



NOAA Technical Memorandum NOAA-TM-AFSC-516

Surveys of Steller Sea Lions (*Eumetopias jubatus*) in Alaska, June-July 2016-2025: An Update on the Status and Trend and Comparisons of New Analytical Methods

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May 2026

U.S. DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Alaska Fisheries Science Center

NOAA Technical Memorandum NMFS TM AFSC 516

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This document should be cited as follows:

Sweeney, K. L., B. Birkemeier, A.J. Warlick, and K. Luxa. 2026. Surveys of Steller Sea Lions (*Eumetopias jubatus*) in Alaska, June-July 2016-2025: An Update on the Status and Trend and Comparisons of New Analytical Methods. U.S. Department of Commerce, NOAA Technical Memorandum NMFS-TM-AFSC-516, 128p.

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ABSTRACT

From 2016 to 2025, the Alaska Fisheries Science Center’s Marine Mammal Laboratory (MML) conducted annual count surveys of Steller sea lions (*Eumetopias jubatus*) in June/July in Alaska. MML surveyed the endangered western distinct population segment (DPS) and Southeast Alaska (eastern DPS). Data collection included aerial imagery (crewed and uncrewed aircraft platforms), visual counts (ship, skiff, and crewed aircraft platforms), and land-based visual counts. Imagery was processed and counted via our traditional methods, and a new hybrid count workflow was introduced for counting 2024 imagery, which integrated artificial intelligence detection and classification. We used agTrend to model all raw count data to 2025 to produce estimated counts (an index of abundance)—and annual rates of change for 15- and 30-year periods. However, we restricted reporting to data through 2024; 2025 estimates were excluded due to high uncertainty from limited survey coverage, specifically the lack of count data east of Samalga Pass.

From 2009-2024, western DPS non-pups increased by $0.78\%y^{-1}$ and pups increased $0.64\%y^{-1}$. However, the magnitude of increase has slowed over time since the population began to rebound in 2002. We observed high variability among the six regions of the western DPS. West of Samalga Pass, non-pups remained relatively stable while pups declined ($-1.65\%y^{-1}$) over the 15-year period. In the western Aleutian Islands, non-pups and pups continued to decline ($-5.69\%y^{-1}$ and $-4.61\%y^{-1}$, respectively), and 2024 counts represent a 98% (non-pups) and 96% (pups) decrease since the first counts on record in the 1970s. While the central Aleutian Islands region remained stable overall from 2009-2024, trends varied by area: over the past 15 years (up to 2024) rookery cluster areas (RCA) 2 and 3 (western RCAs) declined, while eastern RCAs 4 and 5 were stable. However, uncertainty for the latter estimates remains high due to limited survey effort since the mid-2010s.

East of Samalga Pass (eastern Aleutian Islands region and the Gulf of Alaska regions), non-pups and pups increased. This growth was primarily driven by the eastern Aleutian Islands region where non-pups and pups increased by $2.24\%y^{-1}$ and $1.72\%y^{-1}$, respectively; though growth rates have slowed in this region since the mid-2010s. In the Gulf of Alaska, the 2009-2024 non-pup trend was stable while pups increased ($1.13\%y^{-1}$). However, regional trends appear to be shifting. Following steady growth in the early 2000s, the western Gulf of Alaska region’s 2009–2024 rate of change indicated the population has stabilized. The central and eastern Gulf of Alaska regions increased until the late 2010s. While their combined 15-year trend appeared stable, this masks divergent paths—continued increases in the central Gulf of Alaska region alongside declines in the eastern Gulf of Alaska region.

In Southeast Alaska, the last comprehensive survey was conducted in 2021, with subsequent analysis limited to only two rookery counts in 2022 and 2023. This data sparsity has resulted in high model uncertainty for this region. Modeled trends from 2008 to 2023 indicated no growth for non-pups and pups, with all rookery sites exhibiting declines since 2019.

In addition to population assessments, we report updated abundance estimates for the western DPS using data integration methods described in Warlick et al (2023). We also provide comparisons between these abundance estimates to our count estimates derived from agTrend, and abundance estimates derived by newly generated pup and non-pup correction factors. The agTrend model was

updated in 2021 so we also provide a comparison of these model outputs. We also offer an assessment of the efficiency and efficacy of the hybrid count workflow.

Continued annual count surveys, together with ongoing improvements to data workflows and abundance modeling, are essential for producing timely, reliable trend estimates of the endangered western DPS Steller sea lion. As anomalous warming events increase in frequency and magnitude across the North Pacific Ocean and regional Steller sea lion population responses remain variable, consistent survey coverage and monitoring are paramount for adequate management of the Alaska Steller sea lion populations, recovery of the endangered western DPS, and for ecosystem-based modeling efforts used to support sustainable fisheries management.

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INTRODUCTION

The Steller sea lion (*Eumetopias jubatus*) is the largest otariid pinniped (i.e., sea lion) species in the world (Hoover 1988, Loughlin et al. 1987). Steller sea lions inhabit coastal and continental shelf habitats of the North Pacific Ocean, extending from central California, north through British Columbia (Canada) and Southeast Alaska, and west through the Gulf of Alaska, Bering Sea, and Aleutian Islands in the United States (U.S.). Along the western Pacific coast, their breeding range extends into Russia, encompassing the Commander Islands, the Kamchatka Peninsula, various Kuril Islands, and islands within the Sea of Okhotsk (Burkanov and Loughlin 2005, Hoover 1988, Loughlin et al. 1987). Steller sea lions do not migrate; however, they disperse widely-especially juveniles and males during the non-breeding season (i.e., winter; Jemison et al. 2013, 2018). This dispersal has led to sightings as far as Japan (Hoshino et al. 2006) and, more recently, northeast China (Platto et al. 2021).

The National Marine Fisheries Service (NMFS) is mandated under the Endangered Species Act (ESA; 1973; for the western distinct population segment listed as “endangered”) and Marine Mammal Protection Act (1972) to monitor Steller sea lion populations. Steller sea lion population data is also utilized in ecosystem-based modeling to inform sustainable fisheries management under the Magnuson-Stevens Fishery Conservation and Management Act (2007). To monitor Steller sea lion population trends, the Alaska Fisheries Science Center’s Marine Mammal Laboratory (MML) conducts annual count surveys during the peak breeding season, when Steller sea lions aggregate on terrestrial sites at their highest numbers. Research teams visually count or collect imagery of sea lions to count using a variety of platforms, including crewed aircraft, uncrewed aircraft systems (UAS), vessels (ships and skiffs), and from land. These efforts extend the series of surveys in Alaska that began in the mid-1970s (Braham et al. 1980; Calkins and Pitcher 1982; Fritz et al. 2008, 2013; Fritz and Stinchcomb 2005; Loughlin et al. 1984, 1990, 1992; Merrick et al. 1987, 1991, 1992; Sease et al. 1993, 1999, 2001; Sease and Gudmundson 2002; Sease and Loughlin 1999; Strick et al. 1997) with the most recent reporting up to 2015 (Fritz et al. 2016). A longer historical perspective (back to the mid-1950s) of Steller sea lion count surveys is available in Merrick et al. (1991).

Following population declines during the 1970s (Merrick et al. 1987) and steeper declines during the mid-1980s (Merrick et al. 1991, 1992), NMFS listed the Steller sea lion as “threatened” range-wide under the ESA in November 1990 (U.S. Federal Register 1990) and a Recovery Plan was established to promote conservation of the species (NMFS 1992). Subsequently, NMFS enacted management measures designed to reduce human-related direct mortality (e.g., prohibition of shooting at or near Steller sea lions, reduction in the allowable incidental catch in fisheries, and establishment of three nautical mile no-entry zones around rookeries for targeted groundfish fisheries¹; Atkinson et al. 2008; Fritz et al. 1995). In 1996, NMFS identified two distinct population segments (DPSs) of Steller sea lions based on differences in genetics, distribution, phenotypic traits, and population trends (Bickham et al. 1996, Loughlin 1997, U.S. Federal Register 1996). The western DPS breeds on rookeries located west of 144°W in Alaska (Figure 1) and Russia, whereas the eastern DPS breeds on rookeries east of 144°W, from Southeast Alaska along the west coast of Canada and the U.S. through California. Recognition of the two population segments resulted in a reexamination of their protected statuses. NMFS elevated the ESA listing status of the western DPS to “endangered” in 1997 (U.S. Federal Register 1997a), while the

¹ No-entry zones apply to directed groundfish fisheries for certain species however, incidental catch of groundfish species from other fisheries in no-entry zones may be retained (i.e., Maximum Retainable Amount).

eastern DPS retained its “threatened” listing (U.S. Federal Register 1997b). Additionally, the Steller sea lion Recovery Plan was revised to promote conservation of both populations and identify specific recovery criteria for de-listing (NMFS 2008).

Following a period of sustained growth, NMFS declared the eastern DPS “recovered” and delisted the population from the ESA in 2013 (NMFS 2013). Conversely, the rate of population decline for the western DPS in Alaska (hereafter “western DPS”) slowed into the early 2000s and the population has since trended upward (Sease et al. 2001, Sease and Gudmundson 2002). However, regional trends among subregions vary significantly; some regions show little to no signs of recovery since regular surveys began in the 1970s (Sweeney et al. 2025a), and the population remains listed as “endangered.”

To monitor western DPS Steller sea lions, NMFS estimates counts and annual rates of change (i.e., trends) for regional and temporal aggregations. Counts serve as an index of abundance, as they do not account for animals that are “absent” (e.g., at sea, not yet born) during surveys. Non-pup and pup correction factors or “multipliers” (1.331 and 4.5, respectively) were estimated based on demographic data from the 1970s in the Gulf of Alaska regions to address this data gap (Calkins and Pitcher 1982; Loughlin et al. 1992). These correction factors were discontinued in recent decades because population dynamics in the Gulf of Alaska during the 1970s were no longer representative of the population in later years (Holmes et al. 2007). Similarly, a more recently derived correction factor for non-pup Steller sea lions in British Columbia in the eastern DPS (1.48) was not applied to western DPS counts due to likely differences in population dynamics (Olesiuk 2018). Lacking appropriate demographic and life history data needed to estimate abundance for the western DPS, NMFS has instead reported the summer breeding season modeled counts (non-pup plus pup agTrend modeled counts) as a minimum population estimate ($N_{\min}$) in National Oceanic and Atmospheric Administration (NOAA) Marine Mammal Stock Assessment Reports².

Although $N_{\min}$ serves as an index of abundance, it is ideal to include abundance estimates in Stock Assessment Reports—and therein to calculate potential biological removal level related to serious injury and mortality of sea lions—as well as other management-related reports, such as the Ecosystem Status Reports³ and Ecosystem and Socioeconomic Profile tools⁴. Warlick et al. (2023) developed a method using an integrated population model (IPM) to estimate abundance of the western DPS of Steller sea lions using mark-recapture data and agTrend modeled pup counts. We provide an updated abundance estimate for 2024, which we used to calculate regional pup and non-pup correction factors. These correction factors will be increasingly vital should uncertainty in IPM abundance estimates rise, particularly if funding constraints continue to diminish and reduce the availability of vital rates data.

We summarize the results of Steller sea lion surveys conducted in Alaska between 2016 and 2025 during the breeding season. While imagery was primarily processed using traditional counting methods, we implemented a hybrid workflow in 2024 that integrates artificial intelligence for detection and classification; an assessment of this workflow is provided herein. Using all raw count data through 2025, we modeled counts and annual rates of change (trends) through 2024. Estimates for 2025 were excluded due to high uncertainty from limited survey coverage, specifically the lack of count data east of Samalga Pass. Additionally, we provide a comparison of outputs from the original agTrend model and

² <https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessment-reports-species-stock#pinnipeds---otariids%C2%A0eared-seals-or-fur-seals-and-sea-lions:~:text=2003%20%7C%202000-,Steller%20Sea%20Lion,-Eastern>

³ <https://apps-afsc.fisheries.noaa.gov/refm/reem/ecoweb/index.php>

⁴ <https://www.fisheries.noaa.gov/feature-story/integrating-ecosystem-and-socioeconomic-information-fisheries-management>

the agTrend model updated in 2021. Finally, we evaluate the performance of the traditional pup multiplier (4.5) and $N_{\min}$ as indices of abundance by comparing it against the IPM abundance estimate, and abundance estimates derived from the non-pup and pup correction factors.

METHODS

Count surveys of Steller sea lions at terrestrial sites in Alaska are conducted from late June through mid-July (Fritz et al. 2013, 2016). This timing coincides with the period after the majority of pups are born and during the perinatal period for adult females, when the proportion of their haulout time is greatest (23 June through 10 July; Calkins and Pitcher 1982, Kuhn et al. 2017a, Pitcher et al. 2001). To most accurately assess pup production, surveys begin at least 10 days after the mean pup birth dates in the survey area (4-14 June), after which approximately 95% of all pup births have occurred (Kuhn et al. 2017b; Pitcher et al. 2001). Daily survey operations occur between 1000 and 1800 Alaska Standard Time when non-pups are more likely to have returned from foraging and be hauled out (Sease and Gudmundson 2002). Non-pup raw and agTrend modeled counts do not account for Steller sea lions at sea during the survey. Pup counts are considered a census because pups tend to remain on the rookery until they are older than one month old (Kuhn et al. 2017a); however, pup counts are not corrected for those that die before the survey or those born after the survey.

MML maintains a database of terrestrial sites used by Steller sea lions in Alaska ($n = 402$; Fritz et al. 2016a; Table 1 and Figure 1): 81 are east of 144°W in Southeast Alaska and Yakutat (eastern DPS; hereafter referred to as the “Southeast Alaska region”), whereas 321 are west of 144°W (western DPS)⁵. As new sites are observed, they are added to the MML database. In this report, we refer to names of sites as they are listed in the database. Western DPS sites are further aggregated into six geographic regions and ten rookery cluster areas (RCAs; see Fritz et al. 2013, Table 1, and Figure 1).

Steller sea lion sites are categorized as either a rookery or haulout. A site is designated a rookery if there has been at least one pup count ≥ 50 within the breeding season and sites maintain their rookery designation even if pup counts fall below the 50-pup threshold at any time (Fritz et al. 2013). Surveys include all site types, regardless of seasonality of use (Sease and York 2003, Womble et al. 2005). That is, sites that may only be occupied outside the breeding season (e.g., winter haulout sites) are still included in breeding season surveys.

It is not logistically or economically feasible to survey the extensive geographic range of Steller sea lion in Alaska within the optimal survey window for non-pups and pups. As a result, we typically alternate effort between the eastern (i.e., Gulf of Alaska) and western (i.e., Aleutian Islands) areas of the western DPS range with the goal of completing a range-wide survey every two years. It is most efficient to survey the majority of the range with a crewed aircraft from the Andreanof Islands (178°W , central Aleutian Islands) to Dixon Entrance (130°W , Southeast Alaska). The westernmost area of the Alaska range is remote with few airfields, making it more efficient to survey using a ship platform; the ship-based team typically surveys from the Near Islands (172°E , western Aleutian Islands) through the Delarof Islands (178°W , central Aleutian Islands). The ship-based team conducts count surveys as well as other mission priorities such as vital rates studies and health assessments.

⁵ Individual Steller sea lion sites may be viewed via the NOAA Geo Platform located at <https://noaa.hub.arcgis.com/maps/72140ac3ce1844f9a1f89c97a93df4ca/explore?location=60.681462%2C-137.208597%2C3>

We attempt to survey all sites within the planned geographic area as weather, time, fuel, equipment, etc. allow. Sites that we intended to survey that were “missed” were due to inclement weather, survey logistics, mechanical issues, or staffing issues (e.g., related to COVID-19, etc.). Sites are prioritized: rookeries are usually highest, followed by major haulout sites (historically > 200 sea lions during the breeding season), “minor” haulout sites (< 200 sea lions during the breeding season) and sites that have been missed for several years, and then those haulout sites that have been historically “0” during the breeding season (i.e., assumed winter haulouts) are the lowest priority.

MML Survey Effort

In 2017, 2019, 2021, and 2024, crewed aircraft survey effort was concentrated in the Gulf of Alaska, while in 2016, 2018, 2022, and 2023, effort was concentrated in the Aleutian Islands (Table 1). The ship-based team operated in the western and central Aleutian Islands from 2016 to 2018 and 2022 to 2025. They prioritized count effort in the westernmost part of the Aleutian Islands in 2016, 2018, and 2023 when the crewed aircraft team was also surveying the Aleutian Islands. The COVID-19 pandemic resulted in MML cancelling all survey effort in 2020 and ship-based survey effort in 2021. The 2025 crewed aircraft survey, which was intended to take place in the Aleutian Islands, was cancelled due to insufficient funding. Note that the crewed aircraft team conducted redundant surveys in the Aleutian Islands in 2022 and 2023, breaking the alternating east-west survey schedule, due to unexpectedly low survey coverage of this region and unusual count results in 2022.

MML conducted all crewed aircraft surveys from a DeHavilland Twin Otter aircraft operated by the NOAA Office of Marine and Aviation Operations Aircraft Operations Center. The crewed aircraft was equipped with a three-camera mount with forward motion compensation (to reduce blur) as described in Fritz et al. (2013). This mount was equipped with three Canon Mark III 5d (full-frame digital single-lens reflex cameras; Canon, Melville, NY) with Zeiss Planar T* f/1.4 ZE lenses (Zeiss, Oberkochen, Germany) through the 2022 survey; in 2023, MML began using Sony a7R III mirrorless cameras with Sony FE 85mm f/1.8 lenses (Sony, New York City, NY). Generally, overlapping imagery was captured at sites with more than 10 sea lions present and sites with less sea lions present may be counted visually by the team. Since it is challenging to discern the presence or absence of pups visually from the crewed aircraft altitude, we only record a non-pup count for these observations and no pup count is recorded. When terrain inhibited the crewed aircraft team from safely surveying a site (e.g., Akun/Billingshead, eastern Aleutian Islands region), the team used a handheld Canon Mark III 5d with a Canon RF 400mm f/2.8L IS USM Lens to capture near-vertical, oblique imagery out of a side window of the aircraft.

MML conducted ship-based operations from the U. S. Fish and Wildlife Service (USFWS) Research Vessel (RV) *Tiglâx*. Visual counts were collected by one to three Biologists from the research vessel, skiffs offshore, or land; when applicable, the maximum complete count for each observer was averaged. MML began using UAS to survey sites in 2014 when a complete visual count was not possible (e.g., when there were too many animals, topography or animals obstructed views, etc.; Sweeney et al. 2015). An APH-22 hexacopter equipped with a Canon EOS M camera and Canon EF-M22mm f/2 lens was used between 2014 and 2016. From 2017 to 2018 the same model of UAS was equipped with an Olympus E-PM2 camera and Olympus M25mm f/1.8 lens (Olympus, Center Valley, PA). From 2022 through 2024, MML used an Aerial Imaging Solutions APH-28 hexacopter with the same Olympus camera configuration; a DJI Mavic Pro quadcopter was also used in 2023 to survey two sites. In 2025,

MML used the FreeFly Astro quadcopter mounted with a Sony a7R IV and Sigma 24mm f/6.3 lens (Sigma, Kanagawa, Japan). All UAS sensors were mirrorless cameras except for the DJI Mavic Pro.

Image Processing and Counting

From 2016 to 2023 and in 2025, aerial images from UAS and crewed aircraft were analyzed using methods described in Fritz et al. (2013). In brief, two Biologists worked independently to manually mosaic imagery for each site, marking out areas of overlap to eliminate double counting, and counted sea lions using the most current version of Adobe Photoshop (using the customizable ‘count’ tool). Each individual sea lion was assigned to an age and sex class (adult male, sub-adult male, adult female, juvenile, and pup) or marked as a dead non-pup or pup if obviously dead (e.g., white and/or red marks, bloated or ‘deflated’, bird[s] or bird scat present on the sea lion, etc.).

Our traditional method of image processing and counting is time and labor intensive, requiring two full-time Biologists for up to four months. As a potential means of streamlining this process, MML developed a hybrid count workflow in 2024, incorporating an intermediate artificial intelligence detection and classification model to our traditional workflow to assess its efficacy and efficiency. After manually mosaicking imagery, the artificial intelligence model (“Fusion”; Kitware, Inc. 2024) was run on all imagery to detect, annotate (with boxes), and classify individual sea lions into one of the five age and sex classes (or dead non-pup or pup). One Biologist conducted traditional counts on the first half of sites and reviewed the model detections for the second half of sites. In contrast, the second Biologist reviewed detections on the first half of sites and conducted traditional counts on the second half of sites. Each detection was reviewed to assess if it was accurately labeled and classified and boxes adjusted as needed. Incorrect annotations were edited to the proper label and/or classification. Missed sea lions were annotated with a box and classified by the Biologist.

The Biologists compared and reconciled counts as in previous years (Fritz et al. 2013); if the difference in counts at a site was greater than 5%, or more than 20 individuals for non-pup counts and more than 10 for pup counts, Biologists reviewed and corrected discrepancies. All pup and non-pup counts from images reported are means of replicate counts by each Biologist.

External Count Data

MML collaborates with many partners to share sea lion counts (and other data), especially during the breeding season and for sites in the Bering Sea (Table 3). From 2016 to 2025, MML received counts or imagery from the Alaska Department of Fish and Game (ADFG), USFWS, and the Aleut Community of St. Paul Island (ACSPI).

ADFG conducted visual counts of Steller sea lions at Round (Walrus) in northern Bristol Bay (Bering Sea, eastern Aleutian Islands region) in coordination with USFWS field camp personnel. ADFG also provided counts from Cape Newenham (Bering Sea, eastern Aleutian Islands region). The crewed aircraft survey team occasionally surveyed Bristol Bay sites (e.g., Twins and Summit). However, Round (Walrus) is within a State Game Sanctuary and Cape Newenham within a Wildlife Sensitive Zone with

FAA altitude recommendations that are higher than our required survey altitude. Receiving counts from ADFG allowed us to include more consistent count data while avoiding disturbance to Pacific walrus (*Odobenus rosmarus*) and other wildlife. ADFG also provided Steller sea lion counts from aerial imagery captured with a UAS (DJI Mavic Pro 2) for White Sisters rookery and Forrester rookery subsites (Southeast Alaska region, eastern DPS).

MML last surveyed Walrus (Pribilof Islands, Bering Sea, eastern Aleutian Islands region) in 2015 with a UAS. As the only rookery in the Bering Sea, this site is a monitoring priority; however, consistent surveys proved logistically unfeasible. Under a co-management agreement, NOAA collaborated with ACSPI to acquire UAS imagery (DJI Phantom Pro) of Walrus and Otter (a nearby haulout), which were subsequently analyzed by MML.

During the summer of 2021, there was a coordinated effort to survey the entire eastern DPS among MML, Washington Department of Fish and Wildlife, Oregon Department of Fish and Wildlife, and Fisheries and Oceans Canada. Results of the joint survey were reported in Young et al. (2024), though this analysis does not include counts from Canada (Majewski et al. 2024) as they were not available at the time of reporting. These counts will be included in the next eastern DPS NOAA Marine Mammal Stock Assessment Report.

Count Data Analysis

MML analyzes visual and imagery counts (i.e., raw data) with the agTrend model (R package; Gaos et al. 2021, Johnson and Fritz 2014). This model augments missing counts by using raw data collected from all sites with at least two non-zero counts (rather than relying solely on counts at a subset of “trend” sites; see Fritz et al. 2013, 2016). AgTrend employs a logarithmic linear regression model to fit the data and is not informed by population dynamics, biological constraints, or environmental variables, which means the estimates derived for the most recent year in the time series could change with the addition of new data collected in subsequent survey years.

The agTrend model produces two types of estimates: realized and predicted. Realized estimates use the standardized variance of raw counts at each site throughout the time series to estimate survey counts we would expect to collect if we had surveyed all sites. Therefore, the more complete the survey, the more similar raw counts are to the realized counts, which is evident by smaller credible intervals. Predicted estimates are smoothed, to account for both observation and process errors, and are used to calculate annual rates of change (i.e., trends). While we generally report predicted estimates (counts and annual rates of change), realized counts were used where noted to illustrate fine-scale changes in counts. Since 2022, we have used an updated agTrend model that utilizes a penalized spline model (Gaos et al. 2021). This updated model reduces variance for years where missing data are interpolated and provides more precise estimates than the previous version, which used a random walk-time series model (Johnson and Fritz 2014).

The earliest western DPS raw counts on record are from 1978 and 1973 for non-pups and pups, respectively. For the western DPS, we modeled raw counts from 1978 to 2025 for non-pups (Fritz et al. 2015) and 1973 to 2025 for pups (Fritz et al. 2019b). However, we have limited our reporting of modeled counts and trends to 2024; low survey effort in 2025—focused primarily on the western and central Aleutian Island regions—resulted in higher uncertainty in 2025 estimates. To avoid reporting estimates

prone to high uncertainty and future revision, we excluded years lacking significant empirical count data (e.g., the Gulf of Alaska regions and the eastern Aleutian Islands region). This ensures that the reported trends are grounded in observed data rather than model extrapolations. Figures display modeled counts from 1994 to 2024, with the x-axes depicting decadal intervals and a specific label for 2002, marking the year with the lowest recorded western DPS non-pup count.

For Southeast Alaska (eastern DPS), we modeled non-pup and pup raw counts from 1971 to 2023. There were only two counts reported in 2022 and 2023 for two rookery sites (White Sisters and Forrester, respectively). While we excluded 2025 estimates for the western DPS due to low survey effort, we chose to report the 2022 and 2023 updates for Southeast Alaska to provide a current assessment of a region not formally surveyed since 2021. Model estimates are subject to change with new data. Young et al. (2024) and Sweeney et al. (2021) reported updates with more comprehensive data (through 2022 and 2021, respectively). Figures display modeled counts from 1993 to 2023, with the x-axis depicting decadal intervals.

To ensure comparability of our results with the Recovery Criteria identified in the Steller sea lion Recovery Plan (NMFS 2008), for the western DPS we estimated trends over a 30-year (1994-2024) and 15-year (2009-2024) periods. For Southeast Alaska (eastern DPS), we estimated 30-year and 15-year trends through 2023. We considered agTrend modeled trends with a positive lower bound of the 95% credible interval (CI) as “increasing,” two negative bounds as “decreasing,” and a negative and positive bound as no growth, or “stable” (not to imply carrying capacity or a state of homeostasis).

Raw count data, including age and sex classification counts, from 2013 to 2019 were analyzed by McHuron et al. (2024) to assess changes resulting from the 2014-2016 North Pacific marine heatwave. This analysis also included energetic response of the population in the Gulf of Alaska based on changes in counts.

AgTrend Models Comparison

We analyzed 15-year trends for non-pups and pups through 2016 (Aleutian Islands regions) and 2017 (Gulf of Alaska regions and western DPS) using the updated version of agTrend. The results were compared to those generated by the original agTrend model for the NMFS 5-year review of western DPS Steller sea lions (NMFS 2020).

Abundance Analysis

MML, ADFG, and the Alaska Sea Life Center branded Steller sea lions at core rookeries from the western Aleutian Islands through the eastern Gulf of Alaska regions and collected mark-resight data to estimate vital rates (Fritz et al. 2014, Jemison et al. 2013, Maniscalco et al. 2010, Warlick et al. 2022). Effort varied substantially across years and regions because of the regularity and number of animals marked and mark-resight effort. Mark-resight data are more extensively available for individuals branded at rookeries east of Samalga Pass (2000-2024; $n = 2,939$) compared to rookeries west of Samalga Pass (2011-2024, $n = 576$). No mark-resight data are available from rookeries in the western Gulf of Alaska. The abundance estimation via data integration described here does not include estimates for the Southeast Alaska region (eastern DPS).

Following the methods of Warlick et al. (2023), we integrated sightings of branded animals from

all available regions with count data to model total Steller sea lion abundance for the western DPS in Alaska. We used a Bayesian integrated population model (IPM) framework to estimate age- and region-specific vital rates using resight data from branded individuals ($n = 3,515$) and agTrend-modeled pup counts through 2024 across the range. Due to the observed movement commonly observed between the central and eastern Gulf of Alaska (Fritz et al. 2016, Jemison et al. 2018, Mchuron et al. 2024), we pooled the data for those two regions. In brief, as in Warlick et al. (2023), a multi-event model was used to account for adult female breeding state uncertainty (as females can be seen with and without pups). Age-specific survival probabilities were estimated for male and female pups (ages 1-5 years), breeding adult females (age 4⁺), non-breeding adult females (age 5⁺), and sub-adult and adult males (age 5⁺). First-time pupping probabilities were estimated for females age-4 and age-5 and repeat breeding probabilities for age 5⁺.

We estimated spatial and temporal variability with the aim of balancing region-specific insights against the uncertainty in vital rate estimates, which stems from regional differences in mark-resight data availability. Therefore, fixed effects were estimated for each of the six regions for pup and yearling survival, female breeding survival, and repeat pupping probabilities, whereas pooled fixed effects for other vital rates were estimated for combined rookeries east and west of Samalga Pass. Temporal variability was estimated using a random walk only for pup and yearling survival, female breeding survival, and repeating pupping probabilities (while other vital rates were estimated as constant over the study period), and temporal variability was estimated for four periods of years spanning 2000-2024. This random effects structure reduces model complexity and can minimize or smooth over interannual variability apparent in raw counts. Annual age-specific detection probabilities were estimated using a random walk and uniform priors and assumed to be constant across all regions. Vital rates were estimated using informed priors (Altukhov 2026, Hastings et al. 2018, NMFS 2018) and initial regional abundances were estimated with a discrete uniform distribution, stable age distribution assumption, and the number of agTrend-modeled pup counts summed for each region. Annual region-specific abundance was estimated using stochastic population growth equations with the abundance for each age class in the previous year multiplied by the relevant vital rates. For additional details, see Warlick et al. (2023).

Using the region-specific annual age structure estimated within the IPM (i.e., the age composition of the population), we calculated both pup and non-pup correction factors by aggregating abundance-at-age (or breeding state) and dividing total annual abundance by the abundance of both pups and non-pups (i.e., the proportion of the population comprised of pups and non-pups). In addition to range-wide correction factors, regional correction factors were used to generate regional abundance estimates, due to the likely differences in vital rates (and therefore population structure) across regions.

Comparing Abundance Estimation Methods

We compared western DPS population estimates across five different estimation methods: $N_{\min}$ (sum of agTrend-modeled non-pup and pup counts), the former 4.5 pup multiplier ($4.5 * \text{agTrend-estimated pup counts}$; Calkins and Pitcher 1982; Loughlin et al. 1992), IPM derived abundance, IPM derived pup correction factors (proportion of population comprised of pups $* \text{agTrend-estimated pup counts}$), and IPM derived non-pup correction factors (proportion of population comprised of non-pups $* \text{agTrend-estimated non-pup counts}$). The primary goal was to assess how well $N_{\min}$ has served as an index of abundance and to assess which correction factors could be most accurate if diminishing mark-recapture data results in less robust IPM abundance estimates.

RESULTS

Non-pup and pup raw counts are publicly available through NOAA National Centers for Environmental Information (Fritz et al. 2015 and Fritz et al. 2019b, respectively), annual survey reports⁶, and NMFS Technical Memoranda⁷. Results reported in this memorandum differ from previously published 2016-2025 survey reports for three reasons. First, numbers of sites may not align due to minor changes in how MML aggregates and reports sub-site counts (standardized and implemented in 2022), as well as the addition of new sites over time. Second, counts for 24 sites from 2019 to 2023 were reviewed and revised prior to the 2024 survey report (Appendix Table 1). Third, count data that were not available at the time of original reports are included here. Thus, the values reported here form the most comprehensive set of western DPS Steller sea lion non-pup and pup counts and trends to date, conducted for Alaska.

MML Survey Effort

From 2016 to 2025, MML conducted surveys within the optimal time window for pup and non-pup counts (23 June to 10 July; accounting for leap years), except in 2016 (90% within optimal window), 2018 (87%), 2023 (99%), and 2024 (96%; Figure 2). Median site survey dates ranged from 26 June to 3 July, and mean dates from 28 June to 2 July. The earliest and latest survey dates in 2016 to 2025 for non-pup counts were 21 June and 11 July, while those for pup counts were 23 June and 11 July. We reported the number of sites that were “missed” by the noted platform in each year, which were intended to be surveyed but were not either due to inclement weather, survey logistics, mechanical issues, or staffing issues (e.g., related to COVID-19, etc.). Annual survey effort is summarized below.

2016

We focused surveys on the Aleutian Islands area and surveyed 35 rookeries and 147 haulouts (Sweeney et al. 2016). The ship-based survey team completed 26 visual surveys and 11 UAS surveys from the western Aleutian Islands (172°E) through the central Aleutian Islands (178°W); the team also surveyed Akutan/Cape Morgan rookery (eastern Aleutian Islands region) because they were in the area for other research priorities and the crewed aircraft team missed it due to high winds. The crewed aircraft team surveyed 145 sites from the central Aleutian Islands (179°W) through the western Gulf of Alaska (158°W). Due to localized fog, the pup count for Ugamak Bay (eastern Aleutian Islands) came from the average of two counts by MML field camp observers⁸. The ship-based team missed eight sites and the crewed aircraft team missed 30 sites.

2017

We surveyed 32 rookeries and 171 haulouts focused on the Gulf of Alaska (Sweeney et al. 2017). The ship-based team completed 11 visual surveys and six UAS surveys from the western Aleutian Islands (173°E) through the central Aleutian Islands (178°W). The crewed aircraft team surveyed 186 sites

⁶ <https://www.fisheries.noaa.gov/alaska/marine-mammal-protection/steller-sea-lion-survey-reports>

⁷ <https://www.fisheries.noaa.gov/resource/publications-database/alaska-fisheries-science-center-technical-memorandums>

⁸ MML field camps on Ugamak and Marmot rookeries were shut down after the 2017 season.

(including four new sites) from western Gulf of Alaska (161°W) through Southeast Alaska (131°W). The crewed aircraft team missed 29 sites.

2018

We surveyed 30 rookeries and 94 haulouts focused on the Aleutian Islands (Sweeney et al. 2018). The ship-based survey team completed nine visual surveys and 12 UAS surveys from the western Aleutian Islands (172°E) through the central Aleutian Islands (178°W). The crewed aircraft team surveyed 103 sites (including two new sites) from the central Aleutian Islands (178°W) through the central Gulf of Alaska (153°W). The ship-based team missed 25 sites and the crewed aircraft team missed 41 sites.

2019

The ship-based survey team did not conduct count surveys as there were other research priorities. The crewed aircraft team surveyed 32 rookeries and 118 haulouts (including one new site) from the western Gulf of Alaska (163°W) through Southeast Alaska (131°W; Sweeney et al. 2019). The team missed 63 sites.

2020

All surveys were cancelled in 2020 because of the COVID-19 pandemic.

2021

The ship-based survey was cancelled because of the COVID-19 pandemic. The crewed aircraft team surveyed 30 rookeries and 170 haulouts (including four new sites) from the western Gulf of Alaska (163°W) through Southeast Alaska (131°W; Sweeney et al. 2022). The team missed 13 sites.

2022

We surveyed 20 rookeries and 79 haulouts and focused on the Aleutian Islands (Sweeney et al. 2023a). The ship-based survey team completed 26 visual surveys and four UAS surveys from the western Aleutian Islands (172°E) through the central Aleutian Islands (175°W). The crewed aircraft team surveyed 69 sites (including two new sites) from the central Aleutian Islands (179°W) through the western Gulf of Alaska (160°W). The ship-based team missed 21 sites and the crewed aircraft team missed 66 sites.

2023

We surveyed 22 rookeries and 56 haulouts focused on the Aleutian Islands (Sweeney et al. 2023b). The ship-based survey team completed nine visual surveys and 12 UAS surveys from the western Aleutian Islands (172°E) through the central Aleutian Islands (177°W). The crewed aircraft team surveyed 57 sites (including one new site) in the eastern Aleutian Islands (169°W through 163°W). One additional site was discovered but was not surveyed. The ship-based team missed 31 sites and the crewed aircraft team missed 74 sites.

2024

We surveyed 29 rookeries and 117 haulouts focused on the Gulf of Alaska (Sweeney et al. 2025a). The ship-based survey team completed eight visual surveys and seven UAS surveys from the western Aleutian Islands (172°E) through the eastern Aleutian Islands (165°W). The crewed aircraft team surveyed 131 sites from the western Gulf of Alaska (163°W) through the eastern Gulf of Alaska (144°W).

The crewed aircraft team missed one site.

2025

The crewed aircraft survey was cancelled because of insufficient funding. The ship-based survey team surveyed 13 rookeries and eight haulouts, including 10 visual surveys and 11 UAS surveys from western Aleutian Islands (172°E) through the central Aleutian Islands (175°W; Sweeney et al. 2025b).

Steller sea lion non-pups and pups were surveyed at least once on 393 of the 402 known terrestrial rookery and haulout sites in Alaska during breeding season surveys conducted from 2016 to 2025 (Table 1, Figure 1). The regions with the most comprehensive surveys included the western Aleutian Islands, followed by Gulf of Alaska regions, the eastern Aleutian Islands, and the central Aleutian Islands. The most complete surveys of the central Aleutian Islands (99 sites) were conducted in 2016 (58.6% of sites surveyed), 2022 (52.5%), and 2018 (41.4%). The years with the most complete surveys within the decade prior to 2016 in this region were 2008 (75.8% of sites surveyed) and 2010 (54.5%).

Image Processing and Counting

We developed a hybrid count workflow, which was implemented in 2024, which augmented the traditional count workflow with an artificial intelligence detection and classification model. To compare processing speeds, two Biologists alternated between traditional and hybrid workflows across the image sets, tracking the time required to complete each method. The hybrid workflow required an additional 13 and 30 hours for the two Biologists, respectively. This discrepancy reflects the time invested in manually editing each artificial intelligence detection to ensure a complete, accurate set of annotations for training purposes. Beyond this time investment, the hybrid count workflow proved as effective as the traditional method. The most significant benefit was that it allowed subject matter experts to assess the artificial intelligence model, produce training data, and process survey imagery simultaneously; increasing efficiency compared to conducting these tasks separately.

Counts at the nine sites that were never surveyed in 2016-2025 were likely to have had low attendance of non-pups based on past records. Of the nine sites, two had historically zero counts (likely winter haulouts), one site mostly had counts of zero, three sites had less than 32 non-pups in the last survey prior to 2016, and two were new (to MML) sites (one likely a winter haulout). All sites not surveyed between 2016 and 2025 that have historically had sea lions present (either consistently or sporadically) were successfully surveyed last in 2014.

It is rare for new rookery sites to be designated, however, since 2021, we observed several haulout sites with pup counts that met the threshold (≥ 50 pups) used to designate a site as a rookery (Fritz et al. 2013). In 2021 and 2024, we observed 58 (Sweeney et al. 2022) and 62 pups (respectively; Sweeney et al. 2025a) at Cape St. Elias (eastern Gulf of Alaska region; Table 1). In 2023, we observed 56 pups at Aiktak (eastern Aleutian Islands region); however, it is possible that adult females moved to this haulout with their pup from the nearby Ugamak rookery (Sweeney et al. 2023b). In 2024, Sea Otter (central Gulf of Alaska region) reached 50 pups and Glacier (eastern Gulf of Alaska region) reached 71 pups (Sweeney et al. 2025b).

External Count Data

MML included counts or conducted counts of images from several collaborators between 2016 and 2025, which we added to the MML count database for population assessments (Table 3). For the eastern Aleutian Islands, MML received visual count data from ADFG for Round (Walrus Is) in all years except 2025 (later received but not included in time for analyses) and from Cape Newenham in 2017 and 2024. If counts on Round (Walrus Is) were completed on the same day the crewed aircraft team surveyed other sites in the Bering Sea, the mean of observer counts from that day were used (2017, 2018, and 2019). Otherwise, we used the mean observer count from the closest survey day (2021, 2022, and 2023), or the mean from counts completed over the survey period (27 June to 1 July in 2016 and 25 June to 11 July in 2020). ADFG provided counts from UAS imagery for White Sisters in 2022 and Forrester in 2023 in Southeast Alaska, reporting a total mean count across multiple days and counters. MML also received UAS imagery from ACSPI for Otter Island (2021, 2024) and Walrus (2021, 2024, 2025). All surveys were conducted within the optimal survey window except Cape Newenham in 2024 (one day before) and Walrus and Otter Island in 2021 (two and three days after, respectively; Table 3).

Count Data Analysis

Predicted non-pup counts in the western DPS were highest in 1978 ($n=174,961$; the earliest recorded count in the non-pup data series) and lowest in 2002 ($n=29,261$; Table 4). Similarly, predicted pup counts ranged from a maximum of 65,526 in 1973 (earliest recorded pup count in data series) to a minimum of 9,513 in 2000. By 2024, non-pup counts were 78% lower than their peak count and pups were 81% lower.

From 1994 to 2024 (30-year trend), western DPS non-pups increased $0.85\%/y^{-1}$ (95%CI: $0.47-1.16\%/y^{-1}$) and pups increased $0.66\%/y^{-1}$ (95% CI: $0.37-0.93\%/y^{-1}$; Table 5). From 2009 to 2024 (15-year trend), western DPS non-pups increased $0.78\%/y^{-1}$ (95% CI: $0.16-1.43\%/y^{-1}$) and pups increased $0.64\%/y^{-1}$ (95% CI: $0.08-1.19\%/y^{-1}$). Both non-pups and pups experienced precipitous declines until the late 1990s and began to increase in the early 2000s. Non-pups showed relatively steady increases until stabilizing over the past decade while pups increased steadily until the rate of growth stabilized from 2010 to the late 2010s, after which they began to increase again.

Within the western DPS, trends west and east of Samalga Pass were highly disparate. From 1994 to 2024, trends of non-pups and pups west of Samalga Pass declined ($-1.77\%/y^{-1}$ and $-2.2\%/y^{-1}$, respectively), and while pups also declined from 2009 to 2024 ($-1.65\%/y^{-1}$), non-pups were stable. Non-pup counts east of Samalga Pass began to increase in the early 2000s and annual rates of change for the 30- and 15-year periods increased ($1.73\%/y^{-1}$ and $1.18\%/y^{-1}$, respectively) though annual increases in modeled counts in this area slowed around the mid-2010s (Table 5 and Figure 4). Pup counts east of Samalga Pass followed a similar pattern as non-pups, and trends for both periods increased (30-year: $1.80\%/y^{-1}$, 15-year: $1.32\%/y^{-1}$).

Non-pups in the aggregated Aleutian Island regions declined until the early 2000s and then oscillated between brief periods of increase or decrease through 2024 (Figure 5); pups showed a similar pattern at a lower magnitude (Figure 6). Both trend periods for the Aleutian Islands were stable for non-

pups and pups (Table 5). The aggregated Gulf of Alaska region non-pup and pup counts declined until the early 2000s and then increased until the late 2010s when non-pups declined and the rate of increase slowed for pups (Figs. 5 and 6). The 30-year trend for the Gulf of Alaska increased for non-pups ($1.69\%y^{-1}$) and pups ($1.60\%y^{-1}$; Table 5). The 15-year trend was stable for non-pups and increased for pups ($1.13\%y^{-1}$). Examination of trends by region and RCA revealed the variation and contrast in population dynamics across Alaska, further described below.

Western Aleutian Islands (RCA 1)

The total predicted count for the western Aleutian Islands region in 2024 was 521 sea lions (Figs. 7 and 8; Appendix Table 2). Counts were highest in 1978 for non-pups and in 1973 for pups, and lowest for both in 2024. By 2024, non-pup and pup counts were 98% and 96% lower than their respective peak counts. Both trend periods declined for non-pups (30-year: $-7.21\%y^{-1}$, 15-year: $-5.69\%y^{-1}$) and pups (30-year: $-7.80\%y^{-1}$, 15-year: $-4.61\%y^{-1}$; Table 5). One of the most dramatic examples of population decline in this region is Buldir Island. Historically, this location had several haulout sites and a rookery and its maximum raw count in the early 1970s was 6,166 Steller sea lions (Fritz et al. 2015, 2019b). We first observed no pups on this island in 2012 (Fritz et al. 2019b) and in 2025 there were no sea lions observed during the survey (Table 1).

Central Aleutian Islands (RCAs 2-5 and a small part of RCA 6)

The total predicted count for the central Aleutian Islands region in 2024 was 8,548 sea lions (Figs. 7 and 8; Appendix Table 2). Non-pup counts were highest in 1978 and lowest in 2024; pup counts were highest in 1973 and lowest in 2018. By 2024, non-pup and pup counts were 86% and 85% lower than their respective peak counts. The 30-year trend declined for non-pups ($-0.85\%y^{-1}$) and pups ($-1.32\%y^{-1}$; Table 5). The 15-year trend was stable for both groups; however, there were variable trends among RCAs 2-5. During this period, the annual rates of change declined in non-pups in RCAs 2, 3, and 4 and pups in RCAs 2 and 3 while other groups were stable (Figs. 9 and 10, Table 5). This is the largest region in the western DPS, both geographically and by number of sites, and it was the least surveyed between 2016 and 2025, leading to high uncertainty in model estimates, especially in RCA 5.

Eastern Aleutian Islands (most of RCA 6 including the Bering Sea and part of RCA 7)

The total predicted count for the eastern Aleutian Islands region in 2024 was 13,763 sea lions (Figs. 7 and 8; Appendix Table 2). Non-pup counts were highest in 1978 and lowest in 2002; pup counts were highest in 1973 and lowest in 1998. By 2024, non-pup and pup counts were 52% and 72% lower than their respective peak counts. Both trend periods increased for non-pups (30-year: $1.84\%y^{-1}$, 15-year: $2.24\%y^{-1}$) and pups (30-year: $2.31\%y^{-1}$, 15-year: $1.72\%y^{-1}$; Table 5). Over the 2016 to 2025 survey period, this region had the highest sea lion counts in the western DPS and therefore strongly influenced the overall trend of the western DPS. It was one of the only regions that exhibited consistent and steady count increases, except for a brief period (~5 years) of stability in non-pups starting around 2010, which was also when increases in pup counts slowed slightly (Figs. 7 and 8). There was no growth in non-pups since the late 2010s, but there was relatively high uncertainty in the model estimates as this region had not been surveyed since 2023.

In 2022 MML observed anomalously low counts in the Eastern Aleutian Islands region and more than 40% of sites were missed (Sweeney et al. 2023a). As such, MML conducted another Aleutian Islands survey in 2023, breaking the pattern of alternating between geographic areas (Sweeney et al. 2023b). The 2023 survey was near-complete, better representing counts. In 2022 and 2023, there were

anomalously high counts at some major haulout and rookery sites, suggesting the areas around those sites were important (e.g., better prey availability).

Due to its remoteness relative to the southern coastline, the Bering Sea portion of the eastern Aleutian Islands region has historically lacked consistent survey coverage. Data contributions from external partners have improved our understanding of these sites, providing greater coverage than was previously available (Table 3). Surveys of Walrus have been conducted towards the end or just after the optimal survey window, but in 2025, the survey was completed earlier on 26 June. The 43% increase in pup counts since 2024—contrasted by a slight non-pup decline—could suggest that survey timing may influence results. To determine if this represents a biological increase or a shift in haulout behavior, more frequent monitoring is required. Expanding survey efforts to encompass the full breadth of the breeding season will help resolve these patterns.

Western Gulf of Alaska (most of RCA 7 and part of RCA 8)

The total predicted count for the western Gulf of Alaska region in 2024 was 11,839 sea lions (Figs. 7 and 8; Appendix Table 2). Non-pup counts were highest in 1978 and lowest in 2001; pup counts were highest in 1973 and lowest in 1998. By 2024, non-pup and pup counts were 57% and 73% lower than their respective peak counts. The 30-year trend increased for non-pups ($1.84\%y^{-1}$) and pups ($2.41\%y^{-1}$; Table 5). The 15-year trend was stable for non-pups and increased for pups ($1.25\%y^{-1}$). Count data did not indicate significant impacts from the 2014-2016 North Pacific marine heatwave.

Combined Eastern and Central Gulf of Alaska

The total predicted count for the combined eastern and central Gulf of Alaska regions in 2024 was 28,225 (Figure 11; Appendix Table 2). The 30-year trend in this combined region increased for non-pups ($1.61\%y^{-1}$) and pups ($1.08\%y^{-1}$; Table 5). The 15-year trend was stable for non-pups and increased for pups ($1.05\%y^{-1}$). Since the late 2010s, non-pup counts declined overall while pup count increases slowed and could indicate a shift to a stable trend in future years (Figure 11).

Counts indicated there were impacts from the 2014-2016 North Pacific marine heatwave in the central and eastern Gulf of Alaska regions (Sweeney et al. 2017, 2019). The total non-pup count in these combined regions remained relatively stable; however, raw counts indicated movement of mostly adult females and juveniles from the eastern to the central Gulf of Alaska regions resulting in a 16% reduction of non-pups in the eastern Gulf of Alaska region. Despite these movements of adult females into the central Gulf of Alaska region, the pup count was 18% lower in 2017 than in 2015.

Central Gulf of Alaska (most of RCA 8, RCA 9, and part of RCA 10)

The total predicted count for the central Gulf of Alaska region in 2024 was 10,901 sea lions (Figs. 7 and 8; Appendix Table 2). Non-pup counts were highest in 1978 and lowest in 2005; pup counts were highest in 1973 and lowest in 2001. By 2024, non-pup and pup counts were 83% and 87% lower than their respective peak counts. Both trend periods increased for non-pups (30-year: $1.79\%y^{-1}$, 15-year: $2.52\%y^{-1}$) and pups (30-year: $0.97\%y^{-1}$, 15-year: $1.42\%y^{-1}$; Table 5).

Eastern Gulf of Alaska (most of RCA 10)

The total predicted count for the eastern Gulf of Alaska region in 2024 was 5,485 sea lions (Figs. 7 and 8; Appendix Table 2). Non-pup counts were highest in 1978 and lowest in 1999; pup counts were highest in 1990 and lowest in 2000. By 2024, non-pup and pup counts were 68% and 9% lower than their respective peak counts. The 30-year trend was stable for non-pups and increased for pups ($1.38\%y^{-1}$;

Table 5). The 15-year trend declined for non-pups ($-1.90\%y^{-1}$) and was stable for pups. This was the only region east of Samalga Pass with a declining 15-year non-pup trend. This is the only region where pup counts were not highest in the earliest count on record. In fact, the pup count in 1990 was 70% greater than in 1973.

Southeast Alaska (eastern DPS)

The total predicted count for the Southeast Alaska region (eastern DPS) in 2023 was 22,915 sea lions (Figure 12; Appendix Table 2). Non-pup counts were highest in 2016 and lowest in 1983; pup counts were highest in 2014 and lowest in 1974. By 2023, non-pup and pup counts were 63% and 203% greater than their respective lowest counts. However, counts declined through the end of the study period, falling 20% for non-pups (compared to 2016) and 13% for pups (compared to 2014). The 30-year trends (1993-2023) increased for non-pups ($1.68\%y^{-1}$) and pups ($2.29\%y^{-1}$; Table 6) while the 15-year trends (2008-2023) were stable for non-pups and pups. Rapid growth in pup counts through the 2010s was likely due to the colonization of new rookeries in this region in the 1990s (Jemison et al. 2013). It appears counts began to decline in the mid-2010s, perhaps slightly earlier for pups than non-pups (Figure 12). It's important to note that there are high credible intervals, and therefore uncertainty, for the 2022 and 2023 counts because there was only one rookery count for each year. If we compare the raw count data from the two most recent survey years, there was a 38% decrease in non-pups at White Sisters between 2021 and 2022 and a 5% decrease in pups (Tables 1 and 3). At Forrester (all sub-sites combined), non-pups remained relatively stable (down 7 non-pups) while pups declined 19% between 2021 and 2023.

Raw counts did not initially indicate impacts from the 2014-2016 North Pacific marine heatwave as they were oscillating around stable in the late 2010s. However, the 2021 survey counts were significantly less for non-pups. Both non-pups and pups have been in decline since the late 2010s. (Sweeney et al. 2022).

AgTrend Models Comparison

Non-pup and pup 15-year count trends through 2016 (Aleutian Islands regions) and 2017 (Gulf of Alaska regions and western DPS) did not differ significantly between agTrend model versions (Table 7, Figure 13); this is evident by updated agTrend model estimates fitting within the credible intervals of the original model estimates. Estimates from the updated agTrend model were more precise, as evident by smaller credible intervals compared with the original agTrend models, except for regions where there was higher uncertainty because of less survey coverage (e.g., central Aleutian Islands region).

Abundance Analysis

Abundance modeling using the Bayesian integrated population model (IPM) framework (Warlick et al. 2023) produced time-varying and region-specific estimates of abundance that generally matched the patterns described above, with abundance increasing in regions east of Samalga Pass and decreasing in regions west of Samalga Pass. Overall, across the western DPS range, non-pups increased by $0.92\%y^{-1}$ (95% CI: -0.40-2.26) while pups increased by $0.83\%y^{-1}$ (-1.40-3.10) from 2009-2024 (Table 8).

West of Samalga Pass, in the western Aleutian Islands, non-pups decreased by $-4.57\%y^{-1}$ (-11.79-3.24) while pups decreased by $-3.99\%y^{-1}$ (-13.63-6.65) from 2009-2024 (Table 8). The total population

(pups and non-pups) in this region was estimated to have declined by $-4.45\%y^{-1}$ (-10.70 - 2.27). In the central Aleutian Islands, non-pups decreased by $-0.51\%y^{-1}$ (-4.13 - 3.33) while pups decreased by $-1.04\%y^{-1}$ (-6.29 - 4.45) from 2009-2024. The total population in this region was estimated to have declined by $-0.67\%y^{-1}$ (-3.98 - 2.75).

East of Samalga Pass, in the eastern Aleutian Islands, non-pups increased by $1.26\%y^{-1}$ (-1.07 - 3.61) while pups increased by $1.30\%y^{-1}$ (-2.85 - 5.66) from 2009-2024 (Table 8). The total population in this region was estimated to have increased by $1.50\%y^{-1}$ (-0.64 - 3.68). In the western Gulf of Alaska, non-pups increased by $1.38\%y^{-1}$ (-0.82 - 3.63) while pups increased by $1.77\%y^{-1}$ (-2.69 - 6.48) from 2009-2024. The total population in this region was estimated to have increased by $1.29\%y^{-1}$ (-0.86 - 3.45). In the combined central and eastern Gulf of Alaska, non-pups increased by $1.34\%y^{-1}$ (-0.58 - 3.32) while pups increased by $1.29\%y^{-1}$ (-2.79 - 5.54) from 2009-2024. The total population in this region was estimated to have increased by $1.37\%y^{-1}$ (-0.44 - 3.20).

Comparing Abundance Estimation Methods

While specific abundance estimates varied between methods, the overarching population patterns remained consistent. Except for the 4.5 pup multiplier approach (Calkins and Pitcher 1982; Loughlin et al. 1992), all other estimation methods resulted in abundance estimates that fell within the 95% credible interval of median estimates produced by the IPM (Figure 14). Abundance estimates derived from correction factors (Table 9) and N_{min} (Appendix Table 2) contained greater interannual variability from raw counts that are smoothed over to a greater extent by the IPM framework.

Discrepancies between abundance estimation methods varied across regions (Figure 15). For the western Aleutian Islands, abundance estimates from the IPM had a low degree of uncertainty and were similar to those derived from pup and non-pup correction factors and N_{min} . For the central Aleutian Islands, abundance estimates from the IPM had a higher degree of uncertainty and estimates using correction factors were not contained in the 95% credible intervals for the IPM in some cases. Specifically, the pup-based correction factor (proportion of population comprised of pups * agTrend-estimated pup counts) was closest to IPM estimates while the non-pup-based correction factor abundance estimates were considerably higher than both IPM estimates and N_{min} (Figure 15). Similarly, IPM abundance estimates from rookeries in the western Gulf of Alaska had a higher degree of uncertainty (in this case due to the lack of mark-resight data in the region) and were considerably lower than estimates generated from N_{min} and pup and non-pup correction factors. In the combined central and eastern Gulf of Alaska and eastern Aleutian Islands regions, estimation methods resulted in similar estimates. In all regions, IPM-based values exhibited a lower degree of interannual variability compared with correction factor-based approaches that reflect large interannual variability in raw counts.

These abundance estimation methods naturally resulted in differences in annual population growth rates over a given set of years (Figure 16). For the western Aleutian Islands, population growth rates calculated from the pup correction factor-based abundance estimates were higher than those calculated from the IPM estimates while those from the non-pup-based correction factor were lower. For the central Aleutian Islands, estimation methods resulted in similar estimates of annual population growth rates. In contrast, for the eastern Aleutian Islands and rookeries in the Gulf of Alaska, population growth rates estimated using N_{min} and correction factors were all lower than those estimated within the IPM, with N_{min} showing the smallest differences. Range-wide, population growth rates calculated from N_{min} were closer to those from the IPM while the non-pup correction factor estimates were farthest. Ultimately, the annual rates of change calculated by the IPM versus agTrend did not differ significantly for 2009 to 2024 and agTrend estimates were within the credible intervals of IPM estimates.

DISCUSSION

After decades of range-wide declines, counts of western DPS Steller sea lions in Alaska began to rebound the early 2000s, increasing steadily until population growth slowed in the late 2010s. Since then, non-pup counts have been steady, while pup counts increased. Overall, the 15-year annual rates of change for the western DPS increased; however, given recent count results, those trends may be shifting. For example, Sweeney et al. (2025b) modeled and reported western DPS count data through 2025 and the 15-year annual rates of change were stable. Unfortunately, survey coverage was quite low that year, resulting in high model uncertainty. Additional survey data are needed to refine recent count estimates.

Counts and trends of Steller sea lions among the western DPS regions continued to be highly variable. The western Aleutian Islands region has been in continuous decline since our earliest counts on record and has shown no signs of recovery. The central Aleutian Islands have oscillated between slow growth and decline since the 1990s, although uncertainty remains high due to limited survey coverage in recent years, especially for RCA 5. The regions east of Samalga Pass steadily increased after the early 2000s; however, this pattern began to change in the eastern Aleutian Islands and western Gulf of Alaska regions around or after 2010. At that time, growth slowed, stabilized, or even declined depending on region and count type (i.e., non-pup vs. pup). The central and eastern Gulf of Alaska regions steadily increased until anomalous declines (non-pups) or stable counts (pups) began in the late 2010s, likely influenced by the 2014-2016 North Pacific Marine heatwave.

Southeast Alaska count data indicates both non-pups and pups began to decline in the mid- to late-2010s. Count data for the Southeast Alaska region in the eastern DPS were limited for 2022 and 2023 (one rookery surveyed in each year), resulting in higher model uncertainty and estimates are subject to change with new information. Southeast Alaska counts did not exhibit anomalous impacts from the heatwave in 2017, though pup production may have been reduced slightly (McHuron et al. 2024); and the non-pup realized count declined in 2019. Inter-population mixing of sea lions in Southeast Alaska and Prince William Sound in the eastern Gulf of Alaska region (western DPS) does occur at a smaller scale (Hastings et al. 2020, Jemison et al. 2013), but not to the extent that would explain the observed count declines. In fact, Young et al. (2024) estimated that approximately 517 western DPS non-pups may have been present in Southeast Alaska (north of Sumner Strait) in 2022, although this does not necessarily indicate movement in that year (i.e., sea lions could have moved in earlier years and remained).

Abundances estimated within the IPM account for multiple levels of uncertainty and provide insights into spatio-temporal differences in the vital rates (i.e., survival and reproduction) that drive changes in sea lion abundance. Trends in abundance for western DPS Steller sea lions estimated in this IPM framework generally aligned with agTrend-modeled counts ($N_{\min}$), largely because pup count data are a foundational input within the data integration framework, where pup counts are considered a near census. The IPM abundance estimates do have reduced interannual variability relative to modeled counts by virtue of the random effects structure that was designed to maximize ecological insights and minimize the uncertainty in annual estimates by pooling information across certain years and subregions.

The IPM framework provided the additional benefit of estimating the age structure within each region and over time, which facilitated the calculation of age-specific correction factors. In other words, if pups comprise 15% of the total local population, we divide the total pup count by that proportion to

generate an estimate of total abundance. These metrics (similar to using $N_{\min}$) can provide a convenient (and more affordable because they do not rely on mark-recapture studies) index of abundance and abundance trends, though examining these correction-factor based estimates alongside estimates generated in a more robust IPM framework can reveal situations where correction factors could lead to biased abundance estimates. Specifically, abundance estimates derived from modeled counts would differ from those more based on mark-resight vital rates if the population's true age structure deviates from the proportions assumed in the correction factors. For example, if the proportion of pups in the population is underestimated relative to the true value (or the proportion of non-pups is overestimated), total abundance will be overestimated. The proportion of pups in the population could be underestimated in a given year due to environmental effects (e.g., large storm year, low reproduction in the previous cohort) or the proportion of non-pups could be overestimated in a given year or region due to immigration or emigration.

From 2000 to 2024, abundances derived from correction factors or aggregated modeled counts ($N_{\min}$) largely aligned with those estimated within the IPM, particularly in the western and eastern Aleutian Islands and the central and eastern Gulf of Alaska. For the western Gulf of Alaska, abundance estimated in the IPM were considerably lower than those of $N_{\min}$ and correction factor-based values, either due to this mismatch of estimated versus true population structure or a lack of mark-resight data informing vital rates in this region. In the central Aleutian Islands, abundance estimates across the different methods varied considerably, with even the pup- and non-pup correction factors yielding varying results, particularly from 2016-2020 where the proportion of pups may have been overestimated and that of non-pups underestimated. This region is the largest geographically with variable trends, especially among the two western RCAs compared to the two eastern; the location of the rookery where pups are marked for the vital rates study is in the western half of the region that had experienced consistent declines. The different abundance estimation methods also naturally yield differences in population growth rates. From 2009-2024, population growth rates were underestimated by agTrend modeled counts relative to those estimated in the IPM for regions where abundance is increasing. For the western Aleutian Islands where abundance is declining at the fastest rate, abundance trends were both over- (pup correction factor) and under-estimated ($N_{\min}$ and non-pup correction factor) relative to the estimates from the IPM.

The robust estimation of population structure and vital rates over a relatively longer study period (as estimated here, though somewhat weaker for regions west of Samalga Pass where branding is more recent) can provide average correction factors that account for temporal variability over shorter time periods. However, the validity of using these correction factors in perpetuity assumes that the population structure (and underlying vital rates and population dynamics) remain constant over time—an unlikely assumption in dynamic ecosystems and for populations whose abundance is not stable. Over this study period, $N_{\min}$ and correction factor-based estimators yielded comparable abundance trends, though should not be relied upon indefinitely (without a re-examination of vital rates and population structure) or for accurate and unbiased estimates of specific single points in time.

The reduction in funding for Steller sea lion mark-recapture studies has resulted in a decrease in the interval and quantity of new cohorts and a significant decrease in mark-resight effort. While the use of remote timelapse cameras at certain rookeries (e.g., Ugamak) and major haulouts in the Aleutian Islands regions has helped fill some gaps, sighting data of marked animals that do not return to these sites will be severely limited. In the western and central Aleutian Islands regions, a much smaller subsample of pups were marked per branding year (~50) relative to rookeries to the east (~100-200), already limiting effort. With continued declines at these sites, meeting the minimum threshold for

marked pups has been a challenge. Without adequate mark-recapture data, we cannot estimate robust demographic rates, which will therefore inhibit our ability to produce robust abundance estimates. Consequently, reliance on $N_{\min}$ for the minimum population abundance estimate serves as an adequate index for abundance but requires periodic assessment.

The hybrid count workflow utilized in 2024 proved efficient in that it simultaneously produced counts and new training data for the artificial intelligence model, but it was not more efficient for counting than the traditional workflow. Despite this, we believe that a fully automated count workflow with a high-accuracy detection and classification model and an image processing model will ultimately be more efficient than the traditional manual counting method. We initiated further work with Kitware, Inc. in late 2025 that should move us closer towards that goal. Integrating artificial intelligence into workflows generally involves a human-in-the-loop validation process or a statistical post-processing correction. Given the importance of Steller sea lion counts, we believe a human-in-the-loop approach will maintain our high level of data integrity and standards. Initially, more time may be required to validate an automated workflow. However, once model capabilities are quantified, manual review can be limited to sites that present challenges for the models, such as those with fog, shadows, sites with anomalously high counts compared to previous years, or sites with complex and/or repeated flight passes. These workflow improvements are especially important as environmental variability increases and annual survey effort becomes less certain, requiring more immediate dissemination of survey results.

Although it is not known why endangered western DPS Steller sea lions have not recovered, there have been several significant environmental events of note in recent years. Since 2013, the North Pacific Ocean has been warming at a faster rate than any other ocean basin (Hu et al. 2024). Since 2014, an extended warm period in the Aleutian Islands has been correlated with poor groundfish condition and shifts in fish community composition, including species consumed by Steller sea lions (Ortiz and Zador 2024). In fact, the dominant biomass of groundfish species in the Aleutian Islands shifted from Atka mackerel (*Pleurogrammus monopterygius*) and walleye pollock (*Gadus chalcogrammus*) to rockfish (*Sebastes* sp.), which are long-lived fish species (Ortiz and Zador 2023). At the same time, the frequency and duration of severe marine heatwave events in the northeast Pacific Ocean have increased (Oliver et al. 2018). In the wake of the 2014-2016 marine heatwave, impacts on Steller sea lions in the Gulf of Alaska were observed in count data beginning in 2017 (Hastings et al. 2023, Maniscalco 2023, McHuron et al. 2024, Suryan et al. 2021, Sweeney et al. 2017, Warlick et al. 2023). The effects were widespread, including declines in natality, pup production, and juvenile and adult survival, as well as an anomalous movement of approximately 1,200 adult females and juveniles from the eastern to the central Gulf of Alaska regions (Hastings et al. 2023, McHuron et al. 2024, Sweeney et al. 2017). Unsurprisingly, 2017 pup counts were 33.5% lower than the previous survey year in the eastern Gulf of Alaska, but pup counts were also 17.4% lower in the central Gulf of Alaska, despite the movement of adult females into this region (Sweeney et al. 2017). Pup production in Southeast Alaska region (eastern DPS) did not appear to be significantly impacted by this event, although non-pup counts did decline 6% (realized counts) from 2017 to 2019 (McHuron et al. 2024), which coincided with the beginning of another warming event in 2019 (Amaya et al. 2020). Scientists have since documented a marine heatwave that began in late 2025, during which the northeast Pacific Ocean reached the highest temperatures on record (Leising et al. 2026). Future count surveys will be critical to identifying potential effects of this recent and future events.

Steller sea lion winter diets at haulout sites in the eastern Gulf of Alaska were more diverse following the 2014-2016 marine heatwave event, likely due to reduced availability of preferred prey

(Maniscalco 2023). Steller sea lions are generalist predators whose prey vary by region (Sinclair and Zeppelin 2002, Sinclair et al. 2013) and season (i.e., summer and winter). Diets west of Samalga Pass were dominated by Atka mackerel while walleye pollock and Pacific cod (*Gadus macrocephalus*) were most dominant in the east (Fritz et al. 2019, Sinclair et al. 2013). Prey availability in winter is thought to be a key factor in energy budgets of sea lions (NMFS 2013) when the spatial and temporal variability of prey availability, along with diet diversity, are greater during this time (Fritz et al. 2019a). Winter diet is an especially important factor for pregnant females and females supporting a pup and/or juvenile (NMFS 2013). Females have smaller blubber stores than males and require readily accessible prey to sustain themselves, their fetus, and/or their dependent pup or juvenile (Boyd 2000, Malavaer 2002, Winship et al. 2002, Williams 2005). Decreased prey availability coupled with a shift in diet from energy-rich prey like capelin (*Mallotus villosus*) to lower quality benthic species (e.g., skates) could have negatively impacted Steller sea lion abundance. Prey availability may also be exacerbated by fisheries impacts as Steller sea lion prey species are likely to have lower overall abundance, less predictable spatial distributions, and altered demographics in fished versus unfished habitats (Hsieh et al. 2006, Barbeaux et al. 2013, Fritz et al. 2019a).

Other potentially influential environmental events such as harmful algal blooms and high pathogenicity avian influenza (H5Nx subtype) that could affect Steller sea lion population numbers are increasing in prevalence (Anderson et al. 2022, Ashley et al. 2026, Lefebvre et al. 2025). Saxitoxin (the most potent of the paralytic shellfish poisoning toxins) have been well documented in the Aleutian Islands and Gulf of Alaska, and in Steller sea lions in Alaska (Lefebvre et al. 2016). In 2024 there was a mortality event of northern fur seals (*Callorhinus ursinus*) in the Pribilof Islands, Alaska caused by a harmful algal bloom (Lefebvre et al. 2025). Additionally, avian influenza has been detected globally, including in Alaska (H5N1), which may be a risk factor for sea lions given marine mammals have experienced the highest mortality rates among other wild mammalian groups (Ashley et al. 2026).

Under NMFS mandate, MML previously conducted a suite of surveys as a holistic approach to monitor and recover the endangered western DPS of Steller sea lions. To complement annual counts, there were regular efforts to assess diet (e.g., scat sampling), foraging behavior and habitat use (e.g., biologging), health and condition (e.g., pup weights, blood sampling), and life history (e.g., branding, mark-resights, remote cameras). Over the decades, effort toward these crucial studies has waned, with many investigations nearly or wholly abandoned. Furthermore, diet research, health, and life history have been scaled back to the westernmost part of the range, relying solely on ship-based effort and geographically distant remote cameras. Consequently, crewed aircraft and ship-based surveys have become one of the only consistent data sources since the late 2010s; unfortunately, even this baseline was compromised in 2025, when the crewed aircraft survey was cancelled for the first time in decades due to insufficient funds.

It is important to consider how reduced count survey effort could impact our ability to successfully monitor this endangered population. Instead of alternating between geographical areas annually (Gulf of Alaska versus Aleutian Islands), crewed aircraft surveys used to alternate between pup (three weeks long) and non-pup (four weeks long, early June to early July) surveys (Fritz et al. 2013). This schedule required up to 90 flight hours and resulted in annual range-wide surveys. In 2012, MML streamlined Steller sea lion surveys by dividing the Alaska range geographically, narrowing the timing to the peak pup window (3 weeks), and reducing flight time to 70 hours, resulting in range-wide surveys every two years (Fritz et al. 2016). Survey challenges such as inclement weather, airfield availability, and aircraft maintenance can, and have, limited data collection within the peak pup window. Further reductions in budgeted days and/or flight hours would likely not allow for adequate data collection. For

example, if crewed aircraft surveys were reduced to every other year, range-wide coverage would be achieved over three years, with four-year gaps between surveys of the same geographic area. The reduction in data inputs for agTrend will inevitably inflate uncertainty in modeled counts, undermining the ability to confidently interpret abundance trends with certainty. This would be especially detrimental for regions like the central Aleutian Islands—the largest region geographically and by number of sites—where limited survey coverage already contributes to high uncertainty over the last decade. This schedule would also severely limit our ability to detect effects of environmental anomalies, disease outbreaks, and other harmful events, especially during non-survey years.

With persistent population declines in the western Aleutian Islands, lack of growth in the central Aleutian Islands, and a downward shift in non-pup trends in the western and eastern Gulf of Alaska regions (and combined Gulf of Alaska), it is evident the endangered western DPS of Steller sea lions is far from recovery and subsequent delisting or downlisting remains stalled. Our results indicate the need for consistent, range-wide monitoring to detect regional variability. This is especially important given the increasing frequency and magnitude of marine heatwaves, which have demonstrated effects on natality, pup production, and non-pup survival. Continued annual count surveys, together with ongoing improvements to data workflows and abundance modeling, will be essential for producing timely and reliable trend estimates to manage the recovery of the endangered western DPS Steller sea lion in Alaska.

ACKNOWLEDGMENTS

We acknowledge that these surveys were conducted throughout the southern coast of Alaska, on the traditional lands and waters of the Unanga̋, Sugpiaq, Yup'ik, Eyak, Tlinkit, Haida, and Tsimshian Peoples (Krauss et al. 2011). Our offices are in Seattle, WA, the traditional lands and waters of Duwamish People. These Peoples have been here since time immemorial and are still here.

Many have contributed to these surveys and efforts over the years (listed in chronological order). We thank the many skilled pilots, mechanics, and all from NOAA's Aircraft Operations Center for conducting the Twin Otter surveys: S. Coker, A. Johnston, S. Campbell, J. Clarke, R. Pauley, D. Keith, F. Centinello, L. Norman, C. Maginn, K. Consentino, C. Licitra, C. O'Toole, M. Carroll, T. Smith, K. Johnson, M. Anderson, B. Schoumaker, W. Carrier, and L. Feeley. We are grateful to Captains B. Pepper and J. Faris and crew of the U.S. Fish and Wildlife Service (USFWS) R/V *Tiġlâx* (pronounced TEKH-lah; Unangam Tunuu or 'Aleut' for "eagle") for their continued support of our Aleutian Islands ship-based survey. Each survey presents a unique set of logistical, mechanical, and weather-related challenges, and because of their dedication, we were able to complete as much as possible. Thanks to USFWS for lodging and transportation in Adak. Thank you to the NOAA Uncrewed Aircraft System Division for their contribution to our continued successful implementation of UAS. MML also greatly appreciates the commitments of T. Eguchi, M. Lynn, J. Gilpatrick and W. Perryman (currently and formerly Southwest Fisheries Science Center; SWFSC), and D. LeRoi (Aerial Imaging Solutions, LLC) for their assistance in making aerial surveys possible for decades. We thank the Bureau of Land Management for being our 'eye in the sky' during our aircraft flights. We also thank the Federal Aviation Administration for ground support in Anchorage. We thank the many partners and fellow Steller sea lion researchers who collected and shared counts for this report.

Many people affiliated with NOAA (staff, affiliates, volunteers, etc.) were integral to surveys from 2016 to 2025 (in chronological order): L. Fritz (formerly MML), M. Lynn (formerly SWFSC), J. Cutler (formerly MML), K. Luxa (MML), B. Hou (MML), and B. Birkemeier (CICOES/MML) served as scientific crew on the crewed aircraft surveys. D. LeRoi and B. Hou led camera mount and software updates. K. Sweeney (MML), V. Helker (formerly MML), B. Delean (formerly MML), R. Towell (formerly MML) and M. McCormley (CICOES/MML) conducted the UAS surveys, and T. Gelatt (MML), B. Fadely (MML), K. Sweeney, R. Towell, M. McCormley, and others conducted visual counts during the ship-based surveys. L. Fritz, K. Sweeney, J. Cutler, and B. Birkemeier processed and counted aerial imagery. K. Sweeney, B. Birkemeier, A. Warlick (MML), and K. Luxa wrote this report. T. Gelatt (MML), B. Fadely, M. Lander (MML), and K. Raum-Suryan (Alaska Regional Office, NOAA Fisheries) provided reviews.

The use of company or product names does not imply that NOAA endorses, recommends, or favors them. Research was conducted under authority of U.S. Marine Mammal Protection Act/Endangered Species Act Permits 18528, 22289, and 27499 and NMFS IACUC Protocol A/NW2010-04, A/NW2016-3, NWAK-18-03, and NWAK 24-02.

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Surveys of Steller Sea Lions in Alaska, June-July 2016-2025
Tables and Figures

TABLES

Table 1. --Counts of live Steller sea lion non-pups and pups in Alaska surveyed by the Marine Mammal Laboratory listed by region collected between 2016-2019 (Table 1a), 2021-2024 (Table 1b), and 2025 (Table 1c) for rookery (R=1) and haulout sites in rookery cluster areas (RCA) 1-10.

Table 1a			2016			2017			2018			2019		
Site by Region	RCA	R	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup
Western Aleutian Islands Region - Western Distinct Population Segment														
AGATTU/CAPE SABAK	1	1	6/30	116	42	6/26	141	54	6/26	114	47			
AGATTU/GILLON POINT	1	1	6/30	177	100				6/26	113	80			
ALOID	1		6/28	66	14	6/25	78	8	6/27	58	7			
ATTU/CAPE WRANGELL	1	1	6/29	132	42				6/24	182	36			
ATTU/CHICHAGOF POINT	1		6/28	68	0	6/25	15		6/25	57	0			
ATTU/CHIRIKOF POINT	1		6/28	0	0									
ATTU/KRESTA POINT	1		6/29	0	0				6/23	0				
ATTU/MASSACRE BAY	1													
BULDIR/EAST CAPE	1	1	6/27	21	0									
BULDIR/NW ROCKS	1		6/27	7	1	6/24	14							
BULDIR/ROOKERY	1	1	6/27	0	0									
DAN'S ROCKS	1													
INGENSTREM ROCKS	1		6/27	0	0									
NIZKI	1		6/28	0	0				6/27	0				
SHEMYA	1		6/28	0	0	6/25	0		6/27	8				
Western Aleutian Islands Region Total				587	199		248	62		532	170		0	0
Central Aleutian Islands Region - Western Distinct Population Segment														
AMCHITKA/BIRD	2		7/1	8	0				6/29	7				
AMCHITKA/CAPE IVAKIN	2		7/2	0	0									

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Table 1a			2016			2017			2018			2019		
Site by Region	RCA	R	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup
Central Aleutian Islands Region - Western Distinct Population Segment (Cont.)														
AMCHITKA/CHITKA POINT	2													
AMCHITKA/COLUMN ROCK	2	1	7/1	64	35				6/29	34	18			
AMCHITKA/EAST CAPE	2		7/2	112	13				6/30	100	16			
AMCHITKA/OMEGA POINT	2		7/2	0	0									
AMCHITKA/ST. MAKARIUS	2		7/2	0	0									
AYUGADAK	2	1	6/25	103	40				6/29	110	52			
HAWADAX (RAT)	2		6/25	0	0									
KISKA/CAPE ST STEPHEN	2	1	6/26	156	40	6/28	75	26	6/28	95	44			
KISKA/GERTRUDE-BUKHTI	2		6/26	10	0									
KISKA/LIEF COVE	2	1	6/26	150	78				6/28	96	50			
KISKA/PILLAR ROCK	2								6/22	0				
KISKA/SIRIUS POINT	2								6/22	3				
KISKA/SOBAKA-VEGA	2		6/26	24	0									
KISKA/SOUTH HEAD	2		6/25	0	0									
KISKA/WITCHCRAFT POINT	2								6/28	0				
KISKA/WOLF POINT	2								6/22	14				
LITTLE SITKIN	2		6/25	0	0									
SEA LION ROCK (KISKA)	2		6/25	0	0									
SEGULA/CHUGUL POINT	2		6/25	0	0				6/22	0				
SEGULA/GULA POINT	2		6/25	0	0									
SEMISOPOCHNOI/PETREL	2		6/24	17	0									
SEMISOPOCHNOI/POCHNOI	2		6/24	36	3									
SEMISOPOCHNOI/SUGARLOAF HEAD	2													
SEMISOPOCHNOI/SW KNOB	2		6/24	0	0									
SEMISOPOCHNOI/TUMAN POINT	2		6/24	0	0									
TANADAK (KISKA)	2		6/25	0	0									

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Central Aleutian Islands Region - Western Distinct Population Segment (Cont.)														
TWIN ROCKS (KISKA)	2		6/25	2	0									
AMATIGNAK/KNOB POINT	3					6/29	0							
AMATIGNAK/NITROF POINT	3					6/29	14							
AMATIGNAK/WEST	3					6/29	0							
BOBROF	3		7/9	0					7/5	70	0			
GARELOI	3		7/9	0										
GRAMP ROCK	3	1				7/1	371	176						
ILAK	3					6/30	24							
KANAGA/CAPE CHUNU	3													
KANAGA/CAPE MIGA	3		7/7	0					7/5	0				
KANAGA/N CAPE	3		7/7	0					7/3	0				
KANAGA/SHIP ROCK	3	1	7/9	270	190				7/3	327	225			
KAVALGA	3					7/1	5							
OGLIUGA	3					7/1	0	0						
SKAGUL/S. POINT	3					7/1	53	1						
TAG	3	1				7/1	176	73	7/3	162	68			
TANAGA/BUMPY POINT	3		7/7	14	0				7/5	8				
TANAGA/CAPE SASMIK	3													
TANAGA/CAPE SUDAK	3		7/9	99	0									
UGIDAK	3					7/1	10							
ULAK/HASGOX POINT	3	1				6/29	380	150	7/3	292	116			
UNALGA+DINKUM ROCKS	3													
ADAK/ARGONNE POINT	4		7/7	0					7/3	0				
ADAK/CAPE ADAGDAK	4													
ADAK/CAPE KAGIGIKAK	4													
ADAK/CAPE MOFFET	4		7/7	13	0				7/3	0				

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Central Aleutian Islands Region - Western Distinct Population Segment (Cont.)														
ADAK/CAPE YAKAK	4													
ADAK/CRONE ISLAND	4													
ADAK/HEAD ROCK	4		7/3	0					7/1	0				
ADAK/LAKE POINT	4	1												
AMTAGIS	4		7/4	0										
ANAGAKSIK	4		7/4	2	0				7/10	2				
ATKA/CAPE KOROVIN	4		7/4	0					7/5	0				
ATKA/NORTH CAPE	4		7/4	152	0				7/5	185	0			
CHUGUL	4		7/4	30	2				7/10	0				
FENIMORE	4		7/4	117	0				7/10	95	0			
GREAT SITKIN	4		7/4	0					7/3	0				
IGITKIN/SW POINT	4		7/4	0					7/10	0				
IKIGINAK	4		7/4	9	0				7/10	9	0			
KAGALASKA	4		7/4	1					7/1	0				
KAGALASKA/RAGGED POINT	4								7/10	12	0			
KASATOCHI/NORTH POINT	4	1	7/4	602	432				7/5	653	460			
KONIUII/NORTH POINT	4		7/4	0					7/3	0				
LITTLE TANAGA STRAIT	4		7/4	91	0				7/10	16				
OGLODAK	4		7/4	45	0				7/10	128	1			
SAGCHUDAK	4		7/4	0										
SALT	4		7/4	0					7/3	7				
SILAK	4		7/4	24	1				7/10	80	0			
TAGALAK	4		7/4	327	11				7/10	393	20			
AGLIGADAK	5		7/4	36	0									
AMLIA/CAPE MISTY	5													
AMLIA/EAST CAPE	5	1	7/4	420	96				7/10	616	118			

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Site by Region	RCA	R	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup
Central Aleutian Islands Region - Western Distinct Population Segment (Cont.)														
AMLIA/SVIECH. HARBOR	5		7/4	162	39									
AMUKTA+ROCKS	5		7/11	38	0									
CARLISLE	5								7/1	21	0			
CHAGULAK	5								7/1	30	0			
HERBERT	5		7/3	130	0									
SAGIGIK	5		7/4	26	0									
SEGUAM/FINCH POINT	5		7/4	276	11				7/10	109	27			
SEGUAM/LAVA COVE	5		7/4	0					7/10	42	0			
SEGUAM/LAVA POINT	5		7/4	0					7/10	1				
SEGUAM/MOUNDHILL POINT	5		7/4	52	0				7/10	72	0			
SEGUAM/SADDLERIDGE	5	1	7/4	928	568				7/10	639	424			
SEGUAM/SW RIP	5		7/4	13	0				7/10	54	0			
SEGUAM/TURF POINT	5		7/4	55	0				7/10	5				
SEGUAM/WHARF POINT	5		7/4	0					7/10	0				
TANADAK (AMLIA)	5		7/4	31	0									
YUNASKA	5	1	7/3	358	159									
CHUGINADAK	6		7/3	74	2									
KAGAMIL	6													
ULIAGA	6		7/3	178	0									
Central Aleutian Islands Region Total				5,255	1,720		1,108	426		4,487	1,639		0	0
Eastern Aleutian Islands Region - Western Distinct Population Segment														
ADUGAK	6	1	7/3	584	237				7/1	518	288			
AKUN/AKUN BAY	6		6/27	0					6/28	0				
AKUN/AKUN HEAD	6		6/27	0					6/23	0				
AKUN/BILLINGS HEAD	6	1	6/27	755	136				6/27	790	162			

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Site by Region	RCA	R	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup
Eastern Aleutian Islands Region - Western Distinct Population Segment (Cont.)														
AKUN/JACKASS POINT	6		7/1	0					6/28	0				
AKUTAN/BATTERY POINT	6		6/23	1					6/27	0				
AKUTAN/CAPE MORGAN	6	1	7/6	900	730				6/27	1,082	744			
AKUTAN/NORTH HEAD	6		6/27	0					6/23	0				
AKUTAN/REEF-LAVA	6		6/27	218	13				6/23	344	18			
AMAK+ROCKS	6		6/27	1,120	2				6/27	831	3			
AVATANAK/NE	6		7/1	15	0				6/28	2				
AVATANAK/S	6		7/1	1	0				6/28	0				
AVATANAK/SE	6		7/1	53	0									
BABY	6		6/23	0					6/23	1				
BASALT ROCK	6		7/1	0					6/28	0				
BOGOSLOF/FIRE ISLAND	6	1	7/1	308	328				6/30	366	342			
EGG	6		6/23	0					6/23	5				
EGG/SE TIP	6		6/23	7					6/23	16	0			
EGG/WEST	6		6/23	0					6/23	0				
EMERALD	6		6/23	0					6/28	0				
INNER SIGNAL	6		6/23	12	0				6/23	112	0			
OGCHUL	6	1	6/23	220	130				6/30	191	87			
OLD MAN ROCKS	6		6/23	124	0				6/23	27	0			
OUTER SIGNAL	6		6/23	32	0				6/23	20	0			
POLIVNOI ROCK	6		6/23	110	0				6/28	61	0			
ROOTOK/EAST	6		7/1	33	0				6/28	23	0			
ROOTOK/NORTH	6		7/1	12	0				6/28	6	0			
SAMALGA	6													
SEA LION ROCK (AMAK)	6	1	6/27	764	243				6/27	584	286			
TANGINAK	6		7/1	32	0				6/28	62	0			

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Site by Region	RCA	R	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup
Eastern Aleutian Islands Region - Western Distinct Population Segment (Cont.)														
THE PILLARS	6		6/23	6	0				6/30	12	0			
UMNAK/AGULIUK POINT	6		7/1	0					6/30	2				
UMNAK/CAPE ASLIK	6		7/1	138	3				6/30	200	1			
UMNAK/CAPE CHAGAK	6		7/1	1					6/30	0				
UMNAK/CAPE IDAK	6		7/1	0					6/30	0				
UMNAK/CAPE UDAK	6													
UMNAK/REINDEER POINT	6		7/1	0					6/30	0				
UNALASKA/BISHOP POINT	6		7/1	140	0				6/27	336	2			
UNALASKA/BRUNDAGE HEAD	6		6/23	0					6/23	0				
UNALASKA/CAPE IZIGAN	6	1	6/23	292	50				6/28	212	41			
UNALASKA/CAPE SEDANKA	6		6/23	0					6/23	0				
UNALASKA/CAPE STARICHKOF	6		7/1	0					6/30	27	0			
UNALASKA/CAPE WISLOW	6		6/23	0					6/23	0				
UNALASKA/KORIGA POINT	6													
UNALASKA/KOVRIZHKA	6		7/1	0					6/30	0				
UNALASKA/MAKUSHIN BAY	6		7/1	142	0				6/30	111	0			
UNALASKA/POINT KADIN	6								6/27	0				
UNALASKA/PRIEST ROCK	6		6/23	7	0				6/23	10	0			
UNALASKA/SPRAY CAPE	6		7/1	68	0				6/30	68	0			
UNALASKA/WHALEBONE CAPE	6		6/23	2					6/28	92	0			
UNIMAK/CAPE SARICHEF	6		7/1	26	0				6/27	565	0			
UNIMAK/CAVE POINT	6		6/27	0					6/27	0				
UNIMAK/OKSENOF POINT	6		6/27	358	0				6/27	432	1			
UNIMAK/SCOTCH CAP	6		6/27	0					6/28	0				
UNIMAK/SENNETT POINT	6		6/27	0					6/27	98	0			
VSEVIDOF	6		6/23	118	1				6/30	107	1			

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Site by Region	RCA	R	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup
Eastern Aleutian Islands Region - Western Distinct Population Segment (Cont.)														
AIKTAK	7	1	7/1	15	4				7/11	19	0			
KALIGAGAN	7		6/27	2					6/27	0				
ROCK	7		6/24	0										
TIGALDA/KELP BAY	7													
TIGALDA/ROCKS NE	7		7/1	124	0				6/27	250	1			
TIGALDA/SOUTH SIDE	7		7/1	50	0				6/28	44	0			
UGAMAK/EAST	7	1												
UGAMAK/NORTH	7	1	7/1	478	509				7/11	548	496			
UGAMAK/ROUND	7	1	7/1	194	138				7/11	220	135			
UGAMAK/SW	7	1	7/1	1					7/11	0				
UGAMAK/UGAMAK BAY	7	1	7/1	293	234				7/11	200	204			
UNIMAK/CAPE LAZAREF	7		6/24	201	0									
UNIMAK/CAPE LUTKE	7		6/24	0										
Bering Sea (Eastern Aleutian Islands Region)														
CAPE NEWENHAM	6													
OTTER ISLAND	6													
ROUND (WALRUS IS)	6													
THE TWINS	6					7/3	0							
SUMMIT	6					7/3	0							
WALRUS	6	1												
Eastern Aleutian Islands Region Total				7,957	2,758		0	0		8,594	2,812		0	0
Western Gulf of Alaska Region - Western Distinct Population Segment														
ATKINS	7	1	6/24	851	347	7/5	791	333				7/1	827	380
BIG KONIUJI	7		6/24	0		7/5	0					7/1	0	
BIRD	7		6/24	153	3									

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Site by Region	RCA	R	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup
Western Gulf of Alaska Region - Western Distinct Population Segment (Cont.)														
BIRD (SHUMAGINS)	7		6/24	110	0	7/5	40	0				7/4	7	0
CASTLE ROCK	7		6/24	1								7/1	71	0
CATON	7		6/24	408	2							7/1	372	3
CHERNABURA	7	1	6/24	1,047	338	7/5	1,188	348				7/4	1,000	336
CHERNI	7		6/24	0								7/1	0	
CLUBBING ROCKS NORTH	7	1	6/24	522	329				7/11	522	290	7/1	565	324
CLUBBING ROCKS SOUTH	7	1	6/24	714	497				7/11	707	510	7/1	841	583
EGG (SAND POINT)	7		6/24	0		7/5	6					7/1	38	0
HAGUE ROCK	7		6/24	0								7/1	0	
HUNT	7		6/24	1								7/1	0	
JUDE	7	1	6/24	684	344	7/5	681	358				7/1	762	406
KUPREANOF POINT	7		6/24	296	0	7/5	162	0				7/1	190	0
NAGAI/MOUNTAIN POINT	7		6/24	128	0	7/5	229	0						
NAGAI/RK W OF CAPE WEDGE	7		6/24	0		7/5	0					7/1	1	
OLGA ROCKS NE	7		6/24	44	0							7/1	70	0
OLGA ROCKS SW	7		6/24	171	6							7/1	246	0
OMEGA	7		6/24	0								7/1	0	
PAUL	7		6/24	0		7/5	0					7/1	0	
PINNACLE ROCK	7	1	6/24	1,150	735				7/11	1,126	667	7/1	1,286	803
SANAK	7		6/24	0								7/1	0	
SANDMAN REEF ROCK	7													
SEA LION ROCKS (SHUMAGINS)	7		6/24	110	0	7/5	68	0				7/1	76	1
SIMEONOF	7		6/24	2		7/5	9	0				7/1	26	0
SOUTH ROCKS	7	1	6/24	394	58				7/11	664	49	7/1	604	82
SOZAVARIKA	7		6/24	0								7/1	0	
SUSHILNOI ROCKS	7	1	6/24	456	58				7/11	444	43	7/1	406	43

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Site by Region	RCA	R	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup
Western Gulf of Alaska Region - Western Distinct Population Segment (Cont.)														
THE HAYSTACKS	7		6/24	56	0	7/5	30	1				7/1	44	0
THE WHALEBACK	7	1	6/24	116	64	7/5	122	68				7/1	116	79
TWINS	7		6/24	0		7/5	0					7/3	0	
UMGA	7		6/24	0										
UNGA/ACHEREDIN POINT	7		6/24	126	0	7/5	146	0				7/1	128	0
UNGA/CAPE UNGA	7		6/24	0		7/5	0					7/1	0	
WOSNESENSKI	7		6/24	124	0							7/1	105	0
ATKULIK	8					7/5	0					7/3	0	
CHANKLIUT	8					7/5	0					7/1	0	
KAK	8					7/5	236	0				7/3	93	0
LIGHTHOUSE ROCKS	8	1				7/5	236	15				7/1	200	15
MITROFANIA	8		6/24	228	0	7/5	172	0				7/3	256	0
SEAL CAPE	8					7/5	0					7/1	1	
SPITZ	8		6/24	0		7/5	4	0				7/1	47	0
Western Gulf of Alaska Region Total				7,892	2,781		4,120	1,123		3,463	1,559		8,378	3,055
Central Gulf of Alaska Region - Western Distinct Population Segment														
AGHIYUK	8					7/5	100	0				7/1	110	0
AIUGNAK COLUMNS	8					7/5	6					7/3	11	0
CAPE GULL	8					7/3	152	0				6/28	42	0
CAPE KULIAK	8					7/3	36	0				6/28	137	0
CAPE UGYAK	8					7/3	0					6/28	0	
CHIRIKOF	8	1				7/5	594	193				7/1	438	210
CHOWIET	8	1				7/5	1,154	562				7/1	1,059	650
KILOKAK ROCKS	8					7/5	299	0				7/3	142	0
KODIAK/CAPE ALITAK	8					7/4	0					6/29	0	

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Site by Region	RCA	R	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup
Central Gulf of Alaska Region - Western Distinct Population Segment (Cont.)														
KODIAK/CAPE IKOLIK	8					7/4	47	0				6/29	26	0
KODIAK/CAPE UYAK	8					7/4	0					6/29	0	
KODIAK/STURGEON HEAD	8					7/4	0					6/29	0	
KODIAK/SUNDSTROM	8					7/4	0					6/29	0	
KODIAK/TOMBSTONE ROCKS	8					7/4	0					6/29	0	
NAGAI ROCKS	8					7/5	226	6				7/1	394	11
PUALE BAY	8					7/3	292	0				7/3	169	0
SUKLIK	8											7/1	92	0
SUTWIK	8					7/5	262	25	7/11	456	24	7/3	227	30
TAKLI	8					7/3	1	0				6/28	0	
UGAIUSHAK	8					7/5	0					7/3	0	
AFOGNAK/TONKI CAPE	9					7/4	0					6/28	0	
CAPE DOUGLAS	9					7/3	0					6/28	0	
CAPE NUKSHAK	9					7/3	0					6/28	0	
KODIAK/BIRD ROCK	9											6/29	0	
KODIAK/CAPE BARNABAS	9					7/4	152	0				6/29	184	0
KODIAK/CAPE CHINIAK	9					7/4	194	0				6/28	234	0
KODIAK/CAPE KULIUK	9					7/4	0					6/29	0	
KODIAK/CAPE PARAMANOF	9					7/4	0					6/29	0	
KODIAK/CAPE UGAT	9					7/4	392	0				6/29	244	1
KODIAK/GULL POINT	9					7/4	50	0				6/29	30	0
KODIAK/IZHUT BAY	9													
KODIAK/MALINA POINT	9					7/4	0					6/29	0	
KODIAK/STEEP CAPE	9					7/4	57	0				6/29	42	0
LATAX ROCKS	9					7/4	366	12	7/11	262	11	6/29	232	16
LONG ISLAND	9					7/4	24	0				6/28	99	0

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Site by Region	RCA	R	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup
Central Gulf of Alaska Region - Western Distinct Population Segment (Cont.)														
MARMOT	9	1				7/4	1,319	500				6/28	846	628
NOISY	9					7/4	0					6/29	0	
SEA LION ROCKS (MARMOT)	9					7/4	50	0				6/28	3	0
SEA OTTER	9	1				7/4	204	1				6/28	223	0
SHAKUN ROCKS	9					7/3	214	3				6/28	202	10
SHAW	9					7/3	0					6/28	0	
SITKINAK/CAPE SITKINAK	9					7/4	244	0				6/29	223	0
SUD	9					7/3	0					6/26	0	
SUGARLOAF	9	1				7/3	980	682				6/27	927	852
TWOHEADED	9	1				7/4	562	54				6/29	460	45
UGAK	9					7/4	0					6/29	0	
USHAGAT/NW	9					7/3	0					6/27	0	
USHAGAT/ROCKS SOUTH	9					7/3	56	0				6/26	68	0
USHAGAT/SW	9	1				7/3	417	97				6/27	152	106
WEST AMATULI	9					7/3	0					6/26	0	
EAST CHUGACH	10					7/2	0					6/26	0	
ELIZABETH/CAPE ELIZABETH	10					7/2	0					6/26	0	
FLAT	10					7/2	0					6/26	8	0
GORE POINT	10					7/2	0					6/26	3	
NAGAHUT ROCKS	10					7/2	17	0				6/27	63	0
NUKA POINT	10					7/2	0					6/26	0	
OUTER (PYE)	10	1				7/2	346	100				6/26	182	130
PERL	10					7/2	140	0				6/26	210	0
PERL ROCKS	10					7/2	0					6/27	1	
Central Gulf of Alaska Region Total				0	0		8,953	2,235		718	35		7,483	2,689

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Table 1a			2016			2017			2018			2019		
Site by Region	RCA	R	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup
Eastern Gulf of Alaska Region - Western Distinct Population Segment														
AIALIK CAPE	10					7/2	128	0				6/26	110	0
CAPE FAIRFIELD	10					7/2	26	0				6/27	22	0
CAPE HINCHINBROOK	10					6/29	1					6/26	74	0
CAPE JUNKEN	10					7/2	0					6/27	0	
CAPE PUGET	10					7/2	11	0				6/27	17	0
CAPE RESURRECTION	10					7/2	108	0				6/27	64	0
CAPE ST. ELIAS	10	1				6/29	1,258	20				6/25	562	47
CHISWELL ISLANDS	10	1				7/2	206	79				6/27	271	78
DANGER	10					7/2	7					6/27	1	
DUTCH GROUP	10					7/2	124	0				6/26	9	0
FOX	10					6/29	1					6/25	158	0
GLACIER	10	1				7/2	1,228	5				6/26	821	20
GRANITE CAPE	10					7/2	0					6/26	90	0
HOOK POINT	10					6/29	0					6/26	70	0
MIDDLETON	10											6/27	26	0
PERRY	10					7/2	0					6/26	0	
PILOT ROCK	10					7/2	84	0				6/26	0	
PLEIADES	10					7/2	0					6/26	0	
POINT ELEANOR	10					7/2	0					6/26	0	
POINT ELRINGTON	10					7/2	138	0				6/27	132	0
POINT LaTOUCHE	10					7/2	0					6/27	0	
PROCESSION ROCKS	10					7/2	148	4				6/26	102	1
RABBIT	10					7/2	0					6/26	2	
RUGGED	10					7/2	34	0				6/27	6	
SEAL ROCKS	10	1				6/29	747	504				6/26	957	697
SEAL ROCKS (KENAI)	10					7/2	110	0				6/27	86	0

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Table 1a			2016			2017			2018			2019		
Site by Region	RCA	R	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup
Eastern Gulf of Alaska Region - Western Distinct Population Segment (Cont.)														
STEEP POINT	10					7/2	148	0				6/27	70	1
THE NEEDLE	10					7/2	289	5				6/26	100	17
VALDEZ ARM	10													
WOODED (FISH)	10	1				6/29	468	178				6/26	533	293
Eastern Gulf of Alaska Region Total				0	0		5,264	795		0	0		4,283	1,154
Western DPS (U.S.) Total														
				21,691	7,458		19,693	4,641		17,794	6,215		20,144	6,898
Southeast Alaska Region - Eastern Distinct Population Segment														
AKWE	11					6/29	0							
ALSEK	11					6/29	0							
BENJAMIN	11					6/28	331	0						
BERNERS BAY	11					6/28	0							
BIALI ROCK	11	1				6/27	934	202				6/24	1,161	223
BLACK ROCK	11					6/28	0							
CAPE ADDINGTON	11					6/27	778	1				6/24	755	3
CAPE BARTOLOME	11					6/27	1							
CAPE BINGHAM	11					6/28	46	0						
CAPE CROSS	11					6/28	172	0				6/24	0	
CAPE FAIRWEATHER	11					6/29	0							
CAPE OMMANEY	11					6/27	289	0				6/24	164	2
CASE (TLINGIT) POINT	11					6/28	0							
CIRCLE POINT	11					6/28	0							
CORONATION	11					6/27	92	1						
DOROTHY	11					6/28	0							
EASTERLY	11					6/27	160	1						

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Table 1a			2016			2017			2018			2019		
Site by Region	RCA	R	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup
Southeast Alaska Region - Eastern Distinct Population Segment (Cont.)														
ELDRED ROCK	11					6/28	0							
EMMONS	11					6/28	0							
ETOLIN	11					6/27	0							
FALSE POINT PYBUS	11					6/28	0							
FORRESTER/C HORN RK	11	1				6/27	413	378				6/24	533	423
FORRESTER/FORRESTER ISLAND	11	1				6/27	45	0				6/24	27	0
FORRESTER/LOWRIE	11	1				6/27	1,836	1,628				6/24	2,192	1,685
FORRESTER/NORTH RK	11	1				6/27	974	1,101				6/24	1,232	1,004
FORRESTER/SEA LION RK	11	1				6/27	604	556				6/24	700	541
FUNTER BAY	11					6/28	0							
GAFF ROCK	11					6/28	0							
GLOOMY KNOB	11					6/28	0							
GRAN (LEDGE) POINT	11					6/28	381	1						
GRAVES ROCK	11	1				6/28	1,844	474				6/24	1,796	684
GRINDALL	11					6/27	190	0						
HAENKE	11					6/29	0							
HARBOR POINT	11					6/29	218	0				6/24	384	0
HAZY	11	1				6/27	2,033	1,750				6/24	1,976	1,432
HORN CLIFF	11													
INIAN	11					6/28	243	0						
JACOB ROCK	11					6/27	333	2				6/24	235	0
KAIUCHALI (BIORKA)	11					6/27	10	0						
LARCH BAY	11					6/27	0							
LIBBY ISLAND	11													
LISENOI	11					6/27	0							
LITTLE ISLAND	11					6/28	2							

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Table 1a			2016			2017			2018			2019		
Site by Region	RCA	R	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup
Southeast Alaska Region - Eastern Distinct Population Segment (Cont.)														
MET POINT	11					6/28	1							
MIDWAY ISLANDS	11													
MIST	11					6/28	0							
NOSE POINT	11					6/27	0							
PATTERSON POINT	11													
PINTA ROCKS	11					6/28	0							
POINT CAROLUS	11					6/28	0							
POINT ISLET (POINT ROCK)	11					6/27	0							
POINT LEAGUE (STEVENS PASSAGE)	11					6/28	0							
POINT LULL	11					6/28	0							
POINT MARSDEN	11					6/28	0							
POINT MARSH	11					6/27	4	0						
ROCKY ISLAND	11					6/28	125	0						
ROUND ROCK	11					6/28	0							
SAIL	11					6/28	4	0						
SAKIE POINT	11					6/27	0							
SEA LION ISLANDS	11					6/28	524	2				6/24	728	7
SEA LION ROCK (PUFFIN BAY)	11					6/27	108	0				6/24	217	0
SITKAGI BLUFFS	11					6/29	0							
SITUK	11					6/29	0							
SOUTH MARBLE	11					6/28	910	6				6/25	1,340	16
ST. LAZARIA	11					6/28	0							
SUKOI ISLETS	11													
SUNSET	11					6/28	1,140	5				6/25	633	12
SUNSET POINT	11					6/28	0							
TARR INLET	11					6/28	0							

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Table 1a			2016			2017			2018			2019		
Site by Region	RCA	R	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup
Southeast Alaska Region - Eastern Distinct Population Segment (Cont.)														
TENAKEE CANNERY POINT	11					6/28	0							
THE BROTHERS/SW	11					6/28	258	0				6/25	509	0
THE BROTHERS/W+E	11					6/28	0					6/25	0	
THE SISTERS	11					6/28	0							
TIMBERED	11					6/27	516	9				6/24	496	10
TURNABOUT	11					6/28	0							
VENISA	11					6/28	0							
WALTER (PORT HOUGHTON)	11					6/28	0							
WEST ROCK	11					6/27	702	1				6/24	1,099	2
WHITE SISTERS	11	1				6/28	1,678	981				6/24	1,564	916
WOLF ROCK	11					6/27	422	0				6/24	477	3
YASHA	11					6/28	442	11				6/25	609	21
Southeast Alaska Total				0	0		18,763	7,110		0	0		18,827	6,984

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Table 1b			2021			2022			2023			2024		
Site by Region	RCA	R	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup
Western Aleutian Islands Region - Western Distinct Population Segment														
AGATTU/CAPE SABAK	1	1				6/27	88	41	6/25	80	19	6/28	99	28
AGATTU/GILLON POINT	1	1				6/26	88	63	6/25	107	77	6/28	83	60
ALOID	1					6/24	36	2	6/23	38	2	6/27	32	4
ATTU/CAPE WRANGELL	1	1				6/25	62	34	6/24	103	28	6/26	104	34
ATTU/CHICHAGOF POINT	1					6/24	51	0	6/24	16	0	6/27	12	0
ATTU/CHIRIKOF POINT	1					6/24	19	0	6/23	22	0	6/27	7	0
ATTU/KRESTA POINT	1													
ATTU/MASSACRE BAY	1													
BULDIR/EAST CAPE	1	1												
BULDIR/NW ROCKS	1					6/28	1							
BULDIR/ROOKERY	1	1												
DAN'S ROCKS	1													
INGENSTREM ROCKS	1													
NIZKI	1													
SHEMYA	1													
Western Aleutian Islands Region Total				0	0		345	140		366	126		337	126
Central Aleutian Islands Region - Western Distinct Population Segment														
AMCHITKA/BIRD	2	0												
AMCHITKA/CAPE IVAKIN	2													
AMCHITKA/CHITKA POINT	2													
AMCHITKA/COLUMN ROCK	2	1				7/2	50	12	6/27	40	24			
AMCHITKA/EAST CAPE	2					7/1	64	15	6/27	76	23	6/30	89	22
AMCHITKA/OMEGA POINT	2													
AMCHITKA/ST. MAKARIUS	2								6/27	0	0			

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Table 1b			2021			2022			2023			2024		
Site by Region	RCA	R	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup
Central Aleutian Islands Region - Western Distinct Population Segment (Cont.)														
AYUGADAK	2	1				6/30	132	46				6/30	96	38
HAWADAX (RAT)	2								6/26	10				
KISKA/CAPE ST STEPHEN	2	1				6/29	97	49	6/26	100	52	6/30	33	22
KISKA/GERTRUDE-BUKHTI	2					6/30	16	2						
KISKA/LIEF COVE	2	1				6/29	48	13	6/26	35	14	6/29	53	24
KISKA/PILLAR ROCK	2													
KISKA/SIRIUS POINT	2					6/23	17							
KISKA/SOBAKA-VEGA	2					6/29	0	0	6/26	17	0	6/29	19	0
KISKA/SOUTH HEAD	2													
KISKA/WITCHCRAFT POINT	2													
KISKA/WOLF POINT	2													
LITTLE SITKIN	2					6/30	1	0						
SEA LION ROCK (KISKA)	2													
SEGULA/CHUGUL POINT	2					7/6	2	0						
SEGULA/GULA POINT	2					6/30	0	0						
SEMISOPOCHNOI/PETREL	2					7/1	7	0				6/24	0	0
SEMISOPOCHNOI/POCHNOI	2											6/24	19	1
SEMISOPOCHNOI/SUGARLOAF HEAD	2					7/1	0	0						
SEMISOPOCHNOI/SW KNOB	2					7/1	0	0						
SEMISOPOCHNOI/TUMAN POINT	2					7/1	0							
TANADAK (KISKA)	2					6/30	0	0						
TWIN ROCKS (KISKA)	2													
AMATIGNAK/KNOB POINT	3								6/28	0				
AMATIGNAK/NITROF POINT	3								6/28	0				
AMATIGNAK/WEST	3													
BOBROF	3					7/9	14	0	6/21	0				

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Table 1b			2021			2022			2023			2024		
Site by Region	RCA	R	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup
Central Aleutian Islands Region - Western Distinct Population Segment (Cont.)														
GARELOI	3					7/9	0							
GRAMP ROCK	3	1				7/9	292	105	6/29	206	119			
ILAK	3					7/9	42	0				7/2	22	0
KANAGA/CAPE CHUNU	3													
KANAGA/CAPE MIGA	3					7/9	0							
KANAGA/N CAPE	3					7/9	0							
KANAGA/SHIP ROCK	3	1				7/9	342	208						
KAVALGA	3					7/9	0							
OGLIUGA	3					7/9	0							
SKAGUL/S. POINT	3					7/9	113	8						
TAG	3	1				7/9	156	62	6/29	122	62			
TANAGA/BUMPY POINT	3					7/9	0							
TANAGA/CAPE SASMIK	3					7/5	22	0	6/29	23	1			
TANAGA/CAPE SUDAK	3					7/9	0							
UGIDAK	3					7/9	24	0	6/29	7				
ULAK/HASGOX POINT	3	1				7/9	228	86	6/28	149	81			
UNALGA+DINKUM ROCKS	3					7/9	0							
ADAK/ARGONNE POINT	4					7/9	2							
ADAK/CAPE ADAGDAK	4					7/8	6	0						
ADAK/CAPE KAGIGIKAK	4					7/9	4	0						
ADAK/CAPE MOFFET	4					7/9	0							
ADAK/CAPE YAKAK	4					7/9	54	0						
ADAK/CRONE ISLAND	4					7/9	2	0						
ADAK/HEAD ROCK	4					7/9	0							
ADAK/LAKE POINT	4	1				7/9	332	185						
AMTAGIS	4													

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Table 1b			2021			2022			2023			2024		
Site by Region	RCA	R	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup
Central Aleutian Islands Region - Western Distinct Population Segment (Cont.)														
ANAGAKSIK	4					7/6	23	0						
ATKA/CAPE KOROVIN	4													
ATKA/NORTH CAPE	4					7/10	45	0						
CHUGUL	4													
FENIMORE	4					7/6	55	0						
GREAT SITKIN	4					7/9	67	0						
IGITKIN/SW POINT	4					7/9	0							
IKIGINAK	4					7/6	16	0						
KAGALASKA	4					7/9	0							
KAGALASKA/RAGGED POINT	4					7/9	42	0						
KASATOCHI/NORTH POINT	4	1												
KONIUJI/NORTH POINT	4					7/10	0							
LITTLE TANAGA STRAIT	4					7/9	0							
OGLODAK	4					7/6	67	0						
SAGCHUDAK	4													
SALT	4					7/10	0							
SILAK	4					7/9	49	0						
TAGALAK	4					7/6	26	0						
AGLIGADAK	5													
AMLIA/CAPE MISTY	5													
AMLIA/EAST CAPE	5	1												
AMLIA/SVIECH. HARBOR	5													
AMUKTA+ROCKS	5													
CARLISLE	5													
CHAGULAK	5													
HERBERT	5													

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Table 1b			2021			2022			2023			2024		
Site by Region	RCA	R	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup
Central Aleutian Islands Region - Western Distinct Population Segment (Cont.)														
SAGIGIK	5													
SEGUAM/FINCH POINT	5													
SEGUAM/LAVA COVE	5													
SEGUAM/LAVA POINT	5													
SEGUAM/MOUNDHILL POINT	5													
SEGUAM/SADDLERIDGE	5	1				7/10	654	557						
SEGUAM/SW RIP	5													
SEGUAM/TURF POINT	5													
SEGUAM/WHARF POINT	5													
TANADAK (AMLIA)	5													
YUNASKA	5	1				7/10	294	213						
CHUGINADAK	6													
KAGAMIL	6													
ULIAGA	6													
Central Aleutian Islands Region Total				0	0		3,405	1,561		785	376		331	107
Eastern Aleutian Islands Region - Western Distinct Population Segment														
ADUGAK	6	1				7/10	606	374	7/9	680	360			
AKUN/AKUN BAY	6					6/23	0		7/2	0				
AKUN/AKUN HEAD	6					6/23	0		7/2	4				
AKUN/BILLINGS HEAD	6	1				6/23	840	162	7/2	885	210			
AKUN/JACKASS POINT	6								7/2	0				
AKUTAN/BATTERY POINT	6								7/2	0				
AKUTAN/CAPE MORGAN	6	1							7/2	1,316	794			
AKUTAN/NORTH HEAD	6					6/23	0		7/2	0				
AKUTAN/REEF-LAVA	6					6/23	98	8	7/2	204	16			

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Table 1b			2021			2022			2023			2024		
Site by Region	RCA	R	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup
Eastern Aleutian Islands Region - Western Distinct Population Segment (Cont.)														
AMAK+ROCKS	6					6/27	644	7	7/6	776	6			
AVATANAK/NE	6								7/2	5				
AVATANAK/S	6								7/2	0		7/6	9	0
AVATANAK/SE	6								7/2	11	0			
BABY	6								7/2	0				
BASALT ROCK	6								7/2	0				
BOGOSLOF/FIRE ISLAND	6	1				6/27	323	294	7/9	392	319			
EGG	6								7/2	26	0			
EGG/SE TIP	6								7/2	7				
EGG/WEST	6								7/2	0				
EMERALD	6								7/5	0				
INNER SIGNAL	6								7/2	120	0			
OGCHUL	6	1				7/10	158	85	7/9	200	89			
OLD MAN ROCKS	6								7/2	19	0			
OUTER SIGNAL	6								7/2	3				
POLIVNOI ROCK	6								7/5	144	0			
ROOTOK/EAST	6								7/2	2				
ROOTOK/NORTH	6								7/2	92	2			
SAMALGA	6													
SEA LION ROCK (AMAK)	6	1				6/27	556	281	7/6	754	368			
TANGINAK	6								7/2	37	0			
THE PILLARS	6								7/5	27	0			
UMNAK/AGULIUK POINT	6					6/27	0							
UMNAK/CAPE ASLIK	6					6/27	216	0						
UMNAK/CAPE CHAGAK	6					6/27	0							
UMNAK/CAPE IDAK	6					6/27	0		7/9	1				

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Table 1b			2021			2022			2023			2024		
Site by Region	RCA	R	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup
Eastern Aleutian Islands Region - Western Distinct Population Segment (Cont.)														
UMNAK/CAPE UDAK	6													
UMNAK/REINDEER POINT	6					6/27	0							
UNALASKA/BISHOP POINT	6					6/27	208	0	7/5	196	0			
UNALASKA/BRUNDAGE HEAD	6					6/23	0		7/2	0				
UNALASKA/CAPE IZIGAN	6	1				7/10	240	59	7/5	237	62			
UNALASKA/CAPE SEDANKA	6								7/2	0				
UNALASKA/CAPE STARICHKOF	6					6/27	0		7/5	0				
UNALASKA/CAPE WISLOW	6					6/27	0		7/5	0				
UNALASKA/KORIGA POINT	6													
UNALASKA/KOVRIZHKA	6					6/27	0		7/5	0				
UNALASKA/MAKUSHIN BAY	6					6/27	50	0	7/5	139	0			
UNALASKA/POINT KADIN	6					6/27	2		7/5	16	0			
UNALASKA/PRIEST ROCK	6					6/23	7	0	7/2	111	0			
UNALASKA/SPRAY CAPE	6					6/27	78	0	7/5	72	0			
UNALASKA/WHALEBONE CAPE	6								7/2	60	0			
UNIMAK/CAPE SARICHEF	6					6/23	440	1	7/6	846	0			
UNIMAK/CAVE POINT	6					6/23	1		7/6	21	0			
UNIMAK/OKSENOF POINT	6					6/23	848	0	7/6	999	0			
UNIMAK/SCOTCH CAP	6					6/23	0							
UNIMAK/SENNETT POINT	6					6/23	0							
VSEVIDOF	6					7/10	105	2	7/9	93	0			
AIKTAK	7								7/2	84	56			
KALIGAGAN	7								7/2	0				
ROCK	7													
TIGALDA/KELP BAY	7								7/2	53	0			
TIGALDA/ROCKS NE	7								7/2	250	0			

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Site by Region	RCA	R	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup
Eastern Aleutian Islands Region - Western Distinct Population Segment (Cont.)														
TIGALDA/SOUTH SIDE	7								7/2	48	0			
UGAMAK/EAST	7	1							7/2	28	0			
UGAMAK/NORTH	7	1							7/2	726	635			
UGAMAK/ROUND	7	1							7/2	270	171			
UGAMAK/SW	7	1							7/2	11	0			
UGAMAK/UGAMAK BAY	7	1							7/2	408	278			
UNIMAK/CAPE LAZAREF	7													
UNIMAK/CAPE LUTKE	7					6/23	0							
Bering Sea (Eastern Aleutian Islands Region)														
CAPE NEWENHAM	6													
OTTER ISLAND	6													
ROUND (WALRUS IS)	6													
THE TWINS	6					7/11	0							
SUMMIT	6					7/11	0							
WALRUS	6	1												
Eastern Aleutian Islands Region Total				0	0		5,420	1,273		10,373	3,366		9	0
Western Gulf of Alaska Region - Western Distinct Population Segment														
ATKINS	7	1	7/7	768	325							7/1	596	322
BIG KONIUJI	7		7/7	0	0							7/1	0	
BIRD	7					6/23	112	2						
BIRD (SHUMAGINS)	7		7/7	16	0							7/1	0	
CASTLE ROCK	7		7/7	4	0							7/1	63	0
CATON	7											7/8	804	6
CHERNABURA	7	1	7/7	1,032	351							7/1	943	420
CHERNI	7		7/7	0	0							7/8	0	

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Table 1b			2021			2022			2023			2024		
Site by Region	RCA	R	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup
Western Gulf of Alaska Region - Western Distinct Population Segment (Cont.)														
CLUBBING ROCKS NORTH	7	1	7/7	416	309							7/8	506	320
CLUBBING ROCKS SOUTH	7	1	7/7	647	574							7/8	624	496
EGG (SAND POINT)	7		7/7	28	0							7/1	58	0
HAGUE ROCK	7		7/7	0	0							7/8	0	
HUNT	7		7/7	0	0							7/8	0	
JUDE	7	1	7/7	768	352							7/1	830	470
KUPREANOF POINT	7		7/7	162	0							7/1	170	2
NAGAI/MOUNTAIN POINT	7		7/7	192	0							7/1	237	1
NAGAI/RK W OF CAPE WEDGE	7		7/7	0	0							7/1	0	
OLGA ROCKS NE	7		7/7	30	0							7/1	37	0
OLGA ROCKS SW	7		7/7	222	2							7/1	314	6
OMEGA	7		7/7	0	0							7/1	21	0
PAUL	7		7/7	0	0							7/1	0	
PINNACLE ROCK	7	1	7/7	920	656							7/1	1,317	732
SANAK	7											7/8	0	
SANDMAN REEF ROCK	7		7/7	18	0							7/1	4	0
SEA LION ROCKS (SHUMAGINS)	7		7/7	88	0							7/1	134	0
SIMEONOF	7		7/7	125	0							7/1	232	7
SOUTH ROCKS	7	1										7/8	445	78
SOZAVARIKA	7		7/7	0	0							7/8	0	
SUSHILNOI ROCKS	7	1	7/7	321	63							7/1	302	87
THE HAYSTACKS	7		7/7	31	0							7/1	15	0
THE WHALEBACK	7	1	7/7	126	66							7/1	130	73
TWINS	7		7/7	0	0							7/1	0	
UMGA	7		7/7	0	0							7/8	0	
UNGA/ACHEREDIN POINT	7		7/7	180	0							7/1	105	0

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Table 1b			2021			2022			2023			2024		
Site by Region	RCA	R	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup
Western Gulf of Alaska Region - Western Distinct Population Segment (Cont.)														
UNGA/CAPE UNGA	7		7/7	0	0							7/1	0	
WOSNESENSKI	7		7/7	61	0							7/1	38	0
ATKULIK	8		7/7	0	0							7/4	0	
CHANKLIUT	8		7/7	0	0							7/4	0	
KAK	8		7/7	152	0							7/4	180	3
LIGHTHOUSE ROCKS	8	1	7/7	248	10							7/1	339	12
MITROFANIA	8		7/7	228	0							7/4	242	6
SEAL CAPE	8		7/7	15	0							7/4	0	
SPITZ	8		7/7	87	0							7/4	150	0
Western Gulf of Alaska Region Total				6,885	2,708		112	2		0	0		8,836	3,041
Central Gulf of Alaska Region - Western Distinct Population Segment														
AGHIYUK	8		7/8	113	0							7/1	16	0
AIUGNAK COLUMNS	8		7/7	4	0							7/4	1	
CAPE GULL	8		7/6	0	0							7/4	61	0
CAPE KULIAK	8		7/6	206	0							6/28	0	
CAPE UGYAK	8		7/6	0	0							6/28	0	
CHIRIKOF	8	1	7/8	631	162							7/1	418	151
CHOWIET	8	1	7/8	1,003	620							7/1	838	590
KILOKAK ROCKS	8		7/7	88	0							7/4	187	0
KODIAK/CAPE ALITAK	8		7/6	0	0							7/4	0	
KODIAK/CAPE IKOLIK	8		7/6	176	0							7/4	240	0
KODIAK/CAPE UYAK	8		7/6	0	0							7/4	0	
KODIAK/STURGEON HEAD	8		7/6	0	0							7/4	0	
KODIAK/SUNDSTROM	8		7/6	0	0							7/4	0	
KODIAK/TOMBSTONE ROCKS	8		7/6	0	0							7/4	0	

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Table 1b			2021			2022			2023			2024		
Site by Region	RCA	R	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup
Central Gulf of Alaska Region - Western Distinct Population Segment (Cont.)														
NAGAI ROCKS	8		7/8	211	3							7/1	408	6
PUALE BAY	8		7/6	304	1							7/4	180	1
SUKLIK	8											7/1	2	
SUTWIK	8		7/7	269	22							7/4	188	30
TAKLI	8		7/6	0	0							6/28	0	
UGAIUSHAK	8		7/7	0	0							7/4	0	
AFOGNAK/TONKI CAPE	9		6/29	2	0							7/2	5	
CAPE DOUGLAS	9											6/28	0	
CAPE NUKSHAK	9		7/6	0	0							6/28	0	
KODIAK/BIRD ROCK	9		7/6	0	0							7/4	3	
KODIAK/CAPE BARNABAS	9		7/6	172	1							7/4	248	0
KODIAK/CAPE CHINIAK	9		6/29	100	0							7/4	228	0
KODIAK/CAPE KULIUK	9		7/6	0	0							6/28	0	
KODIAK/CAPE PARAMANOF	9		7/6	0	0							6/28	0	
KODIAK/CAPE UGAT	9		7/6	288	6							6/28	341	10
KODIAK/GULL POINT	9		7/6	7	0							7/4	44	0
KODIAK/IZHUT BAY	9		7/3	50	0							7/2	76	2
KODIAK/MALINA POINT	9		7/6	0	0							6/28	0	
KODIAK/STEEP CAPE	9		7/6	36	0							6/28	85	0
LATAX ROCKS	9		7/3	352	42							7/2	476	31
LONG ISLAND	9		6/29	130	0							7/2	33	0
MARMOT	9	1	6/29	959	685							7/3	991	666
NOISY	9		7/6	0	0							6/28	0	
SEA LION ROCKS (MARMOT)	9		6/29	38	0							7/2	25	0
SEA OTTER	9		6/29	114	14							7/2	212	50
SHAKUN ROCKS	9		7/6	184	6							6/28	256	4

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Table 1b			2021			2022			2023			2024		
Site by Region	RCA	R	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup
Central Gulf of Alaska Region - Western Distinct Population Segment (Cont.)														
SHAW	9											6/28	2	0
SITKINAK/CAPE SITKINAK	9		7/6	292	1							7/4	342	0
SUD	9		7/3	0	0							7/2	0	
SUGARLOAF	9	1	7/3	1,093	914							7/2	894	756
TWOHEADED	9	1	7/6	370	80							7/4	548	92
UGAK	9		7/6	0	0							7/4	0	
USHAGAT/NW	9		7/3	0	0							7/2	7	0
USHAGAT/ROCKS SOUTH	9		7/3	76	0							7/2	102	0
USHAGAT/SW	9	1	7/3	382	128							7/2	210	86
WEST AMATULI	9		7/3	0	0							7/2	0	
EAST CHUGACH	10		7/3	0	0							7/2	0	
ELIZABETH/CAPE ELIZABETH	10											7/2	0	
FLAT	10											7/2	102	0
GORE POINT	10		6/29	1	0							7/3	0	
NAGAHUT ROCKS	10		7/3	3	0							7/2	31	0
NUKA POINT	10		6/29	0	0							7/3	0	
OUTER (PYE)	10	1	6/29	291	108							7/3	214	104
PERL	10		7/3	410	0							7/2	126	5
PERL ROCKS	10		7/3	0	0							7/2	0	
Central Gulf of Alaska Region Total				8,355	2,793		0	0		0	0		8,140	2,584
Eastern Gulf of Alaska Region - Western Distinct Population Segment														
AIALIK CAPE	10		6/29	49	0							7/3	63	0
CAPE FAIRFIELD	10		7/3	1	0							7/3	24	0
CAPE HINCHINBROOK	10		7/3	46	0							7/3	0	
CAPE JUNKEN	10		7/3	0	0							7/3	0	

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Table 1b			2021			2022			2023			2024		
Site by Region	RCA	R	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup
Eastern Gulf of Alaska Region - Western Distinct Population Segment (Cont.)														
CAPE PUGET	10		7/3	0	0							7/3	2	0
CAPE RESURRECTION	10		7/3	68	0							7/3	41	0
CAPE ST. ELIAS	10		7/3	990	58							7/3	456	62
CHISWELL ISLANDS	10	1	6/29	144	62							7/3	126	78
DANGER	10		7/3	111	0							7/3	82	0
DUTCH GROUP	10		7/3	243	4							6/23	124	4
FOX	10		7/3	164	0							7/3	476	1
GLACIER	10		7/3	508	30							6/23	440	71
GRANITE CAPE	10		6/29	62	0							7/3	106	0
HOOK POINT	10		7/3	34	0							7/3	256	2
MIDDLETON	10		7/3	78	0							7/3	36	1
PERRY	10		7/3	14	0							6/23	109	0
PILOT ROCK	10		6/29	1	0							7/3	0	
PLEIADES	10		7/3	0	0							6/23	0	
POINT ELEANOR	10		7/3	0	0							6/23	0	
POINT ELRINGTON	10		7/3	70	0							7/3	74	0
POINT LaTOUCHE	10		7/3	0	0							7/3	0	
PROCESSION ROCKS	10		7/3	120	4							7/3	92	9
RABBIT	10		6/29	0	0							7/3	0	
RUGGED	10		7/3	8	0							7/3	25	0
SEAL ROCKS	10	1	7/3	920	642							7/3	988	650
SEAL ROCKS (KENAI)	10											7/3	84	0
STEEP POINT	10		6/29	95	1							7/3	120	0
THE NEEDLE	10		7/3	104	19							7/3	100	26
VALDEZ ARM	10		7/3	34	0							6/23	1	0
WOODED (FISH)	10	1	7/3	626	308							7/3	338	187

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Table 1b			2021			2022			2023			2024		
Site by Region	RCA	R	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup
Eastern Gulf of Alaska Region Total				4,490	1,128		0	0		0	0		4,163	1,091
Western DPS (U.S.) Total				19,730	6,629		9,282	2,976		11,524	3,868		21,816	6,949

Southeast Alaska Region - Eastern Distinct Population Segment

AKWE	11		6/28	0	0						
ALSEK	11		6/28	0	0						
BENJAMIN	11		6/27	31	0						
BERNERS BAY	11		6/27	0	0						
BIALI ROCK	11	1	6/23	661	274						
BLACK ROCK	11		6/27	0	0						
CAPE ADDINGTON	11		6/23	489	2						
CAPE BARTOLOME	11		6/26	0	0						
CAPE BINGHAM	11		6/28	182	0						
CAPE CROSS	11		6/28	0	0						
CAPE FAIRWEATHER	11		6/28	0	0						
CAPE OMMANEY	11		6/26	117	0						
CASE (TLINGIT) POINT	11		6/27	0	0						
CIRCLE POINT	11		6/27	0	0						
CORONATION	11		6/26	0	0						
DOROTHY	11		6/27	0	0						
EASTERLY	11		6/26	190	0						
ELDRED ROCK	11		6/27	0	0						
EMMONS	11		6/27	0	0						
ETOLIN	11		6/26	0	0						
FALSE POINT PYBUS	11		6/27	0	0						

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Table 1b			2021			2022			2023			2024		
Site by Region	RCA	R	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup
Southeast Alaska Region - Eastern Distinct Population Segment (Cont.)														
FORRESTER/C HORN RK	11	1	6/23	355	346									
FORRESTER/FORRESTER ISLAND	11	1	6/23	38	0									
FORRESTER/LOWRIE	11	1	6/23	1,633	1,751									
FORRESTER/NORTH RK	11	1	6/23	830	916									
FORRESTER/SEA LION RK	11	1	6/23	544	562									
FUNTER BAY	11		6/27	0	0									
GAFF ROCK	11		6/27	0	0									
GLOOMY KNOB	11		6/27	0	0									
GRAN (LEDGE) POINT	11		6/27	175	0									
GRAVES ROCK	11	1												
GRINDALL	11		6/26	238	0									
HAENKE	11		6/28	12	0									
HARBOR POINT	11		6/28	222	0									
HAZY	11	1	6/26	1,750	1,431									
HORN CLIFF	11		6/26	0	0									
INIAN	11		6/27	133	0									
JACOB ROCK	11		6/27	244	0									
KAIUCHALI (BIORKA)	11		6/27	8	0									
LARCH BAY	11		6/26	0	0									
LIBBY ISLAND	11		6/27	325	0									
LISENOI	11		6/26	0	0									
LITTLE ISLAND	11		6/27	0	0									
MET POINT	11		6/27	0	0									
MIDWAY ISLANDS	11		6/27	205	0									
MIST	11		6/27	0	0									
NOSE POINT	11		6/26	0	0									

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Table 1b			2021			2022			2023			2024		
Site by Region	RCA	R	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup
Southeast Alaska Region - Eastern Distinct Population Segment (Cont.)														
PATTERSON POINT	11		6/26	0	0									
PINTA ROCKS	11		6/27	0	0									
POINT CAROLUS	11		6/27	1	0									
POINT ISLET (POINT ROCK)	11													
POINT LEAGUE (STEVENS PASSAGE)	11		6/27	0	0									
POINT LULL	11		6/27	28	0									
POINT MARSDEN	11		6/27	0	0									
POINT MARSH	11		6/26	0	0									
ROCKY ISLAND	11		6/27	298	0									
ROUND ROCK	11		6/27	0	0									
SAIL	11		6/27	204	0									
SAKIE POINT	11		6/26	0	0									
SEA LION ISLANDS	11		6/27	376	0									
SEA LION ROCK (PUFFIN BAY)	11		6/23	140	0									
SITKAGI BLUFFS	11		6/28	0	0									
SITUK	11		6/28	0	0									
SOUTH MARBLE	11		6/27	1,392	26									
ST. LAZARIA	11		6/27	0	0									
SUKOI ISLETS	11		6/26	0	0									
SUNSET	11		6/27	552	6									
SUNSET POINT	11		6/27	0	0									
TARR INLET	11		6/27	0	0									
TENAKEE CANNERY POINT	11		6/27	0	0									
THE BROTHERS/SW	11		6/27	216	0									
THE BROTHERS/W+E	11		6/27	0	0									
THE SISTERS	11		6/27	0	0									

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Table 1b			2021			2022			2023			2024		
Site by Region	RCA	R	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup	Date	Non-Pup	Pup
Southeast Alaska Region - Eastern Distinct Population Segment (Cont.)														
TIMBERED	11		6/23	458	3									
TURNABOUT	11		6/27	0	0									
VENISA	11		6/27	0	0									
WALTER (PORT HOUGHTON)	11		6/27	0	0									
WEST ROCK	11		6/26	483	0									
WHITE SISTERS	11	1	6/27	1,309										
WOLF ROCK	11		6/23	296	0									
YASHA	11													
Southeast Alaska Total				14,135	5,317		0	0		0	0		0	0

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**Only surveyed regions in 2025: western and central Aleutian Islands regions*

Site by Region	RCA	R	Date	2025 Non- Pup	Pup
Western Aleutian Islands Region - Western Distinct Population Segment					
AGATTU/CAPE SABAK	1	1	7/2	90	22
AGATTU/GILLON POINT	1	1	7/1	138	54
ALOID	1		6/29	37	0
ATTU/CAPE WRANGELL	1	1	6/30	112	26
ATTU/CHICHAGOF POINT	1		6/29	79	0
ATTU/CHIRIKOF POINT	1		6/29	0	0
ATTU/KRESTA POINT	1				
ATTU/MASSACRE BAY	1				
BULDIR/EAST CAPE	1	1	6/28	0	0
BULDIR/NW ROCKS	1		6/28	0	0
BULDIR/ROOKERY	1	1	6/28	0	0
DAN'S ROCKS	1				
INGENSTREM ROCKS	1				
NIZKI	1				
SHEMYA	1				
Western Aleutian Islands Region Total				456	102
Central Aleutian Islands Region - Western Distinct Population Segment					
AMCHITKA/BIRD	2	0			
AMCHITKA/CAPE IVAKIN	2				
AMCHITKA/CHITKA POINT	2				
AMCHITKA/COLUMN ROCK	2	1	7/5	42	16

Table 1c

**Only surveyed regions in 2025: western and central Aleutian Islands regions*

Site by Region	RCA	R	Date	2025 Non- Pup	Pup
Central Aleutian Islands Region - Western Distinct Population Segment (Cont.)					
AMCHITKA/EAST CAPE	2		7/5	60	20
AMCHITKA/OMEGA POINT	2				
AMCHITKA/ST. MAKARIUS	2				
AYUGADAK	2	1	7/4	134	36
HAWADAX (RAT)	2				
KISKA/CAPE ST STEPHEN	2	1	7/4	56	18
KISKA/GERTRUDE-BUKHTI	2				
KISKA/LIEF COVE	2	1	7/3	57	18
KISKA/PILLAR ROCK	2				
KISKA/SIRIUS POINT	2				
KISKA/SOBAKA-VEGA	2				
KISKA/SOUTH HEAD	2				
KISKA/WITCHCRAFT POINT	2				
KISKA/WOLF POINT	2				
LITTLE SITKIN	2				
SEA LION ROCK (KISKA)	2				
SEGULA/CHUGUL POINT	2				
SEGULA/GULA POINT	2				
SEMISOPOCHNOI/PETREL	2		6/27	0	0
SEMISOPOCHNOI/POCHNOI	2		6/27	40	7
SEMISOPOCHNOI/SUGARLOAF HEAD	2				
SEMISOPOCHNOI/SW KNOB	2				

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**Only surveyed regions in 2025: western and central Aleutian Islands regions*

Site by Region	RCA	R	Date	2025 Non- Pup	Pup
Central Aleutian Islands Region - Western Distinct Population Segment (Cont.)					
SEMISOPOCHNOI/TUMAN POINT	2				
TANADAK (KISKA)	2				
TWIN ROCKS (KISKA)	2				
AMATIGNAK/KNOB POINT	3				
AMATIGNAK/NITROF POINT	3				
AMATIGNAK/WEST	3				
BOBROF	3				
GARELOI	3				
GRAMP ROCK	3	1			
ILAK	3		7/6	20	0
KANAGA/CAPE CHUNU	3				
KANAGA/CAPE MIGA	3				
KANAGA/N CAPE	3				
KANAGA/SHIP ROCK	3	1	7/7	266	154
KAVALGA	3				
OGLIUGA	3				
SKAGUL/S. POINT	3				
TAG	3	1	6/25	128	56
TANAGA/BUMPY POINT	3				
TANAGA/CAPE SASMIK	3				
TANAGA/CAPE SUDAK	3				
UGIDAK	3				
ULAK/HASGOX POINT	3	1	6/25	156	60
UNALGA+DINKUM ROCKS	3				

Table 1c

**Only surveyed regions in 2025: western and central Aleutian Islands regions*

Site by Region	RCA	R	Date	2025 Non- Pup	Pup
Central Aleutian Islands Region - Western Distinct Population Segment (Cont.)					
ADAK/ARGONNE POINT	4				
ADAK/CAPE ADAGDAK	4				
ADAK/CAPE KAGIGIKAK	4				
ADAK/CAPE MOFFET	4				
ADAK/CAPE YAKAK	4				
ADAK/CRONE ISLAND	4				
ADAK/HEAD ROCK	4				
ADAK/LAKE POINT	4	1			
AMTAGIS	4				
ANAGAKSIK	4				
ATKA/CAPE KOROVIN	4				
ATKA/NORTH CAPE	4				
CHUGUL	4				
FENIMORE	4				
GREAT SITKIN	4				
IGITKIN/SW POINT	4				
IKIGINAK	4				
KAGALASKA	4				
KAGALASKA/RAGGED POINT	4				
KASATOCHI/NORTH POINT	4	1	7/8	598	426
KONIUII/NORTH POINT	4				
LITTLE TANAGA STRAIT	4				
OGLODAK	4				
SAGCHUDAK	4				

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Table 1c

**Only surveyed regions in 2025: western
and central Aleutian Islands regions*

and central Aleutian Islands regions			2025		
Site by Region	RCA	R	Date	Non-Pup	Pup
Central Aleutian Islands Region - Western Distinct Population Segment (Cont.)					
SALT	4				
SILAK	4				
TAGALAK	4				
AGLIGADAK	5				
AMLIA/CAPE MISTY	5				
AMLIA/EAST CAPE	5	1			
AMLIA/SVIECH. HARBOR	5				
AMUKTA+ROCKS	5				
CARLISLE	5				
CHAGULAK	5				
HERBERT	5				
SAGIGIK	5				
SEGUAM/FINCH POINT	5				
SEGUAM/LAVA COVE	5				
SEGUAM/LAVA POINT	5				
SEGUAM/MOUNDHILL POINT	5				
SEGUAM/SADDLERIDGE	5	1			
SEGUAM/SW RIP	5				
SEGUAM/TURF POINT	5				
SEGUAM/WHARF POINT	5				
TANADAK (AMLIA)	5				
UNASKA	5	1			
CHUGINADAK	6				
KAGAMIL	6				

Table 1c

**Only surveyed regions in 2025: western
and central Aleutian Islands regions*

and central Aleutian Islands regions			2025		
Site by Region	RCA	R	Date	Non-Pup	Pup
Central Aleutian Islands Region - Western Distinct Population Segment (Cont.)					
ULIAGA	6				
Central Aleutian Islands Region Total				1557	811

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Table 2. --Summary of the number of sites surveyed by the Marine Mammal Laboratory (Sites Surveyed) and number of sites with Steller sea lions present (i.e., count > 0; SSLs Present), 2016-2025, in the western (W), central (C), and eastern (E) Aleutian Islands (ALEU) and Gulf of Alaska (GULF) regions (western Distinct Population Segment [DPS] in the U.S.), and southeast Alaska (SE AK; eastern DPS).

			W ALEU	C ALEU	E ALEU	W GULF	C GULF	E GULF	Western DPS (U.S.)	Eastern DPS SE AK
Total Sites:			15	99	73	43	59	30	319	81
2016	Sites Surveyed	Non-Pup	13	69	63	37	0	0	182	0
		Pup	13	52	35	21	0	0	121	0
	SSLs Present	Non-Pup	7	41	41	24	0	0	113	0
		Pup	5	17	15	12	0	0	49	0
2017	Sites Surveyed	Non-Pup	5	12	0	24	56	28	125	76
		Pup	2	6	0	15	30	17	70	34
	SSLs Present	Non-Pup	4	9	0	16	31	20	80	37
		Pup	2	5	0	6	12	7	32	19
2018	Sites Surveyed	Non-Pup	8	49	60	5	2	0	124	0
		Pup	5	25	35	5	2	0	72	0
	SSLs Present	Non-Pup	6	34	39	5	2	0	86	0
		Pup	4	14	17	5	2	0	42	0
2019	Sites Surveyed	Non-Pup	0	0	0	39	58	29	126	24
		Pup	0	0	0	25	32	20	77	22
	SSLs Present	Non-Pup	0	0	0	27	34	23	84	22
		Pup	0	0	0	12	12	8	32	17
2020			No surveys							
2021	Sites Surveyed	Non-Pup	0	0	0	39	54	29	122	78
		Pup	0	0	0	39	54	29	122	77
	SSLs Present	Non-Pup	0	0	0	26	32	23	81	34
		Pup	0	0	0	10	16	9	35	10

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									Western DPS	Eastern DPS
			W ALEU	C ALEU	E ALEU	W GULF	C GULF	E GULF	(U.S.)	SE AK
Total Sites:			15	99	73	43	59	30	319	81
2022	Sites Surveyed	Non-Pup	7	57	32	1	0	0	97	0
		Pup	6	39	16	1	0	0	62	0
	SSLs Present	Non-Pup	7	36	18	1	0	0	62	0
		Pup	4	14	10	1	0	0	29	0
2023	Sites Surveyed	Non-Pup	6	15	57	0	0	0	78	0
		Pup	6	10	36	0	0	0	52	0
	SSLs Present	Non-Pup	6	11	42	0	0	0	59	0
		Pup	4	8	14	0	0	0	26	0
2024	Sites Surveyed	Non-Pup	6	8	1	42	59	30	146	0
		Pup	6	8	1	27	32	23	97	0
	SSLs Present	Non-Pup	6	7	82	27	36	23	181	0
		Pup	4	5	0	17	16	11	53	0
2025	Sites Surveyed	Non-Pup	9	12	0	0	0	0	21	0
		Pup	9	12	0	0	0	0	21	0
	SSLs Present	Non-Pup	5	11	0	0	0	0	16	0
		Pup	5	10	0	0	0	0	15	0

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Table 3. --Surveys of live Steller sea lion non-pups and pups surveyed between 2016-2025 by external partners—Alaska Department of Fish and Game (ADFG) and the Aleut Community of St. Paul Island (ACSPI)—of rookery (R=1) and haulout sites listed by region in the western and eastern Distinct Population Segments (DPS), and description of data products.

Site	RCA	R	Year	Date	Non-Pup	Pup	Source	Description
Eastern Aleutian Islands Region (Bering Sea)								
CAPE NEWENHAM	6		2017	3-Jul	115		ADFG	Visual observer counts
CAPE NEWENHAM	6		2024	22-Jun	17		ADFG	Visual observer counts
OTTER ISLAND	6		2021	15-Jul	6	0	ACSPI	UAS imagery counted by MML
OTTER ISLAND	6		2024	10-Jul	14	0	ACSPI	UAS imagery counted by MML
ROUND (WALRUS IS)	6		2016	Mean	285	0	ADFG	Visual observer counts (27 June-1 July; days MML surveyed E ALEU)
ROUND (WALRUS IS)	6		2017	3-Jul	180		ADFG	Visual observer counts (Day MML surveyed north Bristol Bay)
ROUND (WALRUS IS)	6		2018	27-Jun	224		ADFG	Visual observer counts (Day MML surveyed E ALEU)
ROUND (WALRUS IS)	6		2019	1-Jul	331		ADFG	Visual observer counts (Day MML surveyed W GULF)
ROUND (WALRUS IS)	6		2020	Mean	370		ADFG	Visual observer counts (25 June-11 July)
ROUND (WALRUS IS)	6		2021	8-Jul	281		ADFG	Visual observer counts (Closest day MML surveyed W GULF)
ROUND (WALRUS IS)	6		2022	8-Jul	153		ADFG	Visual observer counts (Closest day MML surveyed of E ALEU)
ROUND (WALRUS IS)	6		2023	6-Jul	448		ADFG	Visual observer counts (Closest day MML surveyed E ALEU)
ROUND (WALRUS IS)	6		2024	2-Jul	277		ADFG	Visual observer counts
WALRUS	6	1	2021	14-Jul	220	72	ACSPI	UAS imagery counted by MML
WALRUS	6	1	2024	9-Jul	252	68	ACSPI	UAS imagery counted by MML
WALRUS	6	1	2025	26-Jun	230	97	ACSPI	UAS imagery counted by MML

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Site	RCA	R	Year	Date	Non- Pup	Pup	Source	Description
Southeast Alaska Region (Eastern DPS)								
WHITE SISTERS		1	2022	30-Jun	818	873	ADFG	UAS imagery and counts
FORRESTER/C HORN RK		1	2023	Mean	325	256	ADFG	
FORRESTER/FORRESTER ISLAND		1	2023	Mean	16	0	ADFG	UAS imagery and counts (30 June-3 July)
FORRESTER/LOWRIE		1	2023	Mean	1663	1488	ADFG	
FORRESTER/NORTH RK		1	2023	Mean	802	660	ADFG	
FORRESTER/SEA LION RK		1	2023	Mean	588	496	ADFG	

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Table 4. -- Modeled predicted (PRED) and realized (REAL) count estimates of Steller sea lion non-pups (1978-2024) and pups (1973-2024) with upper and lower credible intervals ($\pm$ 95% CI) in the western Distinct Population Segment (U.S.). The year with the minimum realized and predicted count estimates in **bold**. Column "S" indicates whether at least one site was surveyed in the area for that year (1) or not surveyed (0).

Year	Non-Pup							Pup						
	PRED	-95% CI	+95% CI	REAL	-95% CI	+95% CI	S	PRED	-95% CI	+95% CI	REAL	-95% CI	+95% CI	S
1973								65,526	58,405	73,416	65,957	59,020	74,073	1
1974								63,191	56,928	70,184	63,191	56,928	70,184	0
1975								60,943	55,130	67,315	60,943	55,130	67,315	0
1976								58,949	53,360	64,467	58,949	53,360	64,467	0
1977								57,033	52,119	62,106	57,033	52,119	62,106	0
1978	174,961	156,000	197,261	179,024	160,724	201,360	1	55,259	50,751	59,970	53,305	49,424	57,407	1
1979	167,240	150,589	186,615	169,955	152,946	187,813	1	52,278	48,402	56,415	52,099	48,499	55,486	1
1980	154,201	140,567	169,353	154,201	140,567	169,353	0	48,474	45,003	51,886	48,474	45,003	51,886	0
1981	144,207	133,011	157,349	144,207	133,011	157,349	0	45,163	42,280	48,363	45,163	42,280	48,363	0
1982	136,867	126,479	148,104	136,896	126,474	148,107	1	42,295	39,664	45,000	42,303	39,671	45,020	1
1983	126,944	117,492	137,178	126,950	117,518	137,202	1	39,055	36,688	41,580	39,055	36,688	41,580	0
1984	114,427	106,160	123,913	115,346	106,650	124,171	1	36,251	34,097	38,581	37,272	35,376	39,412	1
1985	100,114	92,933	107,868	105,935	99,402	112,816	1	33,254	31,314	35,456	36,249	34,542	38,102	1
1986	85,776	80,188	92,535	90,394	84,982	96,672	1	30,093	28,261	31,918	30,785	29,274	32,404	1
1987	72,742	67,942	78,024	72,608	67,614	77,572	1	26,906	25,326	28,646	26,906	25,326	28,646	0
1988	61,905	57,814	66,345	61,997	57,966	66,201	1	24,203	22,774	25,780	24,203	22,774	25,780	0
1989	53,510	50,062	57,538	49,262	46,759	52,688	1	21,859	20,511	23,278	21,087	20,025	22,219	1
1990	47,258	44,191	50,987	46,727	44,460	49,965	1	19,633	18,467	20,979	17,548	16,753	18,495	1
1991	42,824	39,968	46,117	44,363	42,410	47,143	1	17,583	16,486	18,751	17,507	16,548	18,558	1
1992	39,790	37,157	42,890	41,391	39,718	43,914	1	15,769	14,769	16,825	15,505	14,573	16,493	1
1993	37,703	35,270	40,632	37,638	35,211	40,538	1	14,191	13,289	15,110	14,132	13,310	14,978	1
1994	36,223	33,845	38,980	38,386	36,902	40,585	1	12,861	12,070	13,734	12,791	12,382	13,298	1

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Year	Non-Pup							Pup						
	PRED	-95% CI	+95% CI	REAL	-95% CI	+95% CI	S	PRED	-95% CI	+95% CI	REAL	-95% CI	+95% CI	S
1995	35,052	32,711	37,578	35,052	32,711	37,578	0	11,788	11,013	12,561	11,775	11,001	12,525	1
1996	34,191	31,869	36,601	34,938	33,626	36,768	1	10,948	10,240	11,657	10,943	10,308	11,620	1
1997	33,261	31,061	35,594	33,303	31,675	35,352	1	10,325	9,682	11,026	10,671	10,138	11,238	1
1998	32,198	30,066	34,478	33,336	32,066	34,934	1	9,900	9,288	10,561	10,210	9,972	10,558	1
1999	31,155	29,101	33,383	31,150	29,120	33,400	1	9,646	9,025	10,263	9,647	9,030	10,266	1
2000	30,254	28,287	32,445	28,435	27,384	29,899	1	9,513	8,902	10,115	9,760	9,226	10,289	1
2001	29,597	27,598	31,665	29,605	27,600	31,669	1	9,518	8,905	10,111	9,140	8,903	9,437	1
2002	29,261	27,389	31,267	29,471	28,561	30,756	1	9,618	9,053	10,225	9,792	9,362	10,228	1
2003	29,307	27,466	31,283	29,307	27,466	31,283	0	9,797	9,215	10,409	9,557	9,080	10,046	1
2004	29,661	27,848	31,546	31,039	30,191	32,185	1	10,037	9,427	10,642	9,780	9,443	10,145	1
2005	30,318	28,567	32,332	30,833	29,426	32,419	1	10,296	9,686	10,898	10,189	10,030	10,394	1
2006	31,316	29,447	33,181	31,408	30,247	32,606	1	10,550	9,947	11,181	10,550	9,947	11,181	0
2007	32,477	30,586	34,427	31,850	31,014	32,794	1	10,850	10,254	11,519	10,738	10,157	11,378	1
2008	33,578	31,735	35,577	32,934	32,257	33,821	1	11,108	10,461	11,729	11,117	10,459	11,731	1
2009	34,491	32,584	36,515	33,528	32,436	34,756	1	11,322	10,670	11,952	11,175	11,088	11,295	1
2010	35,229	33,242	37,182	33,835	32,478	35,318	1	11,475	10,857	12,128	11,334	10,895	11,824	1
2011	35,796	33,863	37,764	36,629	35,822	37,503	1	11,580	10,970	12,238	11,702	11,532	11,870	1
2012	36,307	34,381	38,412	36,252	34,257	38,255	1	11,635	11,010	12,268	11,623	10,988	12,245	1
2013	36,794	34,776	38,826	36,954	35,684	38,186	1	11,672	11,039	12,298	12,035	11,580	12,466	1
2014	37,265	35,202	39,282	36,719	35,320	38,132	1	11,673	11,072	12,329	11,423	11,039	11,791	1
2015	37,742	35,819	39,862	38,030	36,573	39,576	1	11,690	11,049	12,329	12,009	11,485	12,531	1
2016	38,274	36,259	40,370	38,583	37,241	40,067	1	11,716	11,097	12,378	11,839	11,429	12,214	1
2017	38,824	36,816	41,078	39,407	37,869	40,891	1	11,737	11,117	12,410	11,109	10,656	11,583	1
2018	39,282	37,114	41,486	39,205	37,631	40,932	1	11,802	11,175	12,472	11,683	11,226	12,135	1
2019	39,496	37,242	41,710	38,061	36,388	39,601	1	11,912	11,249	12,538	12,293	11,866	12,742	1
2020	39,367	37,091	41,693	39,429	37,189	41,782	1	12,032	11,379	12,711	12,032	11,379	12,711	0
2021	38,979	36,569	41,339	38,690	36,871	40,623	1	12,206	11,487	12,897	12,252	11,741	12,737	1

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Year	Non-Pup							Pup						
	PRED	-95% CI	+95% CI	REAL	-95% CI	+95% CI	S	PRED	-95% CI	+95% CI	REAL	-95% CI	+95% CI	S
2022	38,674	36,227	41,348	37,459	35,287	39,657	1	12,375	11,640	13,090	12,289	11,637	12,906	1
2023	38,532	35,932	41,366	39,280	37,125	41,725	1	12,533	11,794	13,336	12,714	11,998	13,397	1
2024	38,687	35,787	41,800	38,277	36,079	40,745	1	12,676	11,905	13,534	12,515	11,932	13,136	1

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Table 5. -- Annual percent of change of Steller sea lion non-pups and pups (upper and lower 95% credible intervals, $\pm$ 95% CI) between 1994-2024 and 2009-2024 listed by region (western [W], central [C], and eastern [E] Aleutian Islands [ALEU] and W, C, and E Gulf of Alaska [GULF] regions, C and E GULF combined (E+C GULF), rookery cluster area (RCA) 1-10, east and west of Samalga Pass, aggregated Aleutian Islands and Gulf of Alaska, and the western Distinct Population Segment (DPS; U.S.).

Area (Western DPS)	<i>Annual rates of change between 1994-2024</i>						<i>Annual rates of change between 2009-2024</i>					
	Non-Pup	-95% CI	+95% CI	Pup	-95% CI	+95% CI	Non-Pup	-95% CI	+95% CI	Pup	-95% CI	+95% CI
W ALEU (RCA 1)	-7.21	-7.86	-6.58	-7.80	-8.34	-7.31	-5.69	-7.50	-3.81	-4.61	-5.72	-3.45
C ALEU	-0.85	-1.54	-0.06	-1.32	-2.10	-0.56	-0.49	-2.20	1.74	-1.44	-3.13	0.29
RCA 2	-4.25	-5.03	-3.32	-4.64	-5.68	-3.54	-2.85	-5.09	-0.43	-5.62	-8.10	-3.21
RCA 3	-2.80	-3.50	-2.06	-3.79	-4.34	-3.23	-3.12	-4.70	-1.47	-5.72	-7.04	-4.41
RCA 4	-0.80	-1.94	0.18	0.35	-1.05	1.79	-1.89	-3.72	-0.06	-0.85	-4.44	2.94
RCA 5	2.08	0.70	3.66	0.85	-1.32	2.52	2.53	-1.20	7.30	1.99	-1.25	5.47
West of Samalga Pass	-1.77	-2.35	-1.02	-2.20	-2.87	-1.54	-0.92	-2.59	1.09	-1.65	-3.22	-0.01
RCA 6	2.06	1.46	2.65	2.31	1.94	2.71	2.78	1.38	4.15	1.72	0.80	2.64
RCA 7	1.72	1.18	2.22	2.41	1.92	2.89	0.36	-0.65	1.49	1.25	0.29	2.26
RCA 8	2.06	1.09	2.71	1.21	0.05	2.37	2.98	1.55	4.33	1.03	-1.74	3.90
RCA 9	1.88	1.09	2.52	0.95	0.18	1.54	2.57	1.17	3.99	1.80	0.35	3.10
RCA 10	1.23	-0.40	2.30	1.22	0.65	1.79	-1.55	-3.22	0.17	0.05	-1.21	1.42
E ALEU	1.84	1.30	2.32	2.31	1.94	2.71	2.24	1.04	3.44	1.72	0.80	2.64
Aleutian Islands	-0.04	-0.44	0.36	-0.24	-0.69	0.14	0.86	-0.11	1.99	0.10	-0.76	1.01
W GULF	1.84	1.27	2.36	2.41	1.92	2.89	0.76	-0.34	1.83	1.25	0.29	2.25
C GULF	1.79	1.13	2.31	0.97	0.38	1.53	2.52	1.47	3.56	1.42	0.11	2.66
E GULF	1.36	-0.46	2.55	1.38	0.78	1.97	-1.90	-3.76	-0.12	0.18	-1.13	1.64
E+C GULF	1.61	0.67	2.22	1.08	0.61	1.53	0.69	-0.31	1.66	1.05	0.06	2.03
Gulf of Alaska	1.69	1.04	2.13	1.60	1.24	1.92	0.72	-0.01	1.47	1.13	0.43	1.82
East of Samalga Pass	1.73	1.24	2.09	1.80	1.52	2.06	1.18	0.52	1.79	1.32	0.78	1.89

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Area (Western DPS)	<i>Annual rates of change between 1994-2024</i>						<i>Annual rates of change between 2009-2024</i>					
	Non-Pup	-95% CI	+95% CI	Pup	-95% CI	+95% CI	Non-Pup	-95% CI	+95% CI	Pup	-95% CI	+95% CI
Western DPS (U.S.)	0.85	0.47	1.16	0.66	0.37	0.93	0.78	0.16	1.43	0.64	0.08	1.19

Table 6. -- Annual rates of change of Steller sea lion non-pup and pup counts (upper and lower 95% credible intervals, $\pm$ 95% CI) between 1993-2023 and 2008-2023 in southeast Alaska (eastern Distinct Population Segment; DPS).

Eastern DPS (Alaska)	<i>Annual rates of change between 1993-2023</i>						<i>Annual rates of change between 2008-2023</i>					
	Non-Pup	-95% CI	+95% CI	Pup	-95% CI	+95% CI	Non-Pup	-95% CI	+95% CI	Pup	-95% CI	+95% CI
Southeast Alaska	1.68	1.15	2.21	2.29	2.05	2.56	0.19	-1.05	1.39	-0.38	-1.03	0.33

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Table 7. --Comparing annual rates of change of Steller sea lion non-pups and pups (upper and lower 95% credible intervals; $\pm$ 95% CI) estimated with the original (reported in the 5-year review; Raum-Suryan et al., 2020) and updated agTrend models, reported by region for the western (W), central (C), and eastern (E) Aleutian Islands (ALEU) region and the W, C, and E Gulf of Alaska (GULF) regions and western Distinct Population Segment (DPS; U.S.) between 2002-2017.

	Region	Year Interval	Non-Pup	-95% CI	+95% CI	Pup	-95% CI	+95% CI
Original agTrend Model (5-Yr Review)	W ALEU	2001-2016	-6.92	-8.41	-5.41	-7.52	-8.68	-6.59
	C ALEU	2001-2016	-0.67	-1.71	0.30	-1.29	-2.23	-0.16
	E ALEU	2001-2016	1.75	0.37	3.13	3.10	2.13	4.00
	W GULF	2002-2017	3.01	1.50	4.56	3.65	2.31	5.12
	C GULF	2002-2017	3.90	2.88	4.98	3.28	1.73	4.84
	E GULF	2002-2017	4.21	2.04	6.26	2.65	0.99	4.63
	Western DPS (U.S.)	2002-2017	2.14	1.49	2.78	1.78	1.19	2.34
Updated agTrend Model	W ALEU	2001-2016	-6.19	-7.81	-4.53	-7.96	-8.84	-7.12
	C ALEU	2001-2016	-0.73	-1.45	0.01	-1.58	-2.65	-0.51
	E ALEU	2001-2016	2.17	1.04	3.33	3.12	2.27	3.93
	W GULF	2002-2017	3.51	2.33	4.69	3.22	2.21	4.28
	C GULF	2002-2017	4.38	3.45	5.30	2.88	1.62	4.16
	E GULF	2002-2017	4.26	1.68	6.59	2.68	1.24	4.23
	Western DPS (U.S.)	2002-2017	2.26	1.69	2.79	1.42	0.92	1.94

Table 8. -- Annual percent of change of abundance estimates derived with the integrated population model of the Steller sea lion (upper and lower 95% credible intervals, $\pm$ 95% CI) generated using an integrated population model between 2009-2024 listed by region (western [W], central [C], and eastern [E] Aleutian Islands [ALEU] and western [W], and combined central and eastern [E+C] Gulf of Alaska [GULF] regions), and the western Distinct Population Segment (DPS; U.S.).

Area (Western DPS)	<i>Annual rates of change between 2009-2024</i>					
	Non-Pup	-95% CI	+95% CI	Pup	-95% CI	+95% CI
W ALEU	-4.57	-11.79	3.24	-3.99	-13.63	6.65
C ALEU	-0.51	-4.13	3.33	-1.04	-6.29	4.45
E ALEU	1.26	-1.07	3.61	1.30	-2.85	5.66
W GULF	1.38	-0.82	3.63	1.77	-2.69	6.48
E+C GULF	1.34	-0.58	3.32	1.29	-2.79	5.54
Western DPS (U.S.)	0.92	-0.40	2.26	0.83	-1.40	3.10

Table 9. -- Non-pup and pup correction factors (upper and lower 95% credible intervals, $\pm$ 95% CI) generated through the integrated population model for the western (W), central (C), and eastern (E) Aleutian Islands (ALEU) region and the W and combined central and eastern (E+C) Gulf of Alaska (GULF) regions.

Region	Mean	Non-Pup		Mean	Pup	
		-95% CI	+95% CI		-95% CI	+95% CI
W ALEU	1.27	1.22	1.32	4.83	3.99	5.82
C ALEU	1.43	1.38	1.48	3.33	3.06	3.63
E ALEU	1.33	1.31	1.35	4.09	3.87	4.31
W GULF	1.32	1.27	1.39	4.12	3.53	4.76
E+C GULF	1.29	1.28	1.31	4.44	4.22	4.67

FIGURES

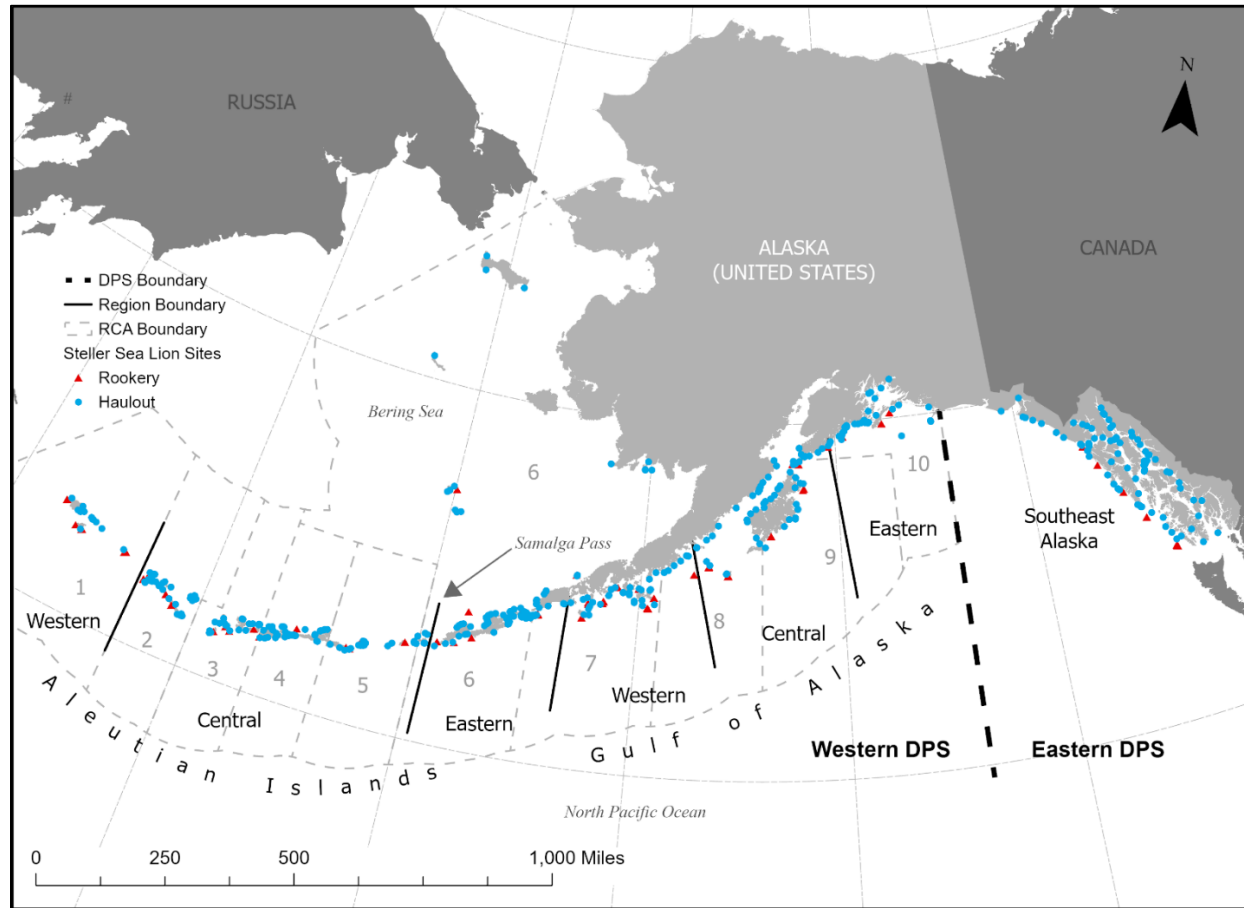


Figure 1. -- Map of known Steller sea lion terrestrial haulout and rookery sites in Alaska with management regions (western, central, eastern regions of the Aleutian Islands and Gulf of Alaska), rookery cluster areas (RCA) 1-10, Samalga Pass, and line dividing the eastern and western Distinct Population Segment (DPS; 144°W) depicted.

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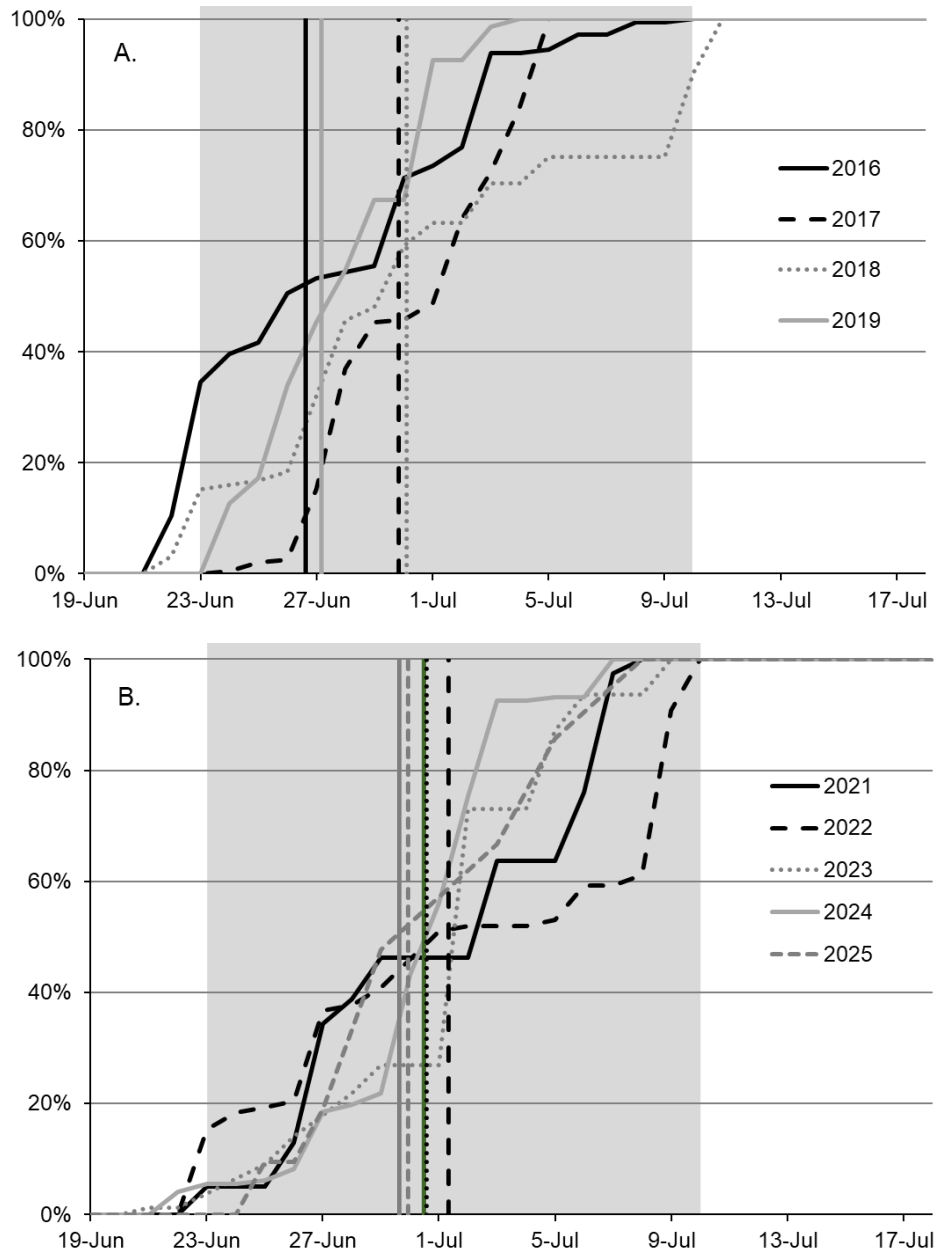


Figure 2. -- Cumulative percent of terrestrial Steller sea lion sites surveyed by day during breeding season conducted in 2016-2019 (A) and 2021-2025 (B). Vertical lines are plotted at the mean date for each survey year. Shaded area is the optimal survey window from 23 June through 10 July.

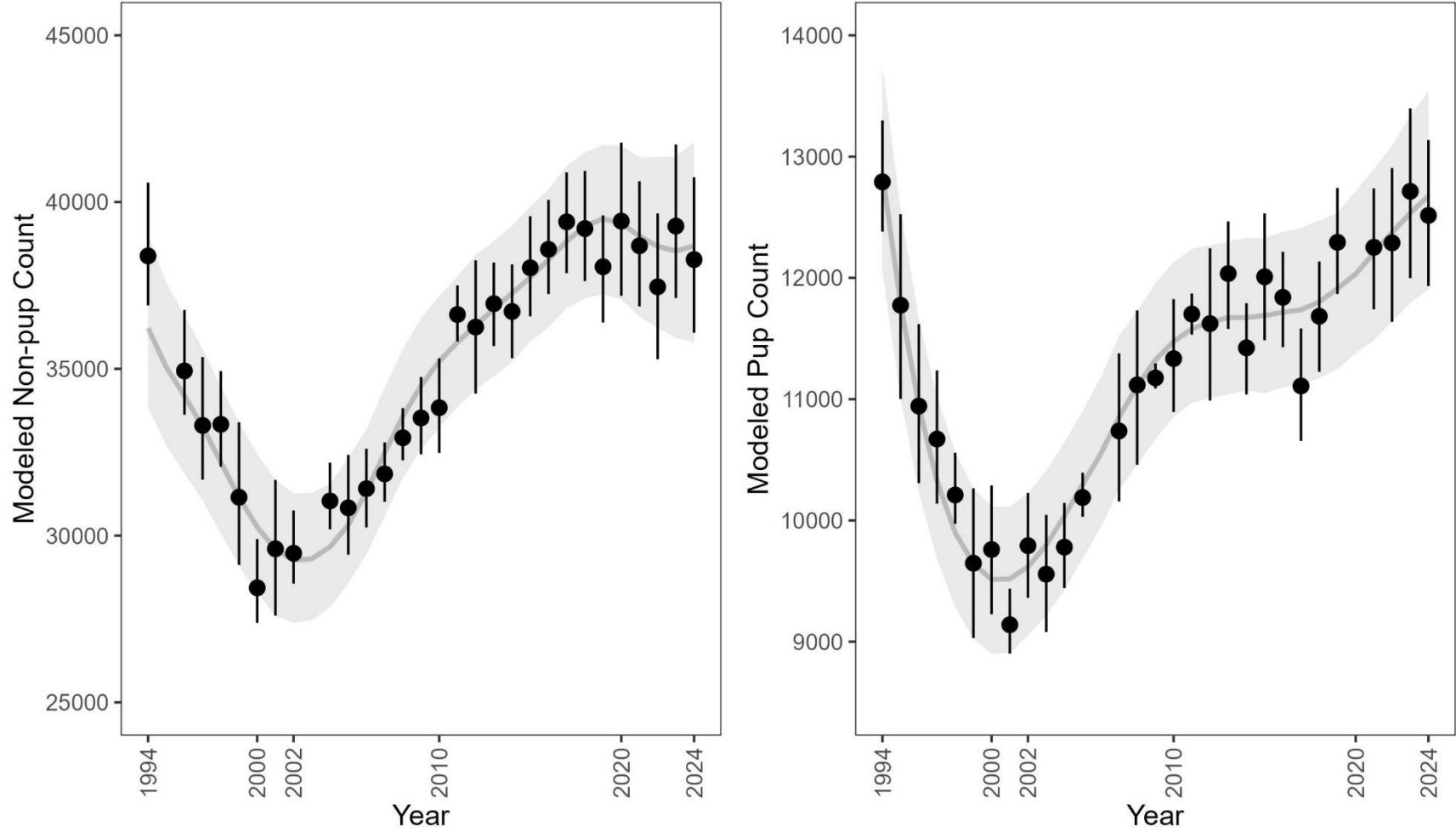


Figure 3. -- Steller sea lion agTrend modeled non-pup and pup counts in the total western distinct population segment in Alaska, 1994–2024 (note y-axis scales differ). Realized counts are represented by points and vertical lines ($\pm 95\%$ credible intervals) and predicted counts are represented by the gray line and shaded area ($\pm 95\%$ credible intervals).

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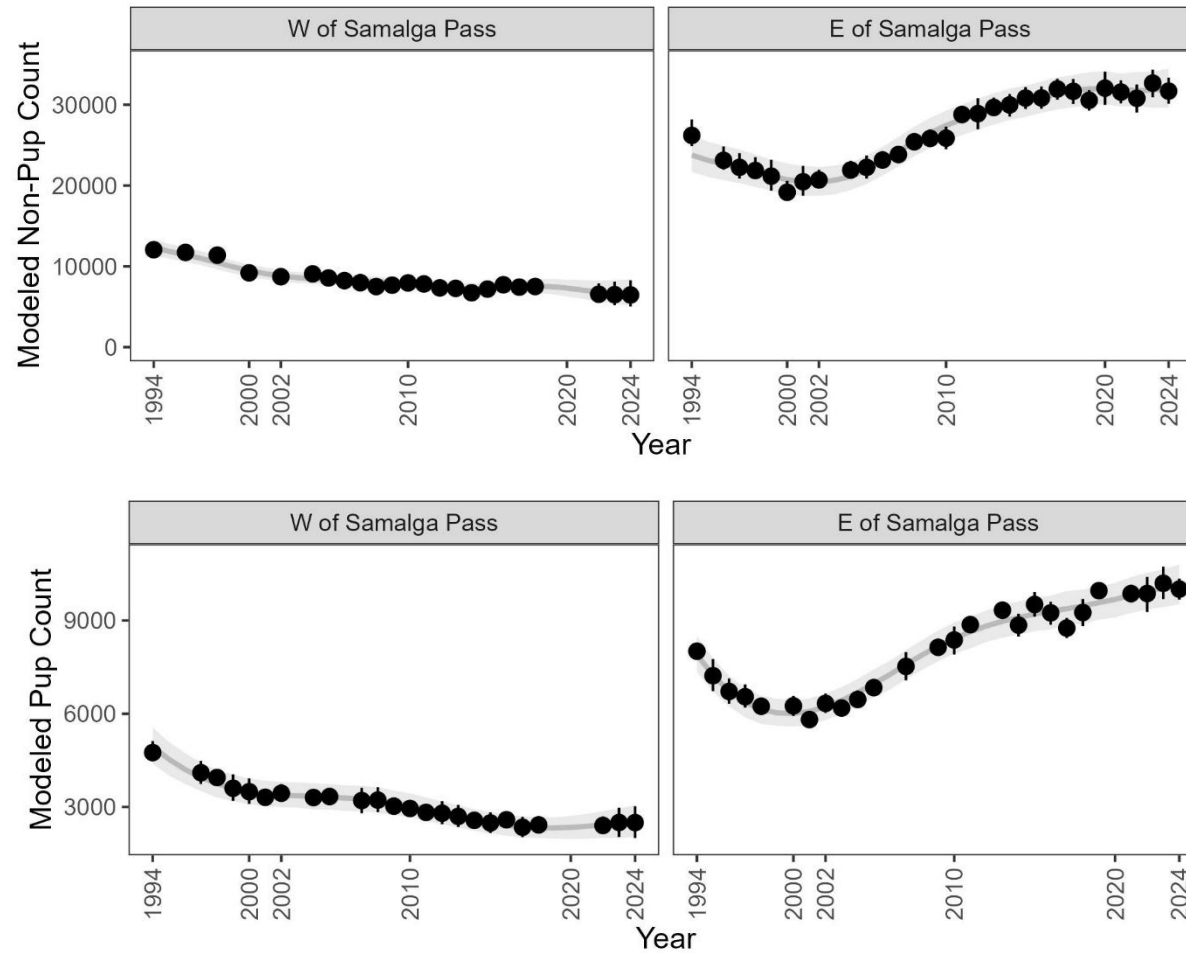


Figure 4. -- Steller sea lion agTrend modeled non-pup and pup counts west (W) and east (E) of Samalga Pass, 1994–2024 (note y-axis scales differ). Realized counts are represented by points and vertical lines ($\pm 95\%$ credible intervals) and predicted counts are represented by the gray line and shaded area ($\pm 95\%$ credible intervals).

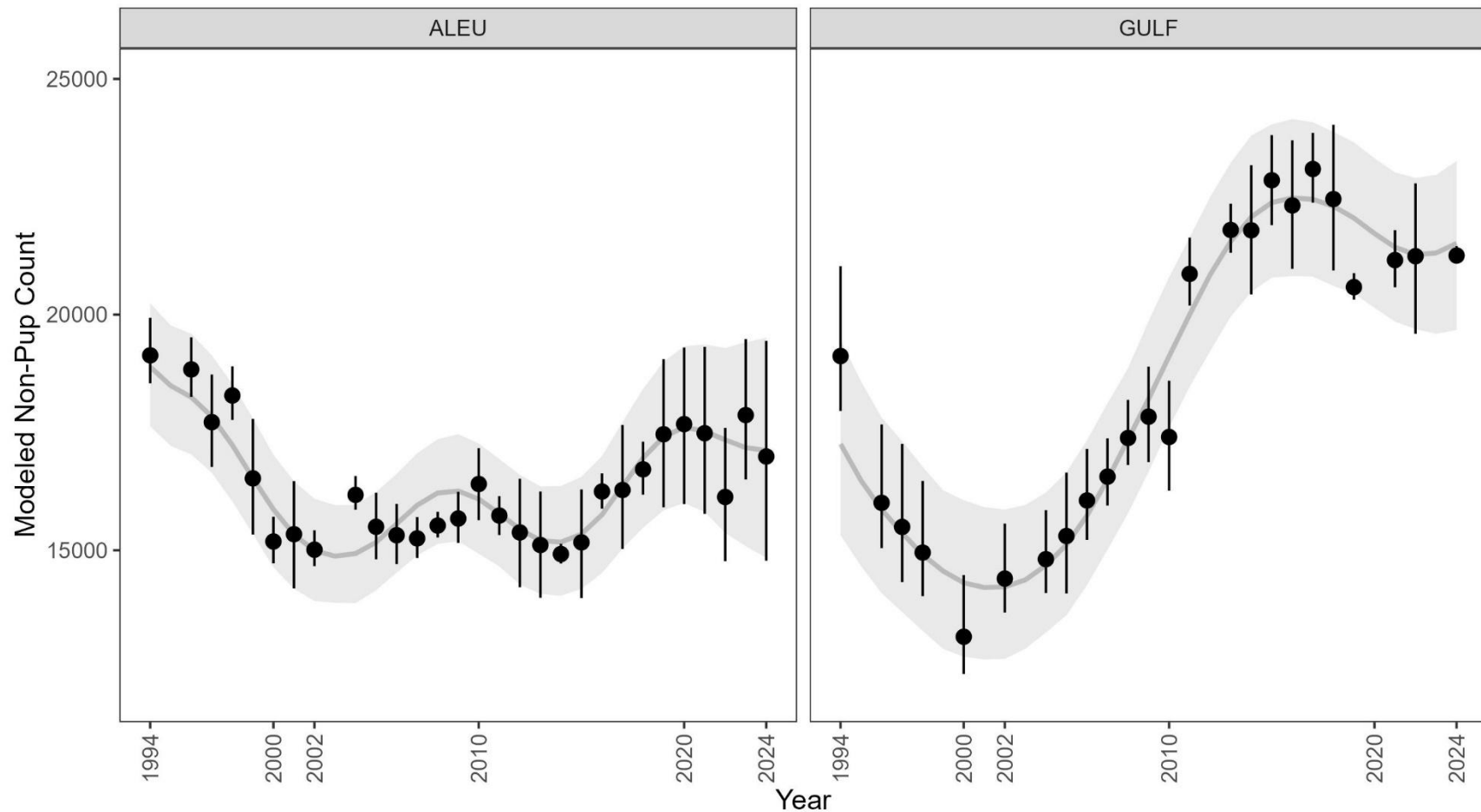


Figure 5. -- Steller sea lion agTrend modeled non-pup counts of the combined western, central, and eastern regions within the Aleutian Islands (ALEU) and Gulf of Alaska (GULF), 1994–2024. Realized counts are represented by points and vertical lines ($\pm 95\%$ credible intervals) and predicted counts are represented by the gray line and shaded area ($\pm 95\%$ credible intervals).

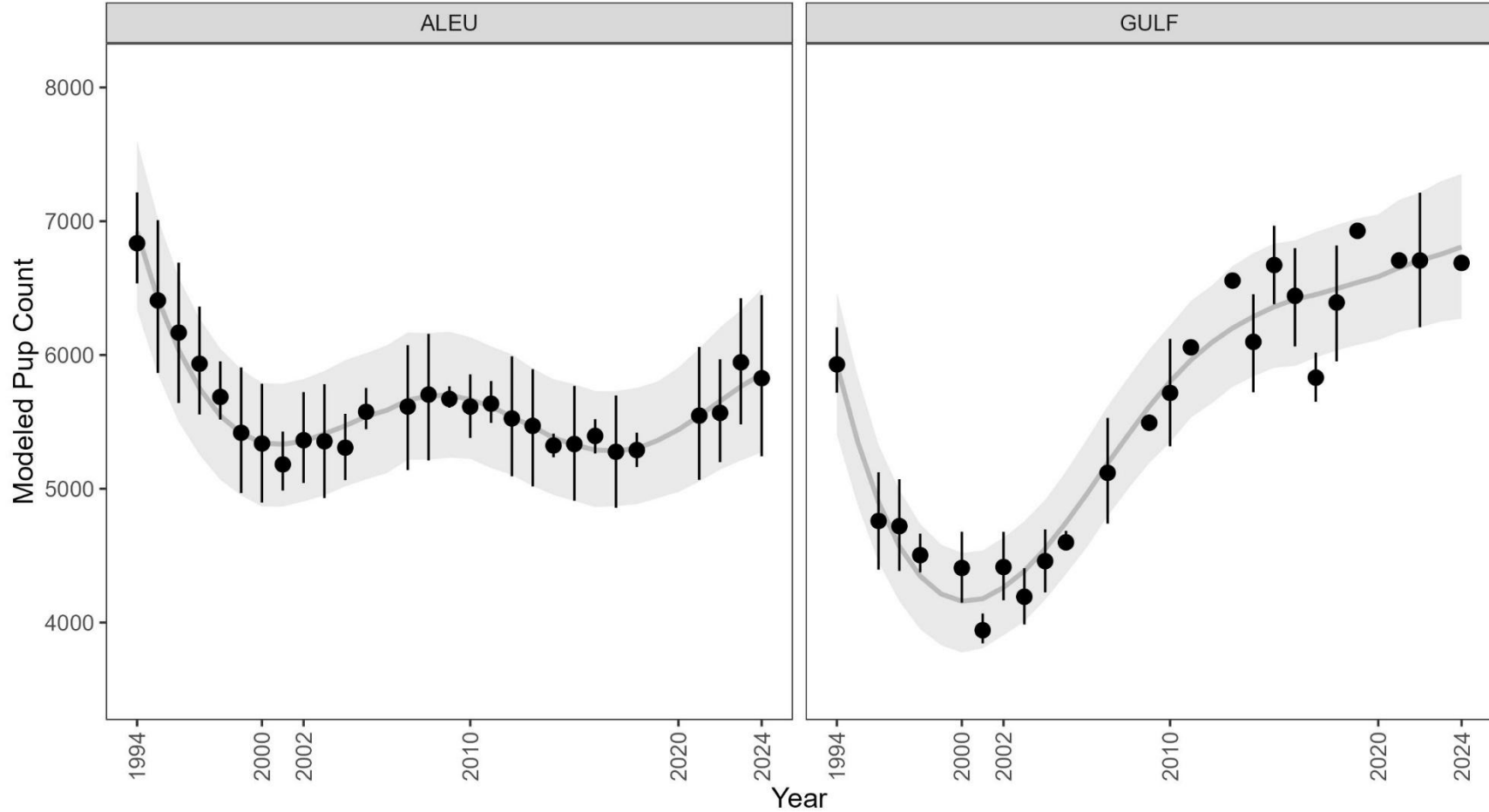


Figure 6. -- Steller sea lion agTrend modeled pup counts of the combined western, central, and eastern regions within the Aleutian Islands (ALEU) and Gulf of Alaska (GULF), 1994–2024. Realized counts are represented by points and vertical lines ($\pm 95\%$ credible intervals) and predicted counts are represented by the gray line and shaded area ($\pm 95\%$ credible intervals).

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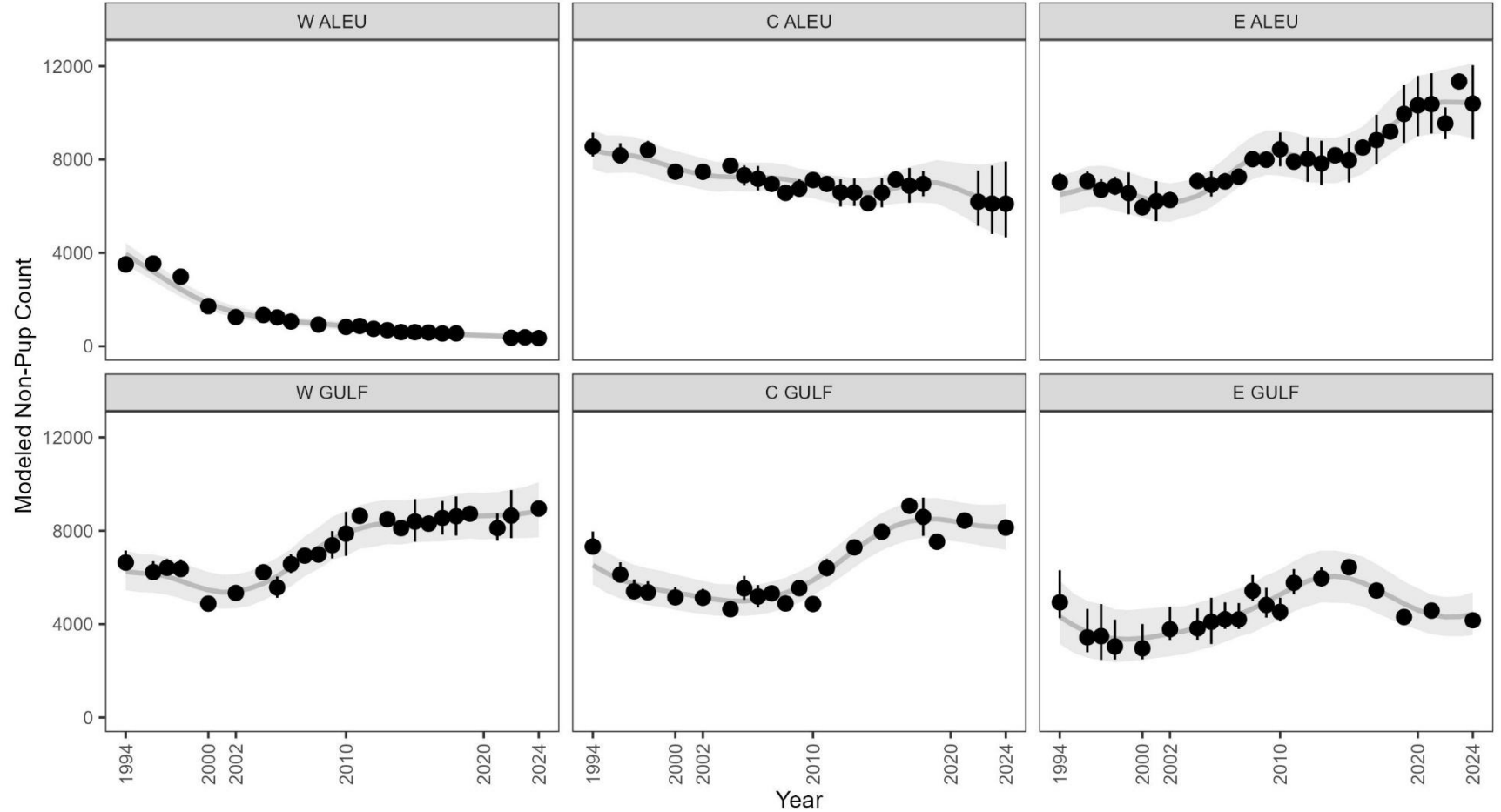


Figure 7. -- Steller sea lion agTrend modeled non-pup counts in the western (W), central (C), and eastern (E) Aleutian Islands (ALEU) and Gulf of Alaska (GULF) regions, 1994–2024. Realized counts are represented by points and vertical lines ($\pm 95\%$ credible intervals) and predicted counts are represented by the gray line and shaded area ($\pm 95\%$ credible intervals).

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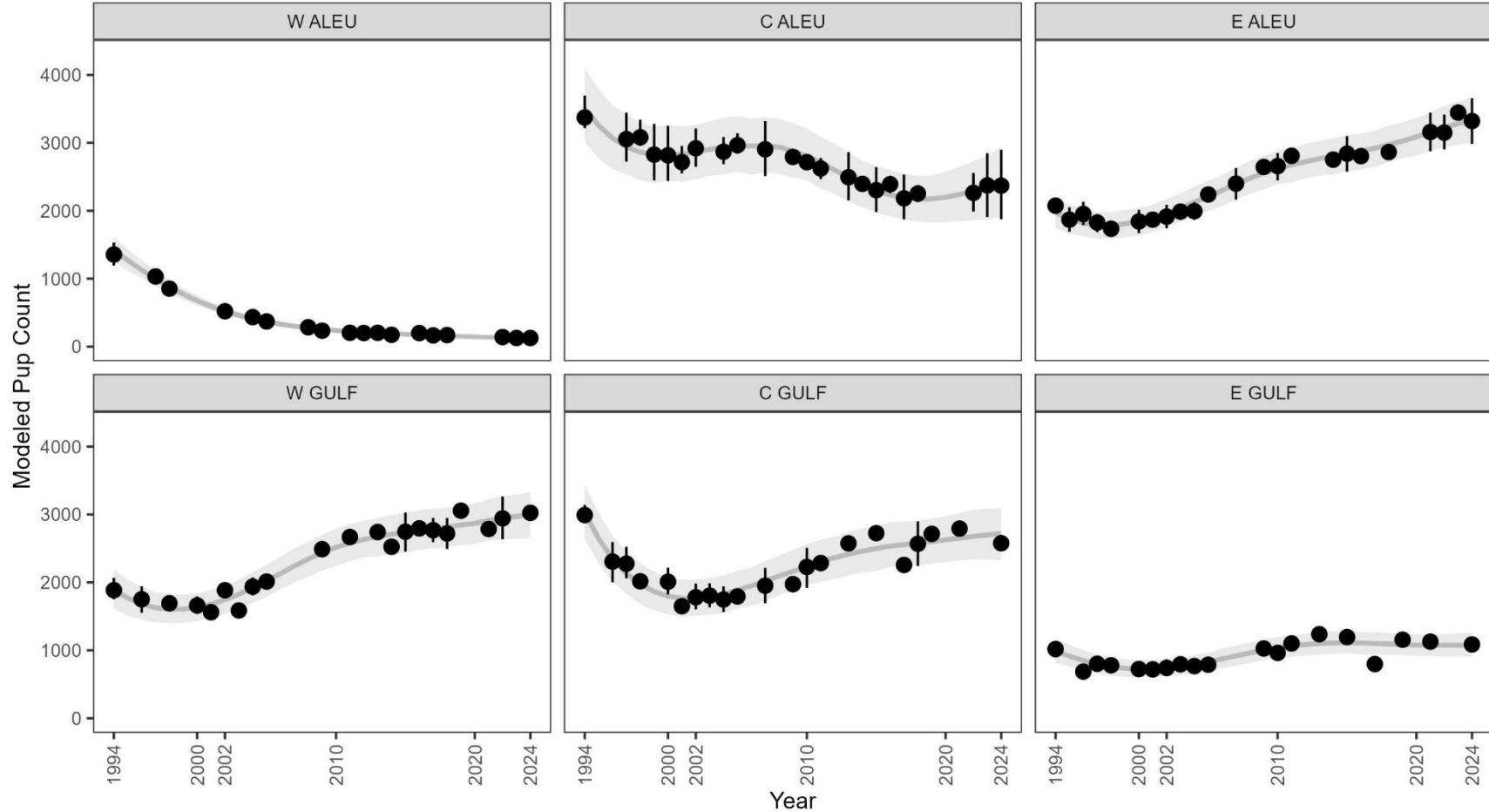


Figure 8. -- Steller sea lion agTrend modeled pup counts in the western (W), central (C), and eastern (E) Aleutian Islands (ALEU) and Gulf of Alaska (GULF) regions, 1994–2024. Realized counts are represented by points and vertical lines ($\pm 95\%$ credible intervals) and predicted counts are represented by the gray line and shaded area ($\pm 95\%$ credible intervals).

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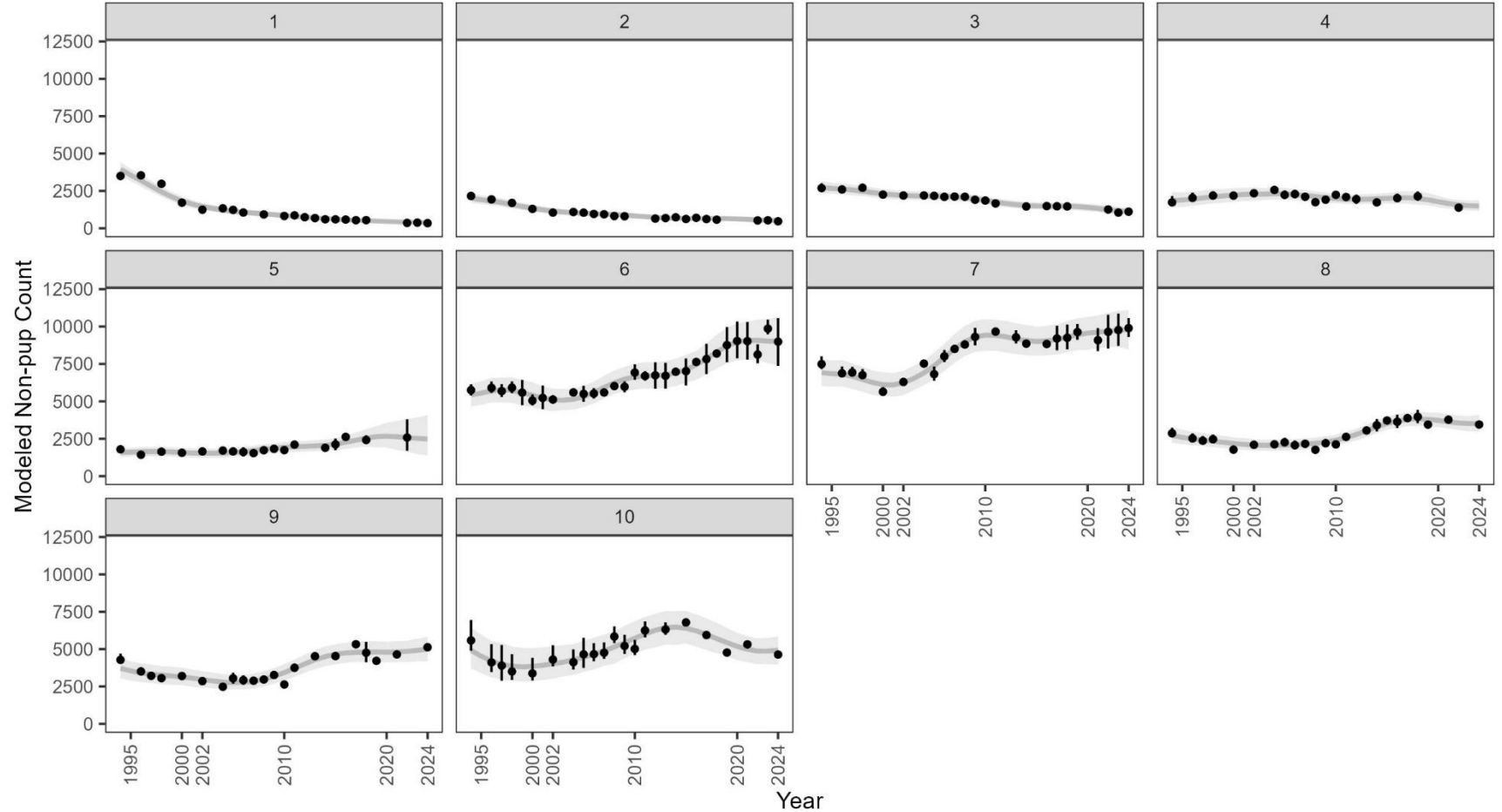


Figure 9. -- Steller sea lion agTrend modeled non-pup counts in rookery cluster areas (RCA) 1-10, 1994–2024. Realized counts are represented by points and vertical lines ($\pm 95\%$ credible intervals) and predicted counts are represented by the gray line and shaded area ($\pm 95\%$ credible intervals).

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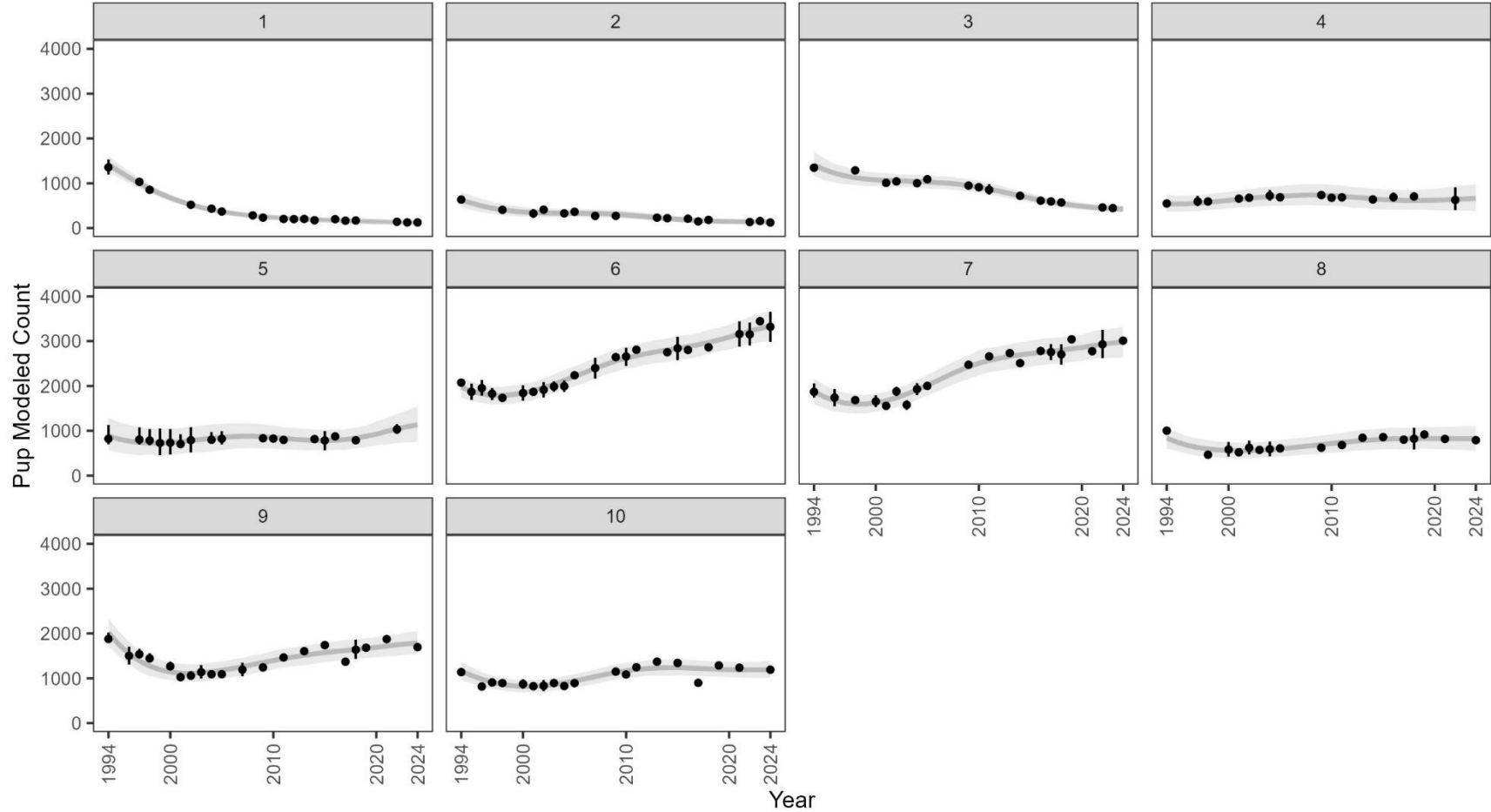


Figure 10. -- Steller sea lion agTrend modeled pup counts in rookery cluster areas 1-10, 1994–2024. Realized counts are represented by points and vertical lines ($\pm 95\%$ credible intervals) and predicted counts are represented by the gray line and shaded area ($\pm 95\%$ credible intervals).

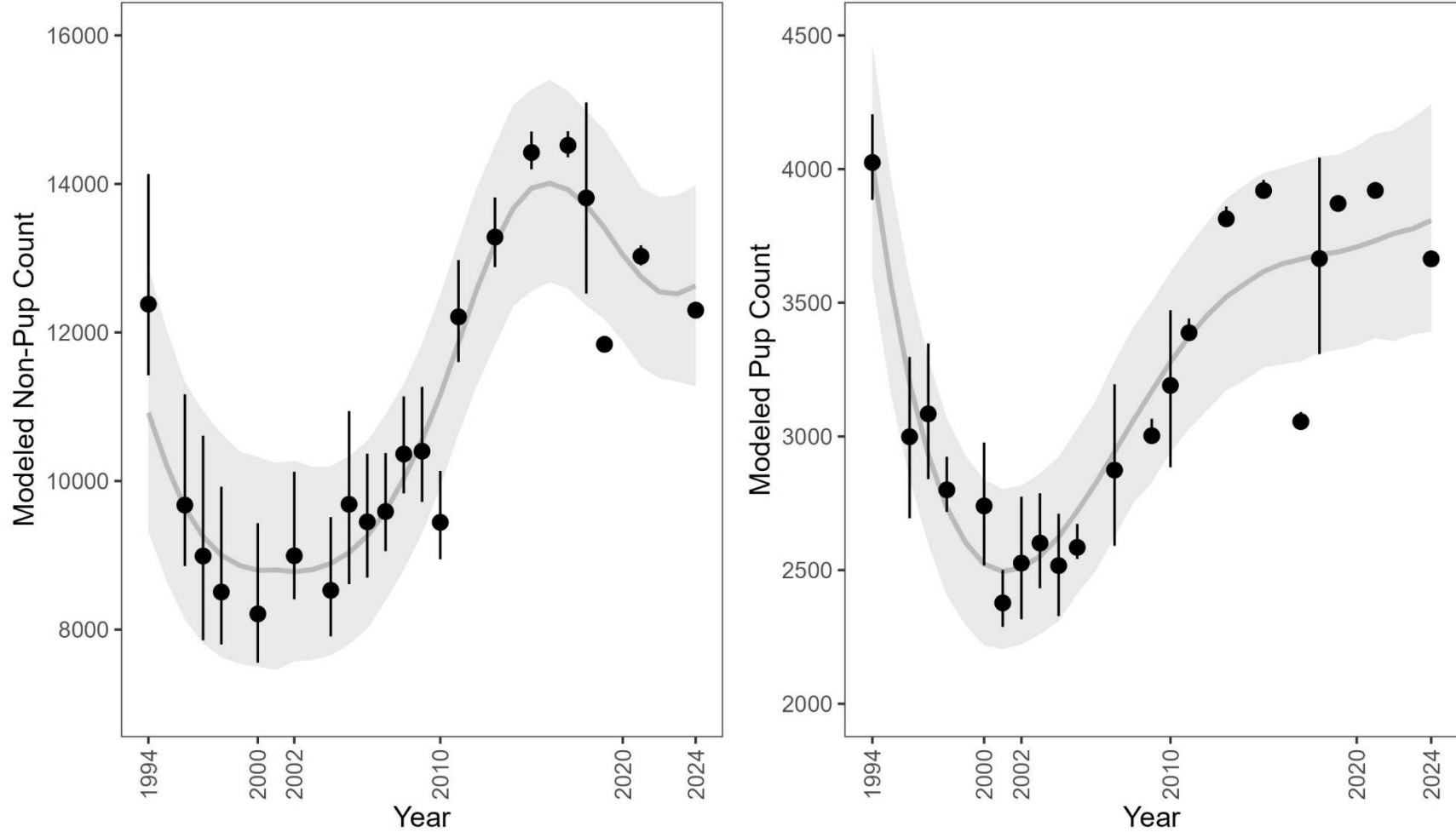


Figure 11. -- Steller sea lion agTrend modeled non-pup and pup counts in the combined central and eastern Gulf of Alaska regions (E+C GULF), 1994-2024 (note y-axis scales differ). Realized counts are represented by points and vertical lines ($\pm 95\%$ credible intervals) and predicted counts are represented by the gray line and shaded area ($\pm 95\%$ credible intervals).

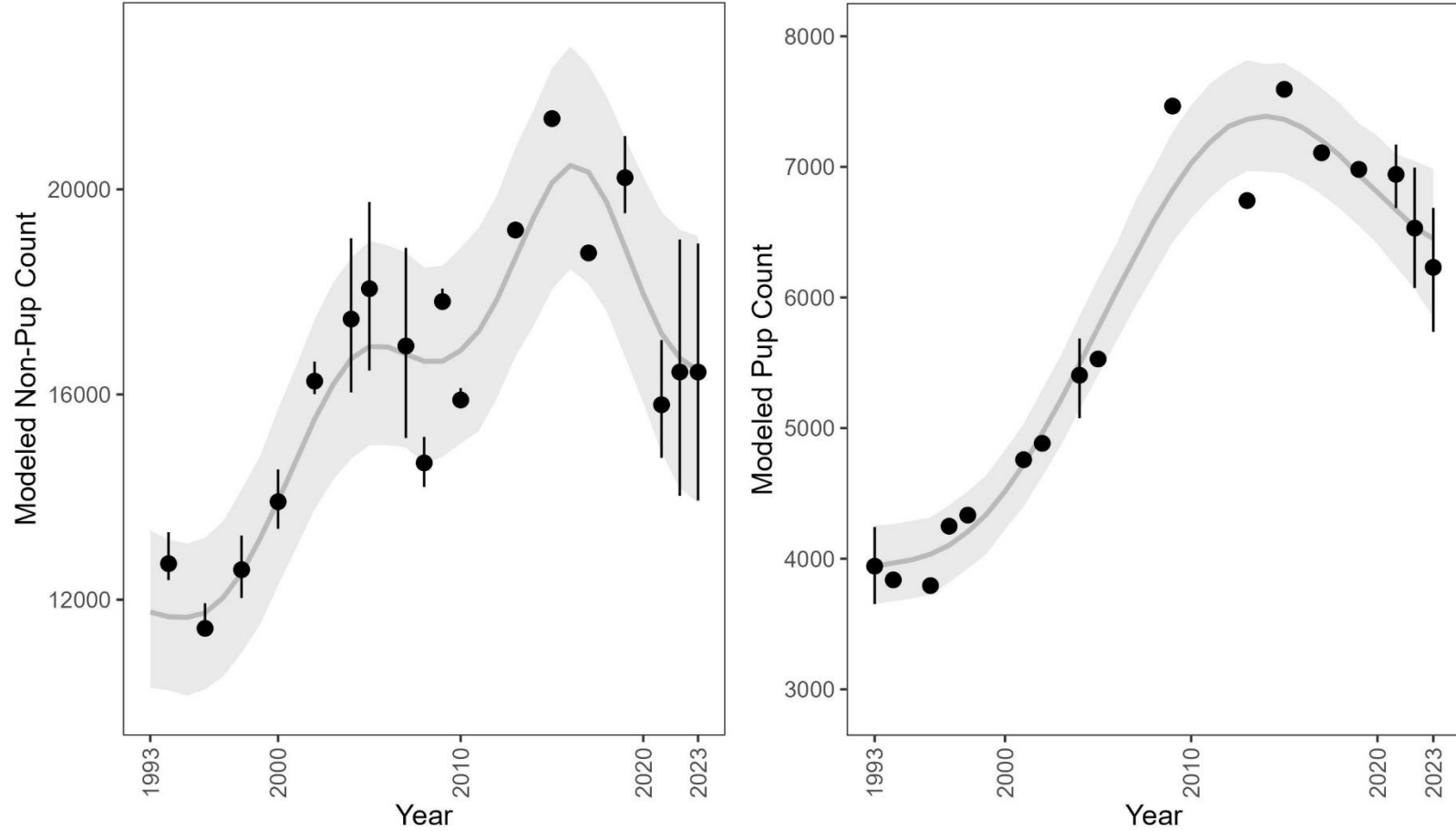
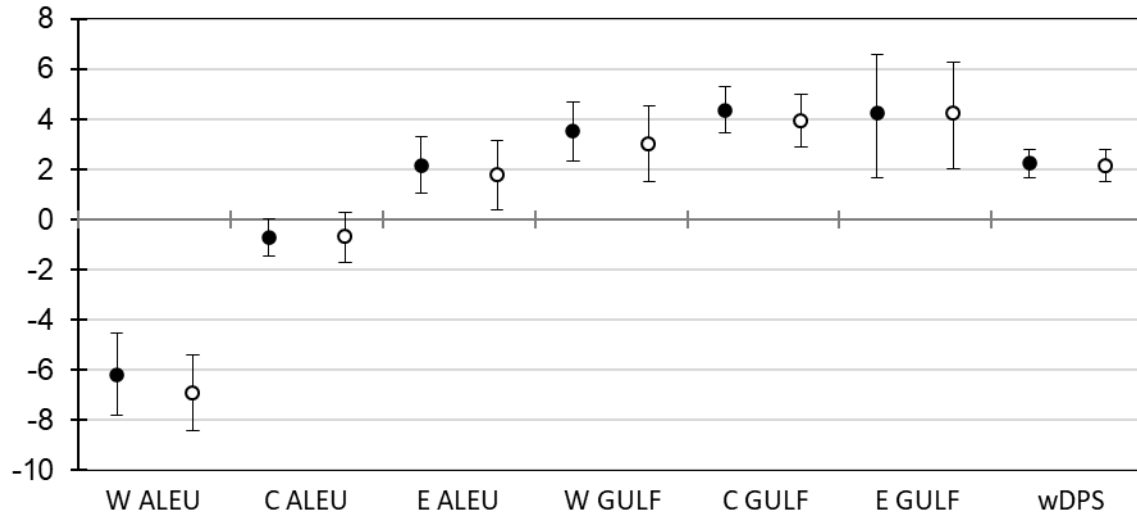


Figure 12. -- Steller sea lion agTrend modeled non-pup and pup counts in southeast Alaska region (eastern Distinct Population Segment), 1993–2023 (note y-axis scales differ). Realized counts are represented by points and vertical lines ($\pm 95\%$ credible intervals) and predicted counts are represented by the gray line and shaded area ($\pm 95\%$ credible intervals).

A. Non-Pups



B. Pups

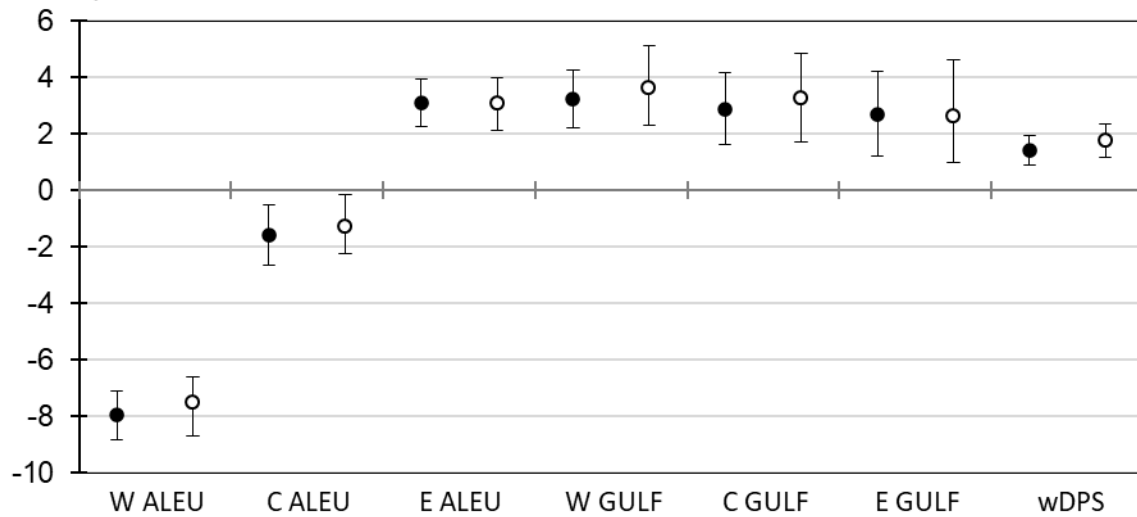


Figure 13. -- Comparison of the original (solid circles) and updated (hollow circles; 5-year review analysis; NMFS 2020) agTrend model estimated annual rates of change (upper and lower 95% credible intervals; $\pm 95\%$ CI) of Steller sea lion non-pups (A) and pups (B) in the western (W), central (C), and eastern (E) Aleutian Islands (ALEU) regions, 2001-2016, and the W, C, and E Gulf of Alaska (GULF) regions and the western Distinct Population Segment (DPS), 2002-2017 (note y-axis scales differ).

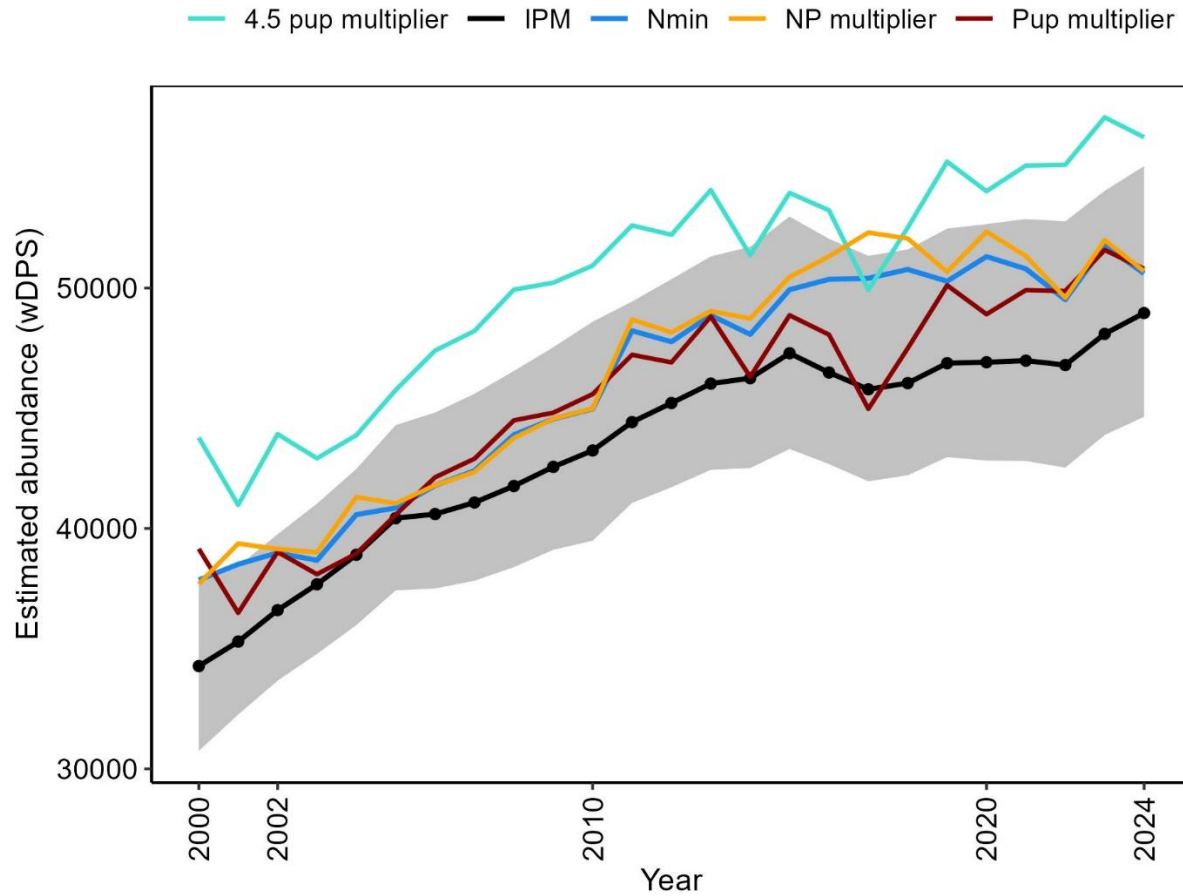


Figure 14. -- Steller sea lion abundance and N_{min} estimates in the total western distinct population segment (wDPS) in Alaska, 2000–2024. Abundance estimated using the integrated population model (IPM; black line and 95% credible interval grey shaded area), N_{min} (dark blue), the 4.5 pup multiplier (light blue), and abundance estimates derived from pup- (red) and non-pup- (NP; gold) based correction factors.

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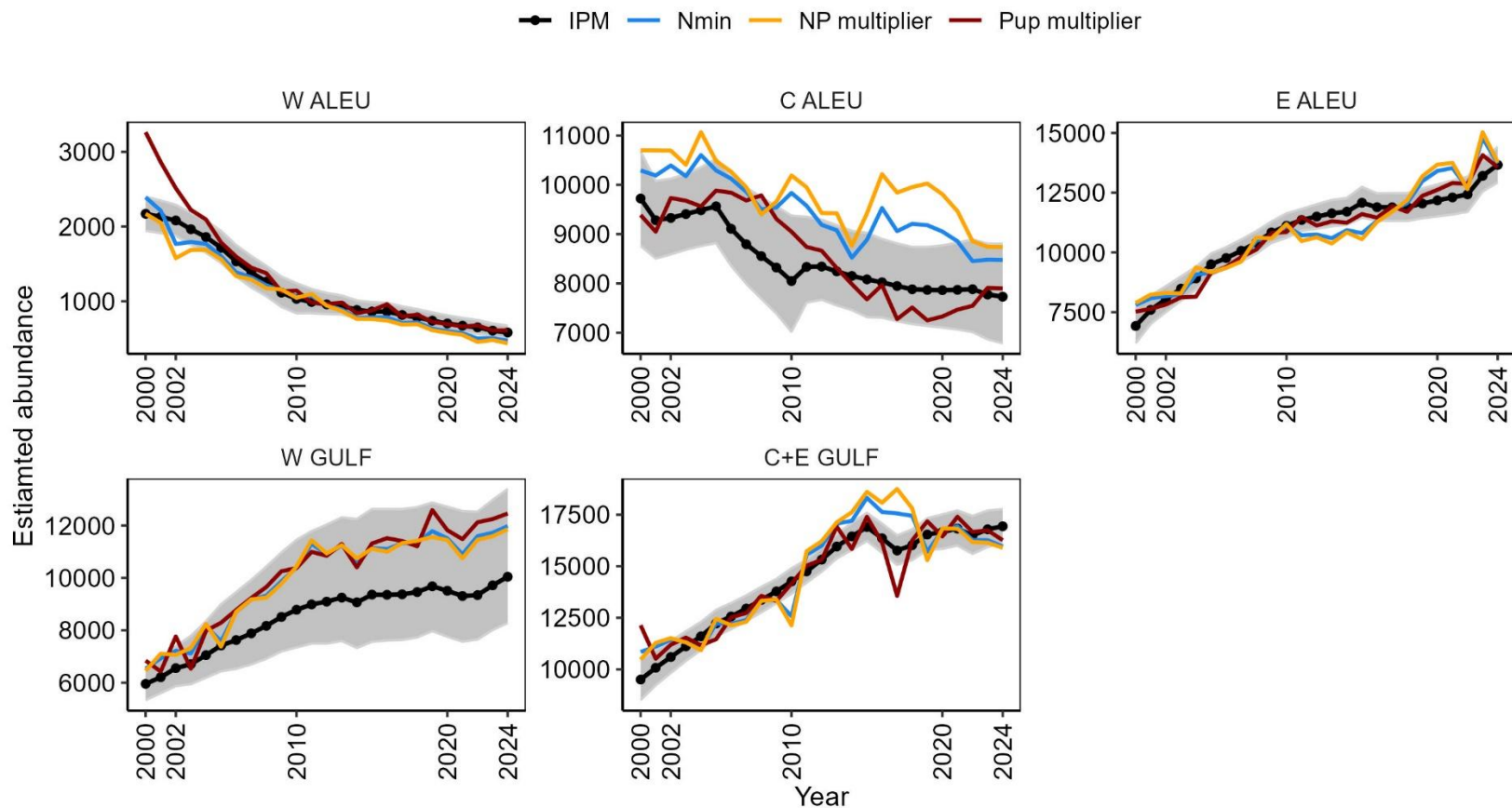


Figure 15. -- Steller sea lion abundance estimates and $N_{\min}$ in the western (W), central (C), and eastern (E) Aleutian Islands (ALEU) and the western (W) and combined central and eastern (E+C) Gulf of Alaska (GULF) regions, 2000–2024 (note y-axis scales differ). The Abundance estimated using the integrated population model (IPM; black line and 95% credible interval grey shaded area), $N_{\min}$ (dark blue), and abundance estimates derived from pup- (red) and non-pup- (NP; gold) based correction factors.

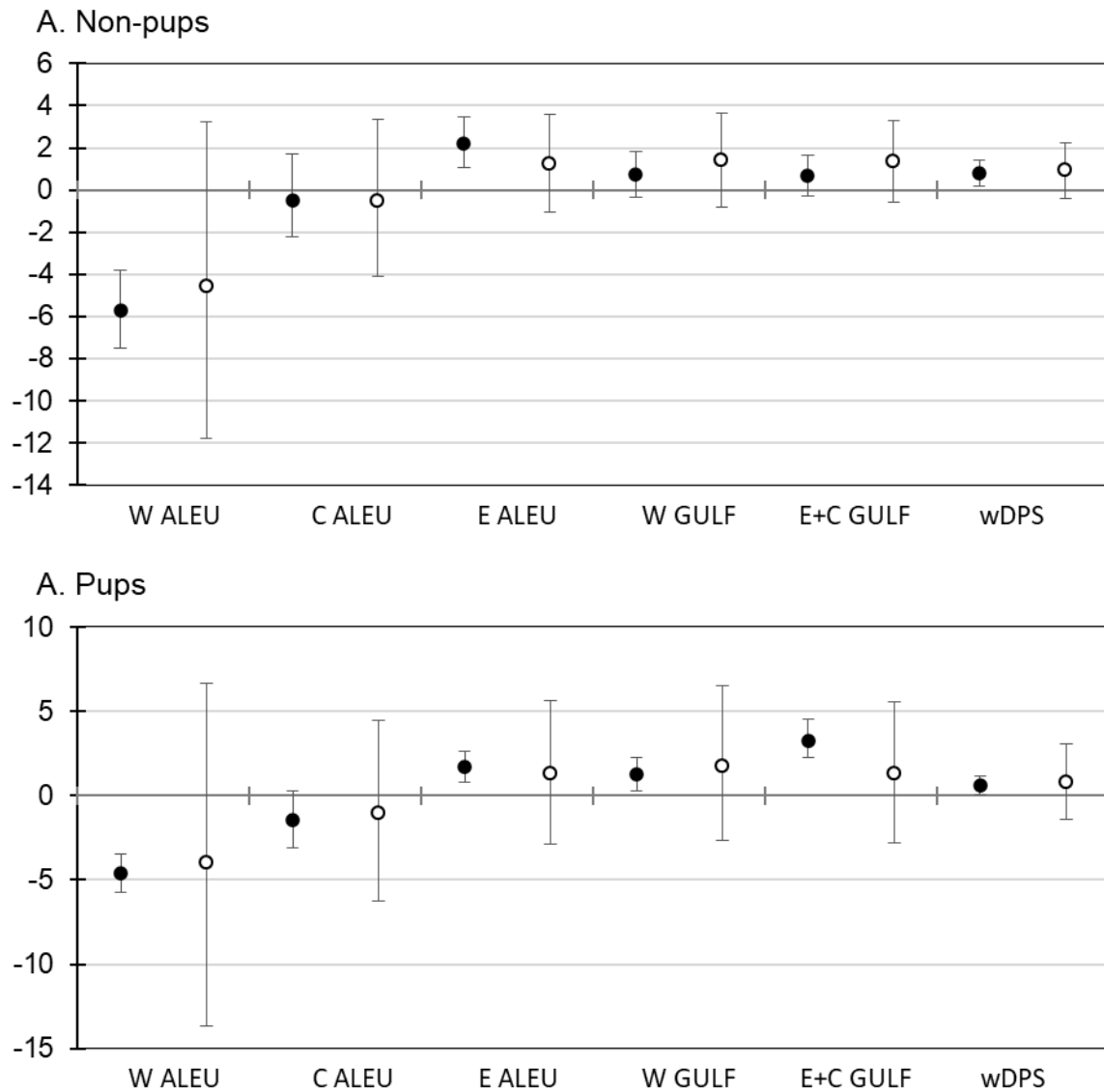


Figure 16. -- Comparison of agTrend modeled count (solid circles) and integrated population model abundance (hollow circles) annual rates of change (upper and lower 95% credible intervals; $\pm 95\%$ CI) of Steller sea lion non-pups (A) and pups (B) in the western (W), central (C), and eastern (E) Aleutian Islands (ALEU) regions and the W and combined C and E (E+C) Gulf of Alaska (GULF) regions and the western Distinct Population Segment (DPS), 2009-2024 (note y-axis scales differ).

APPENDIX

Appendix Table 1. -- Corrected site counts from what was reported in 2019-2023 annual survey processed reports.

Site	Region	R	Year	Date	Previously Reported		Corrected Count	
					Non-Pup	Pup	Non-Pup	Pup
ALOID	W ALEU		2023	6/23	40		38	
TAG	C ALEU	1	2022	7/9	155		156	
YUNASKA	C ALEU	1	2022	7/10	293		294	
OLD MAN ROCKS	E ALEU		2023	7/2	18		19	
ROOTOK/NORTH	E ALEU		2023	7/2	90		92	
TANGINAK	E ALEU		2023	7/2	36		37	
UNALASKA/CAPE IZIGAN	E ALEU	1	2022	7/10	246		240	
UNALASKA/SPRAY CAPE	E ALEU		2022	6/27	76		78	
CLUBBING ROCKS NORTH	W GULF	1	2021	7/7	52	0	416	309
CLUBBING ROCKS SOUTH	W GULF	1	2021	7/7	1011	883	647	574
EGG (SAND POINT)	W GULF		2019	7/1	37		38	
UNGA/ACHEREDIN POINT	W GULF		2021	7/7	174		180	
KODIAK/IZHUT BAY	C GULF		2021	7/3	48		50	
NAGAHUT ROCKS	C GULF		2019	6/27	62		63	
OUTER (PYE)	C GULF	1	2019	6/26	180		182	
PUALE BAY	C GULF		2019	7/3	166		169	
SEA LION ROCKS (MARMOT)	C GULF		2021	6/29	37		38	
SUKLIK	C GULF		2019	7/1	90		92	
USHAGAT/ROCKS SOUTH	C GULF		2019	6/26	67		68	
AIALIK CAPE*	E GULF		2019	6/26	107		110	
CAPE PUGET	E GULF		2019	6/27	16		17	
STEEP POINT**	E GULF		2019	6/27	69		70	
BENJAMIN	SE AK		2021	6/27	30		31	
FORRESTER/FORRESTER ISLAND	SE AK	1	2021	6/23	37		38	

*Change in NO NAME subsite count that is aggregated with AIALIK CAPE

**Change in RAGGED/HOOF POINT subsite count that is aggregated with STEEP POINT

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Appendix Table 2. -- Modeled predicted and realized count estimates of Steller sea lion non-pups (1978-2024) and pups (1971-2024) with upper and lower credible intervals ($\pm$ 95% CI), listed by region. The year with the minimum count for each region and count type is **bold**.

Year	Non-Pup							Pup						
	PRED	-95% CI	+95% CI	REAL	-95% CI	+95% CI	S	PRED	-95% CI	+95% CI	REAL	-95% CI	+95% CI	S
Western Aleutian Islands Region - Western DPS														
1973								3,598	2,135	5,807	3,598	2,135	5,807	0
1974								3,553	2,184	5,677	3,553	2,184	5,677	0
1975								3,526	2,196	5,477	3,526	2,196	5,477	0
1976								3,483	2,268	5,393	3,483	2,268	5,393	0
1977								3,457	2,281	5,212	3,457	2,281	5,212	0
1978	25,033	23,115	26,794	27,301	26,152	28,401	1	3,419	2,288	5,084	3,419	2,288	5,084	0
1979	23,257	21,625	24,925	22,440	22,437	22,463	1	3,367	2,306	4,887	3,355	2,354	4,863	1
1980	20,410	18,762	22,240	20,410	18,762	22,240	0	3,266	2,297	4,555	3,266	2,297	4,555	0
1981	18,163	16,068	20,193	18,163	16,068	20,193	0	3,197	2,317	4,315	3,197	2,317	4,315	0
1982	16,362	13,819	18,913	16,362	13,819	18,913	0	3,121	2,291	4,052	3,121	2,291	4,052	0
1983	14,332	11,902	17,423	14,332	11,902	17,423	0	3,014	2,315	3,821	3,014	2,315	3,821	0
1984	12,219	9,749	14,999	12,219	9,749	14,999	0	2,920	2,279	3,567	2,920	2,279	3,567	0
1985	10,141	8,182	12,418	10,384	8,536	12,571	1	2,780	2,256	3,347	2,780	2,256	3,347	0
1986	8,335	6,912	9,925	8,335	6,912	9,925	0	2,620	2,180	3,095	2,620	2,180	3,095	0
1987	6,922	5,839	7,985	6,922	5,839	7,985	0	2,441	2,055	2,840	2,441	2,055	2,840	0
1988	5,961	5,216	6,771	5,663	5,166	6,225	1	2,286	1,973	2,664	2,286	1,973	2,664	0
1989	5,350	4,697	6,014	5,889	5,480	6,347	1	2,146	1,841	2,477	2,168	1,912	2,458	1
1990	4,986	4,433	5,563	4,986	4,433	5,563	0	2,005	1,730	2,322	2,015	1,774	2,294	1
1991	4,743	4,210	5,274	5,122	5,122	5,122	1	1,860	1,595	2,146	1,860	1,595	2,146	0
1992	4,547	4,051	5,059	4,714	4,711	4,723	1	1,713	1,481	1,971	1,713	1,481	1,971	0
1993	4,284	3,816	4,778	4,284	3,816	4,778	0	1,564	1,354	1,780	1,564	1,354	1,780	0
1994	3,956	3,505	4,426	3,504	3,502	3,512	1	1,416	1,243	1,607	1,356	1,193	1,532	1

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Year	Non-Pup							Pup						
	PRED	-95% CI	+95% CI	REAL	-95% CI	+95% CI	S	PRED	-95% CI	+95% CI	REAL	-95% CI	+95% CI	S
Western Aleutian Islands Region - Western DPS Cont.														
1995	3,558	3,151	3,986	3,558	3,151	3,986	0	1,270	1,123	1,432	1,270	1,123	1,432	0
1996	3,196	2,799	3,611	3,543	3,543	3,550	1	1,129	1,008	1,271	1,129	1,008	1,271	0
1997	2,813	2,445	3,189	2,813	2,445	3,189	0	998	891	1,115	1,033	986	1,115	1
1998	2,440	2,118	2,787	2,979	2,979	2,979	1	879	787	984	853	812	921	1
1999	2,108	1,815	2,444	2,108	1,815	2,444	0	772	688	855	772	688	855	0
2000	1,835	1,561	2,137	1,716	1,716	1,716	1	675	605	750	675	605	750	0
2001	1,621	1,369	1,893	1,621	1,369	1,893	0	593	532	658	593	532	658	0
2002	1,458	1,223	1,704	1,247	1,247	1,247	1	521	468	580	520	502	541	1
2003	1,333	1,122	1,568	1,333	1,122	1,568	0	460	413	513	460	413	513	0
2004	1,226	1,026	1,445	1,335	1,335	1,335	1	409	362	453	434	413	458	1
2005	1,143	948	1,349	1,235	1,163	1,311	1	366	325	407	370	370	370	1
2006	1,080	890	1,281	1,057	1,020	1,098	1	331	292	369	331	292	369	0
2007	1,021	831	1,209	1,021	831	1,209	0	300	264	335	300	264	335	0
2008	972	788	1,150	929	929	929	1	275	241	308	285	277	293	1
2009	915	742	1,091	915	742	1,091	0	254	221	285	234	234	234	1
2010	859	688	1,023	827	765	892	1	237	208	267	237	208	267	0
2011	806	647	967	867	816	916	1	223	194	252	203	196	212	1
2012	751	606	915	745	745	745	1	211	185	240	200	200	200	1
2013	701	560	848	688	573	820	1	200	173	227	203	203	203	1
2014	653	523	798	604	597	620	1	191	166	219	174	174	174	1
2015	610	479	743	602	477	726	1	182	156	207	182	156	207	0
2016	572	450	705	587	587	587	1	173	148	198	199	199	199	1
2017	539	418	663	545	430	662	1	165	142	190	165	142	189	1
2018	511	395	637	549	532	569	1	157	135	181	170	170	173	1
2019	484	363	601	484	363	601	0	150	128	173	150	128	173	0
2020	457	349	574	457	349	574	0	144	122	166	144	122	166	0

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Year	Non-Pup							Pup						
	PRED	-95% CI	+95% CI	REAL	-95% CI	+95% CI	S	PRED	-95% CI	+95% CI	REAL	-95% CI	+95% CI	S
Western Aleutian Islands Region - Western DPS Cont.														
2021	435	331	543	435	331	543	0	138	116	159	138	116	159	0
2022	417	318	516	361	344	386	1	133	112	154	140	140	144	1
2023	403	307	509	381	366	408	1	129	108	150	126	126	130	1
2024	395	295	500	346	332	375	1	126	104	147	127	126	130	1
Central Aleutian Islands Region - Western DPS														
1973								15,548	11,256	20,582	15,548	11,256	20,582	0
1974								14,806	10,887	19,118	14,806	10,887	19,118	0
1975								14,099	10,636	17,946	14,099	10,636	17,946	0
1976								13,455	10,454	16,980	13,455	10,454	16,980	0
1977								12,888	10,223	16,033	12,888	10,223	16,033	0
1978	42,561	38,949	46,489	42,564	38,970	46,501	1	12,376	9,930	15,111	12,376	9,930	15,111	0
1979	41,258	38,045	44,856	42,939	41,335	45,744	1	11,522	9,500	13,872	10,513	8,986	12,461	1
1980	38,974	36,142	42,326	38,974	36,142	42,326	0	10,549	8,805	12,348	10,549	8,805	12,348	0
1981	37,221	34,375	40,095	37,221	34,375	40,095	0	9,742	8,198	11,211	9,742	8,198	11,211	0
1982	36,055	33,314	38,880	36,055	33,314	38,880	0	9,108	7,816	10,434	9,108	7,816	10,434	0
1983	33,769	31,188	36,531	33,769	31,188	36,531	0	8,479	7,356	9,735	8,479	7,356	9,735	0
1984	30,379	28,041	33,022	30,379	28,041	33,022	0	7,968	6,875	9,084	7,968	6,875	9,084	0
1985	26,204	23,997	28,434	28,951	27,710	30,547	1	7,486	6,442	8,564	9,982	9,679	10,546	1
1986	21,882	20,042	23,810	21,882	20,042	23,810	0	6,945	5,976	7,922	6,945	5,976	7,922	0
1987	17,991	16,538	19,758	18,274	16,785	19,989	1	6,389	5,504	7,339	6,389	5,504	7,339	0
1988	14,841	13,471	16,221	14,841	13,471	16,221	0	5,900	5,095	6,754	5,900	5,095	6,754	0
1989	12,465	11,326	13,798	10,311	9,486	11,389	1	5,483	4,658	6,277	4,976	4,335	5,649	1
1990	10,797	9,779	11,969	10,964	10,221	12,007	1	5,064	4,322	5,823	3,862	3,659	4,258	1
1991	9,696	8,759	10,729	10,528	9,896	11,364	1	4,614	3,932	5,340	4,614	3,932	5,340	0
1992	9,007	8,100	9,982	9,425	8,917	10,181	1	4,201	3,595	4,879	4,201	3,595	4,879	0
1993	8,604	7,776	9,564	8,604	7,776	9,564	0	3,822	3,253	4,411	3,822	3,253	4,411	0

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	PRED	-95% CI	+95% CI	REAL	-95% CI	+95% CI	S	PRED	-95% CI	+95% CI	REAL	-95% CI	+95% CI	S
Central Aleutian Islands Region - Western DPS Cont.														
1994	8,396	7,600	9,247	8,554	8,128	9,144	1	3,507	3,015	4,103	3,373	3,215	3,694	1
1995	8,270	7,406	9,029	8,270	7,406	9,029	0	3,254	2,771	3,787	3,254	2,771	3,787	0
1996	8,228	7,433	9,026	8,178	7,858	8,699	1	3,070	2,619	3,548	3,070	2,619	3,548	0
1997	8,150	7,431	8,968	8,150	7,431	8,968	0	2,941	2,538	3,423	3,055	2,724	3,444	1
1998	8,008	7,307	8,774	8,410	8,145	8,800	1	2,864	2,449	3,293	3,082	2,953	3,342	1
1999	7,820	7,089	8,541	7,820	7,089	8,541	0	2,825	2,407	3,239	2,827	2,448	3,281	1
2000	7,633	6,963	8,367	7,477	7,291	7,802	1	2,817	2,443	3,261	2,816	2,438	3,250	1
2001	7,475	6,843	8,213	7,475	6,843	8,213	0	2,835	2,426	3,239	2,715	2,549	2,954	1
2002	7,352	6,711	8,052	7,473	7,303	7,744	1	2,866	2,466	3,260	2,920	2,646	3,211	1
2003	7,273	6,608	7,896	7,273	6,608	7,896	0	2,903	2,514	3,318	2,903	2,514	3,318	0
2004	7,251	6,664	7,920	7,734	7,578	7,960	1	2,931	2,540	3,368	2,869	2,685	3,086	1
2005	7,246	6,622	7,870	7,327	6,876	7,748	1	2,957	2,571	3,391	2,965	2,840	3,139	1
2006	7,233	6,625	7,865	7,173	6,673	7,720	1	2,952	2,535	3,356	2,952	2,535	3,356	0
2007	7,212	6,629	7,861	6,954	6,627	7,287	1	2,961	2,556	3,379	2,905	2,511	3,319	1
2008	7,155	6,571	7,771	6,568	6,379	6,773	1	2,936	2,546	3,354	2,936	2,546	3,354	0
2009	7,051	6,431	7,611	6,749	6,400	7,147	1	2,882	2,489	3,287	2,792	2,725	2,885	1
2010	6,920	6,341	7,518	7,121	6,937	7,325	1	2,805	2,448	3,212	2,715	2,603	2,831	1
2011	6,776	6,187	7,350	6,953	6,714	7,205	1	2,709	2,333	3,089	2,622	2,466	2,777	1
2012	6,663	6,094	7,281	6,588	5,984	7,145	1	2,599	2,247	2,984	2,599	2,247	2,984	0
2013	6,598	5,986	7,184	6,584	6,007	7,199	1	2,493	2,138	2,852	2,493	2,152	2,862	1
2014	6,585	5,981	7,210	6,125	5,976	6,273	1	2,385	2,050	2,742	2,396	2,319	2,478	1
2015	6,643	6,028	7,304	6,581	5,954	7,208	1	2,299	1,974	2,655	2,303	1,981	2,641	1
2016	6,772	6,110	7,466	7,139	6,809	7,504	1	2,234	1,921	2,600	2,391	2,261	2,517	1
2017	6,929	6,161	7,682	6,878	6,149	7,638	1	2,191	1,867	2,543	2,183	1,872	2,532	1
2018	7,029	6,152	7,827	6,955	6,423	7,502	1	2,169	1,840	2,513	2,254	2,126	2,379	1
2019	7,006	6,123	7,974	7,006	6,123	7,974	0	2,175	1,830	2,518	2,175	1,830	2,518	0

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Central Aleutian Islands Region - Western DPS Cont.														
2020	6,854	5,852	7,900	6,854	5,852	7,900	0	2,199	1,834	2,575	2,199	1,834	2,575	0
2021	6,615	5,529	7,833	6,615	5,529	7,833	0	2,240	1,847	2,647	2,240	1,847	2,647	0
2022	6,386	5,169	7,780	6,188	5,152	7,527	1	2,289	1,865	2,731	2,264	1,990	2,556	1
2023	6,231	4,889	7,828	6,110	4,809	7,736	1	2,343	1,868	2,814	2,373	1,907	2,848	1
2024	6,160	4,703	7,941	6,106	4,664	7,914	1	2,388	1,910	2,938	2,370	1,873	2,897	1
Eastern Aleutian Islands Region - Western DPS														
1973								12,063	9,156	15,494	12,461	9,627	15,847	1
1974								11,532	8,704	14,462	11,532	8,704	14,462	0
1975								11,030	8,555	13,830	11,030	8,555	13,830	0
1976								10,558	8,221	12,981	10,558	8,221	12,981	0
1977								10,124	8,092	12,430	10,124	8,092	12,430	0
1978	21,688	15,686	28,575	21,697	15,885	28,661	1	9,709	7,856	11,773	9,709	7,856	11,773	0
1979	20,681	15,849	26,891	20,734	15,497	26,557	1	9,029	7,367	10,718	8,441	6,958	10,194	1
1980	19,053	14,899	23,261	19,053	14,899	23,261	0	8,177	6,878	9,594	8,177	6,878	9,594	0
1981	17,777	14,599	21,079	17,777	14,599	21,079	0	7,431	6,371	8,592	7,431	6,371	8,592	0
1982	16,802	14,348	19,624	16,826	14,254	19,522	1	6,779	5,836	7,596	6,781	5,841	7,594	1
1983	15,471	13,415	17,701	15,487	13,446	17,727	1	6,085	5,380	6,809	6,085	5,380	6,809	0
1984	13,851	12,053	15,652	14,680	13,494	16,260	1	5,479	4,884	6,082	5,479	4,884	6,082	0
1985	12,100	10,604	13,747	13,152	12,339	14,326	1	4,908	4,388	5,415	5,323	5,157	5,573	1
1986	10,407	9,076	11,764	11,379	10,316	12,644	1	4,358	3,924	4,823	4,329	3,948	4,734	1
1987	8,941	7,830	10,164	8,917	7,803	10,135	1	3,866	3,483	4,288	3,866	3,483	4,288	0
1988	7,826	6,793	8,874	7,813	6,884	8,945	1	3,435	3,083	3,803	3,435	3,083	3,803	0
1989	7,052	6,147	7,996	4,772	4,263	5,382	1	3,063	2,739	3,405	2,906	2,634	3,199	1
1990	6,570	5,724	7,424	6,396	6,072	6,870	1	2,747	2,446	3,057	2,461	2,344	2,612	1
1991	6,329	5,542	7,163	6,775	6,508	7,205	1	2,483	2,203	2,765	2,555	2,375	2,744	1
1992	6,289	5,490	7,097	7,103	6,830	7,480	1	2,266	2,023	2,526	2,286	2,065	2,513	1

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Eastern Aleutian Islands Region - Western DPS Cont.														
1993	6,367	5,598	7,187	6,305	5,534	7,081	1	2,099	1,860	2,332	2,074	1,873	2,277	1
1994	6,499	5,654	7,301	7,032	6,682	7,416	1	1,973	1,745	2,185	2,075	2,005	2,154	1
1995	6,629	5,789	7,467	6,629	5,789	7,467	0	1,880	1,662	2,090	1,869	1,691	2,050	1
1996	6,789	5,962	7,700	7,070	6,735	7,493	1	1,822	1,626	2,035	1,952	1,787	2,133	1
1997	6,834	5,968	7,741	6,705	6,332	7,152	1	1,790	1,584	1,985	1,826	1,685	1,952	1
1998	6,739	5,807	7,642	6,846	6,479	7,265	1	1,787	1,585	1,987	1,735	1,704	1,767	1
1999	6,565	5,664	7,456	6,558	5,651	7,443	1	1,807	1,611	2,009	1,807	1,611	2,009	0
2000	6,364	5,495	7,266	5,950	5,626	6,355	1	1,844	1,641	2,040	1,842	1,671	2,014	1
2001	6,205	5,349	7,066	6,214	5,356	7,072	1	1,896	1,685	2,090	1,869	1,846	1,894	1
2002	6,150	5,334	6,970	6,262	6,015	6,555	1	1,963	1,763	2,171	1,914	1,743	2,088	1
2003	6,252	5,510	7,071	6,252	5,510	7,071	0	2,040	1,834	2,255	1,988	1,873	2,102	1
2004	6,436	5,660	7,227	7,076	6,824	7,356	1	2,126	1,918	2,355	1,994	1,867	2,125	1
2005	6,768	5,954	7,579	6,919	6,414	7,497	1	2,212	1,994	2,437	2,239	2,213	2,264	1
2006	7,219	6,380	8,052	7,057	6,724	7,419	1	2,299	2,070	2,524	2,299	2,070	2,524	0
2007	7,698	6,813	8,571	7,261	7,072	7,459	1	2,396	2,165	2,633	2,400	2,165	2,631	1
2008	8,069	7,154	9,006	8,015	7,851	8,200	1	2,477	2,255	2,733	2,477	2,255	2,733	0
2009	8,277	7,345	9,243	7,989	7,660	8,352	1	2,557	2,316	2,810	2,644	2,642	2,649	1
2010	8,295	7,308	9,257	8,441	7,706	9,157	1	2,618	2,397	2,889	2,658	2,447	2,852	1
2011	8,175	7,220	9,156	7,907	7,605	8,239	1	2,675	2,414	2,919	2,809	2,795	2,825	1
2012	8,017	7,037	8,974	8,025	7,044	8,974	1	2,723	2,481	2,984	2,723	2,481	2,984	0
2013	7,893	6,994	8,933	7,829	6,904	8,807	1	2,767	2,518	3,027	2,767	2,518	3,027	0
2014	7,916	6,977	8,920	8,180	8,045	8,325	1	2,802	2,536	3,063	2,753	2,719	2,788	1
2015	8,077	7,163	9,112	7,966	7,022	8,914	1	2,841	2,583	3,113	2,841	2,576	3,099	1
2016	8,397	7,374	9,407	8,512	8,404	8,636	1	2,878	2,606	3,138	2,804	2,784	2,824	1
2017	8,875	7,818	9,970	8,832	7,787	9,917	1	2,921	2,649	3,179	2,921	2,649	3,179	0
2018	9,394	8,234	10,605	9,197	9,085	9,323	1	2,971	2,718	3,253	2,864	2,841	2,885	1

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Eastern Aleutian Islands Region - Western DPS Cont.														
2019	9,891	8,636	11,134	9,952	8,716	11,177	1	3,027	2,774	3,304	3,027	2,774	3,304	0
2020	10,250	9,004	11,587	10,321	9,008	11,587	1	3,089	2,817	3,365	3,089	2,817	3,365	0
2021	10,418	9,071	11,699	10,373	9,112	11,697	1	3,160	2,880	3,449	3,159	2,876	3,443	1
2022	10,463	9,122	11,862	9,547	8,872	10,234	1	3,224	2,936	3,541	3,151	2,903	3,416	1
2023	10,451	9,050	11,989	11,344	11,151	11,572	1	3,283	2,977	3,612	3,445	3,420	3,471	1
2024	10,428	8,908	12,115	10,396	8,858	12,042	1	3,335	2,994	3,671	3,321	2,982	3,656	1
Western Gulf of Alaska Region - Western DPS														
1973								11,221	9,315	13,454	11,221	9,315	13,454	0
1974								10,800	8,956	12,758	10,800	8,956	12,758	0
1975								10,439	8,756	12,303	10,439	8,756	12,303	0
1976								10,053	8,477	11,786	10,053	8,477	11,786	0
1977								9,701	8,277	11,379	9,701	8,277	11,379	0
1978	20,588	16,540	25,430	22,090	18,902	26,674	1	9,378	7,978	10,894	8,288	7,603	9,081	1
1979	19,332	15,689	23,838	18,859	15,844	23,030	1	8,832	7,542	10,182	9,734	9,508	10,376	1
1980	17,306	14,238	21,062	17,306	14,238	21,062	0	8,095	6,922	9,333	8,095	6,922	9,333	0
1981	15,680	12,826	18,925	15,680	12,826	18,925	0	7,435	6,438	8,590	7,435	6,438	8,590	0
1982	14,349	11,808	17,260	14,349	11,808	17,260	0	6,874	5,944	7,932	6,874	5,944	7,932	0
1983	12,881	10,571	15,421	12,881	10,571	15,421	0	6,229	5,379	7,263	6,229	5,379	7,263	0
1984	11,389	9,500	13,750	11,389	9,500	13,750	0	5,680	4,861	6,597	6,074	5,812	6,658	1
1985	9,958	8,263	11,840	10,404	9,172	11,877	1	5,108	4,333	5,947	5,108	4,333	5,947	0
1986	8,713	7,308	10,260	9,611	8,550	10,881	1	4,553	3,862	5,309	4,456	3,976	5,040	1
1987	7,711	6,517	9,040	7,344	6,279	8,514	1	4,016	3,416	4,688	4,016	3,416	4,688	0
1988	7,010	5,925	8,154	7,270	6,266	8,413	1	3,568	3,031	4,190	3,568	3,031	4,190	0
1989	6,574	5,541	7,599	6,263	5,724	6,991	1	3,164	2,681	3,730	3,164	2,681	3,730	0
1990	6,323	5,420	7,319	6,347	5,888	7,063	1	2,812	2,393	3,328	2,628	2,276	3,025	1
1991	6,221	5,381	7,227	6,308	5,901	6,973	1	2,510	2,115	2,944	2,386	2,100	2,732	1

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Western Gulf of Alaska Region - Western DPS Cont.														
1992	6,214	5,362	7,115	5,891	5,710	6,423	1	2,263	1,928	2,656	2,161	1,827	2,490	1
1993	6,237	5,393	7,093	6,237	5,393	7,093	0	2,056	1,744	2,386	2,092	1,790	2,389	1
1994	6,246	5,454	7,151	6,639	6,297	7,155	1	1,889	1,616	2,186	1,886	1,751	2,067	1
1995	6,189	5,372	7,009	6,189	5,372	7,009	0	1,770	1,514	2,040	1,770	1,514	2,040	0
1996	6,161	5,346	6,983	6,230	5,975	6,690	1	1,684	1,454	1,933	1,752	1,555	1,944	1
1997	6,042	5,259	6,851	6,412	6,268	6,793	1	1,628	1,410	1,857	1,628	1,410	1,857	0
1998	5,851	5,104	6,641	6,363	6,092	6,772	1	1,605	1,398	1,823	1,693	1,609	1,783	1
1999	5,634	4,903	6,427	5,634	4,903	6,427	0	1,607	1,405	1,818	1,607	1,405	1,818	0
2000	5,461	4,766	6,233	4,877	4,750	5,194	1	1,633	1,432	1,832	1,661	1,535	1,797	1
2001	5,365	4,653	6,117	5,365	4,653	6,117	0	1,678	1,485	1,887	1,561	1,533	1,592	1
2002	5,389	4,682	6,136	5,335	5,210	5,612	1	1,745	1,541	1,956	1,885	1,783	1,992	1
2003	5,531	4,781	6,263	5,531	4,781	6,263	0	1,826	1,613	2,038	1,587	1,477	1,692	1
2004	5,742	5,027	6,517	6,223	6,107	6,465	1	1,922	1,702	2,149	1,937	1,808	2,074	1
2005	6,045	5,310	6,842	5,572	5,131	6,041	1	2,025	1,793	2,256	2,012	2,005	2,021	1
2006	6,437	5,617	7,213	6,576	6,193	7,002	1	2,130	1,902	2,378	2,130	1,902	2,378	0
2007	6,866	6,054	7,754	6,933	6,816	7,134	1	2,241	2,002	2,499	2,241	2,002	2,499	0
2008	7,275	6,364	8,138	6,982	6,877	7,157	1	2,343	2,083	2,592	2,343	2,083	2,592	0
2009	7,639	6,751	8,601	7,381	6,820	7,992	1	2,439	2,176	2,699	2,489	2,484	2,495	1
2010	7,908	6,938	8,825	7,878	6,927	8,814	1	2,519	2,241	2,788	2,519	2,241	2,788	0
2011	8,102	7,226	9,090	8,637	8,459	8,847	1	2,581	2,314	2,858	2,669	2,667	2,671	1
2012	8,258	7,315	9,240	8,258	7,315	9,240	0	2,633	2,368	2,907	2,633	2,368	2,907	0
2013	8,330	7,434	9,319	8,494	8,309	8,682	1	2,675	2,389	2,941	2,742	2,740	2,744	1
2014	8,381	7,408	9,305	8,112	7,897	8,337	1	2,709	2,414	2,989	2,525	2,504	2,545	1
2015	8,413	7,508	9,345	8,395	7,529	9,359	1	2,737	2,442	3,021	2,746	2,452	3,031	1
2016	8,444	7,532	9,404	8,306	8,186	8,439	1	2,764	2,481	3,066	2,796	2,786	2,808	1
2017	8,492	7,553	9,457	8,552	7,840	9,273	1	2,788	2,502	3,085	2,769	2,594	2,949	1

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Western Gulf of Alaska Region - Western DPS Cont.														
2018	8,571	7,616	9,551	8,622	7,797	9,470	1	2,813	2,520	3,099	2,720	2,492	2,947	1
2019	8,615	7,671	9,638	8,731	8,491	9,030	1	2,846	2,550	3,133	3,056	3,054	3,059	1
2020	8,642	7,627	9,618	8,642	7,627	9,618	0	2,869	2,573	3,156	2,869	2,573	3,156	0
2021	8,658	7,665	9,657	8,116	7,575	8,740	1	2,913	2,617	3,224	2,786	2,767	2,807	1
2022	8,679	7,680	9,765	8,650	7,682	9,745	1	2,943	2,636	3,268	2,943	2,633	3,265	1
2023	8,752	7,689	9,876	8,752	7,689	9,876	0	2,972	2,638	3,294	2,972	2,638	3,294	0
2024	8,845	7,728	10,084	8,953	8,836	9,151	1	2,995	2,654	3,331	3,024	3,022	3,028	1
Central Gulf of Alaska Region - Western DPS														
1973								21,322	18,542	24,035	21,322	18,542	24,035	0
1974								20,819	18,431	23,539	20,819	18,431	23,539	0
1975								20,324	18,004	22,714	20,324	18,004	22,714	0
1976								19,889	17,719	22,130	19,889	17,719	22,130	0
1977								19,444	17,550	21,618	19,444	17,550	21,618	0
1978	47,981	37,656	61,555	48,174	37,388	60,734	1	19,040	17,144	20,954	18,099	17,878	18,627	1
1979	46,231	36,756	57,092	48,010	39,494	59,216	1	18,283	16,413	19,978	18,662	17,126	20,238	1
1980	43,143	35,681	51,285	43,143	35,681	51,285	0	17,159	15,598	18,726	17,159	15,598	18,726	0
1981	40,698	35,014	46,911	40,698	35,014	46,911	0	16,172	14,750	17,670	16,172	14,750	17,670	0
1982	38,820	34,172	44,036	38,820	34,172	44,036	0	15,246	13,860	16,615	15,246	13,860	16,615	0
1983	35,967	31,893	40,033	35,967	31,893	40,033	0	14,077	12,804	15,363	14,077	12,804	15,363	0
1984	32,381	28,832	35,818	32,381	28,832	35,818	0	13,009	11,796	14,248	13,575	12,557	14,617	1
1985	28,156	25,203	31,149	29,209	27,368	31,217	1	11,759	10,624	12,880	11,759	10,624	12,880	0
1986	23,814	21,391	26,238	26,497	24,568	28,559	1	10,377	9,354	11,364	11,183	10,608	11,822	1
1987	19,714	17,782	21,783	19,714	17,782	21,783	0	8,944	8,072	9,822	8,944	8,072	9,822	0
1988	16,121	14,441	17,843	16,208	14,795	17,752	1	7,728	6,986	8,528	7,728	6,986	8,528	0
1989	13,157	11,682	14,666	12,304	11,648	13,329	1	6,684	5,962	7,365	6,600	6,449	6,853	1
1990	10,839	9,598	12,224	10,286	9,681	11,244	1	5,710	5,110	6,329	5,272	4,876	5,675	1

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Central Gulf of Alaska Region - Western DPS Cont.														
1991	9,118	8,082	10,390	8,888	8,387	9,735	1	4,854	4,342	5,410	4,740	4,338	5,147	1
1992	7,891	6,892	8,981	8,370	7,923	9,131	1	4,125	3,654	4,612	3,932	3,599	4,312	1
1993	7,061	6,108	8,035	7,061	6,108	8,035	0	3,514	3,100	3,957	3,298	2,968	3,646	1
1994	6,523	5,698	7,488	7,325	6,986	7,973	1	3,025	2,645	3,435	2,991	2,897	3,141	1
1995	6,192	5,342	7,078	6,192	5,342	7,078	0	2,646	2,283	3,014	2,646	2,283	3,014	0
1996	5,906	5,099	6,769	6,122	5,966	6,651	1	2,347	2,009	2,681	2,307	2,001	2,595	1
1997	5,717	4,944	6,547	5,406	5,253	5,912	1	2,131	1,833	2,466	2,276	2,061	2,524	1
1998	5,569	4,817	6,386	5,364	5,223	5,837	1	1,972	1,681	2,276	2,016	1,949	2,135	1
1999	5,447	4,735	6,281	5,447	4,735	6,281	0	1,865	1,592	2,156	1,865	1,592	2,156	0
2000	5,343	4,613	6,123	5,147	5,009	5,588	1	1,796	1,527	2,079	2,010	1,825	2,216	1
2001	5,250	4,516	5,986	5,250	4,516	5,986	0	1,765	1,494	2,037	1,649	1,609	1,749	1
2002	5,142	4,435	5,846	5,128	4,977	5,511	1	1,764	1,511	2,043	1,781	1,604	1,983	1
2003	5,054	4,355	5,721	5,054	4,355	5,721	0	1,785	1,523	2,061	1,805	1,635	1,986	1
2004	4,993	4,362	5,701	4,640	4,486	4,996	1	1,827	1,551	2,100	1,749	1,564	1,942	1
2005	4,986	4,348	5,654	5,534	5,046	6,061	1	1,885	1,618	2,174	1,794	1,762	1,878	1
2006	5,040	4,405	5,700	5,182	4,716	5,675	1	1,948	1,655	2,220	1,948	1,655	2,220	0
2007	5,154	4,515	5,823	5,321	5,157	5,624	1	2,019	1,726	2,309	1,952	1,693	2,212	1
2008	5,338	4,689	5,987	4,883	4,754	5,156	1	2,095	1,818	2,392	2,095	1,818	2,392	0
2009	5,570	4,922	6,247	5,541	5,213	5,893	1	2,163	1,875	2,477	1,974	1,950	2,037	1
2010	5,875	5,231	6,553	4,863	4,729	5,105	1	2,236	1,959	2,563	2,228	1,921	2,508	1
2011	6,256	5,601	6,986	6,402	6,048	6,803	1	2,306	2,012	2,623	2,285	2,262	2,339	1
2012	6,705	6,009	7,451	6,705	6,009	7,451	0	2,363	2,051	2,673	2,363	2,051	2,673	0
2013	7,173	6,431	7,949	7,289	7,164	7,485	1	2,416	2,103	2,739	2,575	2,554	2,621	1
2014	7,582	6,838	8,392	7,582	6,838	8,392	0	2,460	2,148	2,792	2,460	2,148	2,792	0
2015	7,954	7,166	8,760	7,957	7,846	8,127	1	2,500	2,172	2,827	2,725	2,703	2,765	1
2016	8,219	7,410	9,029	8,219	7,410	9,029	0	2,533	2,226	2,883	2,533	2,226	2,883	0

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Central Gulf of Alaska Region - Western DPS Cont.														
2017	8,404	7,597	9,248	9,070	8,971	9,200	1	2,557	2,237	2,897	2,257	2,235	2,292	1
2018	8,487	7,708	9,389	8,596	7,783	9,426	1	2,582	2,246	2,906	2,568	2,241	2,900	1
2019	8,504	7,678	9,407	7,530	7,483	7,579	1	2,601	2,280	2,941	2,714	2,693	2,746	1
2020	8,428	7,574	9,284	8,428	7,574	9,284	0	2,628	2,297	2,974	2,628	2,297	2,974	0
2021	8,320	7,493	9,189	8,438	8,358	8,547	1	2,650	2,323	3,019	2,792	2,792	2,792	1
2022	8,214	7,393	9,113	8,214	7,393	9,113	0	2,678	2,342	3,067	2,678	2,342	3,067	0
2023	8,173	7,280	9,104	8,173	7,280	9,104	0	2,698	2,337	3,085	2,698	2,337	3,085	0
2024	8,177	7,184	9,158	8,137	8,137	8,137	1	2,724	2,326	3,095	2,577	2,577	2,577	1
Eastern Gulf of Alaska Region - Western DPS														
1973								695	395	1,168	695	395	1,168	0
1974								705	413	1,159	705	413	1,159	0
1975								715	419	1,151	715	419	1,151	0
1976								728	457	1,180	728	457	1,180	0
1977								741	457	1,160	741	457	1,160	0
1978	13,619	6,135	25,466	13,550	5,946	25,319	1	756	481	1,171	730	587	1,124	1
1979	13,355	6,235	24,155	13,640	6,646	24,536	1	776	517	1,189	776	517	1,189	0
1980	13,078	6,638	22,032	13,078	6,638	22,032	0	807	537	1,185	807	537	1,185	0
1981	12,968	7,433	21,304	12,968	7,433	21,304	0	839	563	1,193	839	563	1,193	0
1982	13,091	7,633	20,311	13,091	7,633	20,311	0	880	602	1,239	880	602	1,239	0
1983	13,169	8,193	20,080	13,169	8,193	20,080	0	923	660	1,269	923	660	1,269	0
1984	13,135	8,256	19,090	13,135	8,256	19,090	0	977	694	1,326	977	694	1,326	0
1985	12,734	8,415	17,720	12,734	8,415	17,720	0	1,029	749	1,375	1,029	749	1,375	0
1986	11,954	8,534	16,160	11,954	8,534	16,160	0	1,069	786	1,406	1,069	786	1,406	0
1987	10,855	8,139	14,083	10,855	8,139	14,083	0	1,097	816	1,424	1,097	816	1,424	0
1988	9,645	7,469	12,320	9,645	7,469	12,320	0	1,131	847	1,439	1,131	847	1,439	0
1989	8,435	6,607	10,787	9,102	7,957	11,201	1	1,171	893	1,493	1,103	871	1,394	1

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Eastern Gulf of Alaska Region - Western DPS Cont.														
1990	7,325	5,821	9,624	7,156	6,132	9,121	1	1,186	916	1,490	1,152	914	1,419	1
1991	6,332	4,879	8,272	6,236	5,291	8,014	1	1,170	920	1,446	1,240	1,028	1,487	1
1992	5,486	4,093	7,206	5,373	4,645	7,007	1	1,125	898	1,369	1,125	898	1,369	0
1993	4,824	3,564	6,492	4,824	3,564	6,492	0	1,062	863	1,267	1,202	1,123	1,313	1
1994	4,311	3,153	5,852	4,933	4,258	6,310	1	989	812	1,169	1,019	947	1,105	1
1995	3,950	2,772	5,311	3,950	2,772	5,311	0	915	756	1,079	915	756	1,079	0
1996	3,651	2,558	4,989	3,432	2,796	4,647	1	849	705	1,000	687	638	741	1
1997	3,461	2,452	4,854	3,484	2,469	4,862	1	798	662	941	802	714	893	1
1998	3,367	2,361	4,631	3,040	2,479	4,191	1	758	624	888	780	746	814	1
1999	3,348	2,415	4,600	3,348	2,415	4,600	0	735	609	864	735	609	864	0
2000	3,391	2,472	4,643	2,962	2,489	4,001	1	723	603	854	724	620	834	1
2001	3,482	2,546	4,693	3,482	2,546	4,693	0	726	609	858	720	660	780	1
2002	3,594	2,623	4,753	3,782	3,323	4,736	1	740	618	866	741	623	870	1
2003	3,697	2,709	4,760	3,697	2,709	4,760	0	762	632	891	795	775	818	1
2004	3,860	2,864	4,906	3,819	3,335	4,677	1	795	666	929	768	750	786	1
2005	4,002	3,023	5,077	4,100	3,148	5,132	1	832	692	965	788	772	808	1
2006	4,189	3,242	5,334	4,209	3,797	4,935	1	874	737	1,023	874	737	1,023	0
2007	4,405	3,467	5,524	4,202	3,794	4,898	1	917	778	1,069	917	778	1,069	0
2008	4,658	3,635	5,752	5,427	4,988	6,105	1	961	815	1,114	961	815	1,114	0
2009	4,946	3,936	6,092	4,819	4,278	5,558	1	1,003	854	1,164	1,027	1,025	1,032	1
2010	5,265	4,194	6,335	4,526	4,118	5,132	1	1,037	883	1,199	963	959	968	1
2011	5,570	4,549	6,692	5,769	5,282	6,358	1	1,066	904	1,220	1,102	1,099	1,106	1
2012	5,842	4,763	6,985	5,842	4,763	6,985	0	1,086	925	1,244	1,086	925	1,244	0
2013	6,013	4,937	7,154	5,966	5,606	6,436	1	1,101	939	1,268	1,238	1,235	1,242	1
2014	6,055	4,908	7,148	6,055	4,908	7,148	0	1,108	951	1,280	1,108	951	1,280	0
2015	5,961	4,891	7,046	6,442	6,274	6,652	1	1,113	955	1,280	1,195	1,194	1,196	1

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Eastern Gulf of Alaska Region - Western DPS Cont.														
2016	5,772	4,759	6,891	5,772	4,759	6,891	0	1,108	940	1,272	1,108	940	1,272	0
2017	5,494	4,477	6,566	5,438	5,331	5,571	1	1,101	940	1,268	798	795	802	1
2018	5,187	4,219	6,213	5,187	4,219	6,213	0	1,094	937	1,254	1,094	937	1,254	0
2019	4,874	3,955	5,823	4,303	4,283	4,349	1	1,086	930	1,246	1,157	1,154	1,160	1
2020	4,600	3,761	5,534	4,600	3,761	5,534	0	1,078	919	1,235	1,078	919	1,235	0
2021	4,406	3,567	5,258	4,579	4,504	4,663	1	1,074	917	1,239	1,128	1,128	1,128	1
2022	4,306	3,491	5,154	4,306	3,491	5,154	0	1,076	905	1,236	1,076	905	1,236	0
2023	4,321	3,471	5,186	4,321	3,471	5,186	0	1,075	908	1,252	1,075	908	1,252	0
2024	4,408	3,533	5,359	4,163	4,163	4,163	1	1,077	909	1,257	1,087	1,087	1,087	1
Southeast Alaska Region- Eastern DPS														
1971	15,313	7,612	26,965	15,313	7,612	26,965	0	2,250	486	6,211	2,250	486	6,211	0
1972	14,775	7,109	25,072	14,775	7,109	25,072	0	2,208	593	5,310	2,208	593	5,310	0
1973	14,344	7,168	24,034	14,344	7,168	24,034	0	2,163	757	4,517	2,163	757	4,517	0
1974	13,549	7,218	22,319	13,549	7,218	22,319	0	2,132	918	3,930	2,132	918	3,930	0
1975	12,745	7,105	20,222	12,745	7,105	20,222	0	2,132	1,168	3,551	2,132	1,168	3,551	0
1976	12,097	7,144	18,851	12,097	7,144	18,851	0	2,156	1,342	3,210	2,156	1,342	3,210	0
1977	11,682	7,335	17,996	11,682	7,335	17,996	0	2,206	1,586	3,032	2,206	1,586	3,032	0
1978	11,260	7,119	16,802	11,260	7,119	16,802	0	2,278	1,806	2,902	2,278	1,806	2,902	0
1979	11,055	7,544	16,433	10,989	7,377	16,213	1	2,365	1,932	2,871	2,307	2,221	2,732	1
1980	10,758	7,559	15,691	10,758	7,559	15,691	0	2,499	2,104	2,996	2,499	2,104	2,996	0
1981	10,482	7,612	14,945	10,482	7,612	14,945	0	2,630	2,174	3,115	2,630	2,174	3,115	0
1982	10,227	7,515	14,090	10,071	7,769	13,681	1	2,786	2,304	3,278	2,786	2,304	3,278	0
1983	10,102	7,641	13,497	10,102	7,641	13,497	0	2,942	2,468	3,467	2,942	2,468	3,467	0
1984	10,120	7,804	13,149	10,244	8,025	13,174	1	3,108	2,607	3,597	3,108	2,607	3,597	0
1985	10,288	8,176	13,237	10,288	8,176	13,237	0	3,271	2,797	3,760	3,271	2,797	3,760	0
1986	10,551	8,342	13,227	10,551	8,342	13,227	0	3,417	2,989	3,893	3,417	2,989	3,893	0

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Southeast Alaska Region- Eastern DPS Cont.														
1987	10,816	8,717	13,278	10,816	8,717	13,278	0	3,557	3,142	3,989	3,557	3,142	3,989	0
1988	11,130	9,120	13,377	11,130	9,120	13,377	0	3,676	3,270	4,046	3,676	3,270	4,046	0
1989	11,403	9,501	13,415	12,118	10,903	13,752	1	3,777	3,433	4,141	3,777	3,433	4,141	0
1990	11,620	9,737	13,441	11,302	10,211	12,733	1	3,848	3,528	4,181	3,656	3,613	3,727	1
1991	11,770	10,183	13,562	12,344	11,379	13,612	1	3,900	3,564	4,192	4,222	4,178	4,283	1
1992	11,808	10,229	13,451	11,950	11,126	12,970	1	3,931	3,643	4,251	3,948	3,654	4,260	1
1993	11,759	10,285	13,348	11,759	10,285	13,348	0	3,942	3,655	4,255	3,943	3,652	4,243	1
1994	11,668	10,238	13,174	12,702	12,381	13,316	1	3,967	3,674	4,264	3,838	3,799	3,890	1
1995	11,654	10,130	13,093	11,654	10,130	13,093	0	3,992	3,695	4,291	3,992	3,695	4,291	0
1996	11,742	10,252	13,206	11,440	11,341	11,932	1	4,035	3,726	4,315	3,794	3,755	3,841	1
1997	12,044	10,504	13,532	12,044	10,504	13,532	0	4,103	3,820	4,410	4,249	4,210	4,295	1
1998	12,524	10,967	14,143	12,584	12,031	13,248	1	4,207	3,925	4,515	4,334	4,298	4,382	1
1999	13,183	11,510	14,786	13,183	11,510	14,786	0	4,339	4,036	4,638	4,339	4,036	4,638	0
2000	13,924	12,283	15,711	13,910	13,381	14,541	1	4,516	4,225	4,831	4,516	4,225	4,831	0
2001	14,722	13,018	16,556	14,722	13,018	16,556	0	4,721	4,401	5,031	4,758	4,746	4,773	1
2002	15,520	13,766	17,457	16,260	16,007	16,642	1	4,961	4,630	5,297	4,883	4,876	4,893	1
2003	16,185	14,329	18,173	16,185	14,329	18,173	0	5,215	4,867	5,553	5,215	4,867	5,553	0
2004	16,695	14,752	18,656	17,470	16,042	19,045	1	5,491	5,142	5,857	5,405	5,076	5,686	1
2005	16,934	15,010	18,996	18,062	16,468	19,753	1	5,768	5,406	6,145	5,529	5,517	5,542	1
2006	16,926	15,013	18,906	16,926	15,013	18,906	0	6,051	5,671	6,413	6,051	5,671	6,413	0
2007	16,787	14,968	18,767	16,946	15,150	18,858	1	6,320	5,933	6,739	6,320	5,933	6,739	0
2008	16,648	14,655	18,479	14,666	14,194	15,174	1	6,587	6,177	6,992	6,587	6,177	6,992	0
2009	16,648	14,784	18,506	17,812	17,702	18,064	1	6,823	6,424	7,266	7,466	7,460	7,472	1
2010	16,858	15,046	18,853	15,893	15,785	16,125	1	7,029	6,607	7,472	7,029	6,607	7,472	0
2011	17,238	15,293	19,254	17,238	15,293	19,254	0	7,188	6,761	7,636	7,188	6,761	7,636	0
2012	17,861	15,947	19,889	17,861	15,947	19,889	0	7,310	6,889	7,741	7,310	6,889	7,741	0

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Year	Non-Pup							Pup						
	PRED	-95% CI	+95% CI	REAL	-95% CI	+95% CI	S	PRED	-95% CI	+95% CI	REAL	-95% CI	+95% CI	S
Southeast Alaska Region- Eastern DPS Cont.														
2013	18,662	16,744	20,808	19,206	19,111	19,349	1	7,365	6,969	7,815	6,742	6,741	6,745	1
2014	19,453	17,354	21,548	19,453	17,354	21,548	0	7,388	6,965	7,786	7,388	6,965	7,786	0
2015	20,128	18,048	22,354	21,378	21,297	21,493	1	7,364	6,952	7,795	7,594	7,594	7,594	1
2016	20,465	18,447	22,782	20,465	18,447	22,782	0	7,299	6,882	7,708	7,299	6,882	7,708	0
2017	20,335	18,156	22,420	18,760	18,760	18,760	1	7,203	6,789	7,601	7,108	7,108	7,108	1
2018	19,746	17,621	21,801	19,746	17,621	21,801	0	7,084	6,679	7,484	7,084	6,679	7,484	0
2019	18,863	16,742	21,006	20,227	19,533	21,038	1	6,939	6,551	7,333	6,981	6,981	6,984	1
2020	17,962	15,843	20,240	17,962	15,843	20,240	0	6,806	6,410	7,238	6,806	6,410	7,238	0
2021	17,189	14,868	19,554	15,801	14,764	17,062	1	6,671	6,235	7,096	6,942	6,684	7,171	1
2022	16,710	14,179	19,210	16,439	14,025	19,020	1	6539	6065	7044	6531	6074	6995	1
2023	16,464	13,886	19,084	16,437	13,934	18,942	1	6450	5850	6984	6231	5737	6686	1

Appendix Table 3. -- Integrated population model (IPM) abundance estimates of Steller sea lions in the western distinct population segment in Alaska (2000-2024) with upper and lower credible intervals ($\pm$ 95% CI).

Year	Abundance	-95% CI	+95% CI
2000	34,276	30,748	37,809
2001	35,294	32,260	38,436
2002	36,604	33,669	39,760
2003	37,680	34,782	41,032
2004	38,907	35,981	42,476
2005	40,429	37,427	44,301
2006	40,599	37,504	44,823
2007	41,081	37,828	45,603
2008	41,767	38,394	46,551
2009	42,563	39,114	47,539
2010	43,244	39,492	48,601
2011	44,427	41,061	49,440
2012	45,219	41,715	50,369
2013	46,026	42,440	51,315
2014	46,254	42,513	51,719
2015	47,290	43,308	52,976
2016	46,489	42,681	52,050
2017	45,790	41,962	51,342
2018	46,048	42,214	51,607
2019	46,877	42,972	52,474
2020	46,916	42,825	52,662
2021	46,982	42,807	52,871
2022	46,800	42,533	52,776
2023	48,095	43,889	54,044
2024	48,962	44,648	55,072

Appendix Table 3. -- Integrated population model (IPM) abundance estimates of Steller sea lions in Alaska (2000-2024) with upper and lower credible intervals ($\pm$ 95% CI) listed by region.

Year	Abundance	-95% CI	+95% CI
Western Aleutian Islands Region			
2000	2,171	1,943	2,400
2001	2,129	1,913	2,348
2002	2,081	1,877	2,290
2003	1,965	1,755	2,184
2004	1,860	1,650	2,080
2005	1,717	1,512	1,941
2006	1,534	1,332	1,752
2007	1,386	1,185	1,606
2008	1,263	1,069	1,474
2009	1,116	925	1,330
2010	1,033	841	1,242
2011	991	842	1,165
2012	959	830	1,112
2013	939	823	1,077
2014	884	775	1,012
2015	863	752	988
2016	863	765	980
2017	817	716	933
2018	785	691	895
2019	740	644	851
2020	703	609	811
2021	673	579	778
2022	651	566	750
2023	608	527	703
2024	583	503	676
Central Aleutian Islands Region			
2000	9,722	8,762	10,675
2001	9,282	8,505	10,078
2002	9,329	8,589	10,124
2003	9,408	8,685	10,223
2004	9,485	8,759	10,357
2005	9,564	8,818	10,530
2006	9,109	8,358	10,178
2007	8,795	7,993	9,944
2008	8,553	7,688	9,754
2009	8,321	7,388	9,562

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Year	Abundance	-95% CI	+95% CI
Central Aleutian Islands Region Cont.			
2010	8,048	7,021	9,375
2011	8,336	7,612	9,351
2012	8,343	7,669	9,293
2013	8,245	7,554	9,181
2014	8,152	7,460	9,066
2015	8,082	7,317	9,027
2016	8,022	7,305	8,900
2017	7,947	7,233	8,811
2018	7,882	7,177	8,740
2019	7,869	7,137	8,740
2020	7,863	7,106	8,772
2021	7,870	7,066	8,827
2022	7,883	7,013	8,893
2023	7,775	6,867	8,806
2024	7,731	6,785	8,806
Eastern Aleutian Islands Region			
2000	6,922	6,197	7,648
2001	7,596	7,009	8,195
2002	8,041	7,506	8,584
2003	8,481	7,985	8,991
2004	8,911	8,441	9,396
2005	9,504	9,061	9,950
2006	9,764	9,332	10,222
2007	10,067	9,618	10,540
2008	10,411	9,954	10,891
2009	10,835	10,397	11,292
2010	11,115	10,613	11,633
2011	11,359	10,908	11,818
2012	11,499	10,991	12,015
2013	11,634	11,091	12,192
2014	11,705	11,158	12,279
2015	12,080	11,449	12,742
2016	11,892	11,338	12,473
2017	11,888	11,318	12,480
2018	11,895	11,318	12,482
2019	12,047	11,429	12,680
2020	12,178	11,509	12,847
2021	12,302	11,590	13,011
2022	12,429	11,700	13,165
2023	13,204	12,549	13,861

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Year	Abundance	-95% CI	+95% CI
Eastern Aleutian Islands Region Cont.			
2024	13,664	12,931	14,420
Western Gulf of Alaska Region			
2000	5,957	5,337	6,572
2001	6,210	5,603	6,884
2002	6,556	5,872	7,392
2003	6,709	5,947	7,789
2004	7,052	6,193	8,346
2005	7,420	6,438	8,996
2006	7,627	6,531	9,456
2007	7,885	6,700	9,928
2008	8,173	6,917	10,431
2009	8,512	7,196	10,971
2010	8,784	7,350	11,453
2011	8,989	7,494	11,786
2012	9,097	7,491	12,034
2013	9,251	7,596	12,310
2014	9,067	7,329	12,248
2015	9,363	7,562	12,627
2016	9,356	7,613	12,628
2017	9,375	7,630	12,625
2018	9,461	7,731	12,699
2019	9,682	7,972	12,877
2020	9,510	7,757	12,716
2021	9,310	7,567	12,553
2022	9,344	7,653	12,526
2023	9,716	8,012	12,976
2024	10,045	8,286	13,395
Eastern and Central Gulf of Alaska Region Combined			
2000	9,504	8,509	10,514
2001	10,077	9,230	10,931
2002	10,597	9,825	11,370
2003	11,117	10,410	11,845
2004	11,599	10,938	12,297
2005	12,224	11,598	12,884
2006	12,565	11,951	13,215
2007	12,948	12,332	13,585
2008	13,367	12,766	14,001
2009	13,779	13,208	14,384
2010	14,264	13,667	14,898
2011	14,752	14,205	15,320

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Year	Abundance	-95% CI	+95% CI
Eastern and Central Gulf of Alaska Region Combined Cont.			
2012	15,321	14,734	15,915
2013	15,957	15,376	16,555
2014	16,446	15,791	17,114
2015	16,902	16,228	17,592
2016	16,356	15,660	17,069
2017	15,763	15,065	16,493
2018	16,025	15,297	16,791
2019	16,539	15,790	17,326
2020	16,662	15,844	17,516
2021	16,827	16,005	17,702
2022	16,493	15,601	17,442
2023	16,792	15,934	17,698
2024	16,939	16,143	17,775



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May 2026

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