for the 2025 CI EEZ salmon fisheries, Table 1 of the 2025 SAFE report (Appendix 1) provides stocks, tiers, SDC, recommended buffers, and the resulting ABC/ACL. For 2025 the Council recommended setting the TACs equal to the ABC/ACL. Similarly, Tables 3-4 of the Final 2025 SAFE report provides approved SDC, harvest specifications, and realized catch under Alternative 2 for the 2024 CI EEZ salmon fishery.

Alternative 2 would set the TACs equal to the combined ABC of the salmon stocks and stock complexes for each salmon species to account for uncertainty and will best meet the objectives of the purpose and need statement. Alternative 2 would balance the need to protect the resource and enhance the conservation of Pacific salmon while taking into account the potential adverse social and economic impacts of lower catch limits. Sections 3 and 4 of this EA analyze the effects of Alternative 2, the preferred alternative.

Under the Salmon FMP, the TAC may be further reduced from ABC if warranted on the basis of concerns about the harvest of weak salmon stocks, bycatch considerations, management uncertainty, ecosystem requirements, or social and economic considerations. The criteria used in determining these management objectives are the SDC for each stock or stock complex and are described in the Salmon FMP and the annual CI EEZ SAFE documents (Appendix 1). If a preseason forecast suggests that the lower bound an escapement goal will not be achieved for a given stock, then de minimis harvest on the stock could be allowed to reduce the risk of implementing additional fishery restrictions that could impose severe economic consequences to fishing communities without having substantive management or conservation benefits.

As in 2024, for 2025 all waters of the CI EEZ salmon fishery (Figure 1) would open to commercial drift gillnet salmon fishing on the third Monday in June or June 19, whichever is later. After the season begins, the CI EEZ salmon fishery is open from 7:00 a.m. to 7:00 p.m. for the following dates: Mondays and Thursdays until July 15; on Thursdays from July 16 until July 31; and on Mondays and Thursday from August 1 until August 15.

Alternative 2 (preferred) and Alternative 3 would maintain the existing management conditions of the salmon fishery under the Salmon FMP and management framework from 2024. NMFS would be responsible for opening the fishery, monitoring catch and landings data, and closing the fishery prior to exceeding TACs. Recreational fishery removals, likely projections, would also be accounted for in this process. Management of the recreational fishery will continue to be controlled by daily bag limits established preseason. For inseason management of the commercial fishery, the use of eLandings will continue for all landings in the fishery while

maintaining the current reporting requirements for fish harvested from both the CI EEZ and State waters.

Under Alternative 2 (preferred) and Alternative 3, OLE would be responsible for the monitoring and enforcement of the drift gillnet fishery in the CI EEZ salmon fishery. A Vessel Monitoring System (VMS) and corresponding logbooks would provide actionable information to ensure that fishery participants are operating in the defined CI EEZ Area. The logbook would also improve accounting of catch and effort by statistical area, including groundfish that must be accounted for under Federal management. In addition to ensuring that participants in the CI EEZ salmon drift gillnet fishery are in compliance with open times and areas, monitoring will also be in place to verify that no fishing was occurring in Federal waters during closed periods or by vessels not in compliance with all Federal regulations.

2.1.3 Alternative 3 – TACs set at the preseason OFL (OFL_{PRE})

Alternative 3 – The alternative that represents the highest allowable harvest under the Salmon FMP. Harvest specifications are established. The TACs are set equal to the OFL_{PRE}, which is the equivalent of a 0% buffer applied to the OFL_{PRE} to account for scientific uncertainty and a 0% buffer applied to the ABC to account for management uncertainty such that OFL_{PRE}= ABC = TAC. This alternative is not recommended due to conservation concerns for less abundant stocks of salmon. Under this alternative, the TACs would be set to the maximum permissible harvest levels described in the 2025 CI EEZ SAFE report for each stock or stock complex (Appendix 1).

Under Alternative 3, for the 2025 CI EEZ salmon fisheries, Table 1 of the 2025 SAFE report (Appendix 1) provide stocks, tiers, and SDC for the 2025 CI EEZ salmon fishery; however, under this alternative, the ABC/ACL and TAC would be equal to the OFL_{PRE}.

Briefly, OFL_{PRE} is the overfishing limit and the preseason basis for establishing ABC. As described in the Salmon FMP, the ABC must be less than or equal to the OFL. The SSC may recommend reducing ABC from the OFL to account for scientific uncertainty, including uncertainty associated with the assessment of spawning escapement goals, forecasts, harvests, and other sources of uncertainty. For Tier 1 and 2 stocks, the OFL_{PRE} is based on the preseason total run size forecast and defined as the maximum stock-specific EEZ harvest (number of fish) that could occur while still achieving the lower bound of the spawning escapement target (or another value recommended by the SSC, such as S_{MSY}) and estimated non-EEZ (State) harvests for the coming fishing season. For Tier 3 stocks, the OFL is the largest cumulative EEZ harvest (number of fish) across a species generation time in the time series under consideration. For Tier 3 stocks, the preseason OFL (OFL_{PRE}) is the largest average harvest from the stock that occurred in the EEZ across a generation time. For Tier 3 stocks, in addition to being the basis for setting the preseason ABC, the OFL is also the postseason basis for the assessment of overfishing. For Tier 1 and 2 stocks, the OFL is not used to assess overfishing postseason.

Alternative 3 would allow for harvest at the OFL_{PRE}, which is the highest allowable harvest under the Salmon FMP and described in the 2025 CI EEZ SAFE report for each stock, stock complex, and tier. Under this alternative, OFL_{PRE}= ABC = TAC, which effectively removes the buffer for management uncertainty that inseason management relies on when predicting if a

stock will reach TAC. This alternative has the potential to provide greater harvest opportunities; however, increased harvest for abundant stocks under this alternative could also result in overfishing of the less abundant stocks (e.g., Aggregate coho salmon stock complex; Appendix 1 Section 7.6). Although this alternative allows for the maximum level of harvest, it is within the management framework of the Salmon FMP. Under this alternative it is possible that the OFL_{PRE} could be exceeded and overfishing could occur as daily harvest can be extremely variable and unpredictable. Under Alternative 3, there is also the potential for prey resource depletion (particularly coho salmon) for CI beluga whales and increased harvest of less abundant stocks that could negatively impact escapement goals. Alternative 3 is not the preferred alternative because it increases the risk to CI beluga whales, described in Sections 3.6.5.3 of this EA, increases the risk of overfishing all salmon stocks, but particularly those that are at a low state of abundance (e.g., coho salmon during 2024).

3 Environmental Assessment

This EA evaluates the potentially affected environment and the degree of the effects of the alternatives on the various resource components.

Recent and relevant information, necessary to understand the affected environment for each resource component, is summarized in the relevant section. For each resource component, the analysis identifies the potential impacts of each alternative, and evaluates the significance of these impacts. If significant impacts are likely to occur, NMFS would prepare an Environmental Impact Statement (EIS). Although the EA evaluates economic and social impacts that are interrelated with natural and physical environmental effects, economic and social impacts by themselves are not sufficient to require the preparation of an EIS.

This EA includes an analysis of cumulative effects. The concept behind cumulative effects analysis is to capture the total effects of many actions over time that would be missed if evaluating each action individually.

3.1 Documents Incorporated by Reference in this Analysis

This EA relies heavily on information, analyses, and evaluation contained in numerous documents prepared by NMFS, such as the A16 EA/RIR, the 2025 CI EEZ SAFE report (Appendix 1), and the Final 2024 Harvest Specifications for Salmon; which are either directly incorporated, cited, or included in the appendix of this EA. The documents listed below contain information about the status of the salmon resource and fishery, other marine resources (i.e., marine mammals), ecosystem, social, and economic elements of the salmon fisheries. They also include comprehensive analysis of the effects of the CI salmon fisheries on the human environment.

This EA specifically relies on the following documents and the supporting material within those documents:

1. **Final Environmental Assessment/Regulatory Impact Review/Social Impact Review for Amendment 16 to the Salmon FMP** (NMFS 2024a). Amendment 16 to the Salmon FMP. Available from https://www.fisheries.noaa.gov/action/amendment-16-fmp-salmon-

fisheries-alaska. Analyzes proposed management measures to implement Federal management for commercial and recreational salmon fishing in the Cook Inlet EEZ.

2. **2024 Final Salmon SAFE report** (Brenner et al. 2024). Stock Assessment and Fishery Evaluation Report for the Salmon Fisheries of the Cook Inlet Exclusive Economic Zone. Available from https://www.fisheries.noaa.gov/alaska/population-assessments/alaska-stock-assessments. The SAFE report for the Federal salmon fisheries in the Cook Inlet EEZ Area includes SSC recommendations for tier determinations, minimum stock size threshold (MSST), preseason overfishing limits (OFL_{PRE}), buffers, acceptable biological catch (ABC), annual catch limits (ACLs), and status determination criteria (SDC) for the salmon harvested in the EEZ for the 2024 fishing season.

3. **2025 Salmon SAFE report.** The Stock Assessment and Fishery Evaluation (SAFE) report for the Federal salmon fisheries in the Cook Inlet exclusive economic zone (EEZ) Area includes SSC recommendations for tier determinations, minimum stock size threshold (MSST), preseason overfishing limits (OFL_{PRE}), buffers, acceptable biological catch (ABC), annual catch limits (ACLs), and status determination criteria (SDC) for the salmon harvested in the EEZ for the 2025 fishing season.

4. **Final 2024 Harvest Specifications for Salmon. Fisheries of the Exclusive Economic Zone off Alaska; Cook Inlet; Final 2024 Harvest Specifications for Salmon (**89 FR 51448, June 18, 2024). Final rule to establish the harvest limits for salmon during the 2024 fishing year.

3.2 Resource Components Affected by the Proposed Action

The effects of the implementation of the Federal CI salmon fishery on environmental resource components were examined in the A16 EA/RIR (Section 3.6). This action is a subset of that larger action and is focused on the authorization of varying levels of fishing in 2025. As such, the components analyzed in this EA are narrower in scope than those covered in the A16 EA/RIR and only include those environmental resource components that would be affected by varying levels of CI salmon harvest in 2025. The A16 EA/RIR described the effects on impacts of the timing and location of the fishery, the gear and vessels used, and multiple other effects and environmental conditions, and as such, are not further discussed here. Therefore, the environmental components that could be potentially affected by the proposed action and its alternatives are:

- Pacific salmon
    - Cook Inlet salmon stocks
    - ESA-listed salmon stocks
- Other non-salmon finfish
- Marine mammals
- Essential fish habitat
- Community and economic conditions

3.3 Pacific Salmon

3.3.1 Assessment and Status of Upper Cook Inlet salmon stocks

In order to provide context to the harvest specifications alternatives considered, this section provides a summary of the State and Federal salmon stock assessment process in UCI and reports on the status of salmon stocks that are harvested in the CI EEZ salmon fishery with more detailed reporting contained in the 2025 CI SAFE.

Because the Federal stock definitions in the Salmon FMP are identical to or aggregates of the UCI salmon stocks that are managed by the State of Alaska, in order to be based on the best scientific information available, the Federal assessment of CI EEZ salmon stocks presented in the annual SAFE reports incorporate—after an independent Federal review process, including review by the SSC—much of the data, estimates, and analyses from the State assessments. Critically, the Federal assessment process also incorporates the State's spawning escapement targets into SDC, and the resulting harvest specifications.

3.3.2 Assessment and Status of Upper Cook Inlet salmon stocks by the State of Alaska

The State of Alaska has assessed and managed UCI salmon stocks since Alaska's statehood in 1959 and it has an extensive and rigorous salmon stock assessment, evaluation, and reporting process. As described and referenced below, data and analyses used in the State UCI salmon assessment process are described in spawning escapement goal assessment reports, the statewide escapement goal assessment report, annual management reports, and preseason forecasts of abundance. Also described below is the process by which spawning escapement goals are established and assessed by the State.

3.3.2.1 State of Alaska assessment of salmon stocks and escapement goals in Upper Cook Inlet

Approximately every 3 years, the Alaska Department of Fish and Game (ADF&G) conducts a comprehensive assessment of salmon stocks and associated spawning escapement goal recommendations in the State's UCI management area—the most recent report on this assessment is:

> McKinley, T. R., J. W. Erickson, T. Eskelin, N. DeCovich, and H. Hamazaki. 2024. Review of salmon escapement goals in Upper Cook Inlet, Alaska, 2023. Alaska Department of Fish and Game, Fishery Manuscript No. 24-01, Anchorage.

The State's triennial assessment of UCI salmon stocks incorporates updated data, including harvests, spawning escapements, brood tables and associated components; reports on the achievement of escapement goals; discusses and documents updates to assessment methods and derived outputs; and, provides recommendations for changes in escapement goal targets, and ranges to the State of Alaska Board of Fisheries. Within the State's UCI escapement goal review report are references to stock-specific assessment reports that contain additional details.

3.3.2.2 State of Alaska establishment and review of spawning escapement goals throughout Alaska.

On a regular basis, ADF&G reports on the status of spawning escapement goals and associated escapement estimates for salmon stocks throughout Alaska, including for its UCI management area—the most recent iteration of this report is:

> Munro, A. R. 2023. Summary of Pacific salmon escapement goals in Alaska with a review of escapements from 2014 to 2022. Alaska Department of Fish and Game, Fishery Manuscript No. 23-01, Anchorage.

The Munro 2023 report and those that preceded it (Munro and Volk 2012, Munro 2019, Munro and Brenner 2022) provide an overview of the State of Alaska's spawning escapement goal process. These reports include references to the State's statutory and regulatory authorities for establishing spawning escapement goals; a description of the State's methods for assessing spawning escapements; an update of stocks listed as "Stocks of Concern" by the State and a description of whether such stocks are a yield, management, or conservation concern; and, references that provide additional descriptions and updates of assessment methods, data, and assumptions for individual stocks. As a statewide report, it includes the status and other aforementioned attributes for stocks in the State's UCI management area. Table 2 within Munro 2023 (Replicated as Table 2 in this EA) provides a comparison of spawning escapement goals and associated escapement estimates for UCI stocks, including those that are defined in the Federal Salmon FMP and referred to in the CI EEZ SAFE reports.

State management of salmon fisheries within the UCI by ADF&G is based on inseason adjustment of fishing effort by emergency order (EO), and time-area closures, to achieve fixed escapement goals or abundance levels on the spawning grounds; with the type of escapement target and method used to estimate abundance varying by species and location. Three types of escapement goals are currently implemented for UCI stocks, biological escapement goals (BEG), sustainable escapement goals (SEG), and optimal escapement goals (OEG).

A BEG is defined in State policy as the escapement level that provides the greatest potential for maximum sustained yield, and usually requires a complete stock-recruitment analysis be conducted to identify the range of escapements that are likely to produce MSY, and therefore requires stock-specific spawning abundance (escapement), catch, and age composition information.

A SEG is a level of escapement, as indicated by an absolute level of spawning abundance or alternative index, that has been observed to provide sustained yield over a 5- to 10-year period and is used when data are insufficient to reliably estimate S_{MSY} and a BEG can therefore not be

established or managed for effectively. SEGs may be established by the ADF&G as either an "SEG range" or "lower bound SEG" and may be defined based on a Percentile Approach (Clark et al. 2014, Clark et al. 2017) analysis, habitat capacity, risk analysis or other methods. In the case of the Percentile Approach, the range of observed escapements to a system are ranked, and percentiles of the observed range ascribed to each observation. Percentile Approach SEGs are subsequently defined as a function of the distribution of observed escapements, the contrast in past escapement observations, exploitation rate, and the level of relative measurement error. As described in Clark et al. 2014 and 2017, the intention of this approach is that the selected spawning escapement goals will maximize yield over the long term.

Both BEGs and SEGs are based on the best available biological information and are scientifically defensible, with escapement ranges intended to account for variation in stock productivity and data uncertainty.

OEGs are management targets established by the BOF that consider other biological or allocative factors and may differ from the SEG or BEG specified for a given stock. A given stock may have an OEG in order to ensure sufficient inriver abundance and associated harvests and another escapement target (BEG or SEG) in order to ensure that sufficient numbers of spawners escape inriver fisheries to spawn.

The majority of management targets for UCI salmon stocks are SEGs, evaluated annually based on weir or sonar counts, single aerial surveys, or single foot surveys (Munro 2023). Kasilof River and Russian River (Early Run) sockeye salmon escapement targets are BEGs, while, OEGs are established to ensure sufficient inriver runs for Kenai River (Early Run) Chinook salmon and Kasilof River sockeye salmon.

The State has identified the most important species and stocks in each area and directs resources to monitoring returns to these key drainages. In the absence of specific stock information, the State manages these stocks following the precautionary principle and based on information collected from adjacent indicator stocks (stocks that can be assessed that are assumed to represent nearby stocks). See Appendix 12 of the A16 EA/RIR and Munro 2023 for additional information and considerations pertaining to the establishment and management of spawning escapement goals, including considerations for accounting for uncertainty.

Table 2. Upper Cook Inlet Chinook, chum, coho, pink, and sockeye salmon escapement goals and escapements, 2014–2022 for the State of Alaska. SEG is Sustainable Escapement Goal, BEG is Biological Escapement Goal, OEG is Optimal Escapement Goal, LB SEG is lower-bound SEG, NA is data not available, NC is no count, and NS is no survey. Source: Munro 2023.

System	2022 Goal Range		Type	Initial Year	Escapement								
	Lower	Upper			2014	2015	2016	2017	2018	2019	2020	2021	2022
CHINOOK SALMON													
Alexander Creek	1,900	3,700	SEG	2020	911	1,117	754	170	296	1237	596	288	NC
Campbell Creek	380		LB SEG	2011	274	654	544	475	287	393	154	339-- [b]	423[b]
Chuitna River	1,000	1,500	SEG	2020	1,398	1,965	1,372	235	939	2,115	869	806	NC
Chulitna River	1,200	2,900	SEG	2020	1,011	3,137	1,151	NC	1,125	2,765	845	1,535	NC
Clear (Chunilna) Creek	eliminated			2020	1,390	1,205	NS	780	940	1,511			
Crooked Creek	700	1,400	SEG	2020	1,411	1,459	1,747	911	714	1,444	830	594	735
Deshka River	eliminated			2020	16,335	24,316	22,874	11,383	8,548	9,705			
Deshka River	9,000	18,000	BEG	2020							10,638	18,674	5,440
Eastside Susitna River	13,000	25,000	SEG	2020							13,815[a]	15,208[a]	7,654[a]
Goose Creek	eliminated			2002	232	NC	NC	148	90	NC			
Kenai River - Early Run (all fish)	eliminated			2017	5,311	6,190	9,177						
Kenai River - Early Run (large fish)	3,900	6,600	OEG	2017				6,553	2,909				
	2,800	5,600	SEG	2017									
Kenai River - Late Run (all fish)	eliminated			2017	16,263	22,626	18,790						
Kenai River - Late Run (large fish)	15,000	30,000	OEG	2020							11,909	12,147	13,974
	13,500	27,000	SEG	2017				20,615	17,289	11,638			
Lake Creek	eliminated			2020	3,506	4,686	3,588	1,601	1,767	2,692			
Lewis River	eliminated			2020	61	5[b]	0	0[b]	0	0			
Little Susitna River (Aerial)[c]	700	1,500	SEG	2020	1,759	1,507	1,622	1,192	530	NC	558	889	NC
Little Susitna River (Weir)	2,100	4,300	SEG	2017				2,531	549	3,666	2,445	3,121	2,288
Little Willow Creek	eliminated			2020	684	788	675	840	280	631			
Montana Creek	eliminated			2020	953	1,416	692	603	473	789			
Peters Creek	eliminated			2020	1,443	1,514	1,122	307	1,674	1,209			
Prairie Creek	eliminated			2020	2,812	3,290	1,853	1,930	1,194	2,371			

System	2022 Goal Range		Type	Initial Year	Escapement								
	Lower	Upper			2014	2015	2016	2017	2018	2019	2020	2021	2022
Sheep Creek	eliminated			2020	262	NC	NC	NC	334	NC			
Talachulitna River	eliminated			2020	2,256	2,582	4,295	1,087	1,483	3,225			
Talkeetna River	9,000	17,500	SEG	2020							7,279[a]	9,107[a]	4,288[a]
Theodore River	500	1,000	SEG	2020	312	426	68	21	18	201	111	38	NC
Willow Creek	eliminated			2020	1,335	2,046	1,814	1,329	411	897			
Yentna River	16,000	22,000	OEG	2020							14,850[a]	18,890[a]	16,583[a]
	13,000	22,000	SEG	2020									
CHUM SALMON													
Clearwater Creek	3,500	8,000	SEG	2017	3,110	10,790	5,056	7,040	1,800	9,600	3,970	9,440	4,681
COHO SALMON													
Deshka River	10,200	24,100	SEG	2017				36,869	13,072	10,445	NA	NA	NA
Fish Creek (Knik)	1,200	6,000	SEG	2020	10,283	7,912	2,484	8,966	5,022	3,025	4,555	6,462[b]	NA
Jim Creek	250	700	SEG	2020	122	571	106	5,646	758	162	735	1,499	1,899
Little Susitna River	9,200	17,700	SEG	2020	24,211[b]	12,756	10,049	17,781	7,583[b]	4,229[b]	10,765	10,923	3,162[b]
PINK SALMON													
There are no pink salmon stocks with escapement goals in Upper Cook Inlet													
SOCKEYE SALMON													
Fish Creek (Knik)	15,000	45,000	SEG	2017	43,915	102,309	46,202	61,469	71,180	75,411	64,234	99,324[b]	58,333
Kasilof River	140,000	370,000	OEG	2020	440,192	470,677	239,981	358,724	388,009	374,109	540,872	521,859	968,148[a]
	140,000	320,000	BEG	2020									
Kenai River	OEG eliminated			2017	1,218,342	1,400,047	1,119,988	1,071,064					
	750,000	1,300,000	SEG	2017				NA	886,761	1,457,031	1,505,940	2,006,290	1,263,18[a]
Packers Creek	15,000	30,000	SEG	2008	19,242	28,072	NA	17,164	16,247	7,719[b]	15,903[b]	19,975	15,451
Russian River - Early Run	22,000	42,000	BEG	2011	44,920	50,226	38,739	37,123	44,110	125,942	27,103	49,976	61,098
Russian River - Late Run	44,000	85,000	SEG	2020	52,277	46,223	37,837	45,012	71,052	64,585	78,816	123,950	124,561
Chelatna Lake	20,000	45,000	SEG	2017	26,212	69,750	60,792	26,986	20,434	26,303	NS	NS	NS
Judd Lake	15,000	40,000	SEG	2017	22,416	47,684	NA	35,731	30,844	44,145	31,219	49,440	38,369
Larson Lake	15,000	35,000	SEG	2017	12,040	23,214	14,333	31,866	23,632	9,699	12,074	21,993	17,436

System	2022 Goal Range		Type	Initial Year	Escapement								
	Lower	Upper			2014	2015	2016	2017	2018	2019	2020	2021	2022

a Kenai River early-run Chinook salmon (all fish) SEG was eliminated and OEG was revised by BOF.
b Lewis River mouth naturally obstructed.
c Little Susitna River Chinook salmon aerial survey goal is only used to assess escapement if weir count is not available.

3.3.2.3 State of Alaska, Upper Cook Inlet Annual Management Report.

ADF&G publishes an annual report that summarizes the management of salmon and other species within the State's UCI management area, including for the Central District that includes the CI EEZ salmon fishery (As of 2024, the State subdistrict number for the CI EEZ is 244-64). The most recent iteration of the UCI annual management report is:

> Lipka, C., and L. Stumpf. 2024. Upper Cook Inlet commercial fisheries annual management report, 2022. Alaska Department of Fish and Game, Fishery Management Report No. 24-04, Anchorage.

ADF&G's UCI annual management report contains details of the State's UCI salmon management measures; dates of fishery openings and closings; harvests by date, district, subdistrict, and gear type; spawning escapements by date; and, estimates of the ex-vessel value of the fisheries components.

Harvest and other data from the State's annual management reports are used in the Federal assessment of the CI EEZ salmon fishery.

3.3.2.4 State of Alaska, Upper Cook Inlet Annual Preseason Forecast Report.

ADF&G publishes area- and state-wide reports that provide preseason forecasts of run sizes and estimated commercial harvests for salmon stocks and for management areas. The most recent statewide preseason forecast report is:

> Donnellan, S. J., and A. R. Munro, editors. 2024. Run forecasts and harvest projections for 2024 Alaska salmon fisheries and review of the 2023 season. Alaska Department of Fish and Game, Special Publication No. 24-09, Anchorage.

The report provides area- and stock- specific forecasts for salmon stocks that are harvested throughout Alaska, including for those in its UCI management area where the CI EEZ salmon fishery is located. The UCI-specific portion of the ADF&G forecast report includes total run size forecasts for monitored and non-monitored systems throughout UCI. As described in the 2024 and 2025 CI EEZ SAFE reports, ADF&G's Kenai and Kasilof sockeye salmon forecasts in particular are informed by sibling models and spawner-recruitment relationships that are based on brood-year spawner and return data. Much of these same data are also used by ADF&G in the assessments of the stocks that inform spawning escapement goal recommendations that were mentioned previously.

The annual Federal assessment of stocks in the CI EEZ salmon fishery may, in the future, incorporate some or all of the ADF&G's UCI preseason salmon forecasts; however, this will be partially determined by whether such forecasts are available in time to be reviewed by NMFS and the SSC and incorporated into the annual CI EEZ SAFE report.

3.3.3 Assessment and Status of Federally managed Upper Cook Inlet Salmon Stocks

Under the terms of the MSA, National Standard Guidelines, and the Salmon FMP, the annual assessment of Federal salmon stocks that are managed by NMFS in the CI EEZ Area is

contained within the CI EEZ SAFE reports for 2024 (Brenner et al. 2024) and 2025 (Appendix1). As described in the CI EEZ SAFE reports, the NMFS SAFE Team conducts an independent Federal review and assessment of salmon stocks that are harvested in the CI EEZ salmon fishery. The final 2025 CI EEZ SAFE report provided recommendations to the Council's SSC, including recommendations for tiers, potential yield, maximum fishing mortality threshold (MFMT), minimum stock size threshold (MSST), preseason and post-season OFL, and buffers to address scientific uncertainty that reduce the OFLs to the ABC. The final 2025 CI EEZ SAFE incorporates the SSC's recommendations for OFLs and ABCs and addresses SSC's comments to the extent possible. The 2025 CI EEZ SAFE report provides information on the salmon fishery from the previous year and presents stock trends and the status of those stocks in relation to Federal SDC and harvest specifications. The State has collected the most extensive data for Cook Inlet salmon stocks; as such, to ensure that the CI EEZ SAFE and this EA are based on the best scientific information available, the CI EEZ SAFE evaluates and makes extensive use of the data and analyses by the State, which are contained within the aforementioned State of Alaska (SOA) reports.

Historically, salmon stocks have been managed by the State in order to achieve spawning escapement goals. Amendment 16 to the Salmon FMP and implementing regulations established Federal management, including the specification of Federal SDC and harvest specifications that consider spawning escapement objectives and other information described in this EA in Section 3.3.2. The remainder of this section details the Federal management of the CI EEZ salmon fishery; additional details can be found in the 2025 CI EEZ SAFE report that is attached as an appendix.

3.3.3.1 Abundance and Status of Federal Cook Inlet Salmon Stocks

This section describes the seven federally managed Cook Inlet salmon stocks, their respective abundance estimates; estimated harvests that occurred during the 2024 CI EEZ salmon fishery; and, an assessment and comparison of the reported CI EEZ salmon fishery harvests and stock status characteristics (e.g., escapement estimates)—with the 2024 SDC and harvest specifications that were approved under the terms of MSA, National Standard Guidelines, and the Salmon FMP. Much of the information summarized in this section is also contained in the 2025 CI EEZ SAFE report attached as Appendix 1.

Kenai Late-Run Sockeye Salmon

As described in the Salmon FMP, the federally managed Kenai River Late-Run sockeye salmon stock is defined as the Kenai River Late-Run sockeye salmon harvested in the CI EEZ salmon fishery. The Federal definition for this stock aligns with the State's description of this stock from its stock assessment reports (Mckinley et al. 2024) which represent the best available scientific information.

The Kenai River is the largest producer of sockeye salmon in UCI and estimates of total run size for the late-run sockeye salmon stock range from 1.8 - 6.3 million fish for the years 1999 - 2024 (Appendix 1, Table 8). The Kenai River late-run sockeye salmon stock has consistently met or exceeded the lower bound of the escapement goal of 750,000 fish over most of this time period, excluding 2000, 2001, and 2008. The estimated contribution of this stock to the overall harvest

of sockeye salmon in the UCI drift gillnet fishery has averaged approximately 66% and ranged from 47 - 89% (1999 - 2021). The stock is considered to be healthy and escapements in 2021, 2023, and 2024 were the largest in the historical time series (1999 - 2024). Like some other large sockeye salmon stocks, this stock has poorly defined density dependent spawner-recruitment characteristics at larger spawning escapements and available data indicates that escapements in excess of the upper bound of the escapement goal have resulted in a substantial harvestable surplus of returning fish in future years (Appendix 1, Section 7.2.3).

During the 2024 CI EEZ salmon fishery a total of 324,837 sockeye salmon were harvested in the CI EEZ drift gillnet fishery (Appendix 1, Table 2), with a postseason estimate of 189,000 Kenai River late-run sockeye salmon (Appendix 1, Table 3). The total Kenai River late-run sockeye salmon harvests in the CI EEZ salmon fishery was calculated using the estimated 2024 proportion of Kenai River sockeye salmon harvested from tissue samples collected from commercial catches in the State's Central District (Barclay 2017 and Barclay 2020). The estimated harvest rate of Kenai River late-run sockeye salmon in the CI EEZ salmon fishery over the most recent generation (five years; F_{EEZ}) of 0.072 was less than the MFMT of 0.204, indicating that overfishing did not occur in 2024 (Appendix 1, Table 3). The cumulative spawning escapement of this stock over the most recent generation of 8.3 million was greater than the MSST of 3.03 million, indicating that the stock is not in, or approaching, an overfished condition.

Kasilof Sockeye Salmon

As described in the Salmon FMP, the Federal stock definition for Kasilof River sockeye salmon is defined as the Kasilof River sockeye salmon harvested in the CI EEZ salmon fishery.

The Kasilof River is the second largest producer of sockeye salmon in UCI, with total run sizes ranging from 500,000 to 1,495,000 for the years 1999 - 2024 (Appendix 1, Table 12). The Kasilof River sockeye salmon stock has consistently met or exceeded the lower bound of the escapement goal of 140,000 fish over this time period. The contribution of the Kasilof stock to the overall UCI driftnet sockeye salmon fishery has averaged approximately 12% and ranged from 1 - 35% (1999 - 2021). The stock is considered to be healthy and total run size in 2022, 2023, and 2024 are the largest in the time series (1999 - 2024). Like the Kenai River Late-Run sockeye salmon stock, this stock has poorly defined density dependent spawner-recruitment characteristics at larger escapements, with only a single brood year (1985) having returns that were below replacement and there is not strong evidence for density dependent effects (Appendix 1, Section 7.3.3).

During the 2024 CI EEZ salmon fishery a total of 324,837 sockeye salmon were harvested in the CI EEZ drift gillnet fishery (Appendix 1, Table 2). The postseason estimate of the Kasilof River sockeye salmon stock harvested in the CI EEZ was 77,960 salmon (Appendix 1, Table 3). The total Kasilof River sockeye salmon harvests in the CI EEZ salmon fishery was calculated using the 2024 estimated proportion of Kasilof River sockeye salmon harvested from commercial catches in the State's Central District (Barclay 2017, 2020). The CI EEZ harvest rate of this stock over the most recent generation (five years; F_{EEZ}) of 0.031 was less than the MFMT of 0.464, indicating that overfishing did not occur in 2024 (Appendix 1, Table 2). The cumulative

escapement of the Kasilof sockeye salmon stock over the most recent generation was 3.3 million salmon and was greater than the MSST (555,000), indicating that the stock is not in or approaching an overfished condition.

Aggregate Other Sockeye Salmon Stock Complex

As described in the Salmon FMP, the Federal stock definition for the Aggregate Other sockeye salmon stock complex is defined as all sockeye salmon harvested in the CI EEZ salmon fishery, except for Kenai and Kasilof sockeye salmon, with Fish Creek, Chelatna Lake, Judd Lake, and Larson Lake as indicator stocks that may be used to assess applicable SDC.

The following is intended to describe the Aggregate Other Sockeye salmon stock complex with respect to the total run size and spawning escapement estimates, and to provide an assessment of the Federal stock status important assumptions associated with the Federal assessment.

Sockeye salmon that are included in the Aggregate Other stock complex spawn in many watersheds throughout UC (Giefer and Graziano 2024), and, based on 2024 estimates provided in ADF&G's UCI commercial salmon season summary report (Stumpf 2024) the total run size of the Aggregate Other sockeye salmon stock is estimated at approximately 1.2 million fish, which is slightly larger than the total run size of the Kasilof River stock (1.1 million fish; 2024 UCI season summary report). The estimated total run size of the Aggregate Other sockeye salmon stock complex was calculated in this EA and the 2025 SAFE report as UCI-wide total run size estimates for all sockeye salmon stocks, minus the total run sizes for the Kenai and Kasilof river sockeye salmon stocks. Only two of the four Federal indicator systems (Fish Creek and Larson Lake) that are used to assess whether this stock is overfished were monitored during 2024. Thus, while the sum of total spawning escapements for these indicator systems of ~54,000 was lower than that necessary to achieve the sum of the lower bound of their escapement goals (65,000 fish) during 2024, the monitored systems did achieve their escapement goals despite escapement monitoring (via weirs) not occurring on the Chelatna River or Judd Lake 2024 (Appendix 1, Table 16). There are many other tributaries and drainages in UCI where sockeye salmon associated with this stock are known to spawn, but which lack escapement goals and active monitoring (Appendix 1, Section 7.4.3). Notably, there was an ADF&G escapement goal on the Crescent River (west side of UCI), but this goal no longer exists and the escapement monitoring no longer occurs. Other unmonitored systems where sockeye salmon are known to spawn in UCI include: Big River, McArthur River, Chilligan River, Coal Creek, Cottonwood Creek, Wasilla Creek, and Eagle River.

Escapement estimates for the index systems for the Aggregate Other sockeye salmon stock are not considered to be a reliable index of the actual total spawning escapements because the indicator systems estimate a small but unknown fraction of the overall spawning escapements. Thus, because the total run size is considered to be unknown and Tier 1 SDC cannot be calculated (e.g., MFMT and F_{EEZ}), this stock complex was managed as a Tier 3 stock during 2024.

The 2024 postseason estimate of the Aggregate Other sockeye salmon stock harvested in the CI EEZ was 57,496 salmon and was calculated by subtracting the estimated Kenai and Kasilof

Rivers sockeye salmon EEZ catch from the total CI EEZ catch (Appendix 1, Table 3). The cumulative CI EEZ Aggregate Other sockeye salmon harvest for the most recent generation (five years) of 449,524 sockeye salmon was below the 2024 postseason OFL of 1.271 million sockeye salmon such that overfishing did not occur in 2024. Cumulative escapement of sockeye salmon over a generation time (five years) into Fish Creek, Chelatna Lake, Judd Lake, and Larson Lake was 529,700 (Appendix 1, Table 17) and was larger than the MSST (half the sum of indicator stocks escapement targets over a generation time) of 162,500 fish, indicating that the Aggregate Other sockeye salmon stock is not in or approaching an overfished condition (Appendix 1, Table 2).

Aggregate Chinook Salmon Stock Complex

As described in the FMP, the Federal stock definition for the Aggregate Chinook salmon stock complex is defined as all Chinook salmon harvested in the CI EEZ salmon fishery with Kenai Late Run Large Chinook salmon as an indicator stock that may be used to assess applicable SDC.

Chinook salmon spawn in many watersheds in UCI and spawning escapement is monitored for 14 stocks, with spawner-recruitment data available for Kenai River, Kasilof, Deshka River, Eastside Susitna River, Talkeetna River, and Yentna River stocks. As an aggregate stock complex, several of the State's 14 Chinook salmon spawning escapement goals in UCI are monitored and enumerated with a single aerial, foot survey, and other methods each year that may represent indices of escapements rather than actual numbers of spawners. In UCI, the State has designated four Chinook salmon stocks as "Stocks of Concern", all of which are in the far northern portion of UCI: Chuitna River, Theodore River, Alexander Creek, and Eastside Susitna River stocks (Munro 2023). Additionally, all UCI Chinook salmon stocks for which recruitment data are available are in a period of low productivity, recruitment, and abundance that began in the 2000s, with some of the lowest adult abundances observed since the 1970s.

Though there are many monitored Chinook salmon systems in UCI, the contribution of each stock to the Chinook salmon harvested in the CI EEZ salmon fishery is unknown, and no genetic sampling of harvested Chinook salmon in the CI EEZ is known to have occurred. Given the uncertainty associated with the harvest rate on individual stocks, the aggregate Chinook salmon stock complex is managed as a Tier 3 stock.

During the 2024 CI EEZ salmon fishery, 31 Chinook salmon were harvested, which was below the TAC of 240 salmon (Appendix 1, Table 2). Under the Tier 3 guidelines, the UCI Chinook salmon stock complex was not subject to overfishing because the total EEZ harvest for this stock across the most recent generation (406 Chinook salmon) was below the postseason 2024 OFL of 3,072 Chinook salmon (Appendix 1, Table 2). Cumulative escapement of Kenai River late-run large Chinook salmon over a generation time (six years) was 70,800 and was larger than the MSST (sum of half Kenai River late-run large Chinook salmon escapement goal) of 44,200 fish, indicating that the Aggregate Chinook salmon stock complex is not overfished (Appendix 1, Table 2).

Aggregate Coho Salmon Stock Complex

As described in the Salmon FMP, the Aggregate coho salmon stock complex is defined as all coho salmon harvested in the CI EEZ salmon fishery, with Deshka River and Little Susitna River as indicator stocks that may be used to assess applicable SDC.

Coho salmon spawn in many watersheds in UCI and spawning escapements are monitored by weirs in two indicator systems, the Deshka River and the Little Susitna River (Appendix 1, Table 22). Beginning in 2022, there was a decrease in the number of spawners returning to both indicator systems, resulting in the smallest observed escapements in the time series (1999 - 2024). However, on the Little Susitna River, weir estimates were considered incomplete due to flooding in 2022 and 2023, and ADF&G considers that the escapement goal was met in 2022 but not in 2023. Similarly, in 2023 and 2024, weir counts were incomplete on the Deshka River and the goal was considered "not met" in 2023.

The total Aggregate coho run size estimate (total harvest plus escapement in the Deshka and Little Susitna Rivers) in UCI has ranged from 137,075 – 287,943 salmon from 2019 - 2024 (Appendix 1, Table 23). However, the contribution of coho salmon harvest from each indicator system is not determined on an annual basis, precluding a spawner-recruit analysis. As such, the aggregate coho stock complex is managed as a Tier 3 stock and currently uses the aforementioned indicator stocks to determine whether an overfished status is warranted.

During the 2024 CI EEZ salmon fishery, 4,439 coho salmon were harvested in the CI EEZ, which was well below the TAC of 25,000 (Appendix 1, Table 2). Under the Tier 3 guidelines recommended by the SSC, the Aggregate coho salmon stock complex were not subject to overfishing because the total catch mortality for this stock across the most recent generation (52,995) was below a 2024 OFL of 439,000 coho salmon (Appendix 1, Table 2). However, as previously mentioned, weir counts for the Deshka and Little Susitna River were incomplete during 2024 (Appendix 1, Table 23), as such, cumulative escapement (24,402) over a generation time (four years) was below MSST (38,800) in 2024. Given the incomplete weir counts, it is the recommendation of the NMFS SAFE Team to the SSC that this stock is not in an overfished status.

Aggregate Chum Salmon Stock Complex

As described in the FMP, Aggregate chum salmon stock complex is defined as all chum salmon harvested in the CI EEZ salmon fishery.

Though chum salmon spawn in multiple watersheds throughout UCI, Clearwater Creek is the only run with a State escapement goal, which is monitored using aerial surveys. The extent to which this stock's escapement indices represents the number of spawners for all freshwater spawning habitats in UCI is unknown given that it is a single drainage. Therefore, total run size for the Aggregate chum salmon complex is unknown. Given that there is minimal monitoring of chum salmon escapement in UCI, aggregate chum salmon are managed as a Tier 3 stock and consequently, the NMFS SAFE Team cannot assess whether the stock is in, or approaching, an overfished condition. However, there are currently no State-designated chum salmon "Stocks of Concern" in UCI and the stock complex is considered to be healthy.

There is no directed chum salmon fishery in the CI EEZ and the majority of chum salmon harvest occurs in State waters, with historic estimates of chum salmon harvest in the CI EEZ are considered incidental (Appendix 1, Figure 23). During the 2024 CI EEZ salmon fishery, 28,805 chum salmon were harvested in the CI EEZ, well below the TAC of 99,400 (Appendix 1, Table 2). Under the Tier 3 guidelines in the Salmon FMP and the 2025 harvest specifications, UCI chum salmon were not subject to overfishing during 2024 because the total catch mortality for this stock across the most recent generation (147,622) was below the 2024 postseason OFL of 561,000 chum salmon (Appendix 1, Table 2).

Aggregate Pink Salmon (even-year and odd-years) Stock Complex

As described in the Salmon FMP, the Aggregate pink salmon stock complex is defined as all pink salmon harvested in the CI EEZ Area. Pink salmon have a strict two-year lifecycle, resulting in distinct even and odd-year stocks. The even-year brood-line was harvested in 2024, and the odd-year brood-line is the focus of the 2025 CI EEZ SAFE report.

Pink salmon spawn in many watersheds in UCI, however, there are no escapement targets for State or Federal assessments and no reliable long-term estimates of pink salmon escapement in UCI. As such, the Aggregate pink salmon stock complex is managed as a Tier 3 stock, which is considered to be healthy. There is no directed fishery for pink salmon in the CI EEZ, and past estimates of CI EEZ harvest prior to 2024 are considered to represent incidental harvest (Appendix 1, Figure 20).

The 2024 even-year aggregate pink salmon harvest in the EEZ was 6,29 fish, well below the TAC of 121,700 fish (Appendix 1, Table 2). Under the Tier 3 guidelines presented in the Salmon FMP and the 2025 harvest specifications, UCI pink salmon were not subject to overfishing during 2024 because the total catch mortality for this stock across the most recent generation (35,799) was below the 2024 postseason OFL of 270,700 pink salmon (Appendix 1, Table 2).

The most recent odd-year harvest on the aggregate pink salmon stock complex occurred in 2023, which is prior to the implementation of the Federal CI EEZ salmon fishery. As described in the 2025 CI EEZ SAFE report (Appendix 1), while the 2023 CI EEZ pink salmon harvest estimate is based on the best scientific information available, it cannot be independently verified. In 2023, the odd-year Aggregate pink salmon stock harvest in the CI EEZ was estimated to be 24,000 fish, and the cumulative harvest was 50,000 fish, well below the 2025 postseason OFL of 116,000 fish, indicating that overfishing did not occur in 2023 (Appendix 1, Table 27). However, there was not a Federal fishery in the CI EEZ until 2024 and therefore the 2023 assessment of the SDC for the odd-year pink salmon stock is for informational purposes only.

3.3.4 Impact of Alternative 1 on Salmon Stocks

Alternative 1 is the no action alternative. Harvest specifications would not be established and salmon fishing would not be permitted in the CI EEZ Area.

Under Alternative 1, there are a variety of possibilities for what would occur to salmon that would otherwise have been harvested in the CI EEZ under Alternatives 2 and 3. These possibilities include salmon spawning in freshwater systems in UCI and elsewhere being

harvested in State marine and freshwater fisheries in UCI; being harvested in other fisheries outside of UCI; being consumed by predators; or, dying of other natural causes.

In addition, under Alternative 1 it is possible that management by ADF&G may react to the lack of salmon fishing in the CI EEZ by increasing harvest opportunities (time and area) in State waters in order to harvest salmon that would have otherwise been harvested in Federal waters. If this were to occur, then overall harvests under this alternative may be similar to recent historical harvests for Upper Cook Inlet.

Under Alternative 1, in the absence of compensatory harvest opportunities provided by the State marine and freshwater fisheries, more salmon may enter freshwater systems to spawn. Additional spawning escapements could be somewhat beneficial to stocks in a low state of abundance, such as those that have recently failed to achieve their spawning escapement targets, for example the Aggregate coho salmon stock during 2024 (Stumpf 2024). However, the relatively small harvest of coho salmon in the CI EEZ salmon fishery (e.g., 4,439 during 2024; Appendix 1), combined with the large number of coho salmon tributaries in UCI, make it uncertain as to whether Alternative 1 would have substantial positive impacts to that stock. Chinook salmon spawning escapement targets have also not always been achieved during recent years, including for the State's Kenai River Late Run large Chinook salmon stock that is an indicator system for the Federal Aggregate Chinook salmon stock complex. But, the very small number of Chinook salmon harvested in the CI EEZ salmon fishery (Appendix 1), combined with a lack of evidence that Chinook salmon from the Aggregate Chinook salmon stock are harvested in the CI EEZ, also make it unlikely that Alternative 1 would have substantial positive effects for the Aggregate Chinook salmon stock complex. For similar reasons, positive effects from Alternative 1 are not expected for the other federally managed salmon stocks that are harvested in the CI EEZ salmon fishery.

In summary, Alternative 1 is unlikely to result in significant impacts to salmon stocks in UCI.

3.3.5 Impact of Alternative 2 (Status quo and the preferred alternative) on Salmon Stocks

Alternative 2 – (Preferred Alternative) – Establish harvest specifications. The TACs are set below the OFL_{PRE} and equal to the combined ABC of the salmon stocks and stock complexes for each salmon species.

Alternative 2 would set the TACs below OFL_{PRE} and equal to the combined ABC of the salmon stocks and stock complexes for each salmon species to account for uncertainty. Under Alternative 2, SDC for salmon stocks in UCI would be specified according to the tier system outlined in the 2025 CI EEZ SAFE report. Preseason, OFL_{PRE} and ABC (ABC=ACL) would be recommended by NMFS, reviewed by the SSC, and then the SSC would make recommendations to the Council. However, unlike Alternative 1, the Council would recommend and NMFS would approve a TAC, likely at the species level, as the inseason management catch limit for the fishery to facilitate management by NMFS. Each TAC amount could not exceed the combined ABC values established for all component stocks.

Under Alternative 2, calculating Federal SDC for stocks and stock complexes is described in the 2025 CI EEZ SAFE report (Appendix 1, Section 4). Tiers 1 and 2 are applicable to stocks or

stock complexes, respectively, that have reliable estimates of annual spawning escapements and stock-specific harvests. Determining SDC for Tier 1 and 2 stocks relies on relevant salmon run size forecasts, harvest, and escapement data from ADF&G, when available, or preparing suitable alternate forecasts and well-informed run size estimates. Tier 3 is for salmon stocks without reliable estimates of escapement and total run size. Tier 3 stocks may have at least one tributary monitored to assess spawning escapements, but, relative to Tier 1 and 2 stocks, any escapement targets or associated inseason assessment of escapement represent a coarse and/or unknown index of abundance rather than a true number of fish. Due to the difficulty in constructing and verifying total run size estimates for Tier 3 stocks, there is increased scientific uncertainty associated with the assessment of stock in that tier such that the OFL, ABC, and TAC would likely be more conservative than the expected limits established under either Tier 1 or Tier 2. In addition, it is expected that ABC and OFL recommendations would also become more conservative if one or more stocks was nearing overfishing or overfished status. However, even with conservative management, because harvests in the CI EEZ (and State waters) occur before spawning escapements are fully assessed, it is still possible that harvests could result in the spawning escapement goals not being achieved for some stocks in some years, which would be a primary driver of conservative management. Accountability measures would be expected to prevent ACL overages from occurring multiple years in a row. If salmon harvest in other fisheries did increase, the CI EEZ TAC would likely be reduced in future years in order to prevent overfishing.

Under Alternative 2, a closure would occur if opening the CI EEZ salmon fishery would result in exceeding one or more TAC amounts and no level of de minimis harvest was acceptable (if applicable), or if opening would be likely to result in overfishing or a stock becoming overfished. If the fishery was closed preseason due to the likelihood of exceeding a TAC for any species, it is likely that no commercial salmon fishing in the CI EEZ would be allowed in that year due to the mixed stock fishery in the EEZ and inability of the drift gillnet fleet to target individual stocks. However, a species-selective recreational fishery could still potentially occur by prohibiting retention of the species or stocks in question.

Available information indicates that recreational harvest of salmon in the CI EEZ salmon fishery is minimal, with an estimated total average annual harvest of approximately 66 salmon per year from 2015 to 2021, or less than 0.01% of the total estimated CI EEZ harvest (See Section 1.4; Appendix 16 and Table 4-34 of the A16 EA/RIR; and Appendix 1). Because removals from the recreational fishery in the CI EEZ salmon fishery are small, and proposed management measures for the recreational fishery under Alternative 2 are not expected to significantly change these harvests, no significant impacts to salmon stocks are expected from the recreational fishery. Therefore, the remainder of this discussion focuses on potential impacts from management of the drift gillnet fleet in the EEZ, which is a major contributor of overall salmon harvests in CI.

Under Alternative 2, NMFS would close the fishery prior to August 15 if one or more TAC amounts are exceeded or expected to be exceeded, or if other scientific information indicated that inseason salmon abundance was significantly lower than the forecasted amounts used to establish TACs.

Drift gillnet gear cannot target individual salmon stocks in CI EEZ waters where many stocks are intermixed (Willette and Dupuis 2017, Barclay and Chenowith 2021). The mixed stock nature of

the drift gillnet fishery also limits options to increase fishery openings in the EEZ under Alternative 2. For example, it is difficult to increase direct harvest on the high abundance Kenai and Kasilof sockeye salmon stocks in the CI EEZ—which have exceeded escapement targets in recent years—without overfishing or limiting the harvest of other stocks by other user groups operating in the State waters of UCI.

As a result of management under Alternative 2, it is expected that, over the long term, CI EEZ salmon harvests will be near historical levels prior to the implementation of amendment 16, such that the CI drift gillnet fleet would still be expected to maintain a significant portion of its historical catch in the CI EEZ Area. Exact catch amounts cannot be predicted due to natural variations in salmon abundance, interaction between run size and State versus CI EEZ waters harvest proportions, potential State management action, and Federal TAC setting considerations.

Under Alternative 2, it is expected that available yield (abundance of a salmon stock in excess of escapement needs, also termed potential yield) will be harvested in the CI EEZ and in State waters to the extent practicable. Given that drift gillnet fishing in the EEZ is only one source of salmon removals in UCI, a significant portion of historical (pre-2024) drift gillnet and recreational fishing opportunity in the EEZ would be expected to occur in most years and significant reductions in harvest are not expected over the long term. Therefore, the impacts of Alternative 2 on salmon stocks are not likely to be significant.

3.3.6 Impact of Alternative 3 on Salmon Stocks

Alternative 3 would establish harvest specifications and set the TACs equal to the OFL_{PRE}. Alternative 3 represents the highest allowable harvest under the Salmon FMP and would be the equivalent of a 0% buffer applied to the OFL_{PRE} to account for scientific uncertainty and a 0% buffer applied to the ABC to account for management uncertainty such that OFL_{PRE}= ABC = TAC.

Under Alternative 3, given the establishment of harvest specifications, many of the same considerations and potential impacts for CI EEZ Area salmon stocks would remain that were discussed for Alternative 2; however, the higher allowable harvests under Alternative 3 could result in additional impacts to salmon stocks that are discussed in this section.

For Tier 1 stocks under Alternative 3 (Kenai and Kasilof sockeye salmon stocks), harvests at the OFL_{PRE} level in the CI EEZ, on average, would generally still allow for existing levels of commercial, subsistence, recreational, and personal use harvests in State waters and for sufficient numbers of these fish to escape State and CI EEZ fisheries to meet spawning escapement targets. However, because the TACs would be set to allow the harvest of all available yield without buffers that account for scientific or management uncertainty, during some years it is also possible that the escapement targets for Tier 1 stocks may not be achieved. As defined in the Salmon FMP, it would take an entire generation (five consecutive years for sockeye salmon) of being below the escapement target for overfishing for these Tier 1 stocks, which is considered unlikely given that the Tier 1 stocks have consistently met or exceeded their escapement targets during recent years. Thus, it is unlikely that there would be substantial impacts to Tier 1 stocks from Alternative 3.

Alternative 3 would substantially increase harvests on Tier 3 salmon stocks relative to recent historical harvests. Based on the methods described in the 2025 CI EEZ SAFE report, harvest under Alternative 3 (at the level of the OFL_{PRE}) would equate to the highest average historical harvest across a generation for the years 1999-2024 (Appendix 1 Section 4). As an example, for the Aggregate Other sockeye salmon stock complex, the OFL_{PRE} would be the average for the consecutive five years with the highest cumulative harvest in the 1999-2024 timeseries. Also, due to the mixed stock and multi-species nature of harvests in the CI EEZ salmon fishery, harvest at the OFL_{PRE} level for the Tier 1 stocks could result in harvest above the OFL_{PRE} level to the Tier 3 stocks. Thus, the deleterious impacts to Tier 3 stocks could include overfishing these stocks and some stocks entering or approaching an overfished condition. The Aggregate coho salmon stock in particular, for which escapement targets in indicator systems were not achieved during 2024, could become overfished or approach an overfished condition under Alternative 3. Similarly, indicator systems for the Aggregate Other sockeye salmon stock complex may also fail to achieve spawning escapement targets during some years under Alternative 3, but it is not expected that this stock would become overfished or approach an overfished condition. As discussed previously in this EA and the 2025 CI EEZ SAFE report (Appendix 1 Section 7.5), the lack of evidence that any UCI Chinook salmon stocks are harvested in the CI EEZ salmon fishery make it unclear what impacts would occur to the Aggregate Chinook salmon stock complex. However, given the historically low abundances of Chinook salmon in UCI and the fact that the Aggregate Chinook salmon stock complex failed to achieve the spawning escapement target during 2024, Alternative 3 could further reduce spawning escapements for this stock. Stocks of chum and pink salmon are not expected to be adversely impacted by Alternative 3, but a lack of escapement monitoring for those stocks makes this difficult to assess.

Overall, the impacts from Alternative 3 could include spawning escapement targets not being achieved for some stocks during some years and some stocks approaching an overfished condition or becoming overfished, with the greatest risk to the Aggregate coho salmon stock complex.

3.4 ESA-listed Pacific Salmon

3.4.1 Status

No species of Pacific salmon originating from freshwater habitats in Alaska are listed under the ESA. West Coast salmon species currently listed under the ESA originate in freshwater habitat in Washington, Oregon, Idaho, and California. ESA-listed salmon and steelhead stocks that are known to range into marine waters off Alaska during the ocean migration are listed in Table 3-13 of the A16 EA/RIR, of which, none have critical habitat in Alaska. No ESA-listed salmon have been detected in the catch of the CI drift gillnet fishery. As the CI salmon drift gillnet fishery targets maturing salmon that are returning to their natal streams, it is considered unlikely that the fishery would encounter a stock from the West Coast during its ocean life history. Furthermore, 80% of the CI drift gillnet fishery's catch is sockeye salmon on average, of which, over 99% of the catch is typically attributed to CI stocks (Barclay 2020).

In 2020, coded-wire tag (CWT) information was queried for ESA-listed Chinook, coho, sockeye, and steelhead recovered in the region-wide CI drift gillnet fishery. No CWTs were recovered from ESA-listed salmon or steelhead in the sampling for the Cook Inlet drift gillnet fishery. The

recreational fishery in the CI EEZ harvests Chinook, coho, sockeye, chum, and pink salmon. Chinook salmon harvested by the fishery originate from stocks both inside and outside of CI. Chinook salmon harvested in the marine sport fishery in UCI are sampled for CWTs to determine harvest composition by stock of origin. From 2014 through 2020, there were 62 CWT recoveries and no ESA-listed stocks. Prior to 2024 the CI EEZ boundaries were not defined by ADF&G as a statistical reporting area, making it difficult to determine the proportion of recreational catch occurring within the CI EEZ. However, in 2024 ADF&G separately defined the area encompassing the CI EEZ salmon fishery (ADF&G statistical area 244-64) which will now make it possible to enumerate recreational salmon harvest from within the CI EEZ. It is estimated that the total annual average catch of Chinook salmon of all stocks by the saltwater recreational fisheries in the UCI EEZ is approximately 60 fish, less than 5% of total saltwater recreational salmon harvests in UCI. The A16 EA/RIR Section 3.2 provides more detail on the interaction between ESA-listed Pacific salmon and the CI EEZ salmon fishery.

3.4.2 Impacts of the Alternatives on ESA-listed Pacific Salmon

For Cook Inlet, the best available information on the interactions between the region-wide Cook Inlet salmon fishery (not specific to the CI EEZ salmon fishery) and ESA-listed salmon is presented in Section 3.2 of the A16 EA/RIR. This information indicates that the Cook Inlet salmon drift gillnet fishery has no impact on ESA-listed salmon.

Under Alternative 1, salmon fishing would not be permitted in the CI EEZ Area. Alternative 1 may result in the movement of all fishing for salmon into the State-managed waters of UCI. Available data indicates that the CI drift gillnet fishery has not encountered ESA-listed salmon in either State or EEZ waters. As a result, Alternative 1 would not be expected to result in any impacts to ESA-listed Pacific salmon stocks.

Under Alternatives 2 and 3, given that there is no known harvest of ESA-listed salmon in the CI EEZ salmon fishery, and abundance of ESA-listed salmon in the Gulf of Alaska (GOA) is low, it is considered unlikely that these fish are encountered and captured by salmon fishing in the CI EEZ. As such, Alternatives 2 and 3 would not be expected to result in any impacts to ESA-listed Pacific salmon stocks.

3.5 Other Non-Salmon Finfish

The catch of nontarget salmon species by drift gillnet vessels in the CI EEZ salmon fishery as bycatch include groundfish (e.g., Pacific cod, pollock, flounders, etc.). As stated in amendment 16 to the Salmon FMP, vessels fishing in the CI EEZ salmon fishery may retain and sell non-salmon bycatch including groundfish if they have a groundfish Federal fisheries permit (FFP). These are referred to as incidental catch species and the amendment 16 final rule allows retention of these species up to a specified maximum retainable amount (MRA). Drift gillnet vessels retaining non-salmon incidental catch species are also required to comply with all State requirements when landing these fish in Alaska. The MRA of an incidental catch species is calculated as a proportion (percentage) of the weight of salmon on board the vessel.

In order to collect catch and bycatch information regulations require vessels to use a Federal fishing logbook as specified at 50 CFR 679.115(a)(1). Commercial salmon fishing vessels will record the start and end time and GPS position of each set, as well as a count of the catch and

bycatch. Logbook sheets are submitted electronically to NMFS by the vessel operator when the fish are delivered to a processor. The data provided by the logbooks will provide information to satisfy the MSA Standardized Bycatch Reporting Methodology (SBRM) requirement (16 U.S.C. 1853(a)(11).

The A16 EA/RIR (Section 4.5.1.2.4) describes that groundfish species are present in low abundance in most areas where salmon fishing with drift gillnets occurs in CI, and as a result, the reported catch of groundfish and other non-target species in the UCI salmon drift gillnet fishery has been minimal. The amount of non-target species discarded at sea by the UCI salmon drift gillnet fleet is not reported. According to AKFIN data, between 2002 and 2015, only seven drift gillnet vessels made a landing of groundfish. These landings ranged from three pounds to 962 pounds. For 2024, there were not reported landings of groundfish from the Cook Inlet EEZ salmon fishery.

Under Alternative 1, there would be no effect on bycatch of non-salmon finfish as fishing would not be permitted within the CI EEZ. Under Alternatives 2 and 3, a significant increase in the harvest or incidental catch of non-salmon finfish would not be expected because of the low harvest of those species in the drift gillnet fishery.

3.6 Marine Mammals

The A16 EA/RIR Section 3.3 provides a summary of the status of the marine mammals potentially affected by the region-wide Cook Inlet drift gillnet salmon fishery. Additionally, in amendment 16 to the Salmon FMP, NMFS Protected Resources Division (PRD) provided a letter of concurrence stating that "the proposed action may affect, but is not likely to adversely affect, the western distinct population segment (DPS) Steller sea lion (*Eumetopias jubatus*), Mexico DPS humpback whale (*Megaptera novaeangliae*), western North Pacific DPS humpback whale, fin whale (*Balaenoptera physalus*), or Cook Inlet beluga whale (*Delphinapterus leucas*) and its critical habitat. Although critical habitat has been designated for humpback whales (86 FR 21082) and Steller sea lions (58 FR 45278), there is none present in the action area." The analysis in this EA is narrower in focus and examines the impacts of varying levels of fishery removals on marine mammals. As such, this section will focus only on those marine mammals that rely on mature salmon as a prey: Cook Inlet beluga whales (CIBWs), Steller sea lions, resident killer whales, and harbor seals. Status updates for marine mammals that include population numbers and trends can be found in the latest stock assessment report (MMSA) (Young et al. 2023).

The portion of the harvest of salmon from the EEZ is estimated to be approximately 47 % of the total salmon harvest of the fishery, with the remaining harvest taken from State waters nearshore at the mouths of the salmon spawning rivers. The State's salmon management is based on the achievement of spawning escapement goals, which is assessed in freshwater. State escapement goals are developed by taking into account natural mortality by marine mammal predation. Should escapement goals be in jeopardy of not being met, State management would have the inseason ability to move quickly and close the drift gillnet fishery. Fishery closures as a result of escapement goals not being met at the rivers, would allow for additional foraging by marine mammal predators.

3.6.1 Cook Inlet Beluga Whale

As discussed in the ESA consultation for A16, fishing in the EEZ has the potential to intercept salmon that otherwise would have traveled to the UCI Northern District where they would be available as prey for CIBWs. While known salmon escapement numbers and commercial harvests have fluctuated widely throughout the last 40 years, samples of harvested and stranded beluga whales have shown consistent summer blubber thicknesses, which suggests that current status quo availability of prey is sufficient to meet metabolic needs, this is discussed in more detail of section 3.3.1.1 of the A16 EA/RIR. However, there is no contemporary data on that and recent studies have shown that malnutrition has been a cause of death in about 8% of carcasses where death could be determined (Burek-Huntington et al. 2015, McGuire et al. 2020) and recent studies have begun to address gaps in understanding of beluga metabolic needs (Norman et al. 2019, McHuron et al. 2023). At this time, the best available information suggests that the status quo environment seems to allow for adequate foraging by CIBWs. As the ESA consultation for A16 concluded, the best scientific information available suggests fishery harvests that are consistent with historic levels and that will result in similar escapements of salmon stocks to the Northern District as the status quo will be adequate to meet the continued metabolic needs of CIBWs.

3.6.2 Steller Sea Lions

Prey items which occur in greater than 10 % of the Steller sea lion scats by area, season, and DPS are considered to be important prey species. Salmon have been identified as an important prey species through such scat surveys. Salmon are high-energy forage species that are considered an important seasonal component of the Steller sea lion diet.

As covered in ESA consultation for A16 EA/RIR, the proposed action is not expected to result in salmon harvest that is greater than historic harvest levels in the fishery. In addition, Steller sea lions may continue to forage throughout CI during fishing openers, and foraging will only overlap with fishing in the EEZ a maximum of 24 hours during a 168-hour week (open ~14.3 % of a week). Steller sea lions are highly mobile and forage over broad areas, so they can additionally forage in areas where fishing does not occur (*i.e.*, areas within State waters). For these reasons and the rare presence of Steller sea lions in the Central CI where the drift gillnet fishery operates and the remote distance to important foraging areas associated with Steller sea lion rookeries outside CI, no significant effects are anticipated on the ability of Steller sea lions to acquire sufficient prey items.

3.6.3 Northern Resident Killer Whales

The 2022 MMSA (Young et al. 2023) provides the most up to date information on killer whales (*Orcinus orca*) in Alaskan waters, a brief summary is provided here as it relates to the CI EEZ salmon fishery. The Northern Resident killer whales are one of eight distinct stocks recognized within the Pacific U.S. EEZ occurring from Washington State through part of Alaska, including CI. This stock is not currently listed as depleted under the Marine Mammal Protection Act (MMPA) or as threatened or endangered under the ESA. There is one recorded serious injury to a Northern Resident killer whale from 2016 with gillnet gear in British Columbia, otherwise threats to this stock from fishery interactions are considered to be insignificant and approaching a

zero mortality and serious injury rate. Incidental mortality or serious injury of Northern Resident killer whales has not been observed in federally-managed or state-managed U.S. commercial fisheries which operate within the range of this stock; however, the state-managed fisheries are not observed or have not been observed in a long time. Northern Resident killer whales are opportunist predators and have a wide geographic range. Fishery removals as a part of this action are not likely to have an impact on the ability of Northern Resident killer whales to acquire sufficient prey.

3.6.4 Harbor Seals

The 2022 MMSA (Young et al. 2023) provides the most up to date information on harbor seals (*Phoca vitulina*) in Alaskan waters, a brief summary is provided here as it relates to the CI EEZ salmon fishery. The Cook Inlet/Shelikof Strait stock ranges from the southwest tip of Unimak Island east along the southern coast of the Alaska Peninsula to Elizabeth Island off the southwest tip of the Kenai Peninsula, including Cook Inlet, Knik Arm, and Turnagain Arm.

Currently the U.S. commercial fishery-related mean annual mortality and serious injury rates are estimated to be less than 81 animals can be considered insignificant and approaching a zero mortality and serious injury rate. Based on the best scientific information available, the minimum estimated mean annual level of human-caused mortality and serious injury is not known to exceed the potential biological removal (807). The Cook Inlet/Shelikof Strait stock of harbor seals are opportunist predators. Fishery removals as a part of this action are not likely to have an impact on the ability of Cook Inlet/Shelikof Strait stock of harbor seals to acquire sufficient prey.

3.6.5 Impacts of Alternatives on Marine Mammals

There is currently no known direct incidental take (i.e., entanglement) of CIBWs, Steller sea lions, Northern Resident killer whales, or harbor seals in the CI drift gillnet or saltwater recreational fisheries under the existing conditions. No takes were reported in this fishery in 2024.

3.6.5.1 Alternative 1

Under Alternative 1 (no action), fishing would not be permitted in the CI EEZ salmon fishery, therefore all fishing in the CI EEZ salmon fishery would likely only be allowed in State managed waters. As Alternative 1 could result in lower harvests by the drift gillnet fleet, the harvests of other user groups, including set gillnet, sport and personal use could increase and/or overall levels of escapement could increase. However, it is not possible to estimate the magnitude of a shift in harvest to these other user groups because of the complexities of UCI mixed-stock fisheries and intertwined State management/allocation plans. If the change in CIBWs summer distribution away from historical feeding areas, such as the mouth of the Kenai River, is associated with human activities including commercial fishing, additional fishing effort inside State waters in such areas as a result of this alternative may further preclude access, should CIBWs attempt to return to those foraging grounds. However, such a shift in beluga distribution is not anticipated under any of the alternatives.

Regarding prey availability under Alternative 1, prohibiting salmon fishing in the EEZ could increase prey availability and escapement to natal streams, resulting in salmon abundance at or above existing levels. This would be expected to provide the same potential benefit to CIBW, Steller sea lions, Northern Resident killer whales, and harbor seals.

3.6.5.2 Alternative 2 (Status quo and the preferred alternative)

Alternative 2, would set TACs below the OFL_{PRE} and equal to the combined ABC of the salmon stocks and stock complexes for each salmon species to account for uncertainty; this approach would maintain conservative harvest limits and would not be expected to result in any significant impacts. As such, under the current conditions, salmon harvests by the fishery would be expected to remain within the recently observed ranges and below the ABCs. As removals of salmon by the fishery would be expected to remain within the recently observed ranges that are not thought to have a significant impact on marine mammals or CIBW critical habitat, no significant impacts from Alternative 2 (preferred) are expected.

3.6.5.3 Alternative 3

Alternative 3 could result in additional harvest of adult salmon from the CI EEZ salmon fishery beyond the historical rates thereby potentially reducing prey resources for CIBWs, Steller sea lions, killer whales, and harbor seals. While this alternative will allow for the maximum level of harvest, potentially greater than historical levels, it is however within the permissible bounds of the Salmon FMP and consistent with National Standard 1 of the MSA. Although this alternative could reduce prey resources, the EEZ is a mixed stock fishery and less abundant stocks (Aggregate Chinook and Aggregate coho) will necessarily have lower TACs thereby reducing the likelihood of fully achieving TACs for all salmon species. In a mixed stock fishery, it is impossible to target one salmon species when the returns overlap both spatially and temporarily. This alternative would allow for additional harvest beyond historically observed levels and has greater potential, compared with Alternative 2, to impact prey resources for CIBWs, killer whales, and harbor seals.

3.7 Essential Fish Habitat

Section 303(a)(7) of the MSA requires all FMPs to describe and identify EFH, which it defines as “those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity.” In addition, FMPs must minimize effects on EFH caused by fishing and identify other actions to conserve and enhance EFH. These EFH requirements are detailed in Amendment 17 to the Salmon FMP, the EFH EIS (NMFS 2005), and subsequent 5-year review documents.

EFH designations are done through a prescribed process and EFH can be designated in both Federal and State waters depending on the habitat needs for each life history stage of each FMP species. Because of habitat characteristics, salmon EFH is (1) Federal and State waters (0–200nm) covering juvenile and adult maturing life history stages and ranges from Dixon Entrance to Demarcation Bay (Arctic) and (2) all freshwaters listed as anadromous for mature, juvenile, and egg stages of the five salmon species. Cook Inlet is identified as salmon EFH for all 5 species of Pacific salmon during their marine life history stages (NPFMC 2024). Habitat descriptions for each salmon species can be found in Appendix A of the Salmon FMP. A catalog

of all freshwater bodies connected to CI and identified as anadromous streams is updated regularly by ADF&G (Giefer and Graziano 2024).

Fishery management decisions that implement regulation do not change EFH designations. For example, establishing Federal fishery management for salmon fishing in the CI EEZ through amendment 16 to the Salmon FMP did not affect the salmon EFH designation in that region. However, EFH definitions and maps are updated through the iterative 5-year review process.

During the 2017 EFH 5-year Review process, NMFS Alaska Region and Alaska Fisheries Science Center staff developed a new methodology to refine EFH maps for all marine life stages of salmon using oceanic variables (Echave et al. 2012). The Council reviewed and approved amending the Salmon FMP with the new maps (Amendment 13, 83 FR 31340) as well as approved replacing the distribution maps used in the 2017 updates with the new EFH maps during the 2023 EFH 5-year Review (Amendment 17, 89 FR 58632). Salmon marine EFH refinements were not addressed in the 2023 EFH 5-year Review, however NMFS recommended that refining salmon marine EFH is a priority for the next 5-year review (NMFS 2024b).

3.7.1 Impacts of the Alternatives on Essential Fish Habitat

Alternative 1 would prohibit salmon fishing within the CI EEZ salmon fishery. Without an active fishery, there would be no fishing gear effect on bottom habitat, though the impact from salmon fishing gear (commercial drift gillnet and recreational hook and line) is estimated to be negligible. There would be a decrease in the risk of introducing new derelict gear to the marine environment from these fisheries, and this could lead to less marine debris on bottom habitat and intertidal areas. There may be changes in quality to stream habitats from an increase in returning salmon otherwise harvested in the CI EEZ salmon fishery. An increase in returning salmon to spawning streams can cause an influx of marine-derived nutrients to freshwater habitats (Schindler et al. 2003).

Under Alternatives 2 and 3, there would be no expected direct impact to habitat through prosecuting commercial and recreational salmon fishing in the CI EEZ salmon fishery. Salmon drift gillnet and recreational hook and line gear have negligible contact with benthic habitats. The activity targets only adult salmon in the water column, largely avoiding any significant disturbance of the benthos, substrate, or intertidal habitat. The CI EEZ salmon fishery does not occur on any areas designated as Habitat Areas of Particular Concern.

An indirect impact from Alternatives 2 and 3 would be the loss of salmon drift gillnet gear. Derelict gear, along with other types of marine debris, can cause losses to the physical, biological, and chemical ecosystem services of benthic habitats (Gilardi et al. 2010, Whitmire and Wakefield 2019). Derelict gillnets can also alter the seafloor by shifting or scouring the sediment, or by concentrating fine sediments once settled and blocking vegetation growth (Gilardi et al. 2010). It is unknown, however, if there are long term effects to EFH if derelict gillnets are fully covered by concentrated sedimentation. There are no data available on rates of drift gillnet gear loss in CI. Fishery participants and ADF&G personnel familiar with the fishery indicated that loss of a drift gillnet would be highly unusual in CI.

Neither Alternative 2 or 3 is expected to cause a spatial or temporal shift in fishing effort. The location is limited to CI and the season would not be extended regardless of which proposed allowable harvest is chosen. Along with the above considerations, Alternatives 2 and 3 are not expected to have an adverse impact to habitat. Alternative 1 is not expected to have any impacts to habitat in the EEZ.

3.8 Cumulative Effects

This EA analyzes the cumulative effects of each alternative and the effects of past, present, and reasonably foreseeable actions (RFA). This EA acknowledges that the established catch limits could have longer term impacts on other ecosystem resources; the alternatives considered herein are intended to be of limited duration in that TACs are recommended annually. Because this action and the harvest specifications are limited in scope and duration, the potential impacts on other ecosystem resources are not expected to have significant negative environmental impacts. The resources with potentially meaningful cumulative effects are on salmon stocks and Cook Inlet beluga whales. Section 3.6 of the A16 EA/RIR provides a more thorough review of cumulative effects of Federal management of the CI EEZ salmon fishery, which includes the harvest specifications.

The preceding sections provide a review of the relevant past, present, and RFA that may result in cumulative effects of the alternatives on the resource components analyzed in this document. Actions are understood to be human actions (e.g., a designation of northern right whale critical habitat in the Pacific Ocean), as distinguished from natural events (e.g., an ecological regime shift). These actions, whether taken by a government or by private persons, which are reasonably foreseeable. This is interpreted to indicate actions that are more than merely possible or speculative.

Actions are considered reasonably foreseeable if some concrete step has been taken toward implementation, such as a Council recommendation or NMFS's publication of a proposed rule. Actions only "under consideration" have not generally been included, because they may change substantially or may not be adopted, and so cannot be reasonably described, predicted, or foreseen. Identification of actions likely to impact a resource component within this action's area and time frame will allow the public and Council to make a reasoned choice among alternatives. The following RFAs are identified as likely to have an impact on a resource component within the action area and timeframe:

- Invasive species
- Non-fishing impacts to habitat
- Climate variability

3.8.1 Invasive species

Section 3.6.1 of A16 EA/RIR provides a review of the status of invasive species. The State has continued to lead efforts to eliminate northern pike populations from closed-system lakes in Southcentral Alaska, and has initiated large-scale control efforts in Alexander Creek, a tributary of the Susitna River, where reduction of salmonid abundance has been observed. However,

northern pike continue to affect important resident and anadromous fisheries from Anchorage and the Matanuska-Susitna Valley to the Kenai Peninsula.

ADF&G plans to continue to investigate options to control and eradicate northern pike in systems that support valuable commercial, subsistence and sport fisheries in the CI watershed, and to implement options as feasible. ADF&G's projects and partnerships to control and eradicate northern pike are reasonably foreseeable future actions that will mitigate the negative impacts of pike predation on salmonid abundance in freshwater lakes and rivers and will reduce the potential for pike to move into estuarine waters of CI.

An infestation of the submerged aquatic macrophyte Elodea spp. was detected in Chena Slough (Tanana River drainage) and brought to the attention of natural resource managers in Alaska in September of 2010. Elodea remains an invasive species of high priority for Alaska. The Alaska Department of Natural Resources quarantined the import, export, transport of Elodea in Alaska, as well as four other aquatic invasive plants. Outreach to targeted audiences, including boaters, floatplane pilots, and pet store owners, provide instructions on how to prevent spreading or introducing Elodea and other aquatic invasive species. Surveys are regularly conducted to detect the spread of elodea and evaluate control efforts. Management actions outlined here have been accomplished by a consortium of agencies and organizations.

3.8.2 Non-fishing Impacts to Habitat

Non-fishing activities that could impact resources in CI include ship traffic and vessel noise, oil and gas production, coastal development, and terrestrial pollution. Vessel noise production is increasing with increasing vessel traffic, particularly in busy shipping lanes, and vessel noise can increase the ambient noise levels over wide areas of the ocean (Hilderbrand 2009, Ellison et al. 2012). This, in turn, can cause shifts in behaviors of marine animals in the area. Oil and gas are produced both onshore and offshore in multiple CI units. This industry can cause spills from several points: exploration and development activities, production (onshore or offshore), and/or the transport or processing of crude oil. There were at least 292 spills recorded between 1966–2019 (Robertson and Campbell 2020); exposure to oil spills can have chronic toxic effects on benthic habitat (see Section 5.3.2 in (Limpinsel et al. 2023)). Coastal development such as harbor upgrades, dock installation, road and bridge construction, and shoreline stabilization can all impact the nearshore environment and become point sources for terrestrial runoff and discharges. These are summarized in the report *Impacts to Essential Fish Habitat from Non-fishing Activities in Alaska* (Limpinsel et al. 2023).

Salmon EFH extends from the marine ecosystem to freshwater spawning streams of CI. Impacts to freshwater salmon EFH can have downstream effects to the rest of the CI resources. The waters and substrates that comprise freshwater salmon EFH are susceptible to a wide array of human activities including, but are not limited to, mining, dredging, fill, impoundment, discharge, water diversions, thermal additions, actions that contribute to nonpoint source pollution and sedimentation, introduction of potentially hazardous materials, introduction of exotic species, and the conversion of aquatic habitat that may eliminate, diminish, or disrupt the functions of EFH.

3.8.3 Climate Variability

A thorough description of the potential effects of a changing climate can be referenced in the A16 EA/RIR Section 3.6.3., with a brief summary provided here. Evidence from studies in the Bering Sea, Arctic, and GOA have shown that the region is experiencing significant warming trends in ocean temperatures and major declines in seasonal sea ice. This has both direct and indirect impacts on CI salmon stocks in adjacent freshwater and marine habitats in the North Pacific. While climate warming trends are being studied and increasingly understood on a global scale, the ability for fishery managers to forecast specific biological responses to changing climate continues to be difficult. The North Pacific Ocean is subject to periodic climatic and ecological "regime shifts." These shifts change the values of key parameters of ecosystem relationships and can lead to changes in the relative success of different species and stocks.

The Council, NMFS, and the State have taken actions that demonstrate adaptation of fishery management to be proactive in the face of changing climate conditions. The Council currently receives an annual update on the status and trends of indicators of climate change in the GOA through the presentation of the Ecosystem Status Report (Zador et al. 2019). This information is used by existing Council's plan teams to inform their assessment of stocks and would also be used by the Salmon SAFE authors. As the impacts of climate variability become apparent, fishery management will also adapt in response. Because of the large uncertainties regarding possible impacts, however, and our current inability to predict such change, it is not possible to estimate what form these adaptations may take.

3.8.4 Harvest Specifications

The harvest specifications would not change the condition of the fishery as it currently exists. Without changes to either the spatial or temporal distribution of the fishery then no significant impacts are expected from establishing the annual harvest specifications.

The annual harvest specifications are based on the best scientific information available from the annual SAFE reports, SSC recommendations of OFL and ABC, and Council action to recommend TACs. The annual recommended specifications of OFL, ABC, and TAC are consistent with the harvest strategy outlined in the Salmon FMP, the biological condition of salmon as described in the 2025 CI EEZ SAFE and with the National Standard Guidelines (50 CFR 600.305 - 600.355).

3.8.5 Cumulative Effects Conclusions

Considering the direct and indirect impacts of the alternatives, when added to the impacts of past and present actions analyzed in this EA, the other documents that are incorporated by reference, and the impacts of the reasonably foreseeable actions listed above, the cumulative impacts of the proposed action and its alternative are determined to be not significant.

4 Economic and Community Considerations

The proposed action would select an alternative that sets TACs in the annual harvest specifications for the CI EEZ salmon fishery. The action would thus allow fishery participants to harvest salmon within the Federal waters of the CI EEZ, with ADF&G management of the

fishery inside of three nautical miles of shore. The action does not materially affect other aspects of the fishery such as gear, vessel restrictions, processing, buying, sport and personal use fisheries, or any related community effects of the overall fishery. Such potential impacts of the CI EEZ salmon fishery were fully explored within the A16 EA/RIR, and that analysis has been fully incorporated into this document by reference.

The economic baseline condition for the Federal CI EEZ salmon fishery began with regulations implementing amendment 16 to the Salmon FMP and with harvest specifications, set by regulation, for the 2024 fishery. Thus, participation, harvest, and value data for 2024 are all the economic data available under present management with which the action alternatives can be compared.

4.1 Cook Inlet EEZ Estimates of Salmon Fisheries Revenue in 2024

4.1.1 Harvest and Participation in 2024

ADF&G published the preliminary UCI Salmon Fishery Season Summary on November 13, 2024 (Stumpf 2024). This preliminary report provided harvest and value data for the 2024 season and provides a breakout of the State of Alaska and Federal waters (EEZ) harvests. The report provides the following summary of the 2024 salmon run sizes and harvests:

Overall harvests: The total 2024 UCI drift gillnet harvest of 1,684,763 sockeye salmon was above the 20-year average harvest of 1,409,583 fish. In 2024, 362 drift gillnet permits made deliveries for a season average harvest of approximately 4,654 sockeye salmon per permit. Participation was below the 20-year average of 429 drift gillnet permits.

Chinook salmon: The 2024 UCI-wide (State and Federal CI EEZ waters combined) commercial Chinook salmon harvest of 169 fish was 98% below the recent 20-year average of 9,555 fish. In UCI, there are two commercial fisheries where most Chinook salmon are harvested. These include the set gillnet fisheries in the State's Northern District, and the East Side Setnet fishery of the State's Central District. The Chinook salmon harvests of the Northern District were managed under the Northern District King Salmon Management Plan (5 AAC 21.366), and Chinook salmon harvest of the ESSN fishery was guided by the Kenai River Late-Run King Salmon Stock of Concern Management Plan. Chinook salmon returns were expected to be below average across Southcentral Alaska for the 2024 season. As predicted, the 2024 Chinook salmon runs across UCI were below average, leading to both preseason and inseason conservation-based management actions and closures in multiple river systems and fisheries. Using the average price of $4.14 per pound for Chinook salmon, the estimated ex-vessel value of the 2024 harvest was $7,978, or >1% of the total ex-vessel value of all salmon in UCI.

Sockeye salmon: The 2024 total UCI commercial harvest of 1.9 million sockeye salmon was 26% below the 2004– 2023 average annual harvest of 2.5 million fish. Prices varied during the season but, based on an estimated average price of $1.70 per pound, the total ex-vessel value for sockeye salmon harvested was $18.7 million, or 98% of the total 2024 ex-vessel value of all salmon in UCI.

Coho salmon: The 2024 commercial harvest estimate of 24,750 coho salmon in UCI was 86% below the recent 20-year average of 178,018 fish (Table 2). The 2024 drift gillnet harvest of

11,146 coho salmon was 89% below the recent 20-year average of 102,571 fish. The Northern District set gillnet fishery harvested 8,725 coho salmon, which was 77% below the recent 20-year average of 37,899 fish.

Based on an average price per pound of $0.54, the estimated ex-vessel value of the 2024 commercial coho salmon fishery was $69,022 or 0.4% of the total ex-vessel value of all species in Upper Cook Inlet. This was 90% below the recent 20-year average ex-vessel value of $745,761 for coho salmon in UCI.

Pink salmon: Pink salmon runs in UCI are even-year dominant, with odd-year average harvests typically less than even-year harvests. The 2024 UCI commercial pink salmon harvest was 41,679 fish, which was 91% below the average annual harvest of 439,989 fish from the most recent 20 years of even-year harvest. Using an average price of $0.20 per pound, the ex-vessel value for the 2024 pink salmon harvest was $31,853 or 0.2% of the total ex-vessel value of salmon in UCI.

Chum salmon: The 2024 harvest of 73,905 chum salmon was 43% below the recent 20-year average annual harvest of 129,486 fish. Using the average price of $0.68 per pound, the ex-vessel value of the 2024 UCI commercial chum salmon harvest was $351,508 or 1.8% of the total ex-vessel value of all salmon in UCI. An aerial survey of Chinitna River/Clearwater Creek produced an estimate of 860 chum salmon within these streams, which was below the SEG range of 3,500–8,000 fish.

4.1.2 Central District State and Federal Waters Comparison

Table 3 below summarizes tabular data from the preliminary season summary report, between State and Federal waters, to provide a comparison of harvest (number of fish), total value ($), and the proportion estimated from Federal waters. Note that the fishery statements by species shown above list an ADF&G preliminary price per pound; however, the report provides harvests in numbers of fish not pounds and in total value for the entire fishery. These data have been used to calculate a value per fish that has been applied to the number of fish harvested in State versus Federal waters. This value may differ from the estimated price per pound if weights per fish vary considerably between subdistricts.

The State waters drift gillnet fishery in UCI harvested 49 Chinook, 1,359,735 sockeye, 6,709 coho, 31,433 pink, and 40,240 chum salmon for a total harvest of 1,438,166 salmon caught by 353 permits that made deliveries. The Federal waters drift gillnet fishery in UCI harvested 31 Chinook, 324,837 sockeye, 4,439 coho, 6,250 pink, and 28,805 chum salmon; for a total harvest of 364,362 salmon caught by 206 permits that made deliveries.

The estimated value of the State waters drift gillnet fishery in UCI was $13,836,286 with sockeye salmon being the dominant species with $13,599,850 in value. The value of the Federal waters drift gillnet fishery in UCI was $3,406,350, again with sockeye salmon being the dominant species harvested. Overall, the Federal waters fishery represents just over 20 % of overall Central District fishery value and a slightly smaller portion of the total (State and Federal) UCI salmon fishery at just over 18 %.

Table 3. Comparison of 2024 UCI State and Federal waters commercial salmon harvests (# fish), value (U.S. $), and the percentages of harvests that occurred in Federal CI EEZ Area waters. Data should be considered preliminary.

Central Subdistrict	Permits	Chinook	Sockeye	Coho	Pink	Chum	Total
State of Alaska	353	49	1,359,753	6,709	31,433	40,240	1,438,166
Federal Waters (EEZ)	206	31	324,837	4,439	6,250	28,805	364,362
Total UCI*		169	1,870,044	24,750	41,678	73,905	2,010,547
Value ($)		**Chinook**	**Sockeye**	**Coho**	**Pink**	**Chum**	**Total**
State of Alaska		$2,313	$13,599,850	$18,710	$24,023	$191,390	$13,836,286
Federal Waters (EEZ)		$1,275	$3,250,835	$12,374	$137,069	$137,069	$3,406,350
Percent		**Chinook**	**Sockeye**	**Coho**	**Pink**	**Chum**	**Total**
% of Central District drift that was Federal		35.53%	19.29%	39.81%	16.65%	41.73%	20.22%
% of UCI that was Federal		15.98%	17.38%	17.93%	19.97%	38.99%	18.13%

*Totals includes harvests in State fisheries outside of the UCI Central District.

The data provided in Table 3 represent the single year (2024) for the Federal portion of the UCI-wide salmon fishery using actual harvest numbers and value from fish ticket data. These data are preliminary and small discrepancies may be corrected as the data are further analyzed. The A16 EA/RIR did provide historical estimates of harvests in the CI EEZ Area (prior to the advent of the Federal CI EEZ salmon fishery); however, the methodology used for the historical estimates are not directly comparable to the Federal fish ticket data from 2024.

4.1.3 Impacts of the Alternatives on Fishery Revenues

The baseline condition shown above for 2024 is the only year of available data from the CI EEZ salmon fishery with which to compare any potential effects of the alternatives. Thus, it is of limited robustness as a baseline and it will take several years of collection of such data to establish any fishery trends regarding Federal waters harvests and value. That being said, one can assume that if the no action alternative were chosen some of the Federal waters harvest and value would be forgone and that would create “revenue at risk” of an unknown amount. The actual revenue loss that may occur could be partially mitigated by larger harvests inside State waters, however, as a result, this could also reduce the efficiency of the fishery due to crowding on the grounds and greater competition. This scenario could cause potential cost increases due to these

inefficiencies and could have negative effects on vessel safety if a race for fish scenario develops.

Alternative 2 would set TAC specifications using the best scientific information available, including accounting for fishery run cycles. It is anticipated that the 2025 inseason management will be quite similar to 2024 with respect to the overall number of open periods. The proposed harvest specifications are being developed on a parallel track and it is anticipated that, barring unforeseen circumstances such as market shocks, the 2025 Federal fishery harvest and value will be not significantly different from the 2024 harvest and value.

Alternative 3 represents a fishery upper bound in that it relaxes biological stock assessment constraints to their upper limits (i.e., no buffer of the OFL_{PRE} to account for scientific uncertainty) and relaxes management constraints (i.e., no buffer applied to the ABC to account for management uncertainty) to increase potential harvest and the value of the CI EEZ salmon fishery. While harvests and fishery value would be maximized under this alternative relative to the other alternatives considered, such gains would also come with the possibility of increased conservation risk to future returns of salmon across UCI and risks to their future sustainability.

4.2 Number and Description of Small Entities Regulated by This Proposed Rule (Regulatory Flexibility Act Considerations)

For Regulatory Flexibility Act purposes only, NMFS has established a small business size standard for businesses, including their affiliates, whose primary industry is commercial fishing (see 50 CFR 200.2). A business primarily engaged in commercial fishing (North American Industry Classification System (NAICS) code 11411) is classified as a small business if it is independently owned and operated, is not dominant in its field of operation (including its affiliates) and has combined annual gross receipts not in excess of 11 million dollars for all its affiliated operations worldwide. In addition, the Small Business Administration has established a small business size standard applicable to charter fishing vessels (NAICS code 713990) of $9 million.

This action would directly regulate commercial salmon fishing vessels, charter guides, and charter businesses operating in and fishing for salmon in the CI EEZ salmon fishery. Because NMFS expects the State to maintain current requirements for commercial salmon fishing vessels landing salmon in UCI to hold a Commercial Fisheries Entry Commission (CFEC) S03H permit, NMFS does not expect participation from non-S03H permit holders in the federally managed CI EEZ salmon fishery. Therefore, the number of S03H permit holders represents the maximum number of directly regulated entities for the commercial CI EEZ salmon fishery. From 2019 to 2023, there was an average of 552 S03H permits in circulation, with an average of 311 active permit holders, all of which are considered small entities based on the 11-million-dollar threshold. The evaluation of the number of directly regulated small entities and their revenue was conducted via custom query by staff of the Alaska Fish Information Network utilizing both ADF&G and fish ticket revenue data and the Alaska CFEC permits database. A total of 244 Federal waters permits were issued in 2024, the first year of the program and the only year for

which we have SFFP permit data. Revenue data is not yet available for SFFP permit holders for 2024.

The commercial charter fishing entities directly regulated by the salmon harvest specifications are the entities that hold commercial charter licenses and that choose to fish for salmon in the CI EEZ where these harvest specifications will apply. Salmon charter operators are required to register with the State of Alaska annually and the numbers of registered charter operators in the CI varies. Available data indicates that from 2017 to 2022 the total number of directly regulated charter vessel small entities that have participated in the CI EEZ was 377. From 2019 to 2022, there was an average of 94 charter guides that fished for salmon at least once in the CI EEZ. All of these entities, if they choose to fish in the CI EEZ, are directly regulated by this action and all are considered small entities based on the $9 million threshold.

4.3 Impacts of the Alternatives on Communities

This EA analyzes alternative harvest specification scenarios and harvest specifications do not implement any regulatory actions, such as – community landings and permit and vessel ownership or location within the CI EEZ salmon fishery. This proposed action would implement harvest specifications for the federally-managed salmon fishery in the CI EEZ that are consistent with the goals and objectives of the Salmon FMP; provide for the sustained participation of fishing communities, harvesters, and processors; and balance the allowable harvest of target salmon stocks with ecosystem needs. This proposed action is necessary for the continued implementation of the Salmon FMP and for NMFS to manage a viable salmon fishery in the CI EEZ while preventing overfishing. A detailed assessment on fishing communities in UCI is provided in the A16 EA/RIR section 4.5.1.5 Fishing Communities.

During the 2024 the CI EEZ salmon fishery landings (by weight) were distributed among five Alaska home ports Homer (41%), Kasilof (17%), Kenai (37%), Ninilchik (3%), and Seward (2%). Sockeye contributed 88% or about 1.9 M lbs to the total landings, all other species combined contributed the remaining 12% of total landed weight. There were a total of 206 participants out of the 244 federally registered permits for the CI EEZ salmon fishery and a total of 6 federally registered processing permits, see Section 1.4 of this EA for additional fisheries descriptions. Due to confidentiality not all landings and processing data was able to be provided, but the presented data include the majority of available landings data.

Under Alternative 1, salmon fishing in the CI EEZ would not be permitted for any gear. This would result in a loss of revenue to individuals, processors, communities (landing tax), and tribes (some tribal members are commercial fishers). Presumably harvest opportunity within State waters would maintain the status quo for salmon management unless additional compensatory harvest opportunities were provided. If there were not compensatory harvest opportunities in State waters then spawning escapements for Kenai and Kasilof sockeye salmon and other stocks may greatly exceed their goals. As a result, there could be substantial declines in productivity for the impacted brood years, leading in potentially reduced returns during future years, and reduced revenue for individuals, processors, and communities.

In 2024 there were approximately 364,362 salmon landed from the CI EEZ which accounted for approximately 20 % of the total salmon harvested in UCI. During a year of low returns to UCI

then prohibited fishing in the CI EEZ may not pose substantial harm to communities, however, if returns were average or above then potential lost opportunity and revenue may cause greater economic harm to individuals, processors, and communities. Alternative 1 is the no action alternative and is not preferred.

Under Alternative 2, it is expected that CI EEZ salmon harvests will be near historical levels prior to the implementation of amendment 16 to the Salmon FMP, such that the CI drift gillnet fleet would still be expected to maintain a significant portion of its historical catch in the CI EEZ Area. The available yield (abundance of a salmon stock in excess of escapement needs) will be harvested in the CI EEZ and in State waters, when possible. For 2025, The proposed action would implement harvest limits that allow for harvests consistent with historical levels for most species (other than coho) and are expected to maintain existing opportunities for fishery participants Therefore, the impacts of Alternative 2 on individuals, processors, and communities are not likely to be significant.

Alternative 3 would set the TACs equal to the OFL_{PRE}; this represents the highest allowable harvest under the Salmon FMP and would be the equivalent of a 0% buffer applied to the OFL_{PRE} to account for scientific uncertainty and a 0% buffer applied to the ABC to account for management uncertainty such that OFL_{PRE}= ABC = TAC. This alternative would substantially increase harvests on Tier 3 salmon stocks relative to recent historical harvests. Based on the methods described in the 2025 CI EEZ SAFE report, harvest under Alternative 3 (at the level of the OFL_{PRE}) would equate to the highest average historical harvest across a generation for the years 1999-2024 (Appendix 1 Section 4). Also, due to the mixed stock and multi-species nature of harvests in the CI EEZ salmon fishery, harvest at the OFL_{PRE} level for the Tier 1 stocks could result in harvest above the OFL_{PRE} level to the Tier 3 stocks. Thus, the deleterious impacts to Tier 3 stocks could include overfishing these stocks and some stocks entering or approaching an overfished condition. The Aggregate coho salmon stock in particular, for which escapement targets in indicator systems were not achieved during 2024, could become overfished or approach an overfished condition under Alternative 3.

This alternative could potentially lead to an initial increase in revenue to individuals, processors, and communities relative to the status quo pre-2024. However, given the lack of buffers to account for scientific and management uncertainty, it's possible that some escapement goals would not be achieved, potentially resulting in a future of diminished fish returns and overall revenue, similar to Alternative 1. Additionally, Alternative 3 results in a greater risk of overfishing occurring, where OFL_{PRE} = ABC = TAC, thereby affecting future yield and harvest opportunity. The long-term impacts of Alternative 3 could include spawning escapement targets not being achieved for some stocks during some years and some stocks approaching an overfished condition or becoming overfished, with the greatest risk to the Aggregate coho salmon stock complex. Therefore, it has the greatest risk of negative community level harm both economically and biologically and is not the preferred alternative.

5 Magnuson-Stevens Act and FMP Considerations

5.1 Magnuson-Stevens Act National Standards

This EA is specific to evaluating the proposed alternatives for establishing the annual harvest specifications for the CI EEZ salmon fishery; therefore, NMFS must consider the National Standards as contained in the MSA (16 U.S.C. 1851) and the National Standard Guidelines as described generally at 50 CFR 600.305.

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.*

Alternatives considered in this EA are consistent with the Salmon FMP to apply status determination criteria following the NS 1 guidelines to prevent overfishing and achieve OY.

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

Alternatives considered in this EA are consistent with the Salmon FMP and NS 2 guidelines to use the best scientific information available to develop the SAFE report, which is the basis for OFL and ABC recommendations made by the SSC and TAC recommended by the Council.

With respect to National Standards 3–10, harvest specifications under the alternatives would be consistent with those National Standards for the reasons outlined in the A16 EA/RIR Section 5.1, which is incorporated here by reference.

6 Preparers and Persons Consulted

NMFS, Alaska Region: Adam Zaleski, Rich Brenner, Scott Miller, Molly Zaleski, Aaron Lambert, Gretchen Harrington (ARA), Doug Duncan, Krista Milani, Kelly Cates, Abby Jahn, Amy Hadfield

NOAA Office of General Counsel, Alaska Region
Joshua Fortenbery

7 Literature Cited

Barclay, A. W. 2017. Annual Genetic Stock Composition Estimates for the Upper Cook Inlet Sockeye Salmon Commercial Fishery, 2005–2016. Regional Information Report 5J17-05, Alaska Department of Fish and Game.

Barclay, A. W. 2020. Compilation of Genetic Stock Identification Estimates of Sockeye Harvest from Sampled Upper Cook Inlet Commercial Fisheries; Susistna River Components Reported bothe Separately and Combined. RIR.5J20-02, Alaska Department of Fish & Game, Anchorage, AK.

Barclay, A. W., and E. L. Chenowith. 2021. Genetic Stock Composition Estimates for the Upper Cook Inlet Sockeye Salmon Commercial Fishery, 2020. RIR.5J21-04, Alaska Department of Fish & Game, Anchorage, AK.

Brenner, R., L. DeFilippo, D. Duncan, J. Russell, G. Harrington, and A. Zaleski. 2024. Stock Assessment and Fishery Evaluation Report for the Salmon Fisheries of the Cook Inlet Exclusive Economic Zone Area. National Oceanic and Atmospheric Administration, Alaska Regional Office.

Burek-Huntington, K. A., J. L. Dushane, C. E. C. Goertz, L. N. Measures, C. H. Romero, and S. A. Raverty. 2015. Morbidity and mortality in stranded Cook Inlet

beluga whales Delphinapterus leucas. Diseases of Aquatic Organisms **114**:45-60.

Clark, R. A., D. M. Eggers, A. R. Munro, S. J. Fleischman, B. G. Bue, and J. J. Hasbrouck. 2014. Evaluation of the Percentile Approach for Establishing Sustainable Escapement Goals in lieu of Stock Productivity Information. FMS 14-06, Alaska Department of Fish & Game, Anchorage, AK.

Clark, R. A., D. M. Eggers, A. R. Munro, S. J. Fleischman, B. G. Bue, and J. J. Hasbrouck. 2017. An Evaluation of the Percentile Approach for Establishing Sustainable Escapement Goals in lieu of Stock Productivity Information. In: T.J. Quinn II, J.L. Armstrong, M.R. Baker, J.D. Heifetz, and D. Witherell (eds.), Assessing and Managing Data-Limited Fish Stocks. Alaska Sea Grant, University of Alaska Fairbanks.

Echave, K., M. Eagleton, E. Farley, and J. Orsi. 2012. A Refined Description of Essential Fish Habitat for Pacific Salmon Within the U.S. Exclusive Economic Zone in Alaska. Technical Memorandum, U.S. Department of Commerce.

Ellison, W. T., B. L. Southall, C. W. Clark, and A. S. Frankel. 2012. A new context-based approach to assess marine mammal behavioral responses to anthropogenic sounds. Conserv Biol **26**:21-28.

Giefer, J., and S. Graziano. 2024. Catalog of Waters Important for Spawning, Rearing, or Migration of Anadromous Fishes – Southcentral Region, Effective June 2024. Alaska Department of Fish & Game, Anchorage, AK.

Gilardi, K. V., D. Carlson-Bremer, J. A. June, K. Antonelis, G. Broadhurst, and T. Cowan. 2010. Marine species mortality in derelict fishing nets in Puget Sound, WA and the cost/benefits of derelict net removal. Mar Pollut Bull **60**:376-382.

Hilderbrand, J. A. 2009. Anthropogenic and natural sources of ambient noise in the ocean. Marine Ecology Progress Series **393**:5-20.

Limpinsel, D., S. McDermott, C. Felkley, E. Ammann, S. Coxe, G. A. Harington, S. Kelly, J. L.

Pirtle, L. Shaw, and M. Zaleski. 2023. Impacts to Essential Fish Habitat from Non-Fishing Activities in Alaska: EFH 5-year review from 2018-2023. NOAA Tech Memo. NMFS-F/AKR-30, National Marine Fisheries Service, Alaska Region, U.S. Dep. Commerce.

McGuire, T. L., K. E. W. Shelden, G. K. Himes Boor, A. D. Stephens, J. R. McClung, C. Garner, C. E. C. Goertz, K. A. Burek-Huntington, G. O'Corry-Crowe, and B. Wright. 2020. Patterns of mortality in endangered Cook Inlet beluga whales: Insights from pairing a long-term photo-identification study with stranding records. Marine Mammal Science **37(2)**:492-511.

McHuron, E. A., M. Castellote, G. K. Himes Boor, K. E. W. Shelden, A. J. Warlick, T. L. McGuire, P. R. Wade, and K. T. Goetz. 2023. Modeling the impacts of a changing and disturbed environment on an endangered beluga whale population. Ecological Modelling **483**.

Mckinley, T. R., J. W. Erickson, T. Eskelin, N. DeCovich, and H. Hamazaki. 2024. Review of Salmon Escapement Goals in Upper Cook Inlet, Alaska, 2023. FMS 24-01, Alaska Department of Fish & Game, Anchorage, AK.

Munro, A. R. 2019. Summary of Pacific salmon escapement goals in Alaska with a review of escapements from 2010 to 2018. FMS 19-05, Anchorage, Alaska.

Munro, A. R. 2023. Summary of Pacific Salmon Escapement Goals in Alaska with a Review of Escapements from 2014 to 2022. FMS 23-01, Alaska Department of Fish & Game, Anchorage, AK.

Munro, A. R., and R. E. Brenner. 2022. Summary of Pacific Salmon Escapement Goals in Alaska with a Review of Escapements from 2013 to 2021.

Munro, A. R., and E. C. Volk. 2012. Summary of Pacific Salmon Escapement Goals in Alaska with a Review of Escapements from 2003 to 2011. FMS 12-03, Alaska Department of Fish & Game.

NMFS. 2005. Final Environmental Impact Statement for Essential Fish Habitat Identification and Conservation in Alaska. National Marine Fisheries Service, National Oceanic and Atmospheric Administration, Alaska Region.

NMFS. 2012. Environmental Assessment/Regulatory Impact Review for Amendment 12 to the Fishery Management Plan for the Salmon Fisheries in the EEZ Off Alaska. National Marine Fisheries Service, National Oceanic and Atmospheric Administration, Alaska Region.

NMFS. 2024a. Environmental Assessment/Regulatory Impact Review for Amendment 16 to the Fishery Management Plan for the Salmon Fisheries in the EEZ Off Alaska. National Marine Fisheries Service, Alaska Regional National Oceanic and Atmospheric Administration.

NMFS. 2024b. Final Essential Fish Habitat Omnibus Amendments. National Oceanic and Atmospheric Administration, Alaska Region.

NOAA Fisheries. 2024. Amendment 16 to the FMP for the Salmon Fisheries Off Alaska.

Norman, S. A., R. C. Hobbs, B. L. A.;, S. J. Trumble, and W. A. Smith. 2019. Relationship between per capita births of Cook Inlet belugas and summer salmon runs: age-structured population modeling. Ecosphere **11(1)**.

NPFMC. 2024. Fishery Management Plan for the Salmon Fisheries in the EEZ off Alaska. North Pacific Fisheries Management Council, Anchorage, AK.

Petterson, J. S., and E. W. Glazier. 2004. A Study of the Drift Gillnet Fishery and Oil/Gas Industry Interactions and Mitigation Possibilities in Cook Inlet. U.S. Department of the Interior, Anchorage, Alaska.

Robertson, T., and L. K. Campbell. 2020. Oil Spill Occurrence Rates for Cook Inlet, Alaska Oil and Gas Exploration, Development, and Production. Anchorage (AK): U.S. Department of the Interior, Bureau of Ocean Energy Management., OCS Study BOEM 2020-051. 78 p.

Schindler, D. E., M. D. Scheuerell, J. W. Moore, S. M. Gende, T. B. Francis, and W. J. Palen. 2003. Pacific salmon and the ecology of coastal ecosystems. Frontiers in Ecology and the Environment **1(1)**:31-37.

Stumpf, L. 2024. 2024 Upper Cook Inlet Commercial Salmon Fishery Season Summary [Advisory Announcement]. Alaska Department of Fish & Game, Anchorage, AK.

Whitmire, C. E., and W. W. Wakefield. 2019. The Effects of Fishing on Groundfish Habitat: West Coast Perspective. National Oceanic and Atmospheric Administration, Pacific Fishery Management Council.

Willette, T. M., and A. Dupuis. 2017. Temporal and spatial distributions of Kenai River and Susitna River sockeye salmon and coho salmon in Upper Cook Inlet: implications for management. 17-02, Alaska Department of Fish and Game,, Anchorage, AK.

Young, N. C., A. A. Brower, M. M. Muto, J. C. Freed, R. P. Angliss, N. A. Friday, P. L. Boveng, B. M. Brost, M. F. Cameron, J. L. Crance, S. P. Dahle, B. S. Fadely, M. C. Ferguson, K. T. Goetz, J. M. London, E. M. Oleson, R. R. Ream, E. L. Richmond, K. E. W. Shelden, K. L. Sweeney, R. G. Towell, P. R. Wade, J. M. Waite, and A. N. Zerbini. 2023. Alaska marine mammal stock assessments, 2022. NMFS-AFSC-474, U.S. Department of Commerce.

Zador, S., E. Yasumiishi, and G. A. Whitehouse. 2019. Ecosystem Status Report 2019: Gulf of Alaska. North Pacific Fishery Management Council, 605 W. 4th Avenue, Suite 306, Anchorage, AK 99301.

8 Appendix

Appendix 1. 2025 Cook Inlet SAFE report (https://www.fisheries.noaa.gov/alaska/population-assessments/alaska-stock-assessments)