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BIOLOGICAL MONITORING AT ST. GEORGE ISLAND, ALASKA IN 2017

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Key words: *Aethia pusilla*, Bering Sea, black-legged kittiwake, common murre, least auklet, *Phalacrocorax urile*, Pribilof Islands, productivity, red-faced cormorant, red- legged kittiwake, *Rissa brevirostris*, *Rissa tridactyla*, St. George Island, survivorship, thick-billed murre, *Uria aalge*, *Uria lomvia*.

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INTRODUCTION

The Alaska Maritime National Wildlife Refuge (AMNWR) conducts annual ecological monitoring at nine sites throughout Alaska. The objective of this long-term monitoring program is to collect baseline status and trend information for a suite of seabird species representing piscivorous and planktivorous trophic guilds, including key species that serve as indicators of ecosystem health. Members of these guilds include surface feeders and divers feeding in both nearshore and offshore waters. By relating data to environmental conditions and information from other sites, ecosystem processes may be better understood. Data also provide a basis for directing management and research actions, and in assessing effects of management.

St. George Island, located in the Pribilof Islands in the southeastern Bering Sea, has been an annual monitoring site since 1985. Between 1975 and 1984, the Minerals Management Service (MMS) funded studies to monitor trends in populations and productivity of ledge-nesting seabirds in the Pribilof Islands due to concerns over potential offshore oil development along the continental shelf (Hickey and Craighead 1977, Hunt et al. 1981, Craighead and Oppenheim 1985, Lloyd 1985, Johnson and Baker 1985, Troy and Baker 1985). The U. S. Fish and Wildlife Service purchased most of the seabird nesting areas in the Pribilof Islands between 1982 and 1985. Annual monitoring by AMNWR has occurred in most years since 1985 (Byrd et al. 1985; Byrd 1986, 1987, 1989; Dragoo et al. 1989, 1990; Schulmeister 1991; Dragoo and Sundseth 1993; Dragoo and Dragoo 1994, 1995, 1996; Dragoo 1997; Schindler 1997; Schindler and Kildaw 1998, 1999; Rojek and Ness 2000; Papish 2001, 2008; Moore and Boyd 2002; McDonough and Erwin 2003; Levandoski and Kauffman 2004; Thomson 2007; Pylant 2008; Shannon 2008; Shannon et al. 2010; Larned et al. 2011; Klostermann et al. 2011, 2013; Klostermann and Drummond 2012; Mudge et al. 2015; Tappa et al. 2015; Tappa and Romano 2017).

The specific monitoring goals in 2017 were to estimate productivity and/or population parameters for six indicator species representing three major feeding guilds: 1) diving fish-feeders (red-faced cormorants [*Phalacrocorax urile*] and common and thick-billed murres [*Uria aalge* and *U. lomvia*, respectively]), 2) surface fish-feeders (black-legged and red-legged kittiwakes [*Rissa tridactyla and R. brevirostris*, respectively]), and 3) diving plankton-feeders (least auklets [*Aethia pusilla*]). Additional monitoring goals include the description of breeding chronology, food habits, chick growth, and adult survival for one or more of the above species.

Detailed results of the 2017 monitoring program are contained in these appendices and archived at the AMNWR headquarters in Homer, Alaska. Summary data will also be included in the annual Alaska seabird monitoring summary report (e.g., Dragoo et al. 2017). Due to occasional reanalysis of some data, correction of typographical errors, and efforts to standardize presentation across sites, some values used in this report have changed from previous versions. The values presented here are considered the cleanest data set available at the time this report was issued and should supersede previous reports.

STUDY AREA

St. George Island (56º35'N, 169º35'W) is located in the Pribilof Islands in the southeastern Bering Sea, Alaska (see Figures 1 and 2). Volcanic in origin, the island lies near the outer edge of the continental shelf that runs between Alaska and Russia. Water exchange between the Bering Sea and North Pacific Ocean forms a zone of upwellings and ocean fronts around the continental shelf that is rich in nutrients. These conditions create some of the highest primary productivity rates in the world's oceans (Lewbel 1983), which in turn support one of the highest densities of seabirds on earth (Hood 1981). About 90 km

from the other major Pribilof island of St. Paul, St. George is farther south and closer to the highly-productive shelf break region.

St. George is ringed by extensive cliffs around most of the island, spanning nearly 50 km in coastline and rising to elevations of up to 300 m. These cliffs provide breeding habitat to some of the largest ledge-nesting seabird populations in the North Pacific (Sowls et al. 1978), including over 80% of the world's population of red-legged kittiwakes (Gibson and Byrd 2007) and Alaska's largest population of thick-billed murres.

METHODS

Personnel: The U.S. Fish and Wildlife Service field crew at St. George Island in 2017 consisted of Emily Pollom (19 May to 6 September), John Gorey (19 May to 6 September), and Sarah Guitart (19 May to 25 August). Marc Romano was on the island to supervise the field crew (19 to 26 May and 2 to 9 June). McKenna Hanson and Matt Klosterman were on the island (9 July to 3 August) joining the field crew for the population count. Marc Webber, Dan McNulty, and Shane Watson visited the island (14 to 16 June) to attend to several maintenance issues. In addition, Racheal Orben (Oregon State University) and Abram Fleishman (San Jose State University) were on the island (26 May to 14 July) conducting their third year of research into the breeding and nonbreeding movements of red-legged kittiwakes.

Data Collection and Analysis: Crew members followed data collection and analysis methods outlined in the annual monitoring camp standardized protocols for 2017 (Alaska Maritime National Wildlife Refuge 2017) with the following exceptions:

- Counts of ledge-nesting birds attending the population monitoring plots were conducted. Counts of these plots are conducted every three years in the Pribilof Islands. The counts during 2017 were conducted with the following modifications (due to challenging weather conditions) to the standard protocol: counts occasionally took place outside of the normal time window of 12:00h-21:00h; replicates of island regions occasionally spanned multiple days; whole-island replicates were not completed before new replicates of certain areas were begun.

- A point count survey was not conducted. Sea surface temperature data were not collected.

- Due to low numbers of kittiwakes and common murres nesting, plots V58A and V58C were used for productivity. These plots are typically used only as survival monitoring plots.

- Individual nest monitoring of red-faced cormorants was conducted in plot 58, subplots 58A and 58C. Boom-or-bust monitoring was also conducted in subplots 58A and 58C as well as in Rosy Finch plot 81. For boom-or-bust monitoring, Rosy Finch was surveyed as one continual plot but it was discovered that some nests were missed later in the season. Those nests were excluded from boom-or-bust monitoring, therefore the total number of nests observed in Rosy Finch does not represent the total number of nests that were present in that area.

- Common murre nests suitable for productivity monitoring were difficult to find, resulting in a sample size of only 39 total nests, from three plots. In recent years, samples of well over 100 nests have been attained and as many as nine plots have been used. In contrast, thick-billed murre nests suitable for monitoring were much easier to find and the sample size of > 300 nests was easily obtained.

- Due to the near complete kittiwake nesting failire, no new kittiwake adults were banded in 2017 nor were chick growth data collected. Three faded red-legged kittiwake field-readable bands were replaced at High Bluffs. No diet samples were collected from adults.

- Due to low numbers of nesting thick-billed murres, all thick-billed murre survival plots were also used for productivity. As a result, no new thick-billed murre adults were banded in 2017.

- Due to the presence of nesting cormorants, kittiwake survival in plot V58A was conducted from the clifftops from mid-May through early June in order to avoid disturbing cormorants during their nest-building stage.

- Marine debris surveys were conducted at Zapadni Beach only. Surveys were conducted only twice due to other tasks taking priority.

- Thick-billed murre eggs were collected and shipped to Dave Roseneau as part of the Seabird Tissue Archival and Monitoring Project.

- The least auklet colony on Ulakaia Ridge was mapped using a protocol developed by AMNWR (Renner et al. 2006). The results will be the topic of a separate report.

Reproductive success and chronology data for murres, auklets and kittiwakes were summarized using the AMNWR productivity database (historic data for a few years are not summarized by the database because raw nest observation data were not available [1976-1979 and 1982-1984, depending on the species; see Appendices A-D]). Reproductive success and chronology data for cormorants were summarized by hand.

Population data for ledgenester species in 2014 and 2017 were summarized using the AMNWR population database. Population data collected for ledgenesters from 1975-2011 have not yet been added to the database and are hand-summarized (these data will be added to, and summarized by, the database in the future).

Diet data for all species in all years were summarized using the AMNWR diet database (only ongoing diet datasets are presented here; additional diet datasets exist [Appendix I]. Diet is summarized for frequency of occurrence and percent composition for all species. For brevity, presentation of diet data highlights only prey items that make up more than 5% of diets. A more detailed summary of St. George diet data is presented in a consolidated refuge-wide diet report (Drummond 2016).

Data for all other parameters were summarized by hand.

INTERESTING OBSERVATIONS

- Upon the crew's arrival in May there was little snow present on Ulakaia Ridge and none present in other areas of the island.

- Least auklets experienced the highest chick loss and second highest nest failure ever recorded on St. George Island. Surface counts of auklets from established plots on Ulakaia Ridge were the lowest ever recorded.

- Historical least auklet crevices were poorly attended. A large effort to find new occupied crevices was made early in the season. Thirty-six of the 75 crevices monitored (48%) were new crevices.

- Red-legged kittiwakes experienced a second year in a row of complete nesting failure. This is the first time this species has experienced two straight years of nesting failure on St. George Island since monitoring began in 1976.

- Carcasses of several species, including many northern fulmars, were observed on Zapadni Beach from 2-5 August. Several carcasses were collected and shipped off of the island for analysis by the U.S. Geological Survey, National Wildlife Health Center.

- Several local residents commented that Pacific wren (*Troglodytes pacificus*) numbers seemed low during the summer of 2017.

- Crowberry (*Empetrum nigrum*), which normally grows in large green patches during summer, remained brown throughout the season and fruited only in small patches around the island.

- Very low numbers of horned and tufted puffins, and crested auklets were seen on the island cliffs and in nearshore waters. A die-off that included all three species was detected on St. Paul Island in late fall 2016.

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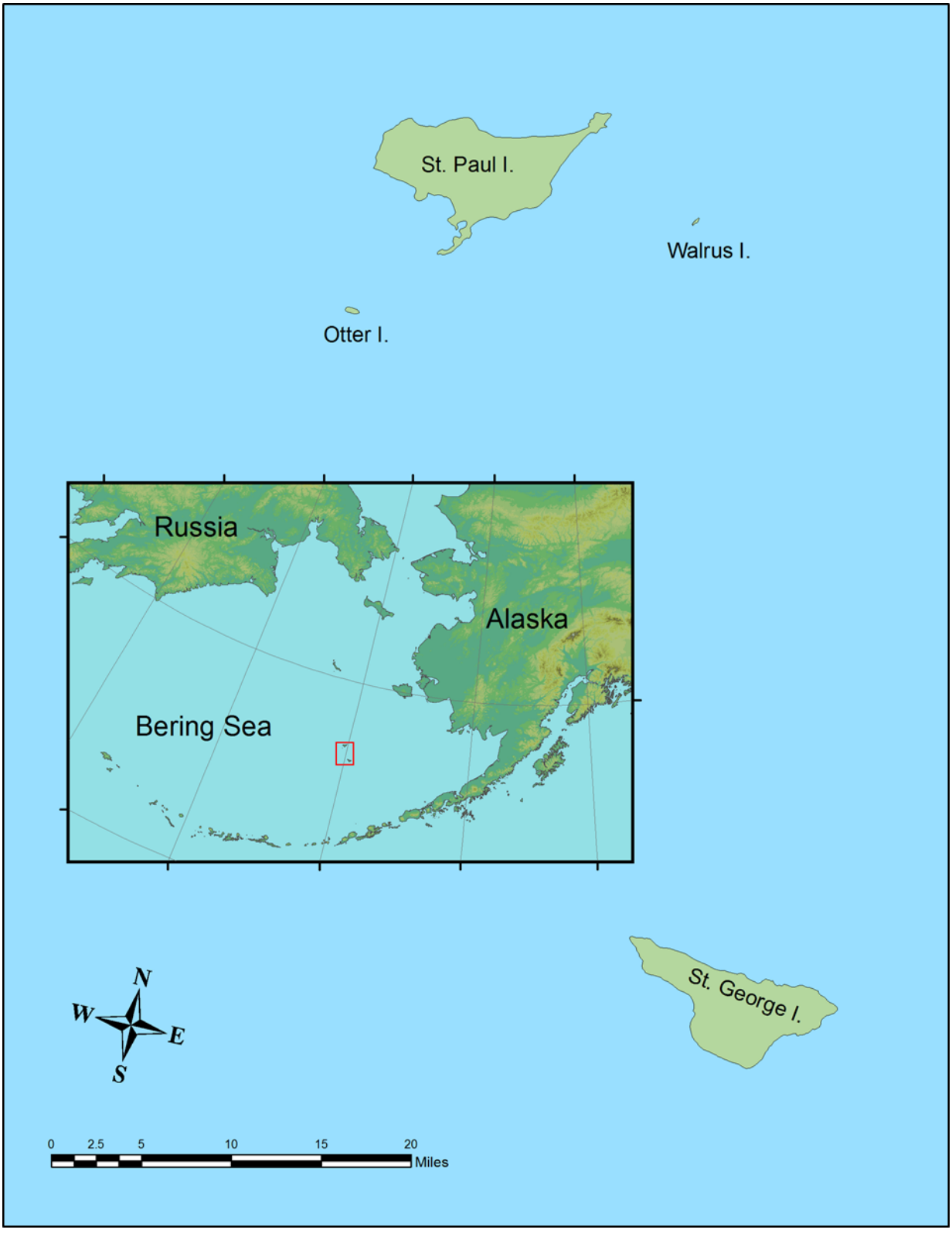

Figure 1. Map of the Pribilof Islands, Alaska.

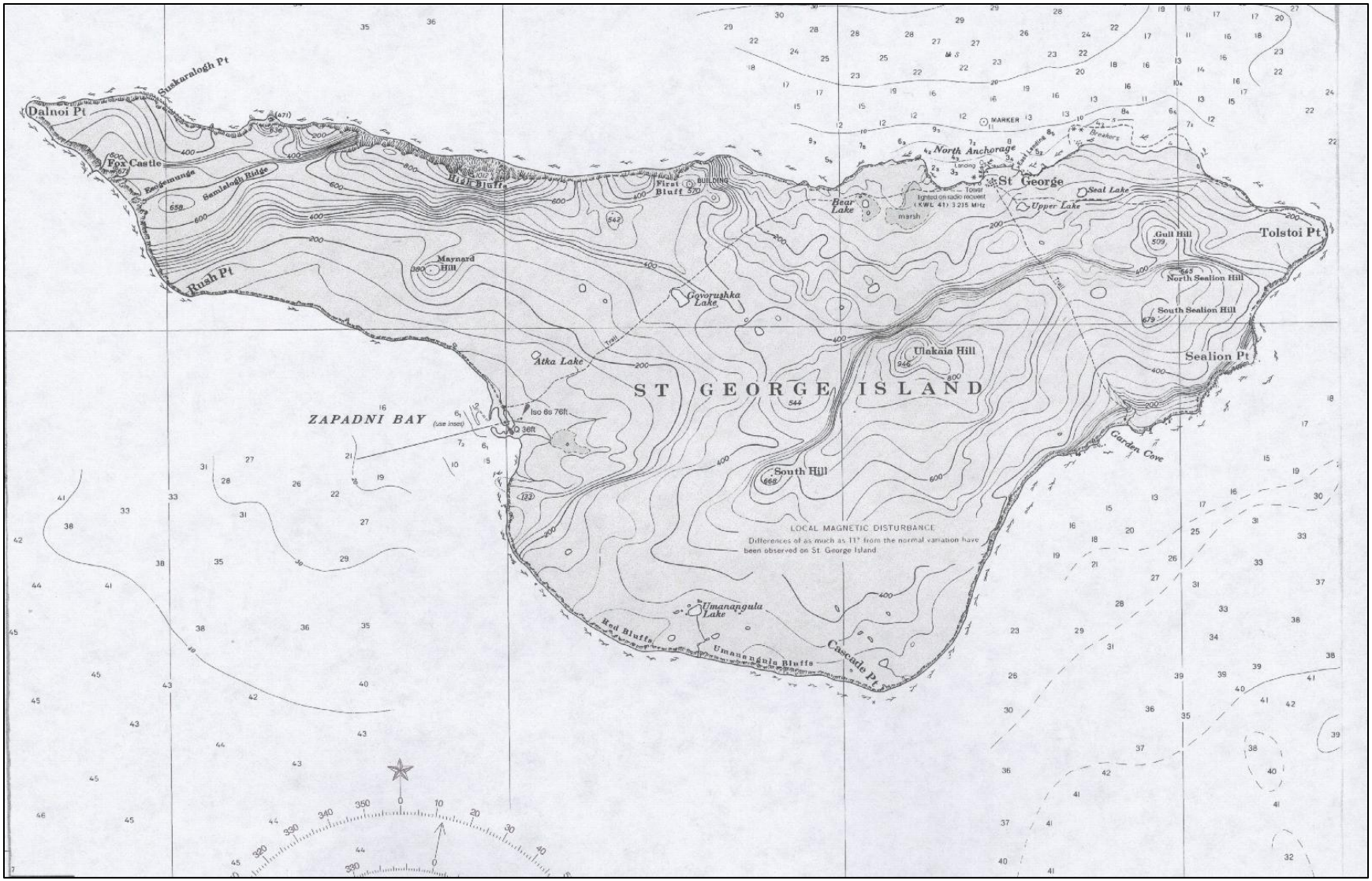

Figure 2. Map of St. George Island, Alaska.

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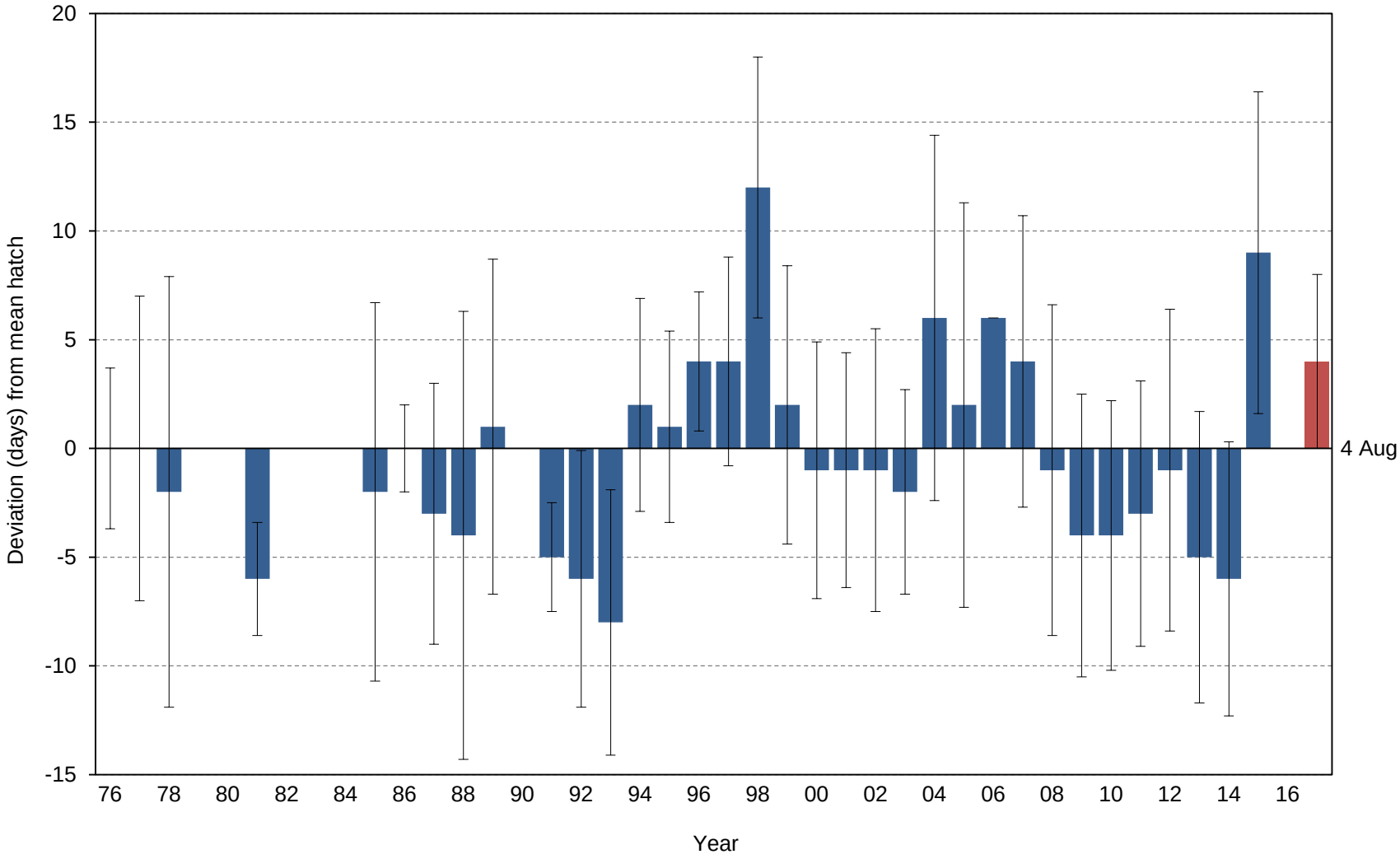

Figure 3. Yearly hatch date deviation (from the 1976-2016 mean of 4 August) for common murres at St. George Island, Alaska. Negative values indicate earlier than mean hatch date, positive values indicate later than mean hatch date. Error bars represent standard deviation around each year's mean hatch date; red highlights the current year. No data were collected in 1979-1980, 1982-1984, or 1990; no eggs hatched in plots in 2016.

Table 1. Breeding chronology of common murres at St. George Island, Alaska. No data were collected in 1979-1980, 1982-1984 or 1990; no eggs hatched in plots in 2016.

Year	Mean hatch	SD	*n*[a]	First hatch	Last hatch	First "jump"[b]
1976	3 Aug	3.7	9	-	-	-
1977	4 Aug	7.0	10	-	-	-
1978	2 Aug	9.9	13	-	-	-
1981	29 Jul	2.6	9	25 Jul	31 Jul	15 Aug
1985	2 Aug	8.7	5	19 Jul	14 Aug	13 Aug
1986	4 Aug	2.0	2	2 Aug	6 Aug	19 Aug
1987	1 Aug	6.0	16	20 Jul	14 Aug	14 Aug
1988	30 Jul	10.3	8	20 Jul	13 Aug	17 Aug
1989	5 Aug	7.7	28	23 Jul	20 Aug	12 Aug
1991	30 Jul	2.5	9	25 Jul	4 Aug	9 Aug
1992	29 Jul	5.9	9	19 Jul	4 Aug	7 Aug
1993	27 Jul	6.1	22	14 Jul	4 Aug	10 Aug
1994	6 Aug	4.9	14	30 Jul	14 Aug	19 Aug
1995	5 Aug	4.4	22	26 Jul	13 Aug	17 Aug
1996	7 Aug	3.2	6	1 Aug	10 Aug	17 Aug
1997	8 Aug	4.8	17	31 Jul	15 Aug	15 Aug
1998	16 Aug	6.0	13	7 Aug	26 Aug	>27 Aug
1999	6 Aug	6.4	20	23 Jul	16 Aug	16 Aug
2000	2 Aug	5.9	34	19 Jul	16 Aug	14 Aug
2001	3 Aug	5.4	30	23 Jul	17 Aug	14 Aug
2002	3 Aug	6.5	14	23 Jul	14 Aug	13 Aug
2003	2 Aug	4.7	25	25 Jul	13 Aug	12 Aug
2004	9 Aug	8.4	37	29 Jul	25 Aug	15 Aug
2005	6 Aug	9.3	11	22 Jul	18 Aug	16 Aug
2006	10 Aug	0.0	1	10 Aug	-	1 Sep
2007	8 Aug	6.7	68	25 Jul	1 Sep	14 Aug
2008	2 Aug	7.6	72	18 Jul	22 Aug	11 Aug
2009	31 Jul	6.5	101	15 Jul	21 Aug	6 Aug
2010	31 Jul	6.2	113	21 Jul	23 Aug	9 Aug
2011	1 Aug	6.1	21	21 Jul	12 Aug	11 Aug
2012	2 Aug	7.4	56	16 Jul	21 Aug	6 Aug
2013	30 Jul	6.7	78	20 Jul	22 Aug	9 Aug
2014	29 Jul	6.3	58	12 Jul	22 Aug	8 Aug
2015	13 Aug	7.4	40	2 Aug	1 Sept	22 Aug
2017	8 Aug	4.0	9	4 Aug	16 Aug	24 Aug

[a]Sample sizes for mean hatch dates are a sub-sample of total nests for which egg to chick interval is ≤7 days.
[b]In years when no chicks fledged before the field crew left the island at the end of the season, date of first fledge is listed as > the date of last nest check.

Table 2. Frequency distribution of hatch dates for common murres at St. George Island, Alaska. Data include only nests in which observations of egg to chick ≤ 7 days. No data were collected in 1979-1980, 1982-1984, or 1990; data from individual nests are not available before 1981 and no eggs hatched in plots in 2016.

Julian date[a]	No. nests hatching on Julian date															
	81	85	86	87	88	89	91	92	93	94	95	96	97	98	99	00
195	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
196	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
197	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
198	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-
199	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
200	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
201	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-
202	-	-	-	-	4	-	-	1	2	-	-	-	-	-	-	-
203	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
204	-	-	-	-	-	2	-	-	-	-	-	-	-	-	1	1
205	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-
206	3	-	-	3	-	-	1	-	1	-	-	-	-	-	-	2
207	-	-	-	-	-	-	-	-	6	-	2	-	-	-	-	-
208	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	2
209	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
210	2	1	-	-	-	7	5	-	-	-	-	-	-	-	-	1
211	-	-	-	-	-	1	-	-	-	1	1	-	-	-	-	-
212	4	-	-	6	-	1	2	-	1	1	2	-	3	-	4	2
213	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	6
214	-	-	1	1	-	-	-	-	1	3	1	1	-	-	-	1
215	-	-	-	-	-	-	-	3	1	-	-	-	-	-	-	-
216	-	-	-	2	-	8	1	-	4	1	1	-	2	-	7	7
217	-	1	-	-	-	-	-	2	-	-	4	-	-	-	-	-
218	-	1	1	-	-	-	-	-	-	-	2	1	1	-	-	2
219	-	-	-	-	1	-	-	-	-	2	-	-	-	1	-	-
220	-	-	-	2	-	-	-	-	-	3	8	-	4	2	-	1
221	-	-	-	-	-	2	-	-	-	-	-	-	1	-	-	2
222	-	-	-	-	2	1	-	-	-	-	-	3	2	-	-	1
223	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-
224	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-
225	-	-	-	-	-	-	-	-	-	-	1	-	2	2	2	-
226	-	1	-	1	1	1	-	-	-	3	-	-	-	-	-	1
227	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-
228	-	-	-	-	-	1	-	-	-	-	-	-	-	-	2	1
229	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
230	-	-	-	-	-	1	-	-	-	-	-	-	-	5	-	-
231	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
232	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-
233	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
234	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
235	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
236	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
237	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
238	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
239	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
241	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
242	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
243	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
244	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
n	9	5	2	16	8	28	9	9	22	14	22	6	17	13	20	34

Table 2 (continued). Frequency distribution of hatch dates for common murres at St. George Island, Alaska. Data include only nests in which observations of egg to chick ≤ 7 days. No data were collected in 1979-1980, 1982-1984, or 1990; data from individual nests are not available before 1981 and no eggs hatched in plots in 2016.

Julian date[a]	No. nests hatching on Julian date															
	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	17
195	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
196	-	-	-	-	-	-	-	-	2	-	-	-	-	1	-	-
197	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
198	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-
199	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
200	-	-	-	-	-	-	-	1	2	-	-	2	-	-	-	-
201	-	-	-	-	-	-	-	1	-	-	-	-	2	-	-	-
202	-	-	-	-	-	-	-	3	4	1	2	-	2	7	-	-
203	-	-	-	-	1	-	-	-	-	1	-	-	1	-	-	-
204	1	1	-	-	-	-	-	1	-	9	-	1	3	2	-	-
205	-	-	-	-	-	-	-	-	-	-	-	-	11	1	-	-
206	-	1	2	-	1	-	2	1	12	15	-	1	6	7	-	-
207	-	-	-	-	-	-	-	8	-	2	-	-	-	1	-	-
208	3	-	1	-	-	-	1	-	11	3	7	7	11	9	-	-
209	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-
210	2	3	5	-	-	-	-	10	2	28	-	1	2	5	-	-
211	2	-	-	2	-	-	-	-	15	-	-	4	3	1	-	-
212	2	1	1	3	1	-	4	7	-	2	1	2	4	3	-	-
213	1	-	6	-	-	-	-	-	10	11	-	6	4	-	-	-
214	5	1	1	6	-	-	6	2	15	6	4	3	9	11	5	-
215	-	-	-	2	-	-	-	9	-	6	-	-	-	-	-	-
216	2	-	2	-	-	-	13	7	11	7	1	5	6	1	4	1
217	2	-	3	1	-	-	-	-	-	-	2	-	1	-	-	3
218	2	3	1	2	1	-	7	1	9	5	1	7	4	2	1	-
219	1	-	-	-	-	-	2	7	-	-	-	1	-	-	-	-
220	3	1	1	2	2	-	5	-	-	8	1	2	2	3	-	-
221	-	-	-	-	-	-	-	3	-	-	-	-	-	-	2	3
222	2	1	-	3	1	1	17	-	-	2	-	5	3	-	5	-
223	-	-	-	1	-	-	-	3	-	-	-	-	-	-	-	-
224	1	1	1	3	-	-	3	-	4	2	2	-	-	3	-	-
225	-	-	1	-	-	-	-	3	-	-	-	-	2	-	3	-
226	-	1	-	2	-	-	-	-	-	1	-	4	-	-	7	1
227	-	-	-	-	-	-	2	-	-	1	-	-	-	-	1	-
228	-	-	-	-	-	-	-	-	-	2	-	1	-	-	-	1
229	1	-	-	3	-	-	1	1	3	-	-	-	1	-	3	-
230	-	-	-	1	3	-	-	-	-	-	-	1	-	-	2	-
231	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-
232	-	-	-	-	-	-	2	-	-	-	-	-	-	-	2	-
233	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-
234	-	-	-	-	-	-	-	-	-	-	-	1	1	-	2	-
235	-	-	-	-	-	-	-	2	-	1	-	-	-	-	-	-
236	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
237	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
238	-	-	-	1	-	-	1	-	-	-	-	-	-	-	-	-
239	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
241	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
242	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
243	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
244	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1	-
n	30	14	25	37	11	1	68	72	101	113	21	56	78	58	40	9

[a]In leap years, hatch dates are calculated using a leap year-specific Julian date calendar.

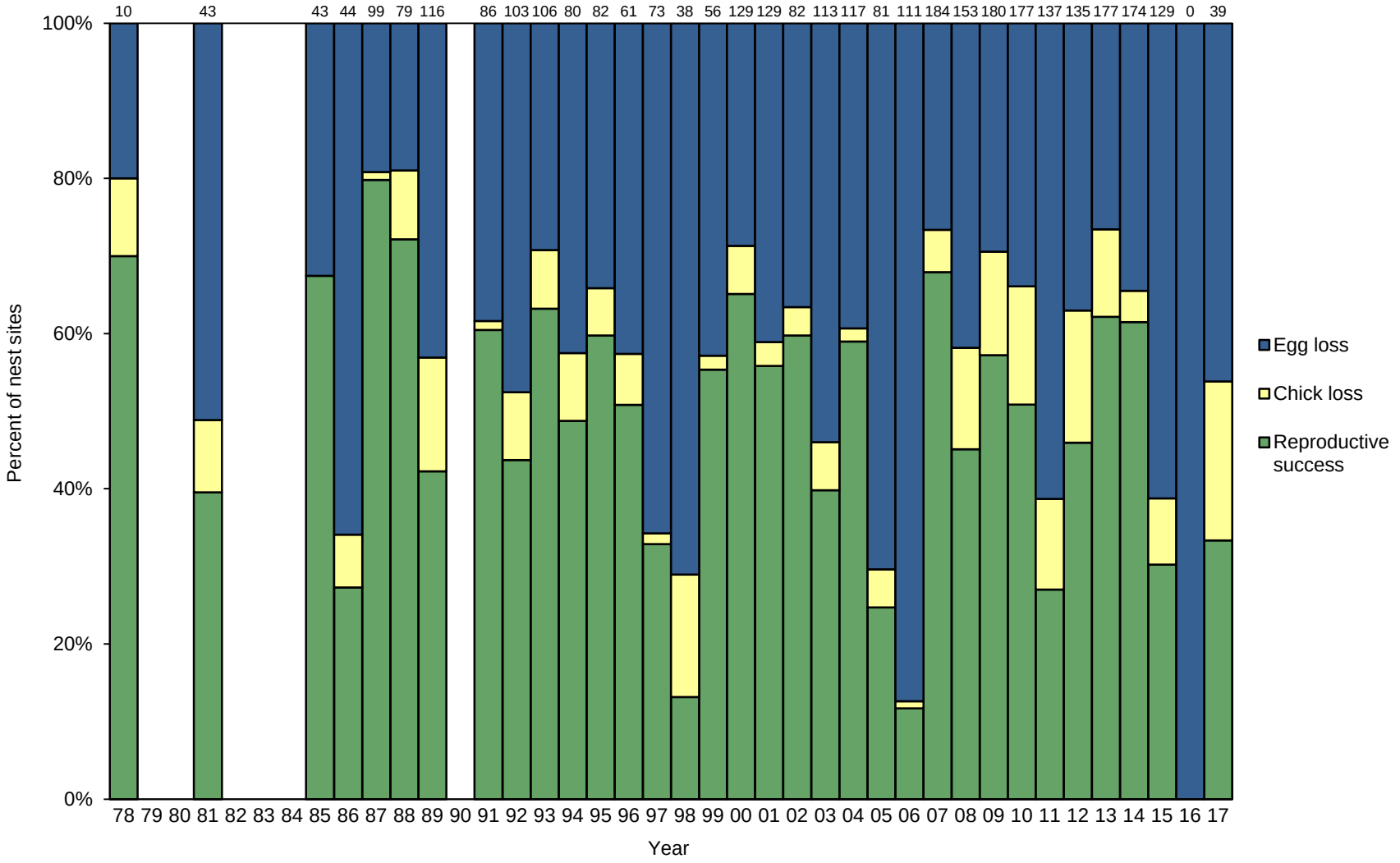

Figure 4. Reproductive performance of common murres at St. George Island, Alaska. Egg loss=(B-D)/B; Chick loss=(D-F)/B; Reproductive success=F/B, where B=nest sites with eggs; D=nest sites with chicks; F=nest sites with chicks fledged. Numbers above columns indicate sample sizes (B). No data were collected in 1976-1977, 1979-1980, 1982-1984, or 1990.

Table 3. Reproductive performance of common murres at St. George Island, Alaska. No data were collected in 1976-1977, 1979-1980, 1982-1984, or 1990.

Year	Nest sites w/ eggs (B)	Nest sites w/ chicks (D)	Nest sites w/ chicks fledged (F)	Nesting success (D/B)[a]	Fledging success (F/D)[b]	Reproductive success (F/B)
1978	10	8	7	0.80	0.87	0.70
1981	43	21	17	0.49	0.81	0.40
1985	43	29	29	0.67	1.00	0.67
1986	44	15	12	0.34	0.80	0.27
1987	99	80	79	0.81	0.99	0.80
1988	79	64	57	0.81	0.89	0.72
1989	116	66	49	0.57	0.74	0.42
1991	86	53	52	0.62	0.98	0.60
1992	103	54	45	0.52	0.83	0.44
1993	106	75	67	0.71	0.89	0.63
1994	80	46	39	0.58	0.85	0.49
1995	82	54	49	0.66	0.91	0.60
1996	61	35	31	0.57	0.89	0.51
1997	73	25	24	0.34	0.96	0.33
1998	38	11	5	0.29	0.45	0.13
1999	56	32	31	0.57	0.97	0.55
2000	129	92	84	0.71	0.91	0.65
2001	129	76	72	0.59	0.95	0.56
2002	82	52	49	0.63	0.94	0.60
2003	113	52	45	0.46	0.87	0.40
2004	117	71	69	0.61	0.97	0.59
2005	81	24	20	0.30	0.83	0.25
2006	111	14	13	0.13	0.93	0.12
2007	184	135	125	0.73	0.93	0.68
2008	153	89	69	0.58	0.78	0.45
2009	180	127	103	0.71	0.81	0.57
2010	177	117	90	0.66	0.77	0.51
2011	137	53	37	0.39	0.70	0.27
2012	135	85	62	0.63	0.73	0.46
2013	177	130	110	0.73	0.85	0.62
2014	174	114	107	0.66	0.94	0.61
2015	129	50	39	0.39	0.78	0.30
2016	0	0	0	0.00	0.00	0.00
2017	39	21	13	0.54	0.62	0.33

[a]For single-egg species, nesting success (D/B) is the same as hatching success (E/C) because nest sites w/ eggs (B)=total eggs (C) and nest sites w/ chicks (D)=total chicks (E).

[b]For single-egg species, fledging success (F/B) is the same as chick success (G/E) because nest sites w/ chicks (D)=total chicks (E) and nest sites w/ chicks fledged (F)=total chicks fledged (G).

Table 4. Standard deviation in reproductive performance parameters of common murres at St. George Island, Alaska. Sampling for murres is clustered by plot except when sample sizes per plot are too small or plot data are not available. No data were collected in 1976-1977, 1979-1980, 1982-1984, or 1990.

Year	No. plots[a]	Nest sites w/ eggs	Sampling design[b]	Nesting success	Fledging success	Reproductive success
1978	-	10	Simple random	0.13	0.12	0.14
1981	2	43	Cluster by plot	0.26	0.14	0.28
1985	6	43	Cluster by plot	0.05	0.00	0.05
1986	5	44	Cluster by plot	0.16	0.10	0.15
1987	5	99	Cluster by plot	0.10	0.01	0.10
1988	4	79	Cluster by plot	0.03	0.07	0.06
1989	5	116	Cluster by plot	0.11	0.21	0.19
1991	6	86	Cluster by plot	0.14	0.01	0.13
1992	5	103	Cluster by plot	0.15	0.02	0.13
1993	4	106	Cluster by plot	0.08	0.06	0.11
1994	3	80	Cluster by plot	<0.01	0.09	0.05
1995	5	82	Cluster by plot	0.08	0.07	0.11
1996	4	61	Cluster by plot	0.05	0.08	0.06
1997	6	73	Cluster by plot	0.05	0.04	0.04
1998	4	38	Cluster by plot	0.05	0.10	0.05
1999	4	56	Cluster by plot	0.08	0.02	0.07
2000	5	129	Cluster by plot	0.05	0.03	0.05
2001	6	129	Cluster by plot	0.05	0.03	0.05
2002	5	82	Cluster by plot	0.09	0.03	0.11
2003	7	113	Cluster by plot	0.06	0.05	0.06
2004	6	117	Cluster by plot	0.06	0.02	0.07
2005	7	81	Cluster by plot	0.08	0.09	0.08
2006	5	111	Cluster by plot	0.11	0.02	0.10
2007	8	184	Cluster by plot	0.09	0.03	0.09
2008	6	153	Cluster by plot	0.04	0.05	0.05
2009	8	180	Cluster by plot	0.06	0.04	0.06
2010	8	177	Cluster by plot	0.05	0.07	0.08
2011	9	137	Cluster by plot	0.10	0.09	0.10
2012	5	135	Cluster by plot	0.07	0.05	0.08
2013	5	177	Cluster by plot	0.07	0.02	0.08
2014	7	174	Cluster by plot	0.06	0.02	0.06
2015	7	129	Cluster by plot	0.12	0.08	0.08
2016	9	0	Cluster by plot	0.00	0.00	0.00
2017	4	39	Cluster by plot	0.09	0.17	0.13

[a]Plots that are combined for analysis are counted as a single "plot".

[b]For sampling clustered by plot, values are calculated based on plot as a sample unit; for simple random sampling, values are calculated using $\sqrt{\rho * (1-\rho)/n}$, where ρ is the success rate and n is the sample size of individual nests.

Table 5. Reproductive performance of common murres at St. George Island, Alaska in 2017.

Parameter	Plot				Total	SD[b]
	58	62	77/86/89/93[a]	88		
Nest sites w/ eggs (B)	7	10	19	3	39	-
Nest sites w/ chicks (D)	3	8	10	0	21	-
Nest sites w/ chicks fledged (F)	2	7	4	0	13	-
Nesting success (D/B)[c]	0.43	0.80	0.53	0.00	0.54	0.09
Fledging success (F/D)[d]	0.67	0.88	0.40	0.00	0.62	0.17
Reproductive success (F/B)	0.29	0.70	0.21	0.00	0.33	0.13

[a]Plots were combined for statistical purposes.
[b]Standard deviations are calculated based on plot as a sample unit.
[c]For single-egg species, nesting success (D/B) is the same as hatching success (E/C) because nest sites w/ eggs (B)=total eggs (C) and nest sites w/ chicks (D)=total chicks (E).
[d]For single-egg species, fledging success (F/B) is the same as chick success (G/E) because nest sites w/ chicks (D)=total chicks (E) and nest sites w/ chicks fledged (F)=total chicks fledged (G).

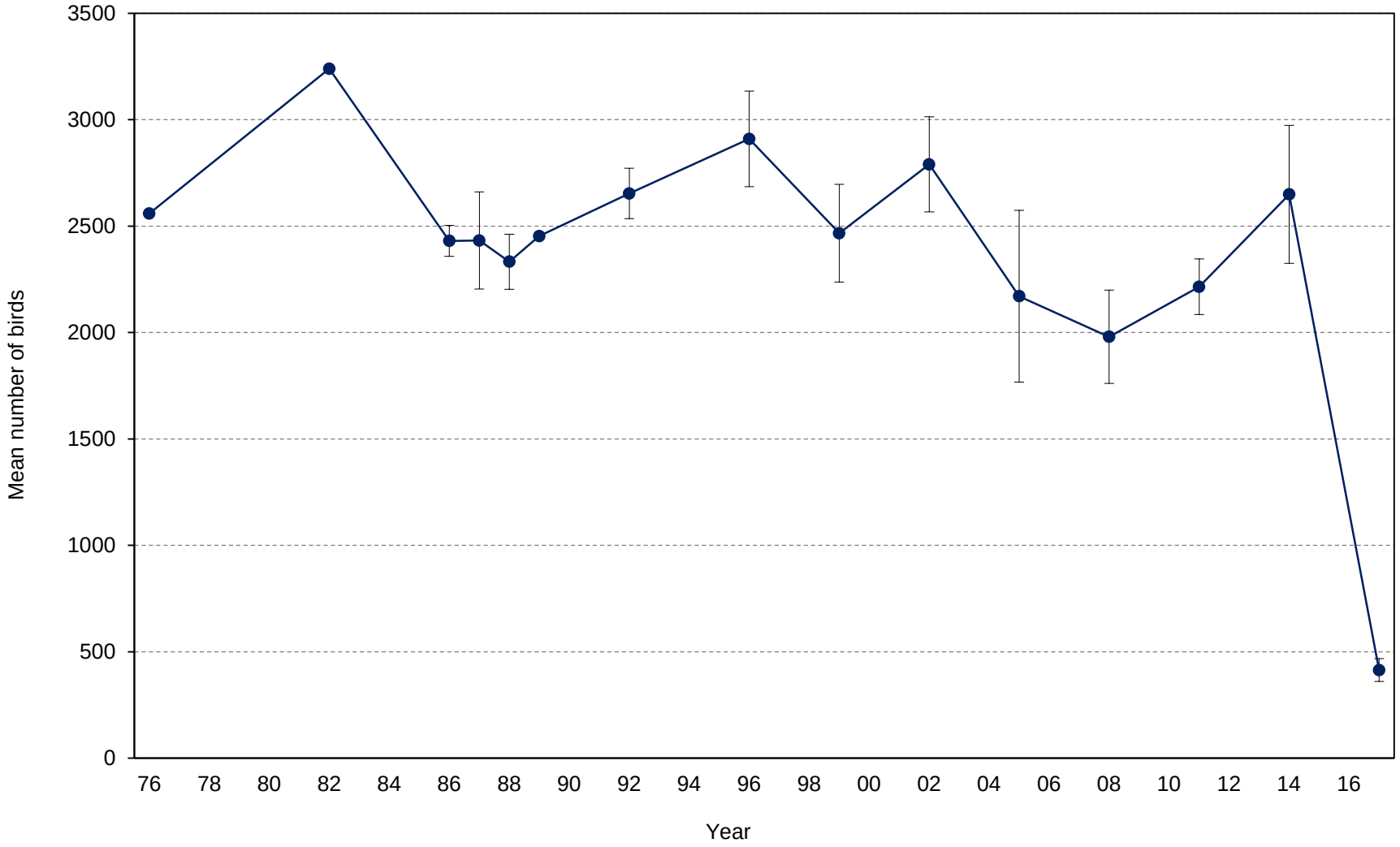

Figure 5. Mean numbers of common murres counted on index at St. George Island, Alaska. Totals include all plots except 13N. Error bars represent standard deviation. No counts were conducted in years not shown except 1984 and 1985 when data are excluded because not all plots were counted.

Table 6. Numbers of common murres counted on index plots at St. George Island, Alaska. Totals include all plots except 13N. No counts were conducted in years not listed except 1984 and 1985 when data are excluded because not all plots were counted.

Replicate	1976	1982	1986	1987	1988	1989	1992	1996	1999	2002	2005	2008	2011	2014	2017
1	2559	3239	2393	2144	2168	2465	2720	2764	2422	2422	1622	1731	2123	2168	378
2	-	-	2384	2387	2470	2441	2517	2917	2231	2730	1896	1814	2164	2870	388
3	-	-	2514	2512	2358	-	2723	2631	2431	2725	1843	2241	2164	2791	476
4	-	-	-	2686	2233	-	-	3027	2782	3000	2292	2162	2409	2766	-
5	-	-	-	-	2435	-	-	3210	-	2766	2357	1952	-	-	-
6	-	-	-	-	-	-	-	-	-	2762	2796	-	-	-	-
7	-	-	-	-	-	-	-	-	-	3124	2545	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	2487	-	-	-	-
Mean	2559	3239	2430	2432	2333	2453	2653	2910	2467	2790	2230	1980	2215	2649	414
n	1	1	3	4	5	2	3	5	4	7	8	5	4	4	3
SD	-	-	73	228	129	17	118	225	230	224	403	219	131	324	54
First count	9 Jul	23 Jul	8 Jul	11 Jul	19 Jul	13 Jul	11 Jul	12 Jul	9 Jul	5 Jul	4 Jul	7 Jul	6 Jul	3 Jul	5 Jul
Last count	5 Aug	3 Aug	12 Aug	9 Aug	11 Aug	10 Aug	6 Aug	6 Aug	8 Aug	3 Aug	30 Jul	30 Jul	4 Aug	1 Aug	7 Aug

Table 7. Numbers of common murres counted on index plots at St. George Island, Alaska in 2017.

Plot	Replicate			Mean	SD
	1	2	3		
	5-22 Jul	13 Jul-4 Aug	21 Jul-7 Aug		
1A	0	0	0	-	-
1B	1	0	0	-	-
2	5	6	0	-	-
8	0	0	0	-	-
9	1	0	1	-	-
10	1	1	0	-	-
11	20	2	29	-	-
12	0	0	0	-	-
13O	-[a]	1	0	-	-
13N	0	0	0	-	-
14	0	0	0	-	-
15	0	1	0	-	-
16	7	5	9	-	-
17	4	4	0	-	-
18	0	0	0	-	-
19	3	5	5	-	-
20	0	0	0	-	-
21	0	0	0	-	-
22	0	0	0	-	-
23	0	0	0	-	-
24T	30	12	15	-	-
24B	5	0	0	-	-
25	17	15	10	-	-
26	103	108	154	-	-
27T	0	3	0	-	-
27B	2	2	0	-	-
28	-	14[b]	-	-	-
28L	6	-	8	-	-
28M	15	-	14	-	-
29	3	2	7	-	-
30R	6	8	0	-	-
30L	13	8	8	-	-
31	9	10	11	-	-
32U	19	22	27	-	-
32L	0	1	0	-	-
33	0[b]	-	-	-	-
33A	-	0	2	-	-
33B	-	0	0	-	-
33C	-	0	0	-	-
33D	-	0	0	-	-
34	0	0	0	-	-
35	7[b]	-	-	-	-
35U	-	0	0	-	-
35L	-	0	7	-	-
36	0	7	6	-	-
37U	0	1	1	-	-
37L	1	1	0	-	-
38T	0	0	0	-	-
38M	4	4	4	-	-
38B	2	9	10	-	-
39	11	10	0	-	-
40	0	0	1	-	-
41T	49	53	60	-	-

Table 7 (continued). Numbers of common murres counted on index plots at St. George Island, Alaska in 2017.

Plot	Replicate			Mean	SD
	1	2	3		
	5-22 Jul	13 Jul-4 Aug	21 Jul-7 Aug		
41B	1	0	0	-	-
42A	0	0	0	-	-
42B	0	0	0	-	-
43	0	0	0	-	-
44	0	0	0	-	-
45	0	0	0	-	-
46	0	0	0	-	-
47	1	2	0	-	-
48	0	0	0	-	-
49	0	0	0	-	-
50	0	0	0	-	-
51	0	0	0	-	-
52	0	0	0	-	-
53	0	0	0	-	-
54A	0	0	0	-	-
54B	0	0	0	-	-
54C	0	0	0	-	-
55	5	0	9	-	-
58A	8	19	34	-	-
58B	0	0	0	-	-
58C	0	6	1	-	-
59A	5	14	11	-	-
59B	0	0	4	-	-
59C	2	10	9	-	-
75	3	11	6	-	-
81A	0	0	0	-	-
81B	1	0	0	-	-
81C	0	1	3	-	-
81D	8	10	10	-	-
Total[c]	378	388	476	414	54

[a]No count was conducted.
[b]Entire plot was included in a single count. No count of the subplots occurred.
[c]Total includes all plots except 13N.

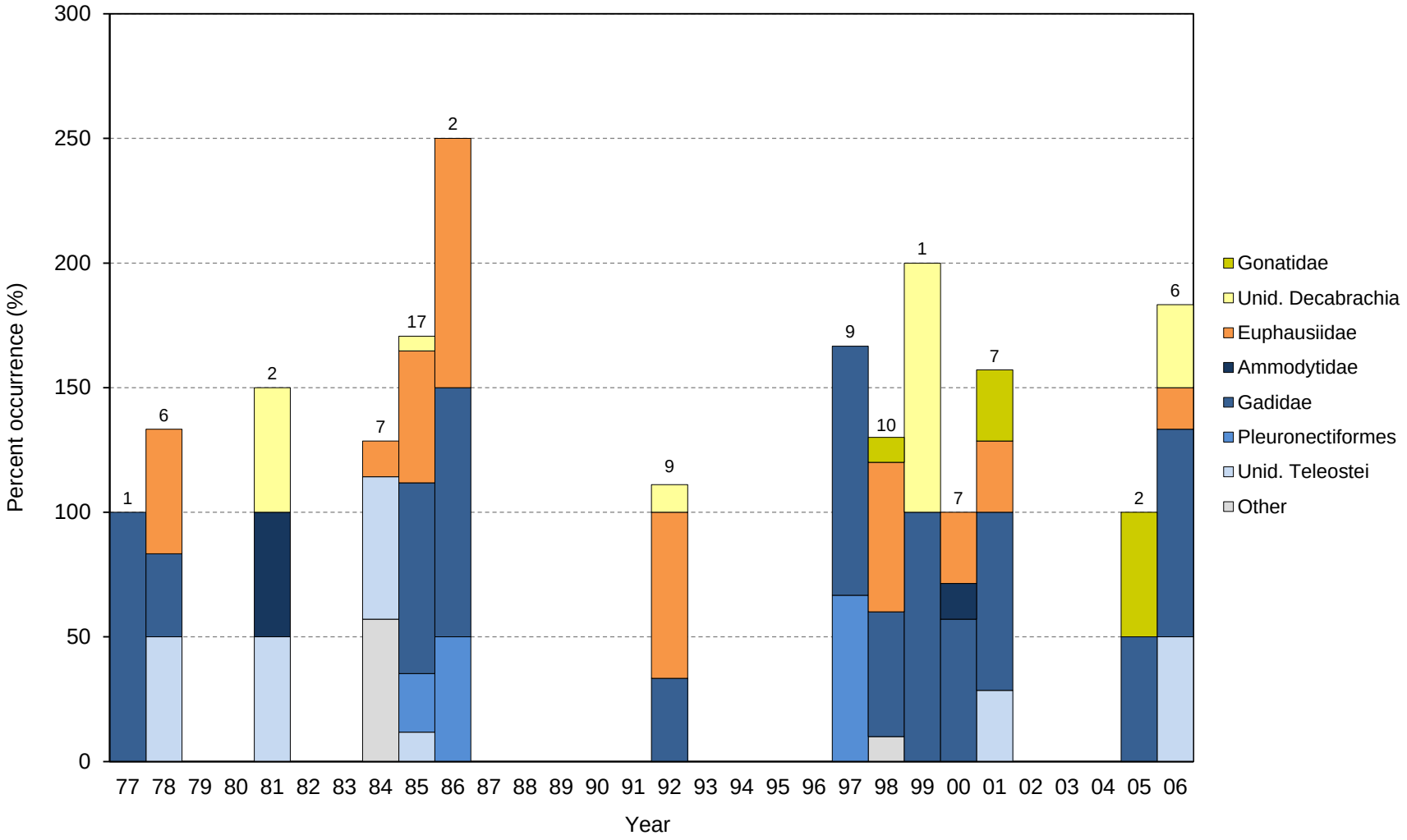

Figure 6. Frequency of occurrence of major prey items in diets of common murre adults at St. George Island, Alaska. Frequency is expressed as the percentage of food samples in which each prey item was present. Prey is grouped to family level or higher; only taxa with an among-year average occurrence of at least 5% are shown. Samples consist of stomach contents collected from adults near or at the colony. Numbers above columns indicate sample sizes. No diet samples were collected in 1979-1980, 1982-1983, 1987-1991, 1994-1996, or after 2006; samples were collected in 1993 and 2002-2004 but have not yet been analyzed.

Table 8. Frequency of occurrence of major prey items in diets of common murre adults at St. George Island, Alaska. Frequency is expressed as the percentage of food samples in which each prey item was present. Prey was identified and measured in the laboratory to lowest taxon possible (some prey items were identified to species while others were only identified to genus, family, order, etc.). Any prey with an among-year average occurrence of at least 5% are shown to the lowest taxonomic level; others are lumped together as "others" in their respective taxonomic group with values in bold showing totals for those taxa. Samples consist of stomach contents collected from adults near or at the colony. No diet samples were collected in 1979-1980, 1982-1983, 1987-1991, 1994-1996, or after 2006; samples were collected in 1993 and 2002-2004 but have not yet been analyzed. More detailed diet data and prey identifications are available, contact refuge biologists for details.

Prey	1977	1978	1981	1984	1985	1986	1992	1993	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
No. samples	1	6	2	7	17	2	9	1	9	10	1	7	7	7	1	1	2	6
Invertebrates	**-**	**50.0**	**50.0**	**28.6**	**64.7**	**100.0**	**77.8**	*pending*	**-**	**70.0**	**100.0**	**28.6**	**57.1**	*pending*	*pending*	*pending*	**50.0**	**33.3**
Cephalopoda	**-**	**-**	**50.0**	**-**	**5.9**	**0.0**	**11.1**	**-**	**-**	**10.0**	**100.0**	**-**	**28.6**	**-**	**-**	**-**	**50.0**	**33.3**
Gonatidae	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**10.0**	**-**	**-**	**28.6**	**-**	**-**	**-**	**50.0**	**-**
Gonatus spp.	-	-	-	-	-	-	-	-	-	10.0	-	-	28.6	-	-	-	50.0	-
Unid. Decabrachia	-	-	50.0	-	5.9	-	11.1	-	-	-	100.0	-	-	-	-	-	-	33.3
Euphausiacea	**-**	**50.0**	**-**	**14.3**	**52.9**	**100.0**	**66.7**	**-**	**-**	**60.0**	**-**	**28.6**	**28.6**	**-**	**-**	**-**	**-**	**16.7**
Euphausiidae	**-**	**50.0**	**-**	**14.3**	**52.9**	**100.0**	**66.7**	**-**	**-**	**60.0**	**-**	**28.6**	**28.6**	**-**	**-**	**-**	**-**	**16.7**
Thysanoessa inermis	-	33.3	-	-	41.2	50.0	-	-	-	-	-	-	-	-	-	-	-	16.7
T. raschii	-	16.7	-	-	35.3	50.0	-	-	-	-	-	-	-	-	-	-	-	16.7
Thysanoessa spp.	-	-	-	-	-	-	66.7	-	-	-	-	-	-	-	-	-	-	-
Unid. Euphausiidae	-	16.7	-	14.3	5.9	50.0	-	-	-	60.0	-	28.6	28.6	-	-	-	-	-
Other Euphausiidae	-	33.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16.7
Other Invertebrates	-	33.3	-	14.3	5.9	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish	**100.0**	**83.3**	**100.0**	**57.1**	**88.2**	**100.0**	**33.3**	**-**	**100.0**	**50.0**	**100.0**	**71.4**	**71.4**	**-**	**-**	**-**	**50.0**	**100.0**
Teleostei	**100.0**	**83.3**	**100.0**	**57.1**	**88.2**	**100.0**	**33.3**	**-**	**100.0**	**50.0**	**100.0**	**71.4**	**71.4**	**-**	**-**	**-**	**50.0**	**100.0**
Ammodytidae	**-**	**-**	**50.0**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**14.3**	**-**	**-**	**-**	**-**	**-**	**-**
Ammodytes spp.	-	-	50.0	-	-	-	-	-	-	-	-	14.3	-	-	-	-	-	-
Gadidae	**100.0**	**33.3**	**-**	**-**	**76.5**	**100.0**	**33.3**	**-**	**100.0**	**50.0**	**100.0**	**57.1**	**71.4**	**-**	**-**	**-**	**50.0**	**83.3**
Gadus chalcogrammus	-	33.3	-	-	76.5	100.0	22.2	-	100.0	50.0	100.0	57.1	28.6	-	-	-	-	83.3
Unid. Gadidae	100.0	-	-	-	-	-	-	-	-	-	-	-	42.9	-	-	-	50.0	-
Other Gadidae	-	-	-	-	-	-	11.1	-	-	-	-	-	-	-	-	-	-	-
Pleuronectiformes	**-**	**-**	**-**	**-**	**23.5**	**50.0**	**-**	**-**	**66.7**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Unid. Pleuronectiformes	-	-	-	-	23.5	50.0	-	-	66.7	-	-	-	-	-	-	-	-	-
Unid. Teleostei	-	50.0	50.0	57.1	11.8	-	-	-	-	-	-	-	28.6	-	-	-	-	50.0
Other Teleostei	-	-	-	-	-	-	-	-	33.3	-	-	-	-	-	-	-	-	-
Other	-	-	-	57.1	-	-	-	-	-	10.0	-	-	-	-	-	-	-	-

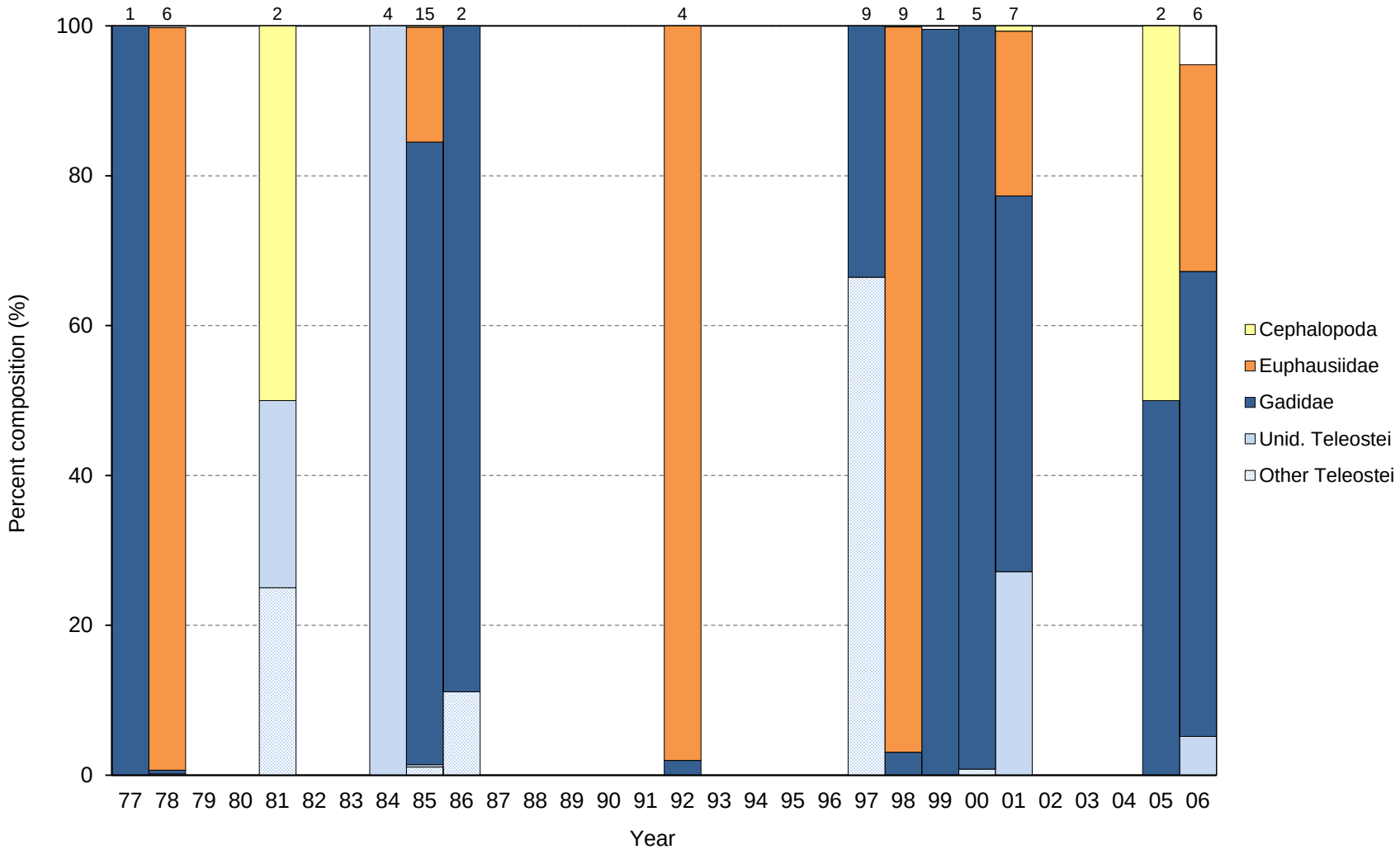

Figure 7. Percent composition of major prey items in diets of common murre adults at St. George Island, Alaska. Values are expressed as the percentage of total individual prey items comprised by each prey item. Prey is grouped to family level or higher; only taxa with an among-year average composition of at least 5% are shown. Samples consist of stomach contents collected from adults near or at the colony. Numbers above columns indicate sample sizes. No diet samples were collected in 1979-1980, 1982-1983, 1987-1991, 1994-1996, or after 2006; samples were collected in 1993 and 2002-2004 but have not yet been analyzed.

Table 9. Percent composition of major prey items in diets of common murre adults at St. George Island, Alaska. Values are expressed as the percentage of total individual prey items comprised by each prey item. Prey was identified and measured in the laboratory to lowest taxon possible (some prey items were identified to species while others were only identified to genus, family, order, etc.). Any prey with an among-year average composition of at least 5% are shown to the lowest taxonomic level; others are lumped together as "others" in their respective taxonomic group with values in bold showing totals for those taxa. Samples consist of stomach contents collected from adults near or at the colony. No diet samples were collected in 1979-1980, 1982-1983, 1987-1991, 1994-1996, or after 2006; samples were collected in 1993 and 2002-2004 but have not yet been analyzed. More detailed diet data and prey identifications are available, contact refuge biologists for details.

Prey	1977	1978	1981	1984	1985	1986	1992	1993	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
No. samples	1	6	2	4	15	2	4	1	9	9	1	5	7	7	1	1	2	6
No. individuals	45	1726	4	4	651	9	306	*pending*	504	849	452	126	291	*pending*	*pending*	*pending*	2	58
Invertebrates	**-**	**99.4**	**50.0**	**-**	**15.5**	**-**	**98.0**	**-**	**-**	**96.9**	**0.9**	**-**	**22.7**	**-**	**-**	**-**	**50.0**	**37.9**
Cephalopoda	**-**	**-**	**50.0**	**-**	**0.2**	**-**	**-**	**-**	**-**	**0.1**	**-**	**-**	**0.7**	**-**	**-**	**-**	**50.0**	**-**
Euphausiacea	**-**	**99.1**	**-**	**-**	**15.4**	**-**	**98.0**	**-**	**-**	**96.8**	**-**	**-**	**22.0**	**-**	**-**	**-**	**-**	**27.6**
Euphausiidae	**-**	**99.1**	**-**	**-**	**15.4**	**-**	**98.0**	**-**	**-**	**96.8**	**-**	**-**	**22.0**	**-**	**-**	**-**	**-**	**27.6**
Thysanoessa spp.	-	-	-	-	-	-	98.0	-	-	-	-	-	-	-	-	-	-	-
Unid. Euphausiidae	-	74.9	-	-	-	-	-	-	-	96.8	-	-	22.0	-	-	-	-	-
Other Euphausiidae	-	24.2	-	-	15.4	-	-	-	-	-	-	-	-	-	-	-	-	27.6
Other Invertebrates	-	0.2	-	-	-	-	-	-	-	-	0.9	-	-	-	-	-	-	10.3
Fish	**100.0**	**0.6**	**50.0**	**100.0**	**84.5**	**100.0**	**2.0**	**-**	**100.0**	**3.1**	**99.6**	**100.0**	**77.3**	**-**	**-**	**-**	**50.0**	**67.2**
Teleostei	**100.0**	**0.6**	**50.0**	**100.0**	**84.5**	**100.0**	**2.0**	**-**	**100.0**	**3.1**	**99.6**	**100.0**	**77.3**	**-**	**-**	**-**	**50.0**	**67.2**
Gadidae	**100.0**	**0.5**	**-**	**-**	**83.1**	**88.9**	**2.0**	**-**	**33.5**	**3.1**	**99.6**	**99.2**	**50.2**	**-**	**-**	**-**	**50.0**	**62.1**
Gadus chalcogrammus	-	0.5	-	-	83.1	88.9	1.0	-	33.5	3.1	99.6	99.2	48.5	-	-	-	-	62.1
Unid. Gadidae	100.0	-	-	-	-	-	-	-	-	-	-	-	1.7	-	-	-	50.0	-
Other Gadidae	-	-	-	-	-	-	1.0	-	-	-	-	-	-	-	-	-	-	-
Unid. Teleostei	-	0.2	25.0	100.0	0.3	-	-	-	-	-	-	-	27.1	-	-	-	-	5.2
Other Teleostei	-	-	25.0	-	1.1	11.1	-	-	66.5	-	-	0.8	-	-	-	-	-	-

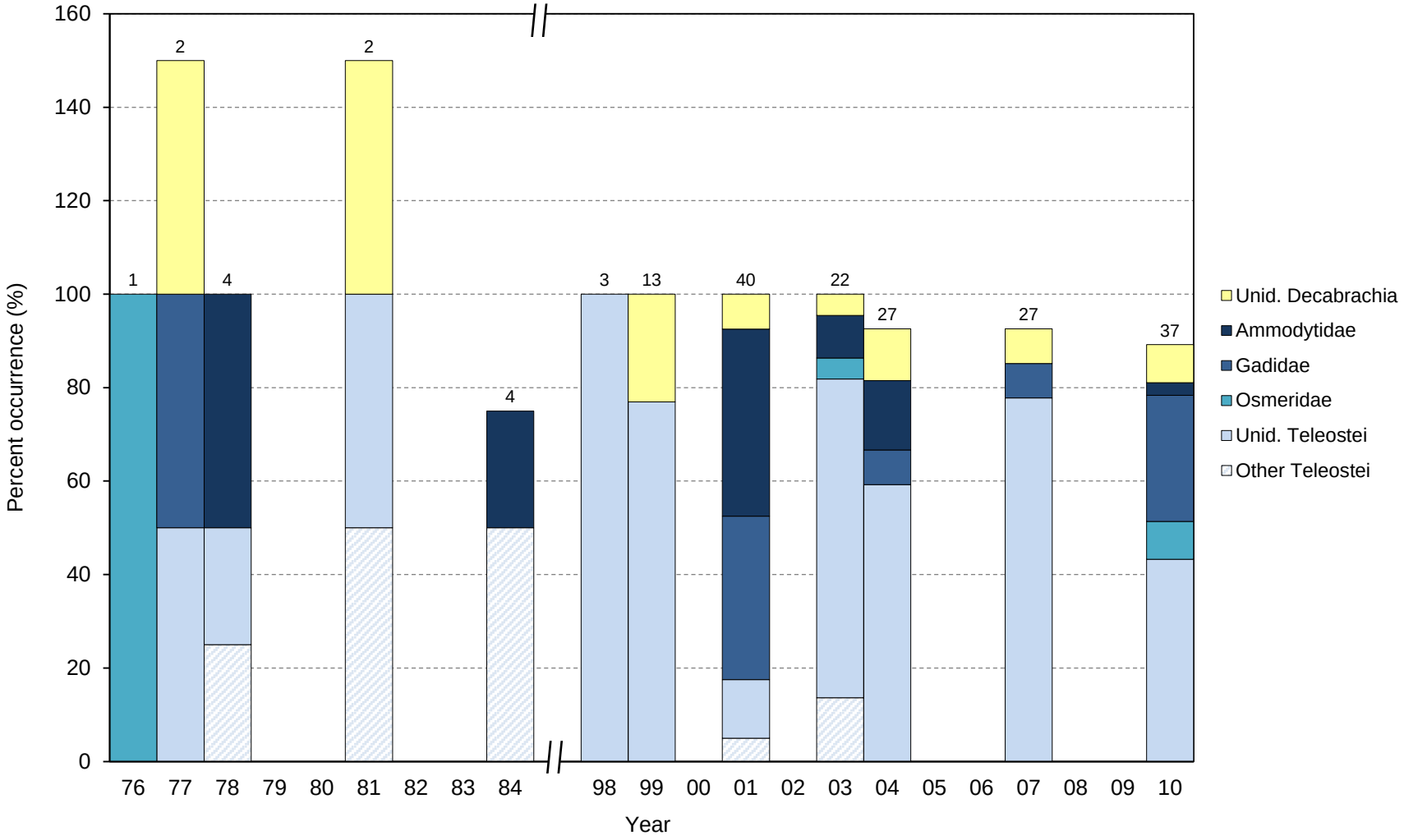

Figure 8. Frequency of occurrence of major prey items in diets of common murre chicks at St. George Island, Alaska. Frequency is expressed as the percentage of food samples in which each prey item was present. Prey is grouped to family level or higher; only taxa with an among-year average occurrence of at least 5% are shown. Samples consist of stomach contents, regurgitations and bill loads collected from chicks at the colony. Numbers above columns indicate sample sizes. No diet samples were collected in 1979-1980, 1982-1983, 1985-1997, 2000, 2002, 2005-2006, 2008-2009, or after 2010.

Table 10. Frequency of occurrence of major prey items in diets of common murre chicks at St. George Island, Alaska. Frequency is expressed as the percentage of food samples in which each prey item was present. Prey was identified and measured in the laboratory to lowest taxon possible (some prey items were identified to species while others were only identified to genus, family, order, etc.). Any prey with an among-year average occurrence of at least 5% are shown to the lowest taxonomic level; others are lumped together as "others" in their respective taxonomic group with values in bold showing totals for those taxa. Samples consist of stomach contents, regurgitations and bill loads collected from chicks at the colony (1976-1984) and observations of bill loads from adults returning to the colony to feed chicks (1998-2010). No diet samples were collected in 1979-1980, 1982-1983, 1985-1997, 2000, 2002, 2005-2006, 2008-2009, or after 2010. More detailed diet data and prey identifications are available, contact refuge biologists for details.

Prey	1976	1977	1978	1981	1984	1998	1999	2001	2003	2004	2007	2010
No. samples	1	2	4	2	4	3	13	40	22	27	27	37
Invertebrates	**-**	**50.0**	**-**	**50.0**	**50.0**	**-**	**23.1**	**7.5**	**4.5**	**11.1**	**7.4**	**8.1**
Cephalopoda	**-**	**50.0**	**-**	**50.0**	**50.0**	**-**	**23.1**	**7.5**	**4.5**	**11.1**	**7.4**	**8.1**
Unid. Decabrachia	-	50.0	-	50.0	-	-	23.1	7.5	4.5	11.1	7.4	8.1
Other Cephalopoda	-	-	-	-	50.0	-	-	-	-	-	-	-
Fish	**100.0**	**100.0**	**100.0**	**100.0**	**75.0**	**100.0**	**76.9**	**92.5**	**95.5**	**81.5**	**92.6**	**83.8**
Teleostei	**100.0**	**100.0**	**100.0**	**100.0**	**75.0**	**100.0**	**76.9**	**92.5**	**95.5**	**81.5**	**92.6**	**83.8**
Ammodytidae	**-**	**-**	**50.0**	**-**	**25.0**	**-**	**-**	**40.0**	**9.1**	**14.8**	**-**	**2.7**
Ammodytes spp.	-	-	50.0	-	25.0	-	-	40.0	9.1	14.8	-	2.7
Gadidae	**-**	**50.0**	**-**	**-**	**-**	**-**	**-**	**35.0**	**-**	**7.4**	**7.4**	**27.0**
Gadus chalcogrammus	-	50.0	-	-	-	-	-	-	-	-	3.7	8.1
Other Gadidae	-	-	-	-	-	-	-	35.0	-	7.4	3.7	18.9
Osmeridae	**100.0**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**4.5**	**-**	**-**	**8.1**
Mallotus villosus	100.0	-	-	-	-	-	-	-	-	-	-	5.4
Other Osmeridae	-	-	-	-	-	-	-	-	4.5	-	-	2.7
Stichaeidae	-	-	25.0	-	-	-	-	-	-	-	3.7	2.7
Unid. Teleostei	-	50.0	25.0	50.0	-	100.0	76.9	12.5	68.2	59.3	77.8	43.2
Other Teleostei	-	-	25.0	50.0	50.0	-	-	5.0	13.6	-	-	-
Other	-	-	-	-	-	-	-	-	-	7.4	-	8.1

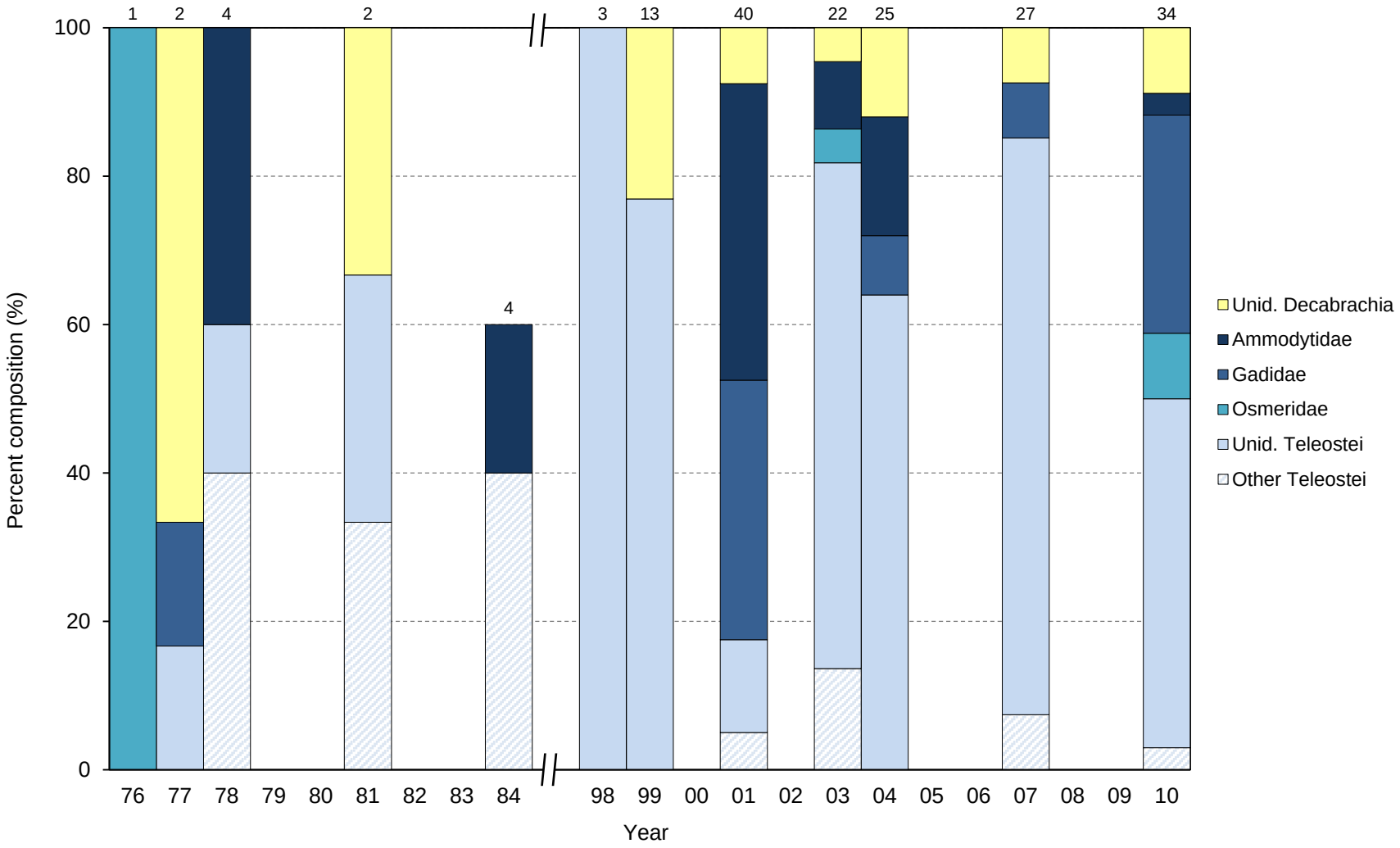

Figure 9. Percent composition of major prey items in diets of common murre chicks at St. George Island, Alaska. Values are expressed as the percentage of total individual prey items comprised by each prey item. Prey is grouped to family level or higher; only taxa with an among-year average composition of at least 5% are shown. Samples consist of stomach contents, regurgitations and bill loads collected from chicks at the colony (1976-1984) and observations of bill loads from adults returning to the colony to feed chicks (1998-2010). Numbers above columns indicate sample sizes. No diet samples were collected in 1979-1980, 1982-1983, 1985-1997, 2000, 2002, 2005-2006, 2008-2009, or after 2010.

Table 11. Percent composition of major prey items in diets of common murre chicks at St. George Island, Alaska. Values are expressed as the percentage of total individual prey items comprised by each prey item. Prey was identified and measured in the laboratory to lowest taxon possible (some prey items were identified to species while others were only identified to genus, family, order, etc.). Any prey with an among-year average composition of at least 5% are shown to the lowest taxonomic level; others are lumped together as "others" in their respective taxonomic group with values in bold showing totals for those taxa. Samples consist of stomach contents, regurgitations and bill loads collected from chicks at the colony (1976-1984) and observations of bill loads from adults returning to the colony to feed chicks (1998-2010). No diet samples were collected in 1979-1980, 1982-1983, 1985-1997, 2000, 2002, 2005-2006, 2008-2009, or after 2010. More detailed diet data and prey identifications are available, contact refuge biologists for details.

Prey	1976	1977	1978	1981	1984	1998	1999	2001	2003	2004	2007	2010
No. samples	1	2	4	2	4	3	13	40	22	25	27	34
No. individuals	1	6	5	3	5	3	13	40	22	25	27	34
Invertebrates	**-**	**66.7**	**-**	**33.3**	**40.0**	**-**	**23.1**	**7.5**	**4.5**	**12.0**	**7.4**	**8.8**
Cephalopoda	**-**	**66.7**	**-**	**33.3**	**40.0**	**-**	**23.1**	**7.5**	**4.5**	**12.0**	**7.4**	**8.8**
Unid. Decabrachia	-	66.7	-	33.3	-	-	23.1	7.5	4.5	12.0	7.4	8.8
Other Cephalopoda	-	-	-	-	40.0	-	-	-	-	-	-	-
Fish	**100.0**	**33.3**	**100.0**	**66.7**	**60.0**	**100.0**	**76.9**	**92.5**	**95.5**	**88.0**	**92.6**	**91.2**
Teleostei	**100.0**	**33.3**	**100.0**	**66.7**	**60.0**	**100.0**	**76.9**	**92.5**	**95.5**	**88.0**	**92.6**	**91.2**
Ammodytidae	**-**	**-**	**40.0**	**-**	**20.0**	**-**	**-**	**40.0**	**9.1**	**16.0**	**-**	**2.9**
Ammodytes spp.	-	-	40.0	-	20.0	-	-	40.0	9.1	16.0	-	2.9
Gadidae	**-**	**16.7**	**-**	**-**	**-**	**-**	**-**	**35.0**	**-**	**8.0**	**7.4**	**29.4**
Unid. Gadidae	-	-	-	-	-	-	-	35.0	-	8.0	3.7	20.6
Other Gadidae	-	16.7	-	-	-	-	-	-	-	-	3.7	8.8
Osmeridae	**100.0**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**4.5**	**-**	**-**	**8.8**
Mallotus villosus	100.0	-	-	-	-	-	-	-	-	-	-	5.9
Other Osmeridae	-	-	-	-	-	-	-	-	4.5	-	-	2.9
Unid. Teleostei	-	16.7	20.0	33.3	-	100.0	76.9	12.5	68.2	64.0	77.8	47.1
Other Teleostei	-	-	40.0	33.3	40.0	-	-	5.0	13.6	-	7.4	2.9

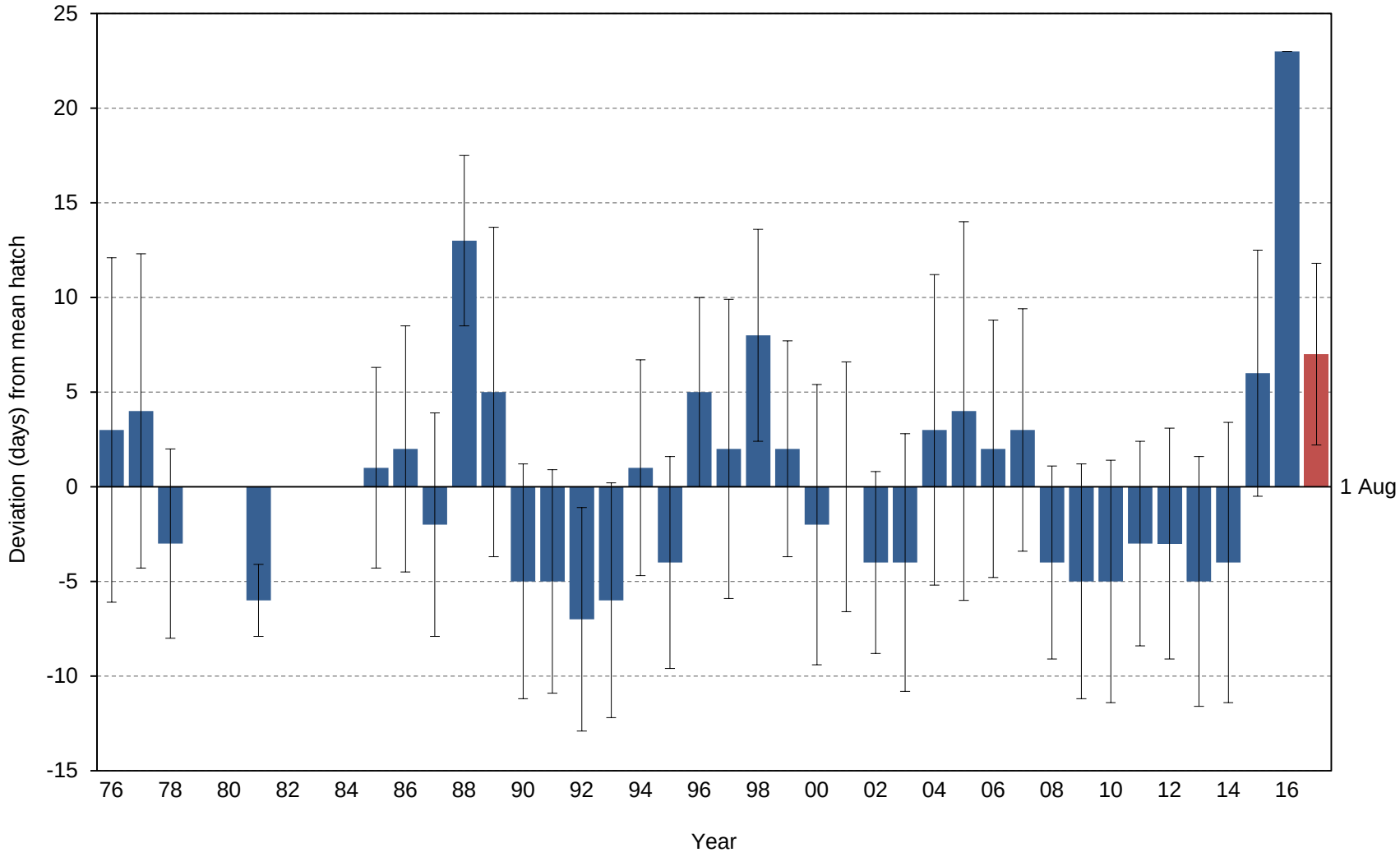

Figure 10. Yearly hatch date deviation (from the 1976-2016 mean of 1 August) for thick-billed murres at St. George Island, Alaska. Negative values indicate earlier than mean hatch date, positive values indicate later than mean hatch date. Error bars represent standard deviation around each year's mean hatch date; red highlights the current year. No data were collected in 1979-1980 or 1982-1984.

Table 12. Breeding chronology of thick-billed murres at St. George Island, Alaska. No data were collected in 1979-1980 or 1982-1984.

Year	Mean hatch	SD	*n*[a]	First hatch	Last hatch	First "jump"
1976	3 Aug	9.1	26	-	-	-
1977	5 Aug	8.3	43	-	-	-
1978	29 Jul	5.0	36	-	-	-
1981	26 Jul	1.9	10	24 Jul	29 Jul	7 Aug
1985	2 Aug	5.3	92	25 Jul	18 Aug	10 Aug
1986	3 Aug	6.5	53	19 Jul	20 Aug	10 Aug
1987	30 Jul	5.9	99	23 Jul	16 Aug	8 Aug
1988	13 Aug	4.5	19	6 Aug	23 Aug	19 Aug
1989	6 Aug	8.7	12	21 Jul	1 Sep	10 Aug
1990	27 Jul	6.2	89	14 Jul	16 Aug	3 Aug
1991	27 Jul	5.9	62	15 Jul	20 Aug	6 Aug
1992	24 Jul	5.9	85	12 Jul	17 Aug	8 Aug
1993	26 Jul	6.2	122	14 Jul	16 Aug	6 Aug
1994	2 Aug	5.7	85	22 Jul	22 Aug	14 Aug
1995	28 Jul	5.6	102	16 Jul	13 Aug	6 Aug
1996	5 Aug	5.0	49	24 Jul	13 Aug	16 Aug
1997	3 Aug	7.9	102	15 Jul	26 Aug	4 Aug
1998	9 Aug	5.6	101	27 Jul	22 Aug	18 Aug
1999	3 Aug	5.7	89	23 Jul	16 Aug	12 Aug
2000	29 Jul	7.4	156	14 Jul	25 Aug	2 Aug
2001	1 Aug	6.6	135	16 Jul	23 Aug	8 Aug
2002	28 Jul	4.8	112	17 Jul	10 Aug	6 Aug
2003	28 Jul	6.8	118	15 Jul	21 Aug	5 Aug
2004	3 Aug	8.2	78	12 Jul	21 Aug	1 Aug
2005	5 Aug	10.0	129	15 Jul	29 Aug	5 Aug
2006	3 Aug	6.8	88	21 Jul	22 Aug	11 Aug
2007	4 Aug	6.4	243	15 Jul	27 Aug	5 Aug
2008	27 Jul	5.1	169	16 Jul	16 Aug	11 Aug
2009	27 Jul	6.2	169	12 Jul	12 Aug	6 Aug
2010	27 Jul	6.4	170	15 Jul	16 Aug	6 Aug
2011	29 Jul	5.4	35	11 Jul	8 Aug	8 Aug
2012	28 Jul	6.1	121	16 Jul	17 Aug	2 Aug
2013	27 Jul	6.6	109	17 Jul	11 Aug	3 Aug
2014	28 Jul	7.4	117	13 Jul	22 Aug	9 Aug
2015	7 Aug	6.5	65	24 Jul	22 Aug	14 Aug
2016	23 Aug	0.0	1	23 Aug	23 Aug	-
2017	8 Aug	4.8	74	29 Jul	22 Aug	21 Aug

[a]Sample sizes for mean hatch dates are a sub-sample of total nests for which egg to chick interval is ≤7 days.

Table 13. Frequency distribution of hatch dates for thick-billed murres at St. George Island, Alaska. Data include only nests in which observations of egg to chick ≤ 7 days. No data were collected in 1979-1980 or 1982-1984; data from individual nests are not available before 1981.

Julian date[a]	No. nests hatching on Julian date																
	81	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00
192	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
193	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
194	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
195	-	-	-	-	-	-	1	-	-	1	-	-	-	-	-	-	-
196	-	-	-	-	-	-	1	1	1	4	-	-	-	1	-	-	2
197	-	-	-	-	-	-	-	3	-	-	-	3	-	-	-	-	-
198	-	-	-	-	-	-	1	-	8	3	-	3	-	1	-	-	3
199	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
200	-	-	1	-	-	-	-	-	2	18	-	-	-	1	-	-	-
201	-	-	-	-	-	-	4	-	3	-	-	-	-	2	-	-	3
202	-	-	-	-	-	3	9	10	12	3	-	6	-	2	-	-	8
203	-	-	-	-	-	4	1	-	-	2	6	6	-	-	-	-	4
204	-	-	1	13	-	2	8	-	7	4	2	-	-	2	-	8	10
205	2	-	-	-	-	-	-	2	-	12	-	-	-	-	-	-	-
206	5	4	1	11	-	2	13	10	8	12	-	1	2	6	-	-	19
207	-	6	3	9	-	1	6	-	-	8	1	18	-	7	-	-	2
208	-	4	1	22	-	3	6	15	25	5	6	18	1	4	1	8	12
209	1	-	-	2	-	4	2	-	1	5	-	1	-	-	-	-	2
210	2	14	5	6	-	8	16	7	6	18	9	-	4	4	-	-	12
211	-	1	1	6	-	1	-	-	-	-	4	6	1	-	-	3	-
212	-	7	12	3	-	4	5	8	2	8	2	17	2	13	7	8	16
213	-	4	1	-	-	-	-	1	1	2	-	-	-	-	2	-	7
214	-	13	5	4	-	15	5	-	-	7	26	6	4	10	3	12	27
215	-	1	2	-	-	2	3	-	3	-	-	-	1	-	-	-	2
216	-	8	6	4	-	16	-	2	-	3	5	5	1	8	2	15	1
217	-	3	1	3	-	3	-	-	2	-	11	4	3	12	-	-	3
218	-	11	2	3	-	6	1	1	-	2	1	3	7	6	21	16	2
219	-	2	-	-	1	-	-	-	1	1	1	-	5	-	4	-	-
220	-	4	-	3	1	7	1	-	-	1	4	4	1	2	10	5	3
221	-	1	-	-	-	4	1	-	-	-	-	-	-	3	-	-	-
222	-	1	3	6	4	7	3	-	-	-	4	-	12	1	18	7	4
223	-	2	1	-	-	2	-	-	1	-	-	-	1	-	1	-	3
224	-	2	1	2	3	2	-	1	-	1	-	-	3	5	4	-	1
225	-	-	-	-	-	1	-	-	-	-	-	1	-	3	5	5	2
226	-	2	4	1	4	6	-	-	-	-	1	-	1	-	-	1	2
227	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
228	-	-	-	1	-	8	1	-	-	2	-	-	-	2	12	1	3
229	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
230	-	1	1	-	4	7	-	-	1	-	-	-	-	5	6	-	-
231	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
232	-	-	1	-	-	1	-	1	-	-	-	-	-	-	3	-	1
233	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
234	-	-	-	-	1	2	-	-	-	-	1	-	-	-	2	-	1
235	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
236	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-
237	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
238	-	-	-	-	-	1	-	-	-	-	-	-	-	1	-	-	1
239	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
241	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
242	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
243	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
244	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
n	10	92	53	99	19	125	89	62	85	122	85	102	49	102	101	89	156

Table 13 (continued). Frequency distribution of hatch dates for thick-billed murres at St. George Island, Alaska. Data include only nests in which observations of egg to chick ≤ 7 days. No data were collected in 1979-1980 or 1982-1984; data from individual nests are not available before 1981.

Julian date[a]	No. nests hatching on Julian date																
	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17
192	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
193	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-
194	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
195	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
196	-	-	1	-	1	-	1	-	1	7	-	-	-	4	-	-	-
197	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
198	1	3	4	1	-	-	-	2	6	-	1	3	2	1	-	-	-
199	-	-	1	-	-	-	-	-	-	-	-	-	3	1	-	-	-
200	-	2	5	-	7	-	1	-	9	13	-	6	8	-	-	-	-
201	-	3	-	-	2	-	-	2	-	-	-	-	4	-	-	-	-
202	3	9	17	-	-	2	2	19	30	10	-	7	13	13	-	-	-
203	1	-	-	2	1	-	-	-	5	-	2	1	5	-	-	-	-
204	6	10	8	4	4	-	2	3	-	20	2	3	6	5	-	-	-
205	-	1	-	-	-	-	2	2	-	-	-	10	9	1	2	-	-
206	6	6	9	-	1	8	2	33	22	31	-	8	13	20	-	-	-
207	4	-	2	-	5	-	11	29	4	2	-	-	-	1	-	-	-
208	15	16	16	4	4	1	16	1	27	5	9	26	8	18	-	-	-
209	5	25	1	4	2	-	-	2	8	-	1	9	-	-	1	-	-
210	14	9	16	5	13	15	24	29	2	32	6	4	4	15	3	-	1
211	1	-	-	-	-	5	-	-	14	-	1	6	-	-	-	-	-
212	16	6	7	4	8	4	21	21	-	7	4	2	6	7	6	-	3
213	2	2	9	-	-	-	-	1	5	10	1	8	5	-	-	-	-
214	14	11	4	18	7	12	20	2	11	9	2	3	2	9	7	-	9
215	-	-	1	1	2	1	7	8	-	-	-	-	-	-	-	-	2
216	11	2	6	3	11	8	25	6	9	7	3	5	4	1	6	-	8
217	5	1	-	4	1	4	3	-	-	-	-	-	2	2	-	-	8
218	7	5	1	3	8	7	32	-	4	7	-	14	9	1	8	-	4
219	-	-	-	-	-	-	6	2	2	-	-	-	-	3	-	-	2
220	10	-	4	6	8	4	31	-	2	4	2	-	2	4	4	-	7
221	1	-	-	-	1	4	-	1	1	-	-	-	-	1	1	-	5
222	2	1	1	3	7	2	9	2	3	1	-	4	3	-	10	-	5
223	1	-	1	1	1	-	3	-	-	-	-	-	1	1	-	-	8
224	2	-	-	4	5	1	10	2	3	1	-	-	-	3	1	-	3
225	-	-	-	-	-	1	2	1	-	-	-	-	-	-	1	-	1
226	-	-	2	1	2	3	3	-	-	1	-	1	-	1	7	-	-
227	2	-	-	-	-	-	-	-	-	2	-	-	-	1	-	-	1
228	-	-	1	-	6	-	2	-	-	1	-	-	-	-	1	-	4
229	-	-	-	4	3	-	-	1	-	-	-	-	-	-	5	-	1
230	3	-	-	1	6	4	3	-	-	-	-	1	-	-	-	-	-
231	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
232	-	-	-	1	3	1	2	-	-	-	-	-	-	1	1	-	-
233	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
234	-	-	-	2	2	1	1	-	-	-	-	-	-	1	1	-	1
235	1	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-
236	-	-	-	-	4	-	1	-	-	-	-	-	-	-	-	1	-
237	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
238	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
239	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
241	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
242	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
243	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
244	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
n	135	112	118	78	129	88	243	169	169	170	35	121	109	117	65	1	74

[a]In leap years, hatch dates are calculated using a leap year-specific Julian date calendar.

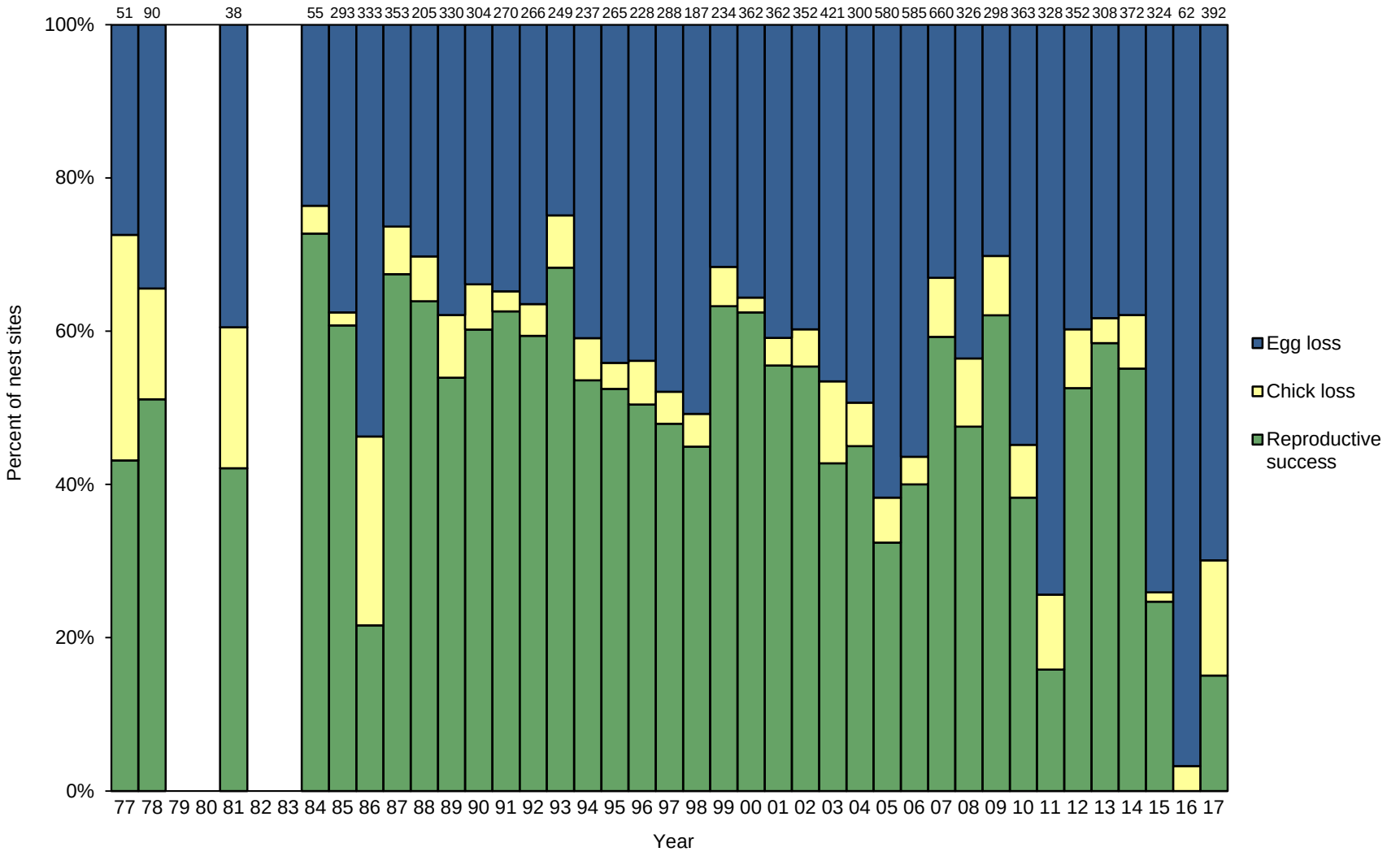

Figure 11. Reproductive performance of thick-billed murres at St. George Island, Alaska. Egg loss=(B-D)/B; Chick loss=(D-F)/B; Reproductive success=F/B, where B=nest sites with eggs; D=nest sites with chicks; F=nest sites with chicks fledged. Numbers above columns indicate sample sizes (B). No data were collected in 1976, 1979-1980, or 1982-1983.

Table 14. Reproductive performance of thick-billed murres at St. George Island, Alaska. No data were collected in 1976, 1979-1980, or 1982-1983.

Year	Nest sites w/ eggs (B)	Nest sites w/ chicks (D)	Nest sites w/ chicks fledged (F)	Nesting success (D/B)[a]	Fledging success (F/D)[b]	Reproductive success (F/B)
1977	51	(37)[c]	(22)	0.72[d]	0.66[d]	0.43[d]
1978	90	(59)	(46)	0.66[d]	0.78[d]	0.51[d]
1981	38	23	16	0.61	0.70	0.42
1984	55	42	40	0.76	0.95	0.73
1985	293	183	178	0.62	0.97	0.61
1986	333	154	72	0.46	0.47	0.22
1987	353	260	238	0.74	0.92	0.67
1988	205	143	131	0.70	0.92	0.64
1989	330	205	178	0.62	0.87	0.54
1990	304	201	183	0.66	0.91	0.60
1991	270	176	169	0.65	0.96	0.63
1992	266	169	158	0.64	0.93	0.59
1993	249	187	170	0.75	0.91	0.68
1994	237	140	127	0.59	0.91	0.54
1995	265	148	139	0.56	0.94	0.52
1996	228	128	115	0.56	0.90	0.50
1997	288	150	138	0.52	0.92	0.48
1998	187	92	84	0.49	0.91	0.45
1999	234	160	148	0.68	0.93	0.63
2000	362	233	226	0.64	0.97	0.62
2001	362	214	201	0.59	0.94	0.56
2002	352	212	195	0.60	0.92	0.55
2003	421	225	180	0.53	0.80	0.43
2004	300	152	135	0.51	0.89	0.45
2005	580	222	188	0.38	0.85	0.32
2006	585	255	234	0.44	0.92	0.40
2007	660	442	391	0.67	0.88	0.59
2008	326	184	155	0.56	0.84	0.48
2009	298	208	185	0.70	0.89	0.62
2010	363	164	139	0.45	0.85	0.38
2011	328	84	52	0.26	0.62	0.16
2012	352	212	185	0.60	0.87	0.53
2013	308	190	180	0.62	0.95	0.58
2014	372	231	205	0.62	0.89	0.55
2015	324	84	80	0.26	0.95	0.25
2016	62	2	0	0.03	0.00	0.00
2017	392	118	59	0.30	0.50	0.15

[a]For single-egg species, nesting success (D/B) is the same as hatching success (E/C) because nest sites w/ eggs (B)=total eggs (C) and nest sites w/ chicks (D)=total chicks (E).

[b]For single-egg species, fledging success (F/B) is the same as chick success (G/E) because nest sites w/ chicks (D)=total chicks (E) and nest sites w/ chicks fledged (F)=total chicks fledged (G).

[c]Values in parentheses were not reported by original investigators and are estimated from other known parameters.

[d]Reported values are the midpoint of a range (see Appendix D).

Table 15. Standard deviation in reproductive performance parameters of thick-billed murres at St. George Island, Alaska. Sampling for murres is clustered by plot except when sample sizes per plot are too small or plot data are not available. No data were collected in 1976, 1979-1980, or 1982-1983.

Year	No. plots[a]	Nest sites w/ eggs	Sampling design[b]	Nesting success	Fledging success	Reproductive success
1977	-	51	-	-[c]	-[c]	-[c]
1978	-	90	-	-[c]	-[c]	-[c]
1981	3	38	Cluster by plot	0.09	0.05	0.08
1984	-	55	Simple random	0.06	0.03	0.06
1985	14	293	Cluster by plot	0.08	0.01	0.08
1986	16	333	Cluster by plot	0.06	0.13	0.08
1987	15	353	Cluster by plot	0.03	0.02	0.08
1988	11	205	Cluster by plot	0.05	0.02	0.03
1989	14	330	Cluster by plot	0.05	0.04	0.05
1990	11	304	Cluster by plot	0.04	0.03	0.06
1991	13	270	Cluster by plot	0.06	0.02	0.05
1992	10	266	Cluster by plot	0.06	0.03	0.05
1993	9	249	Cluster by plot	0.03	0.02	0.03
1994	8	237	Cluster by plot	0.03	0.03	0.03
1995	11	265	Cluster by plot	0.05	0.02	0.06
1996	11	228	Cluster by plot	0.04	0.03	0.03
1997	10	288	Cluster by plot	0.05	0.03	0.05
1998	8	187	Cluster by plot	0.08	0.04	0.09
1999	10	234	Cluster by plot	0.03	0.04	0.03
2000	13	362	Cluster by plot	0.03	0.01	0.03
2001	13	362	Cluster by plot	0.04	0.01	0.04
2002	14	352	Cluster by plot	0.04	0.02	0.04
2003	15	421	Cluster by plot	0.04	0.03	0.04
2004	12	300	Cluster by plot	0.05	0.02	0.05
2005	22	580	Cluster by plot	0.05	0.03	0.06
2006	22	585	Cluster by plot	0.05	0.02	0.05
2007	23	660	Cluster by plot	0.04	0.02	0.04
2008	11	326	Cluster by plot	0.05	0.05	0.05
2009	10	298	Cluster by plot	0.02	0.02	0.03
2010	13	363	Cluster by plot	0.06	0.05	0.06
2011	14	328	Cluster by plot	0.04	0.06	0.04
2012	12	352	Cluster by plot	0.04	0.02	0.05
2013	10	308	Cluster by plot	0.05	0.02	0.06
2014	12	372	Cluster by plot	0.04	0.02	0.04
2015	12	324	Cluster by plot	0.06	0.02	0.06
2016	8	62	Cluster by plot	0.03	0.00	0.00
2017	16	392	Cluster by plot	0.05	0.09	0.05

[a]Plots that are combined for analysis are counted as a single "plot".

[b]For sampling clustered by plot, values are calculated based on plot as a sample unit; for simple random sampling, values are calculated using $\sqrt{\rho * (1-\rho)/n}$, where ρ is the success rate and n is the sample size of individual nests.

[c]Standard deviations are not calculated for success values that are midpoint estimates.

Table 16. Reproductive performance of thick-billed murres at St. George Island, Alaska in 2017.

Parameter	Plot																Total	SD[b]
	56/ 57[a]	61	62	64/ 85[a]	66/ 78[a]	69/ 90[a]	71	72	73	74	76/ 93[a]	77/ 86[a]	82	83/ 89[a]	87	88		
Nest sites w/ eggs (B)	37	26	35	22	31	35	11	18	12	11	36	33	16	34	26	9	392	-
Nest sites w/ chicks (D)	16	8	26	6	5	2	4	9	3	1	8	8	5	9	8	0	118	-
Nest sites w/ chicks fledged (F)	11	7	19	4	3	1	0	0	1	0	2	1	2	1	7	0	59	-
Nesting success (D/B)[c]	0.43	0.31	0.74	0.27	0.16	0.06	0.36	0.50	0.25	0.09	0.22	0.24	0.31	0.26	0.31	0.00	0.30	0.05
Fledging success (F/D)[d]	0.69	0.88	0.73	0.67	0.60	0.50	0.00	0.00	0.33	0.00	0.25	0.13	0.40	0.11	0.88	0.00	0.50	0.09
Reproductive success (F/B)	0.30	0.27	0.54	0.18	0.10	0.03	0.00	0.00	0.08	0.00	0.06	0.03	0.13	0.03	0.27	0.00	0.15	0.05

[a]Plots were combined for statistical purposes.
[b]Standard deviations are calculated based on plot as a sample unit.
[c]For single-egg species, nesting success (D/B) is the same as hatching success (E/C) because nest sites w/ eggs (B)=total eggs (C) and nest sites w/ chicks (D)=total chicks (E).
[d]For single-egg species, fledging success (F/B) is the same as chick success (G/E) because nest sites w/ chicks (D)=total chicks (E) and nest sites w/ chicks fledged (F)=total chicks fledged (G).

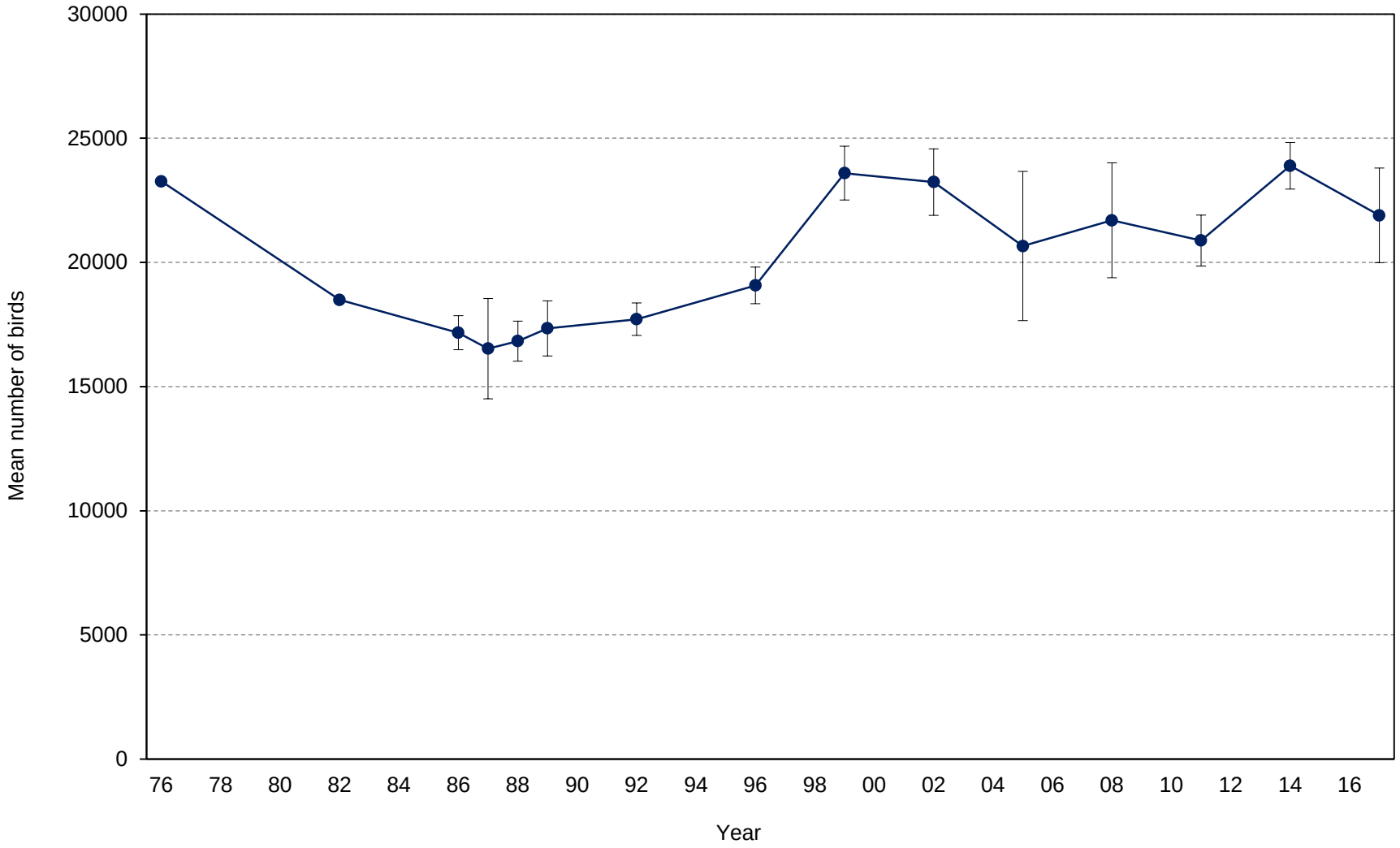

Figure 12. Mean numbers of thick-billed murres counted on index plots at St. George Island, Alaska. Totals include all plots except 13N. Error bars represent standard deviation. No counts were conducted in years not shown except 1984 and 1985 when data are excluded because not all plots were counted.

Table 17. Numbers of thick-billed murres counted on index plots at St. George Island, Alaska. Totals include all plots except 13N. No counts were conducted in years not listed except 1984 and 1985 when data are excluded because not all plots were counted.

Replicate	1976	1982	1986	1987	1988	1989	1992	1996	1999	2002	2005	2008	2011	2014	2017
1	23265	18490	16565	13695	16729	18128	18404	17970	24822	22204	17006	20171	19675	23007	22277
2	-	-	17916	17736	16622	16562	17104	19509	22729	22916	16121	18663	20547	23254	23580
3	-	-	17027	18195	16159	-	17628	19773	24195	25851	19522	23477	22097	25017	19824
4	-	-	-	16487	16425	-	-	18688	22637	22591	22193	24278	21209	24282	-
5	-	-	-	-	18225	-	-	19431	-	24085	24959	21882	-	-	-
6	-	-	-	-	-	-	-	-	-	22998	23205	-	-	-	-
7	-	-	-	-	-	-	-	-	-	22010	21048	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	21228	-	-	-	-
Mean	23265	18490	17169	16528	16832	17345	17712	19074	23596	23236	20660	21694	20882	23890	21894
n	1	1	3	4	5	2	3	5	4	7	8	5	4	4	3
SD	-	-	687	2022	808	1107	654	737	1085	1336	3001	2313	1025	932	1907
First count	9 Jul	23 Jul	8 Jul	11 Jul	19 Jul	13 Jul	11 Jul	12 Jul	9 Jul	5 Jul	4 Jul	7 Jul	6 Jul	3 Jul	5 Jul
Last count	5 Aug	3 Aug	12 Aug	9 Aug	11 Aug	10 Aug	6 Aug	6 Aug	8 Aug	3 Aug	30 Jul	30 Jul	4 Aug	1 Aug	7 Aug

Table 18. Numbers of thick-billed murres counted on index plots at St. George Island, Alaska in 2017.

Plot	Replicate			Mean	SD
	1	2	3		
	5-22 Jul	13 Jul-4 Aug	21 Jul-7 Aug		
1A	40	51	19	-	-
1B	134	186	88	-	-
2	214	228	207	-	-
8	309	363	330	-	-
9	312	385	353	-	-
10	250	317	325	-	-
11	80	87	106	-	-
12	155	173	154	-	-
13O	-[a]	194	170	-	-
13N	363	399	273	-	-
14	148	236	166	-	-
15	241	362	157	-	-
16	250	241	181	-	-
17	252	320	124	-	-
18	225	275	142	-	-
19	218	284	118	-	-
20	91	158	65	-	-
21	105	74	77	-	-
22	243	164	157	-	-
23	533	311	247	-	-
24T	802	464	703	-	-
24B	549	406	447	-	-
25	492	498	408	-	-
26	279	190	101	-	-
27T	841	714	534	-	-
27B	931	688	664	-	-
28	-	712[b]	-	-	-
28L	275	-	172	-	-
28M	534	-	332	-	-
29	1020	922	895	-	-
30R	333	405	-[a]	-	-
30L	277	272	347	-	-
31	112	142	164	-	-
32U	268	218	260	-	-
32L	177	192	235	-	-
33	1380[b]	-	-	-	-
33A	-	627	596	-	-
33B	-	277	214	-	-
33C	-	234	402	-	-
33D	-	259	176	-	-
34	94	84	100	-	-
35	698[b]	-	-	-	-
35U	-	167	166	-	-
35L	-	229	298	-	-
36	283	309	251	-	-
37U	240	370	299	-	-
37L	219	270	238	-	-
38T	257	203	206	-	-
38M	655	431	448	-	-
38B	610	615	536	-	-
39	224	200	215	-	-
40	138	84	102	-	-

Table 18 (continued). Numbers of thick-billed murres counted on index plots at St. George Island, Alaska in 2017.

Plot	Replicate			Mean	SD
	1	2	3		
	5-22 Jul	13 Jul-4 Aug	21 Jul-7 Aug		
41T	1180	1145	1169	-	-
41B	325	359	303	-	-
42A	22	19	34	-	-
42B	11	6	13	-	-
43	129	82	103	-	-
44	291	299	179	-	-
45	95	136	146	-	-
46	73	81	56	-	-
47	133	126	86	-	-
48	64	90	55	-	-
49	18	19	17	-	-
50	17	7	5	-	-
51	50	39	26	-	-
52	86	92	102	-	-
53	228	314	212	-	-
54A	0	2	2	-	-
54B	60	87	113	-	-
54C	2	17	31	-	-
55	415	253	295	-	-
58A	394	635	430	-	-
58B	169	452	346	-	-
58C	248	463	284	-	-
59A	417	557	449	-	-
59B	173	281	223	-	-
59C	488	796	452	-	-
75	920	1177	821	-	-
81A	44	118	96	-	-
81B	133	352	309	-	-
81C	105	261	258	-	-
81D	136	325	241	-	-
Total[c]	22277	23580	19824	21894	1907

[a]No count was conducted.
[b]Entire plot was included in a single count. No count of the subplots occurred.
[c]Total includes all plots except 13N.

Table 19. Total number of adult thick-billed murres banded on survival plots at St. George Island, Alaska. Data include birds banded with alphanumeric color bands and three color band combinations (2008 only).

Parameter	Year									
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
New color bands	8	17	57	7	32	9	16	4	0	0
New metal and colors	8	12	54	7	32	9	16	4	0	0
New colors on previous metal-banded bird[a]	0	5	3	0	0	0	0	0	0	0
New color bands replace old color bands[b]	0	0	2	0	0	0	0	0	0	0
Cumulative number of color-banded birds	8	25	82	89	121	130	146	150	150	150

[a]Bird previously banded with metal band only, caught subsequent year and given color band; adds one bird to number of new color bands.
[b]Bird previously banded with color band recaptured and given new color band; does not add to number of birds color-banded.

Table 20. Fates of cohorts of adult thick-billed murres banded on survival plots at St. George Island, Alaska. Data include birds banded with alphanumeric color bands and three color band combinations (2008 only).

Year	No. birds banded in year	No. birds resighted in:									Prop. birds resighted in 2017
		2009	2010	2011	2012	2013	2014	2015	2016	2017	
2008	8	6	6	4	6	3	3	2	2	4	0.50
2009	17	-	16	15	15	15	9	7	12	11	0.65
2010	57	-	-	51	48	45	46	38	33	33	0.58
2011	7	-	-	-	7	7	6	6	5	5	0.71
2012	32	-	-	-	-	32	31	23	22	26	0.81
2013	9	-	-	-	-	-	8	8	7	8	0.89
2014	16	-	-	-	-	-	-	15	12	13	0.81
2015	4	-	-	-	-	-	-	-	4	4	1.00
2016	0	-	-	-	-	-	-	-	-	-	-
2017	0	-	-	-	-	-	-	-	-	-	-[a]
Birds seen in current year (A)		6	22	70	76	102	103	99	97	104	-
Birds potentially alive from prior year (B)[b]		8	24	79	82	110	116	128	121	112	-
Apparent annual survival (A/B)[c]		0.75	0.92	0.89	0.93	0.93	0.89	0.77	0.80	0.93	-
Resighting effort[d]											
Total no. resight days		10	14	28	27	31	43	48	45	24	-
Total no. resight hours		37.0	58.0	29.8	49.3	49.8	34.0	24.2	21.1	18.7	-

[a]Birds banded in current year are not resighted until following year and not included in current year totals.

[b]Value equals the sum of birds resighted in prior year + birds not resighted in prior year but resighted in future years and thus known to have been alive in prior year + new birds banded in prior year.

[c]Survival should be considered a minimum estimate because it is likely not all birds present were observed each year.

[d]Resighting effort represents sum of time spent at survival plots and includes only dedicated resighting time, not incidental observations made during other work. Hours are calculated by people-hours: 2 people resighting for 1 hour each = 2 resight hours.

Table 21. Resight history of adult thick-billed murres banded on survival plots at St. George Island, Alaska. Values represent number of times birds were resighted each year. Color codes are recorded as color and # of band for birds banded with alphanumeric color bands, and as colors (in code) of bands on left (L) and right (R) legs for birds banded with three band combinations.

Codes:

Color combinations
DB = dark blue
DG = dark green
O = orange
R = red
W = white
Y = yellow

Location
HB = High Bluffs
RB = Red Bluffs
ZP = Zapadni

Notes
B = rebanded from original color band number (original number; year rebanded)

Resight history
0 = not resighted
x = band no longer resightable (dead, removed, etc.)

Color band		Metal band #	Year banded	Location banded	Notes	Year resighted								
Color or L leg	Band # or R leg					2009	2010	2011	2012	2013	2014	2015	2016	2017
Red	K3	1186-05055	2009	RB		-	3	2	0	1	0	1	3	0
DB/O	Y	1186-05058	2008	ZP		4	0	0	0	0	0	0	0	0
W/O	Y	1186-05059	2008	ZP		3	5	0	2	0	4	0	0	1
Red	U7	1186-05060	2008	ZP	B(3 bands[b];10)	1	7	0	1	0	0	0	0	1
DB/W	DG	1186-05062	2008	ZP		0	0	0	0	0	0	0	0	0
Red	K2	1186-05063	2009	RB		-	3	1	2	2	1	0	2	1
Red	H9	1186-05064	2009	RB		-	1	3	4	2	0	1	5	2
Red	K1	1186-05065	2009	RB		-	3	5	4	4	0	2	1	5
DB/DG	Y	1186-05066	2008	RB		0	3	4	4	5	0	0	0	0
W/DG	DG	1186-05067	2008	RB		2	6	4	5	5	1	2	2	4
Red	K4	1186-05070	2009	RB		-	1	1	5	5	3	0	3	1
DB/DG	DG	1186-05073	2008	ZP		1	1	4	3	0	0	0	0	0
Red	T0	1186-05081	2008	RB	B(3 bands[b];10)	2	4	4	9	8	3	2	2	1
Red	E5	1186-05147	2009	RB		-	2	6	3	2	0	0	0	1
Red	H2	1186-05161	2009	ZP		-	3	2	2	1	4	0	0	0
Red	H0	1186-05162	2009	ZP		-	1	5	6	5	1	1	5	0
Red	H3	1186-05163	2009	ZP		-	0	0	0	0	0	0	0	0
Red	H4	1186-05164	2009	ZP		-	8	1	4	3	3	0	1	1
Red	H5	1186-05165	2009	ZP		-	9	2	2	6	4	0	4	1
Red	H6	1186-05166	2009	ZP		-	8	8	7	5	13	2	8	6
Red	M0	1186-05172	2009	RB		-	1	2	5	4	0	0	0	0
Red	P9	1186-05175	2010	ZP		-	-	4	4	0	4	5	1	2
Red	H7	1186-05176	2009	ZP		-	7	1	5	1	2	1	3	3
Red	P6	1186-05177	2010	ZP		-	-	6	9	9	10	6	4	5
Red	T9	1186-05195	2010	RB		-	-	3	6	2	0	1	0	1
Red	J3	1186-05227	2009	RB		-	3	2	7	2	0	0	1	2
Red	J4	1186-05228	2009	RB		-	3	1	4	0	0	0	0	0
Red	J5	1186-05229	2009	RB		-	1	3	8	5	4	2	1	4
Red	N8	1186-05295	2012	HB		-	-	-	-	8	0	0	0	0
Red	N9	1186-05296	2012	ZP		-	-	-	-	8	11	1	5	4
Red	N0	1186-05297	2012	ZP		-	-	-	-	3	2	0	4	1
Red	100	1186-05298	2012	ZP		-	-	-	-	3	5	3	6	4
Red	101	1186-05299	2012	ZP		-	-	-	-	5	3	1	7	2
Red	102	1186-05300	2012	ZP		-	-	-	-	4	6	5	6	4

Table 21 (continued). Resight history of adult thick-billed murres banded on survival plots at St. George Island, Alaska. Values represent number of times birds were resighted each year. Color codes are recorded as color and # of band for birds banded with alphanumeric color bands, and as colors (in code) of bands on left (L) and right (R) legs for birds banded with three band combinations.

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Color combinations
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ZP = Zapadni

Notes
B = rebanded from original color band number (original number; year rebanded)

Resight history
0 = not resighted
x = band no longer resightable (dead, removed, etc.)

Color band		Metal band #	Year banded	Location banded	Notes	Year resighted								
Color or L leg	Band # or R leg					2009	2010	2011	2012	2013	2014	2015	2016	2017
Red	X1	1186-05301	2010	HB		-	-	2	4	3	5	3	2	1
Red	X2	1186-05302	2010	HB		-	-	3	3	1	0	1	2	2
Red	X3	1186-05303	2010	HB		-	-	3	3	5	4	2	3	0
Red	X4	1186-05304	2010	HB		-	-	6	5	6	4	4	4	4
Red	X5	1186-05305	2010	HB		-	-	2	4	4	8	1	0	0
Red	X6	1186-05306	2010	HB		-	-	0	0	0	0	0	0	0
Red	X7	1186-05307	2010	HB		-	-	1	4	0	0	0	0	0
Red	X8	1186-05308	2010	HB		-	-	1	4	1	2	1	1	5
Red	X9	1186-05309	2010	HB		-	-	0	0	0	0	0	0	0
Red	X0	1186-05310	2010	HB		-	-	4	0	1	2	0	0	0
Red	R1	1186-05311	2010	HB		-	-	4	4	6	8	1	4	5
Red	R2	1186-05312	2010	HB		-	-	5	6	4	6	7	3	7
Red	R3	1186-05313	2010	HB		-	-	4	5	5	9	10	8	5
Red	R4	1186-05314	2010	HB		-	-	5	8	5	8	6	3	3
Red	R5	1186-05315	2010	HB		-	-	0	0	0	0	0	0	0
Red	R6	1186-05316	2010	HB		-	-	1	5	4	1	1	0	0
Red	R7	1186-05317	2010	HB		-	-	4	0	0	0	0	0	0
Red	R8	1186-05318	2010	HB		-	-	6	5	8	8	8	8	4
Red	R9	1186-05319	2010	HB		-	-	6	4	6	7	7	6	0
Red	R0	1186-05320	2010	HB		-	-	7	7	7	8	7	4	6
Red	P1	1186-05321	2010	ZP		-	-	2	6	4	2	3	0	0
Red	P2	1186-05322	2010	ZP		-	-	0	0	0	0	0	0	0
Red	P3	1186-05323	2010	ZP		-	-	7	0	0	0	0	0	0
Red	P4	1186-05324	2010	ZP		-	-	4	7	4	3	2	6	6
Red	P5	1186-05325	2010	ZP		-	-	7	11	10	12	15	13	8
Red	P7	1186-05326	2010	ZP		-	-	4	8	10	9	0	0	0
Red	P8	1186-05327	2010	ZP		-	-	7	8	9	9	7	4	2
Red	P0	1186-05328	2010	ZP		-	-	5	5	2	2	3	2	0
Red	U1	1186-05329	2010	ZP		-	-	2	3	3	7	0	0	0
Red	U2	1186-05330	2010	ZP		-	-	7	5	3	1	2	2	2
Red	U4	1186-05331	2010	ZP		-	-	4	6	1	2	0	0	0
Red	U5	1186-05332	2010	ZP		-	-	2	9	4	5	2	0	0
Red	U6	1186-05333	2010	ZP		-	-	6	10	2	5	1	3	6
Red	U8	1186-05334	2010	ZP		-	-	1	4	1	2	0	5	0

Table 21 (continued). Resight history of adult thick-billed murres banded on survival plots at St. George Island, Alaska. Values represent number of times birds were resighted each year. Color codes are recorded as color and # of band for birds banded with alphanumeric color bands, and as colors (in code) of bands on left (L) and right (R) legs for birds banded with three band combinations.

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Location
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ZP = Zapadni

Notes
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Resight history
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x = band no longer resightable (dead, removed, etc.)

Color band		Metal band #	Year banded	Location banded	Notes	Year resighted								
Color or L leg	Band # or R leg					2009	2010	2011	2012	2013	2014	2015	2016	2017
Red	U9	1186-05335	2010	ZP		-	-	3	7	8	10	10	14	6
Red	U0	1186-05336	2010	HB		-	-	8	8	4	8	6	6	2
Red	L1	1186-05337	2010	HB		-	-	4	2	3	4	7	4	5
Red	L2	1186-05338	2010	HB		-	-	2	1	0	1	0	1	1
Red	L3	1186-05339	2010	HB		-	-	2	3	1	2	0	3	0
Red	L4	1186-05340	2010	HB		-	-	6	8	6	7	0	0	3
Red	L5	1186-05341	2010	HB		-	-	3	4	4	4	2	2	2
Red	L6	1186-05342	2010	HB		-	-	6	8	3	6	2	3	1
Red	L7	1186-05343	2010	HB		-	-	2	0	0	0	0	0	0
Red	L8	1186-05344	2010	HB		-	-	1	4	4	3	2	1	3
Red	L9	1186-05345	2010	HB		-	-	8	9	3	3	2	3	3
Red	L0	1186-05346	2010	RB		-	-	2	5	3	2	1	0	2
Red	T1	1186-05347	2010	RB		-	-	0	2	0	1	1	0	0
Red	T2	1186-05348	2010	RB		-	-	2	7	5	4	4	1	4
Red	T3	1186-05349	2010	HB		-	-	2	2	1	3	2	2	1
Red	T4	1186-05350	2010	ZP		-	-	2	3	1	4	3	0	1
Red	T5	1186-05351	2010	ZP		-	-	0	2	1	1	0	0	0
Red	T6	1186-05352	2010	ZP		-	-	4	5	7	5	7	0	2
Red	T7	1186-05353	2010	RB		-	-	1	3	3	1	0	4	2
Red	T8	1186-05354	2010	RB		-	-	1	0	0	0	0	0	0
Red	N1	1186-05355	2011	HB		-	-	-	6	7	4	2	7	3
Red	N2	1186-05356	2011	HB		-	-	-	3	4	3	6	1	2
Red	N3	1186-05357	2011	HB		-	-	-	6	8	6	4	1	3
Red	N4	1186-05359	2011	ZP		-	-	-	9	8	14	0	0	0
Red	N5	1186-05361	2011	ZP		-	-	-	7	3	7	4	0	0
Red	N6	1186-05362	2011	ZP		-	-	-	5	2	0	1	5	2
Red	N7	1186-05363	2011	ZP		-	-	-	8	9	11	8	9	4
Red	103	1186-05364	2012	ZP		-	-	-	-	4	3	0	1	2
Red	104	1186-05365	2012	ZP		-	-	-	-	3	4	2	2	5
Red	105	1186-05366	2012	HB		-	-	-	-	6	8	5	7	5
Red	106	1186-05367	2012	HB		-	-	-	-	10	4	7	3	9
Red	107	1186-05368	2012	HB		-	-	-	-	2	1	0	0	3
Red	108	1186-05369	2012	HB		-	-	-	-	7	5	4	0	0

Table 21 (continued). Resight history of adult thick-billed murres banded on survival plots at St. George Island, Alaska. Values represent number of times birds were resighted each year. Color codes are recorded as color and # of band for birds banded with alphanumeric color bands, and as colors (in code) of bands on left (L) and right (R) legs for birds banded with three band combinations.

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Color combinations
DB = dark blue
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Location
HB = High Bluffs
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Notes
B = rebanded from original color band number (original number; year rebanded)

Resight history
0 = not resighted
x = band no longer resightable (dead, removed, etc.)

Color band		Metal band #	Year banded	Location banded	Notes	Year resighted								
Color or L leg	Band # or R leg					2009	2010	2011	2012	2013	2014	2015	2016	2017
Red	109	1186-05370	2012	HB		-	-	-	-	5	4	4	0	4
Red	110	1186-05371	2012	HB		-	-	-	-	6	1	0	0	0
Red	111	1186-05372	2012	HB		-	-	-	-	5	8	5	2	3
Red	112	1186-05373	2012	HB		-	-	-	-	2	4	0	0	0
Red	113	1186-05374	2012	RB		-	-	-	-	5	1	0	6	3
Red	114	1186-05375	2012	RB		-	-	-	-	4	2	0	7	2
Red	115	1186-05376	2012	RB		-	-	-	-	3	2	2	4	0
Red	116	1186-05377	2012	RB		-	-	-	-	2	1	1	3	0
Red	118	1186-05378	2012	RB		-	-	-	-	2	4	1	4	1
Red	119	1186-05379	2012	RB		-	-	-	-	7	4	4	6	3
Red	120	1186-05380	2012	RB		-	-	-	-	6	3	0	0	1
Red	121	1186-05381	2012	RB		-	-	-	-	6	4	3	1	3
Red	122	1186-05382	2012	RB		-	-	-	-	6	4	7	0	6
Red	123	1186-05383	2012	RB		-	-	-	-	3	1	2	0	3
Red	124	1186-05384	2012	RB		-	-	-	-	3	2	1	3	2
Red	125	1186-05385	2012	RB		-	-	-	-	7	3	3	3	3
Red	126	1186-05386	2012	RB		-	-	-	-	6	4	3	4	6
Red	127	1186-05387	2012	RB		-	-	-	-	4	1	2	4	3
Red	128	1186-05388	2012	RB		-	-	-	-	7	3	5	0	2
Red	129	1186-05389	2012	RB		-	-	-	-	6	4	1	2	1
Red	130	1186-05390	2013	ZP		-	-	-	-	-	12	9	2	1
Red	131	1186-05391	2013	ZP		-	-	-	-	-	9	7	7	1
Red	132	1186-05392	2013	ZP		-	-	-	-	-	11	9	2	1
Red	133	1186-05393	2013	ZP		-	-	-	-	-	5	3	5	2
Red	134	1186-05394	2013	RB		-	-	-	-	-	4	8	2	5
Red	135	1186-05395	2013	RB		-	-	-	-	-	6	6	1	3
Red	136	1186-05396	2013	RB		-	-	-	-	-	0	0	0	0
Red	137	1186-05397	2013	RB		-	-	-	-	-	2	5	0	2
Red	138	1186-05398	2013	HB		-	-	-	-	-	6	4	4	4
Red	139	1186-05399	2014	HB		-	-	-	-	-	-	8	4	7
Red	140	1186-05400	2014	HB		-	-	-	-	-	-	7	2	9
Red	141	1186-05401	2014	HB		-	-	-	-	-	-	2	3	7
Red	142	1186-05402	2014	HB		-	-	-	-	-	-	5	1	2

Table 21 (continued). Resight history of adult thick-billed murres banded on survival plots at St. George Island, Alaska. Values represent number of times birds were resighted each year. Color codes are recorded as color and # of band for birds banded with alphanumeric color bands, and as colors (in code) of bands on left (L) and right (R) legs for birds banded with three band combinations.

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RB = Red Bluffs
ZP = Zapadni

Notes
B = rebanded from original color band number (original number; year rebanded)

Resight history
0 = not resighted
x = band no longer resightable (dead, removed, etc.)

Color band		Metal band #	Year banded	Location banded	Notes	Year resighted								
Color or L leg	Band # or R leg					2009	2010	2011	2012	2013	2014	2015	2016	2017
Red	143	1186-05403	2014	HB		-	-	-	-	-	-	3	0	2
Red	144	1186-05404	2014	HB		-	-	-	-	-	-	4	0	3
Red	146	1186-05405	2014	ZP		-	-	-	-	-	-	5	7	7
Red	145	1186-05406	2014	HB		-	-	-	-	-	-	4	1	0
Red	147	1186-05407	2014	ZP		-	-	-	-	-	-	10	8	5
Red	148	1186-05408	2014	ZP		-	-	-	-	-	-	3	0	0
Red	149	1186-05409	2014	ZP		-	-	-	-	-	-	10	7	3
Red	150	1186-05410	2014	ZP		-	-	-	-	-	-	14	15	7
Red	151	1186-05411	2014	ZP		-	-	-	-	-	-	4	4	1
Red	152	1186-05412	2014	ZP		-	-	-	-	-	-	5	1	4
Red	153	1186-05413	2014	ZP		-	-	-	-	-	-	0	0	0
Red	154	1186-05414	2014	ZP		-	-	-	-	-	-	5	3	9
Red	161	1186-05421	2015	ZP		-	-	-	-	-	-	-	13	6
Red	160	1186-05422	2015	ZP		-	-	-	-	-	-	-	6	2
Red	162	1186-05423	2015	ZP		-	-	-	-	-	-	-	6	5
Red	163	1186-05424	2015	ZP		-	-	-	-	-	-	-	11	3
					Total birds resighted	6	22	71	76	102	104	99	97	104

[a] Bird originally banded with three color band combination DG/W on left, R on right in 2008; replaced with field-readable in 2010.
[b] Bird originally banded with three color band combination W/DG on left, Y on right in 2008; replaced with alphanumeric band in 2010.

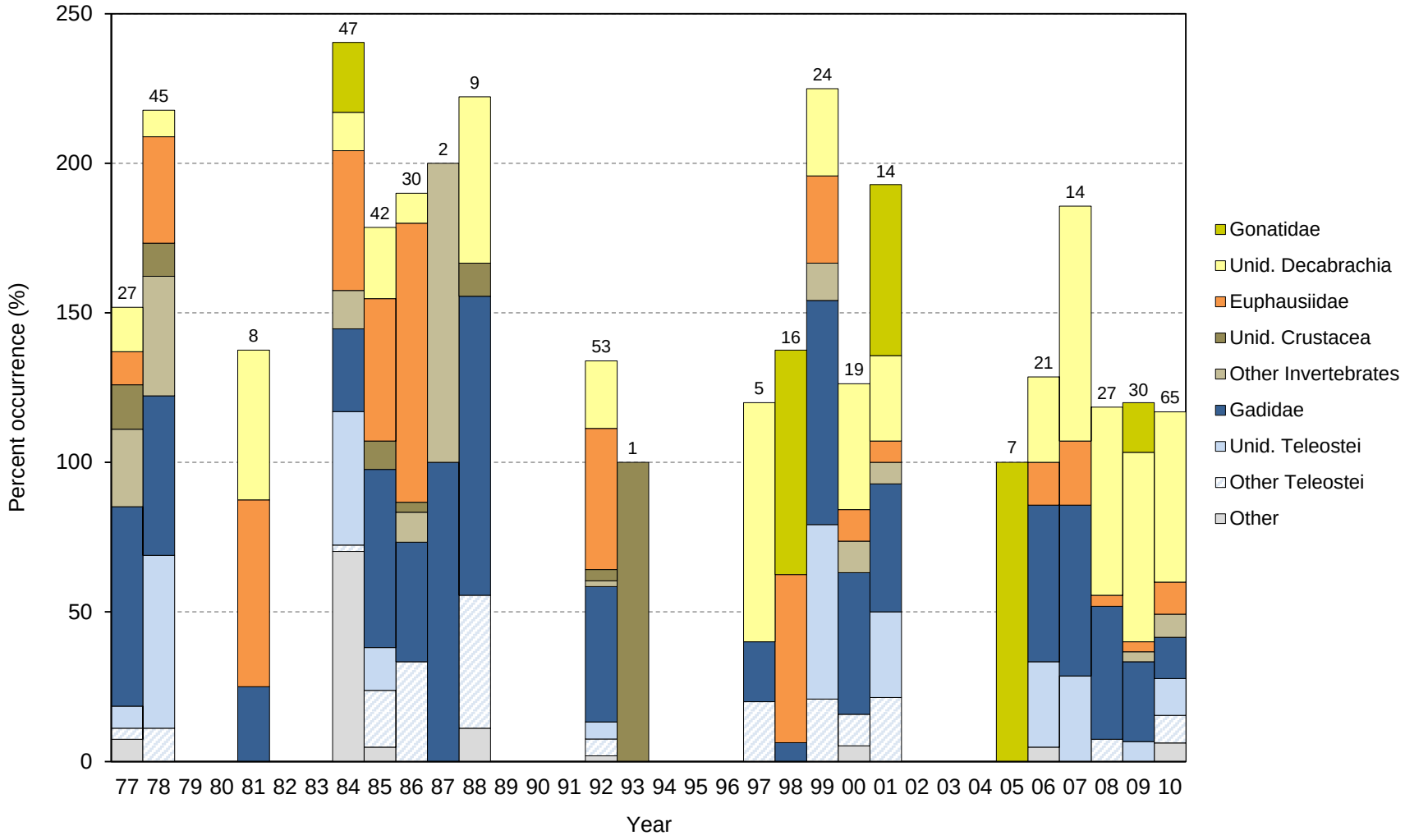

Figure 13. Frequency of occurrence of major prey items in diets of thick-billed murre adults at St. George Island, Alaska. Frequency is expressed as the percentage of food samples in which each prey item was present. Prey is grouped to family level or higher; only taxa with an among-year average occurrence of at least 5% are shown. Samples consist of stomach contents collected from adults near or at the colony. Numbers above columns indicate sample sizes. No diet samples were collected in 1979-1980, 1982-1983, 1989-1991, 1994-1996, or after 2010; samples were collected in 2002-2004 but have not yet been summarized.

Table 22. Frequency of occurrence of major prey items in diets of thick-billed murre adults at St. George Island, Alaska. Frequency is expressed as the percentage of food samples in which each prey item was present. Prey was identified and measured in the laboratory to lowest taxon possible (some prey items were identified to species while others were only identified to genus, family, order, etc.). Any prey with an among-year average occurrence of at least 5% are shown to the lowest taxonomic level; others are lumped together as "others" in their respective taxonomic group with values in bold showing totals for those taxa. Samples consist of stomach contents collected from adults near or at the colony. No diet samples were collected in 1979-1980, 1982-1983, 1989-1991, 1994-1996, or after 2010; samples were collected in 2002-2004 but have not yet been summarized. More detailed diet data and prey identifications are available, contact refuge biologists for details.

Prey	1977	1978	1981	1984	1985	1986	1987	1988	1992	1993	1997	1998
No. samples	27	45	8	47	42	30	2	9	53	1	5	16
Invertebrates	**66.7**	**64.4**	**87.5**	**63.8**	**66.7**	**96.7**	**100.0**	**55.6**	**66.0**	**100.0**	**80.0**	**100.0**
Cephalopoda	**14.8**	**8.9**	**50.0**	**36.2**	**23.8**	**10.0**	**-**	**55.6**	**22.6**	**-**	**80.0**	**75.0**
Gonatidae	**-**	**-**	**-**	**23.4**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**75.0**
Gonatus spp.	-	-	-	-	-	-	-	-	-	-	-	75.0
Other Gonatidae	-	-	-	23.4	-	-	-	-	-	-	-	-
Unid. Decabrachia	14.8	8.9	50.0	12.8	23.8	10.0	-	55.6	22.6	-	80.0	-
Euphausiacea	**11.1**	**35.6**	**62.5**	**46.8**	**47.6**	**93.3**	**-**	**-**	**47.2**	**-**	**-**	**56.3**
Euphausiidae	**11.1**	**35.6**	**62.5**	**46.8**	**47.6**	**93.3**	**-**	**-**	**47.2**	**-**	**-**	**56.3**
Thysanoessa inermis	3.7	11.1	-	19.1	38.1	83.3	-	-	-	-	-	-
T. raschii	3.7	-	37.5	17.0	21.4	76.7	-	-	3.8	-	-	-
Unid. Euphausiidae	3.7	31.1	25.0	27.7	9.5	3.3	-	-	-	-	-	56.3
Other Euphausiidae	-	11.1	25.0	17.0	-	-	-	-	45.3	-	-	-
Unid. Crustacea	14.8	11.1	-	-	9.5	3.3	-	11.1	3.8	100.0	-	-
Other Invertebrates	25.9	40.0	-	12.8	-	10.0	100.0	-	1.9	-	-	-
Fish	**70.4**	**88.9**	**25.0**	**63.8**	**71.4**	**50.0**	**100.0**	**100.0**	**52.8**	**-**	**20.0**	**6.3**
Teleostei	**70.4**	**88.9**	**25.0**	**63.8**	**71.4**	**50.0**	**100.0**	**100.0**	**52.8**	**-**	**20.0**	**6.3**
Gadidae	**66.7**	**53.3**	**25.0**	**27.7**	**59.5**	**40.0**	**100.0**	**100.0**	**45.3**	**-**	**20.0**	**6.3**
Gadus chalcogrammus	7.4	53.3	25.0	6.4	59.5	40.0	50.0	100.0	43.4	-	20.0	6.3
Unid. Gadidae	59.3	-	-	21.3	-	-	50.0	44.4	-	-	-	-
Other Gadidae	-	-	-	2.1	-	-	-	-	3.8	-	-	-
Unid. Teleostei	7.4	57.8	-	44.7	14.3	-	-	-	5.7	-	-	-
Other Teleostei	3.7	11.1	-	2.1	19.0	33.3	-	44.4	5.7	-	20.0	-
Other	7.4	-	-	70.2	4.8	-	-	11.1	1.9	-	-	-

Table 22 (continued). Frequency of occurrence of major prey items in diets of thick-billed murre adults at St. George Island, Alaska. Frequency is expressed as the percentage of food samples in which each prey item was present. Prey was identified and measured in the laboratory to lowest taxon possible (some prey items were identified to species while others were only identified to genus, family, order, etc.). Any prey with an among-year average occurrence of at least 5% are shown to the lowest taxonomic level; others are lumped together as "others" in their respective taxonomic group with values in bold showing totals for those taxa. Samples consist of stomach contents collected from adults near or at the colony. No diet samples were collected in 1979-1980, 1982-1983, 1989-1991, 1994-1996, or after 2010; samples were collected in 2002-2004 but have not yet been summarized. More detailed diet data and prey identifications are available, contact refuge biologists for details.

Prey	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
No. samples	24[a]	19	14	15	13	5	7	21	14	27	30	65
Invertebrates	**54.2**	**57.9**	**85.7**	*pending*	*pending*	*pending*	**100.0**	**42.9**	**92.9**	**66.7**	**80.0**	**69.2**
Cephalopoda	**29.2**	**42.1**	**85.7**	**-**	**-**	**-**	**100.0**	**28.6**	**78.6**	**63.0**	**76.7**	**56.9**
Gonatidae	**-**	**-**	**57.1**	**-**	**-**	**-**	**100.0**	**-**	**-**	**-**	**16.7**	**-**
Gonatus spp.	-	-	57.1	-	-	-	100.0	-	-	-	13.3	-
Other Gonatidae	-	-	-	-	-	-	-	-	-	-	3.3	-
Unid. Decabrachia	29.2	42.1	28.6	-	-	-	-	28.6	78.6	63.0	63.3	56.9
Euphausiacea	**29.2**	**10.5**	**7.1**	**-**	**-**	**-**	**-**	**14.3**	**21.4**	**3.7**	**3.3**	**10.8**
Euphausiidae	**29.2**	**10.5**	**7.1**	**-**	**-**	**-**	**-**	**14.3**	**21.4**	**3.7**	**3.3**	**10.8**
Thysanoessa inermis	-	-	-	-	-	-	-	-	-	-	-	-
T. raschii	-	-	-	-	-	-	-	-	7.1	-	-	3.1
Unid. Euphausiidae	29.2	10.5	7.1	-	-	-	-	14.3	14.3	3.7	3.3	6.2
Other Euphausiidae	-	-	-	-	-	-	-	-	-	-	-	3.1
Unid. Crustacea	-	-	-	-	-	-	-	-	-	-	-	-
Other Invertebrates	12.5	10.5	7.1	-	-	-	-	-	-	-	3.3	7.7
Fish	**87.5**	**52.6**	**42.9**	**-**	**-**	**-**	**-**	**81.0**	**64.3**	**48.1**	**33.3**	**35.4**
Teleostei	**87.5**	**52.6**	**42.9**	**-**	**-**	**-**	**-**	**81.0**	**64.3**	**48.1**	**33.3**	**35.4**
Gadidae	**75.0**	**47.4**	**42.9**	**-**	**-**	**-**	**-**	**52.4**	**57.1**	**44.4**	**26.7**	**13.8**
Gadus chalcogrammus	75.0	47.4	42.9	-	-	-	-	52.4	57.1	29.6	23.3	10.8
Unid. Gadidae	-	-	-	-	-	-	-	-	-	14.8	-	3.1
Other Gadidae	-	-	-	-	-	-	-	-	-	-	3.3	-
Unid. Teleostei	58.3	-	28.6	-	-	-	-	28.6	28.6	-	6.7	12.3
Other Teleostei	20.8	10.5	21.4	-	-	-	-	-	-	7.4	-	9.2
Other	-	5.3	-	-	-	-	-	4.8	-	-	-	6.2

[a]One additional sample is still pending analysis.

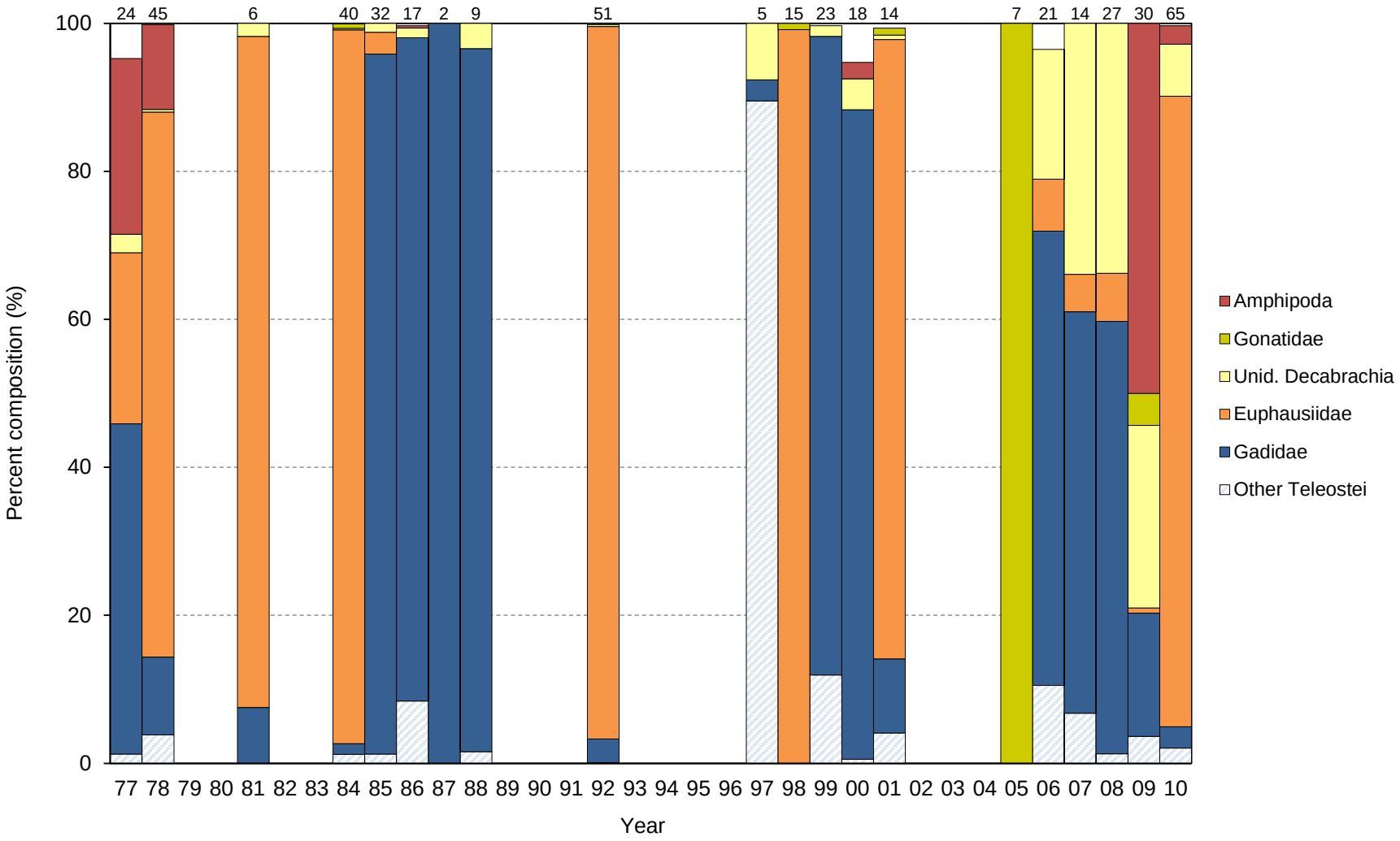

Figure 14. Percent composition of major prey items in diets of thick-billed murre adults at St. George Island, Alaska. Values are expressed as the percentage of total individual prey items comprised by each prey item. Prey is grouped to family level or higher; only taxa with an among-year average composition of at least 5% are shown. Samples consist of stomach contents collected from adults near or at the colony. Numbers above columns indicate sample sizes. No diet samples were collected in 1979-1980, 1982-1983, 1989-1991, 1995-1996, or after 2010; samples were collected in 1993 but no count data exist. Samples were collected in 2002-2004 but have not yet been summarized

Table 23. Percent composition of major prey items in diets of thick-billed murre adults at St. George Island, Alaska. Values are expressed as the percentage of total individual prey items comprised by each prey item. Prey was identified and measured in the laboratory to lowest taxon possible (some prey items were identified to species while others were only identified to genus, family, order, etc.). Any prey with an among-year average composition of at least 5% are shown to the lowest taxonomic level; others are lumped together as "others" in their respective taxonomic group with values in bold showing totals for those taxa. Samples consist of stomach contents collected from adults near or at the colony. No diet samples were collected in 1979-1980, 1982-1983, 1989-1991, 1995-1996, or after 2010; samples were collected in 1993 but no count data exist. Samples were collected in 2002-2004 but have not yet been summarized. More detailed diet data and prey identifications are available, contact refuge biologists for details.

Prey	1977	1978	1981	1984	1985	1986	1987	1988	1992	1997	1998
No. samples	24	45	6	40	32	17	2	9	51	5	15
No. individuals	484	1763	517	3509	1353	309	46	323	11698	210	3242
Invertebrates	**54.1**	**85.6**	**92.5**	**97.3**	**4.1**	**1.9**	**-**	**3.4**	**96.7**	**7.6**	**99.9**
Amphipoda	23.8	11.5	-	-	-	0.3	-	-	-	-	-
Cephalopoda	**2.5**	**0.3**	**1.7**	**0.8**	**1.2**	**1.3**	**-**	**3.4**	**0.2**	**7.6**	**0.8**
Gonatidae	**-**	**-**	**-**	**0.6**	**-**	**-**	**-**	**-**	**-**	**-**	**0.8**
Gonatus spp.	-	-	-	-	-	-	-	-	-	-	0.8
Other Gonatidae	-	-	-	0.6	-	-	-	-	-	-	-
Unid. Decabrachia	2.5	0.3	1.7	0.2	1.2	1.3	-	3.4	0.2	7.6	-
Euphausiacea	**23.1**	**73.7**	**90.7**	**96.5**	**3.0**	**-**	**-**	**-**	**96.3**	**-**	**99.1**
Euphausiidae	**23.1**	**73.7**	**90.7**	**96.5**	**3.0**	**-**	**-**	**-**	**96.3**	**-**	**99.1**
Thysanoessa raschii	4.1	-	90.3	9.8	-	-	-	-	10.9	-	-
Thysanoessa spp.	-	-	-	48.4	-	-	-	-	85.4	-	-
Unid. Euphausiidae	4.1	59.8	-	2.6	0.7	-	-	-	-	-	99.1
Other Euphausiidae	14.9	13.9	0.4	35.7	2.2	-	-	-	-	-	-
Other Invertebrates	4.8	0.2	-	0.1	-	0.3	-	-	0.2	-	-
Fish	**45.9**	**14.4**	**7.5**	**2.7**	**95.9**	**98.1**	**100.0**	**96.6**	**3.3**	**92.4**	**0.1**
Teleostei	**45.9**	**14.4**	**7.5**	**2.7**	**95.9**	**98.1**	**100.0**	**96.6**	**3.3**	**92.4**	**0.1**
Gadidae	**44.6**	**10.5**	**7.5**	**1.5**	**94.6**	**89.6**	**100.0**	**95.0**	**3.2**	**2.9**	**0.1**
Gadus chalcogrammus	7.6	10.5	7.5	0.5	94.6	89.6	34.8	92.0	3.2	2.9	0.1
Unid. Gadidae	37.0	-	-	0.9	-	-	65.2	3.1	-	-	-
Other Gadidae	-	-	-	<0.1	-	-	-	-	<0.1	-	-
Other Teleostei	1.2	3.9	-	1.2	1.3	8.4	-	1.5	0.1	89.5	-
Other	-	-	-	<0.1	-	-	-	-	<0.1	-	-

Table 23 (continued). Percent composition of major prey items in diets of thick-billed murre adults at St. George Island, Alaska. Values are expressed as the percentage of total individual prey items comprised by each prey item. Prey was identified and measured in the laboratory to lowest taxon possible (some prey items were identified to species while others were only identified to genus, family, order, etc.). Any prey with an among-year average composition of at least 5% are shown to the lowest taxonomic level; others are lumped together as "others" in their respective taxonomic group with values in bold showing totals for those taxa. Samples consist of stomach contents collected from adults near or at the colony. No diet samples were collected in 1979-1980, 1982-1983, 1989-1991, 1995-1996, or after 2010; samples were collected in 1993 but no count data exist. Samples were collected in 2002-2004 but have not yet been summarized. More detailed diet data and prey identifications are available, contact refuge biologists for details.

Prey	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
No. samples	23[a]	18	14	15	13	5	7	21	14	27	30	65
No. individuals	963	360	851	*pending*	*pending*	*pending*	8	57	59	154	138	1211
Invertebrates	**1.8**	**11.1**	**85.8**	**-**	**-**	**-**	**100.0**	**24.6**	**39.0**	**40.3**	**79.7**	**94.7**
Amphipoda	-	2.2	-	-	-	-	-	-	-	-	50.0	2.5
Cephalopoda	**1.5**	**4.2**	**1.5**	**-**	**-**	**-**	**100.0**	**17.5**	**33.9**	**33.8**	**29.0**	**7.0**
Gonatidae	**-**	**-**	**0.9**	**-**	**-**	**-**	**100.0**	**-**	**-**	**-**	**4.3**	**-**
Gonatus spp.	-	-	0.9	-	-	-	100.0	-	-	-	2.9	-
Other Gonatidae	-	-	-	-	-	-	-	-	-	-	1.4	-
Unid. Decabrachia	1.5	4.2	0.6	-	-	-	-	17.5	33.9	33.8	24.6	7.0
Euphausiacea	**-**	**-**	**83.7**	**-**	**-**	**-**	**-**	**7.0**	**5.1**	**6.5**	**0.7**	**85.2**
Euphausiidae	**-**	**-**	**83.7**	**-**	**-**	**-**	**-**	**7.0**	**5.1**	**6.5**	**0.7**	**85.2**
Thysanoessa raschii	-	-	-	-	-	-	-	-	1.7	-	-	7.6
Thysanoessa spp.	-	-	-	-	-	-	-	-	-	-	-	67.5
Unid. Euphausiidae	-	-	83.7	-	-	-	-	7.0	3.4	6.5	0.7	10.1
Other Euphausiidae	-	-	-	-	-	-	-	-	-	-	-	-
Other Invertebrates	0.3	4.7	0.6	-	-	-	-	-	-	-	-	-
Fish	**98.2**	**88.3**	**14.1**	**-**	**-**	**-**	**-**	**71.9**	**61.0**	**59.7**	**20.3**	**5.0**
Teleostei	**98.2**	**88.3**	**14.1**	**-**	**-**	**-**	**-**	**71.9**	**61.0**	**59.7**	**20.3**	**5.0**
Gadidae	**86.3**	**87.8**	**10.0**	**-**	**-**	**-**	**-**	**61.4**	**54.2**	**58.4**	**16.7**	**2.9**
Gadus chalcogrammus	86.3	87.8	10.0	-	-	-	-	61.4	54.2	53.2	15.9	2.7
Unid. Gadidae	-	-	-	-	-	-	-	-	-	5.2	-	0.2
Other Gadidae	-	-	-	-	-	-	-	-	-	-	0.7	-
Other Teleostei	11.9	0.6	4.1	-	-	-	-	10.5	6.8	1.3	3.6	2.1
Other	-	0.6	-	-	-	-	-	3.5	-	-	-	0.3

[a]One additional sample is still pending analysis.

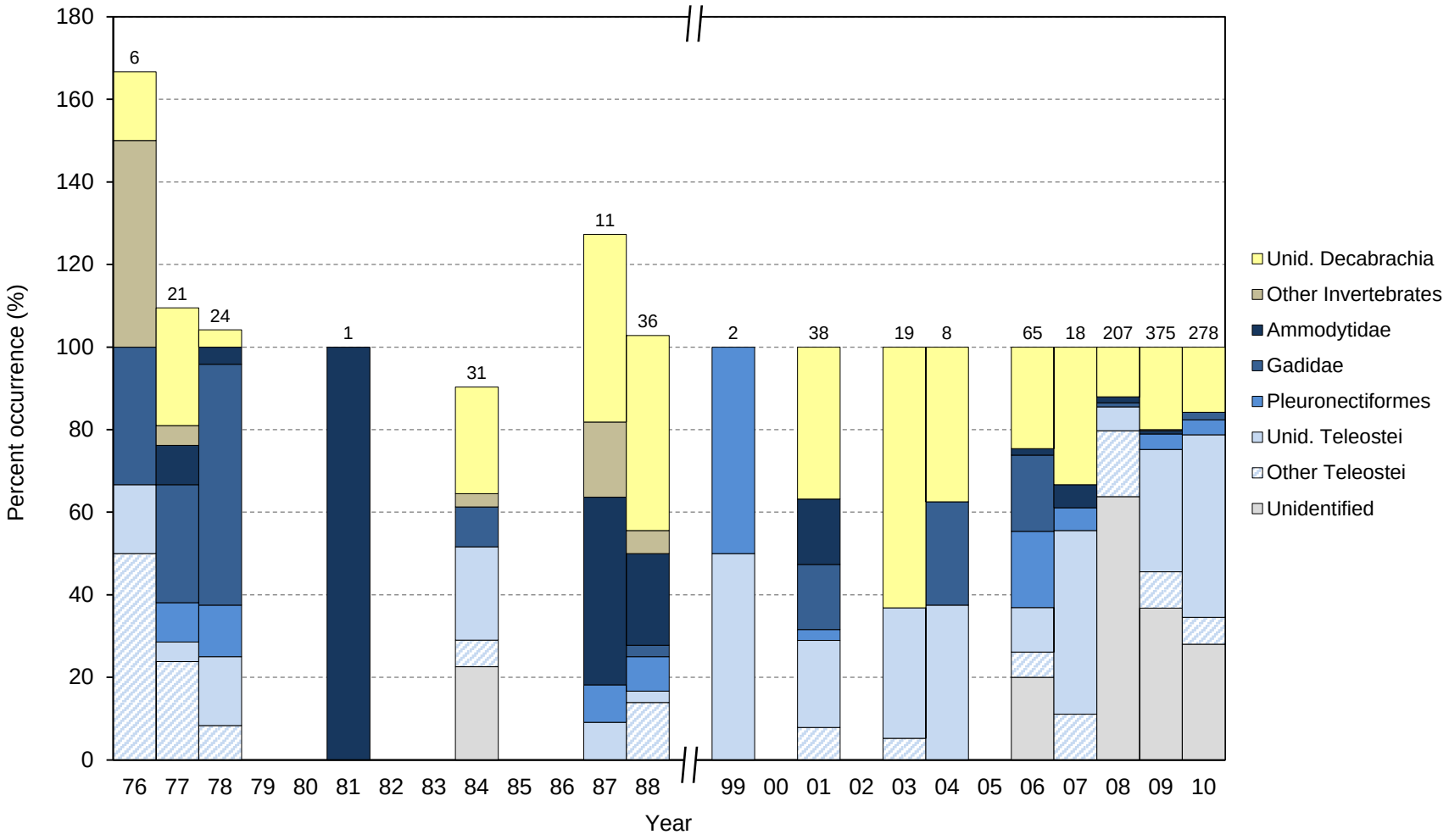

Figure 15. Frequency of occurrence of major prey items in diets of thick-billed murre chicks at St. George Island, Alaska. Frequency is expressed as the percentage of food samples in which each prey item was present. Prey is grouped to family level or higher; only taxa with an among-year average occurrence of at least 5% are shown. Samples consist of stomach contents, regurgitations and bill loads collected from chicks at the colony (1976-1988) and observations of bill loads from adults returning to the colony to feed chicks (1999-2010). Numbers above columns indicate sample sizes. No diet samples were collected in 1979-1980, 1982-1983, 1985-1986, 1989-1998, 2000, 2002, 2005, or after 2010.

Table 24. Frequency of occurrence of major prey items in diets of thick-billed murre chicks at St. George Island, Alaska. Frequency is expressed as the percentage of food samples in which each prey item was present. Prey was identified and measured in the laboratory (1976-1988) or field (1999-2010) to lowest taxon possible (some prey items were identified to species while others were only identified to genus, family, order, etc.). Any prey with an among-year average occurrence of at least 5% are shown to the lowest taxonomic level; others are lumped together as "others" in their respective taxonomic group with values in bold showing totals for those taxa. Samples consist of stomach contents, regurgitations and bill loads collected from chicks at the colony (1976-1988) and observations of bill loads from adults returning to the colony to feed chicks (1999-2010). No diet samples were collected in 1979-1980, 1982-1983, 1985-1986, 1989-1998, 2000, 2002, 2005, or after 2010. More detailed diet data and prey identifications are available, contact refuge biologists for details.

Prey	1976	1977	1978	1981	1984	1987	1988	1999	2001	2003	2004	2006	2007	2008	2009	2010
No. samples	6	21	24	1	31	11	36	2	38	19	8	65	18	207	375	278
Invertebrates	**66.7**	**33.3**	**4.2**	**-**	**77.4**	**54.5**	**52.8**	**-**	**36.8**	**63.2**	**37.5**	**24.6**	**33.3**	**12.1**	**20.3**	**15.8**
Cephalopoda	**16.7**	**28.6**	**4.2**	**-**	**74.2**	**45.5**	**47.2**	**-**	**36.8**	**63.2**	**37.5**	**24.6**	**33.3**	**12.1**	**20.0**	**15.8**
Unid. Decabrachia	16.7	28.6	4.2	-	25.8	45.5	47.2	-	36.8	63.2	37.5	24.6	33.3	12.1	20.0	15.8
Other Cephalopoda	-	-	-	-	48.4	-	-	-	-	-	-	-	-	-	-	-
Other Invertebrates	50.0	4.8	-	-	3.2	18.2	5.6	-	-	-	-	-	-	-	0.3	-
Fish	**83.3**	**76.2**	**95.8**	**100.0**	**38.7**	**63.6**	**50.0**	**100.0**	**63.2**	**36.8**	**62.5**	**55.4**	**66.7**	**24.2**	**42.9**	**56.1**
Teleostei	**83.3**	**76.2**	**95.8**	**100.0**	**38.7**	**63.6**	**50.0**	**100.0**	**63.2**	**36.8**	**62.5**	**55.4**	**66.7**	**24.2**	**42.9**	**56.1**
Ammodytidae	**-**	**9.5**	**4.2**	**100.0**	**-**	**45.5**	**22.2**	**-**	**15.8**	**-**	**-**	**1.5**	**5.6**	**1.4**	**0.8**	**-**
Ammodytes spp.	-	9.5	4.2	100.0	-	45.5	22.2	-	15.8	-	-	1.5	5.6	1.4	0.8	-
Gadidae	**33.3**	**28.6**	**58.3**	**-**	**9.7**	**-**	**2.8**	**-**	**15.8**	**-**	**25.0**	**18.5**	**-**	**1.0**	**-**	**1.8**
Gadus chalcogrammus	16.7	19.0	58.3	-	3.2	-	2.8	-	-	-	-	-	-	-	-	-
Unid. Gadidae	16.7	9.5	-	-	-	-	-	-	15.8	-	25.0	18.5	-	1.0	-	1.8
Other Gadidae	-	-	-	-	6.5	-	-	-	-	-	-	-	-	-	-	-
Pleuronectiformes	**-**	**9.5**	**12.5**	**-**	**-**	**9.1**	**8.3**	**50.0**	**2.6**	**-**	**-**	**18.5**	**5.6**	**-**	**3.7**	**3.6**
Unid. Pleuronectidae	-	4.8	12.5	-	-	-	-	50.0	2.6	-	-	16.9	5.6	-	3.2	3.6
Other Pleuronectiformes	-	4.8	-	-	-	9.1	8.3	-	-	-	-	1.5	-	-	0.5	-
Unid. Teleostei	16.7	4.8	16.7	-	22.6	9.1	2.8	50.0	21.1	31.6	37.5	10.8	44.4	5.8	29.6	44.2
Other Teleostei	50.0	23.8	8.3	-	6.5	-	13.9	-	7.9	5.3	-	6.2	11.1	15.9	8.8	6.5
Other	**-**	**-**	**-**	**-**	**22.6**	**-**	**-**	**-**	**-**	**-**	**-**	**20.0**	**-**	**63.8**	**36.8**	**28.1**
Unidentified	-	-	-	-	22.6	-	-	-	-	-	-	20.0	-	63.8	36.8	28.1

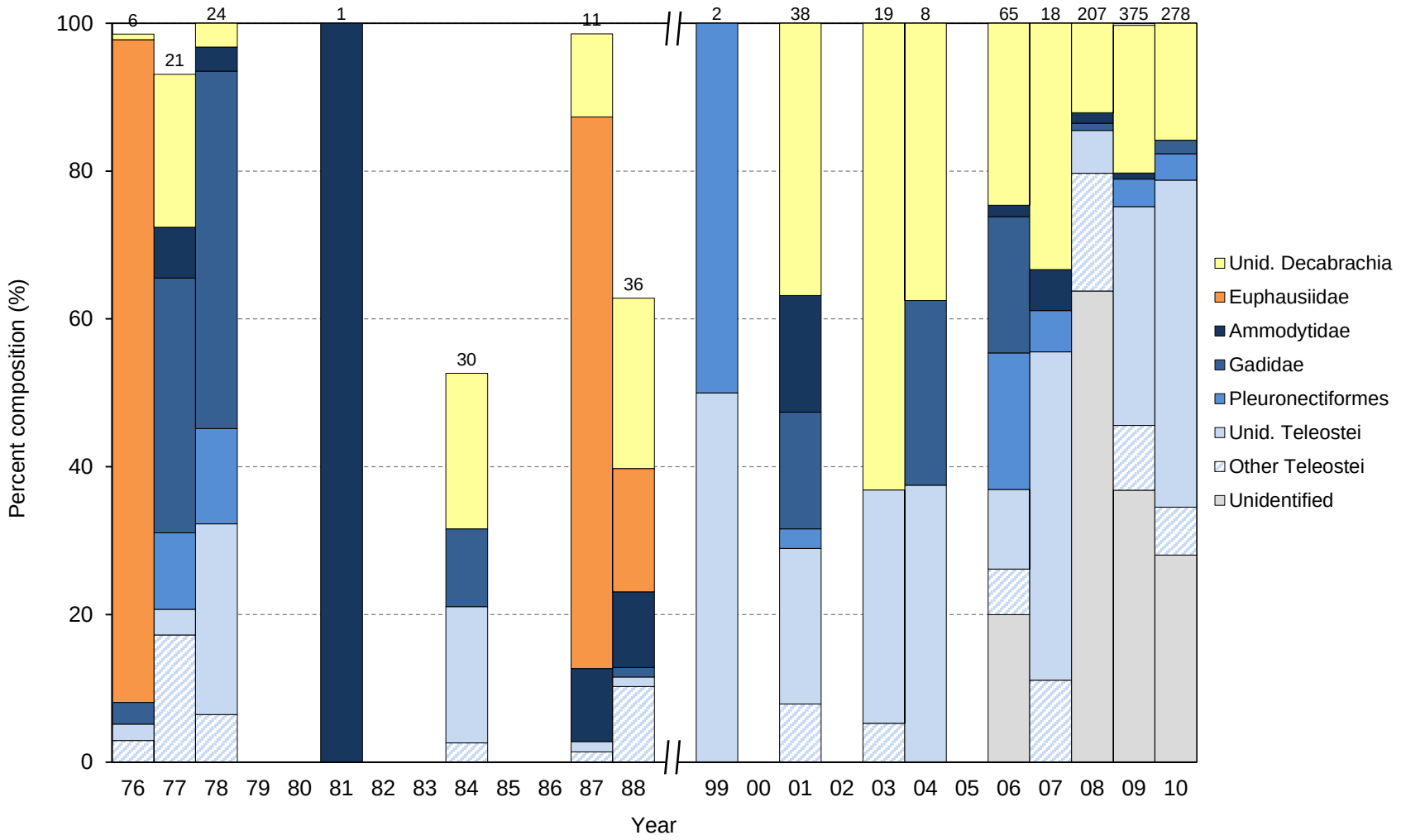

Figure 16. Percent composition of major prey items in diets of thick-billed murre chicks at St. George Island, Alaska. Values are expressed as the percentage of total individual prey items comprised by each prey item. Prey is grouped to family level or higher; only taxa with an among-year average composition of at least 5% are shown. Samples consist of stomach contents, regurgitations and bill loads collected from chicks at the colony (1976-1988) and observations of bill loads from adults returning to the colony to feed chicks (1999-2010). Numbers above columns indicate sample sizes. No diet samples were collected in 1979-1980, 1982-1983, 1985-1986, 1989-1998, 2000, 2002, 2005, or after 2010.

Table 25. Percent composition of major prey items in diets of thick-billed murre chicks at St. George Island, Alaska. Values are expressed as the percentage of total individual prey items comprised by each prey item. Prey was identified and measured in the laboratory (1976-1988) or field (1999-2010) to lowest taxon possible (some prey items were identified to species while others were only identified to genus, family, order, etc.). Any prey with an among-year average composition of at least 5% are shown to the lowest taxonomic level; others are lumped together as "others" in their respective taxonomic group with values in bold showing totals for those taxa. Samples consist of stomach contents, regurgitations and bill loads collected from chicks at the colony (1976-1988) and observations of bill loads from adults returning to the colony to feed chicks (1999-2010). No diet samples were collected in 1979-1980, 1982-1983, 1985-1986, 1989-1998, 2000, 2002, 2005, or after 2010. More detailed diet data and prey identifications are available, contact refuge biologists for details.

Prey	1976	1977	1978	1981	1984	1987	1988	1999	2001	2003	2004	2006	2007	2008	2009	2010
No. samples	6	21	24	1	30	11	36	2	38	19	8	65	18	207	375	278
No. individuals	136	29	31	1	38	71	78	2	38	19	8	65	18	207	375	278
Invertebrates	**91.9**	**27.6**	**3.2**	**-**	**68.4**	**87.3**	**76.9**	**-**	**36.8**	**63.2**	**37.5**	**24.6**	**33.3**	**12.1**	**20.3**	**15.8**
Cephalopoda	**0.7**	**20.7**	**3.2**	**-**	**60.5**	**11.3**	**23.1**	**-**	**36.8**	**63.2**	**37.5**	**24.6**	**33.3**	**12.1**	**20.0**	**15.8**
Unid. Decabrachia	0.7	20.7	3.2	-	21.1	11.3	23.1	-	36.8	63.2	37.5	24.6	33.3	12.1	20.0	15.8
Other Cephalopoda	-	-	-	-	39.5	-	-	-	-	-	-	-	-	-	-	-
Euphausiacea	**89.7**	**-**	**-**	**-**	**-**	**74.6**	**16.7**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Euphausiidae	**89.7**	**-**	**-**	**-**	**-**	**74.6**	**16.7**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Thysanoessa inermis	89.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
T. raschii	-	-	-	-	-	74.6	-	-	-	-	-	-	-	-	-	-
Other Euphausiidae	-	-	-	-	-	-	16.7	-	-	-	-	-	-	-	-	-
Other Invertebrates	1.5	6.9	-	-	7.9	1.4	37.2	-	-	-	-	-	-	-	-	-
Fish	**8.1**	**72.4**	**96.8**	**100.0**	**31.6**	**12.7**	**23.1**	**100.0**	**63.2**	**36.8**	**62.5**	**55.4**	**66.7**	**24.2**	**42.9**	**56.1**
Teleostei	**8.1**	**72.4**	**96.8**	**100.0**	**31.6**	**12.7**	**23.1**	**100.0**	**63.2**	**36.8**	**62.5**	**55.4**	**66.7**	**24.2**	**42.9**	**56.1**
Ammodytidae	**-**	**6.9**	**3.2**	**100.0**	**-**	**9.9**	**10.3**	**-**	**15.8**	**-**	**-**	**1.5**	**5.6**	**1.4**	**0.8**	**-**
Ammodytes spp.	-	6.9	3.2	100.0	-	9.9	10.3	-	15.8	-	-	1.5	5.6	1.4	0.8	-
Gadidae	**2.9**	**34.5**	**48.4**	**-**	**10.5**	**-**	**1.3**	**-**	**15.8**	**-**	**25.0**	**18.5**	**-**	**1.0**	**-**	**1.8**
Unid. Gadidae	2.2	20.7	-	-	-	-	-	-	15.8	-	25.0	18.5	-	1.0	-	1.8
Other Gadidae	0.7	13.8	48.4	-	10.5	-	1.3	-	-	-	-	-	-	-	-	-
Pleuronectiformes	**-**	**10.3**	**12.9**	**-**	**-**	**-**	**-**	**50.0**	**2.6**	**-**	**-**	**18.5**	**5.6**	**-**	**3.7**	**3.6**
Unid. Pleuronectidae	-	3.4	12.9	-	-	-	-	50.0	2.6	-	-	16.9	5.6	-	3.2	3.6
Other Pleuronectiformes	-	6.9	0.0	-	-	-	-	-	-	-	-	1.5	-	-	0.5	-
Unid. Teleostei	2.2	3.4	25.8	-	18.4	1.4	1.3	50.0	21.1	31.6	37.5	10.8	44.4	5.8	29.6	44.2
Other Teleostei	2.9	17.2	6.5	-	2.6	1.4	10.3	-	7.9	5.3	-	6.2	11.1	15.9	8.8	6.5
Other	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**20.0**	**-**	**63.8**	**36.8**	**28.1**
Unidentified	-	-	-	-	-	-	-	-	-	-	-	20.0	-	63.8	36.8	28.1

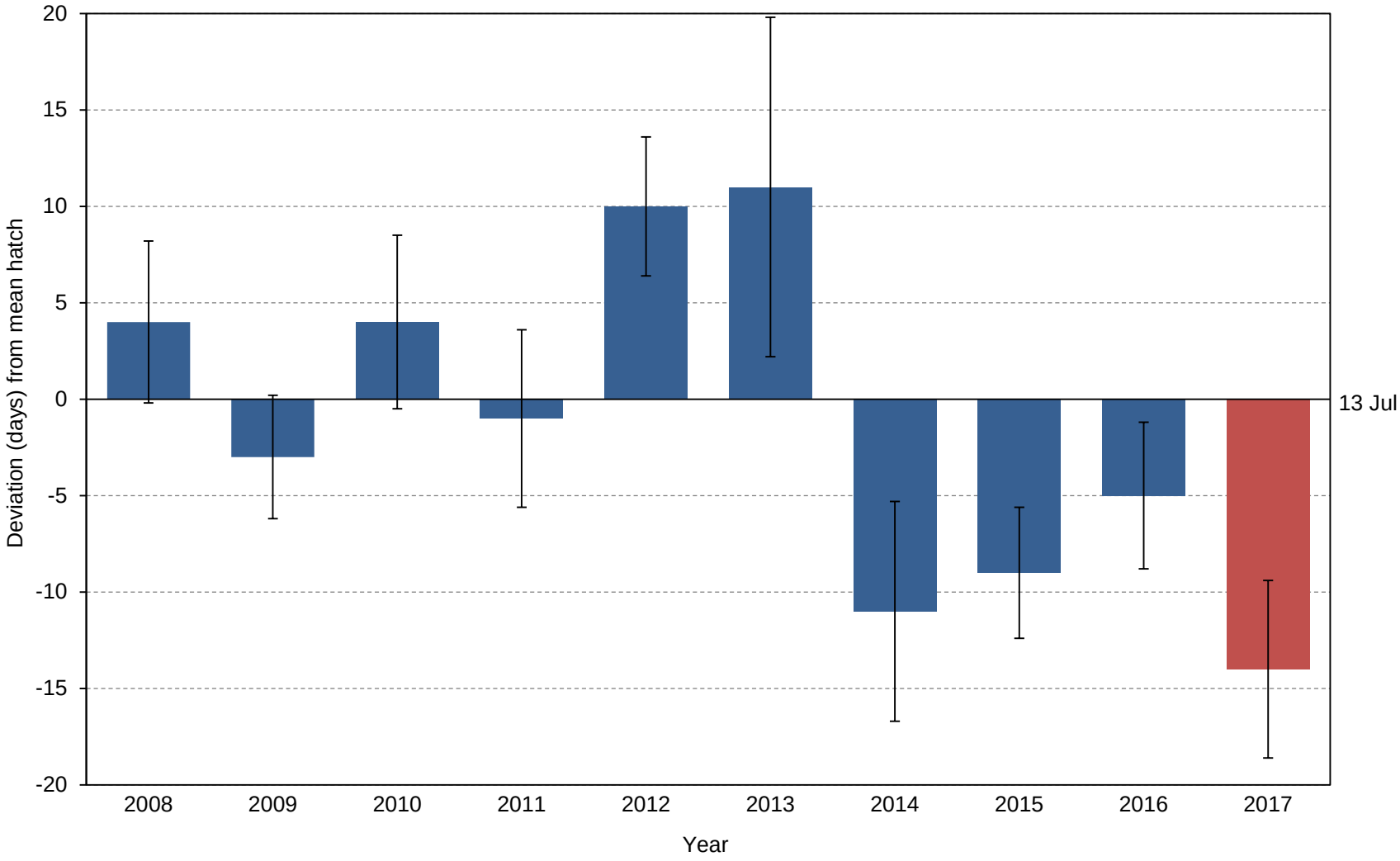

Figure 17. Yearly hatch date deviation (from the 2008-2016 mean of 13 July) for least auklets in natural crevices at St. George Island, Alaska. Data from birds nesting in artificial nest boxes are excluded. Negative values indicate earlier than mean hatch date, positive values indicate later than mean hatch date. Error bars represent standard deviation around each year's mean hatch date; red highlights the current year.

Table 26. Breeding chronology of least auklets in natural crevices at St. George Island, Alaska. Data from birds nesting in artificial nest boxes are excluded.

Year	Mean hatch	SD	*n*[a]	First hatch	Last hatch	First fledge
2008	16 Jul	4.2	41	8 Jul	28 Jul	3 Aug
2009	9 Jul	3.2	67	3 Jul	15 Jul	9 Aug
2010	17 Jul	4.5	57	7 Jul	30 Jul	8 Aug
2011	12 Jul	4.6	33	6 Jul	27 Jul	7 Aug
2012	22 Jul	3.6	15	16 Jul	28 Jul	8 Aug
2013	24 Jul	8.8	12	17 Jul	10 Aug	5 Aug
2014	2 Jul	4.7	53	23 Jun	19 Jul	23 Jul
2015	4 Jul	3.4	53	29 Jun	18 Jul	25 Jul
2016	7 Jul	3.8	12	2 Jul	16 Jul	30 Jul
2017	29 Jun	4.6	43	23 Jun	10 Jul	21 Jul

[a]Sample sizes for mean hatch dates are a sub-sample of total nests for which egg to chick interval is $\leq$ 7 days.

Table 27. Frequency distribution of hatch dates for least auklets in natural crevices at St. George Island, Alaska. Data from birds nesting in artificial nest boxes are excluded. Data include only nests in which observations of egg to chick ≤ 7 days.

Julian date[a]	No. nests hatching on Julian date									
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
174	-	-	-	-	-	-	1	-	-	11
175	-	-	-	-	-	-	-	-	-	-
176	-	-	-	-	-	-	-	-	-	-
177	-	-	-	-	-	-	1	-	-	-
178	-	-	-	-	-	-	2	-	-	11
179	-	-	-	-	-	-	-	-	-	-
180	-	-	-	-	-	-	23	7	-	2
181	-	-	-	-	-	-	-	2	-	1
182	-	-	-	-	-	-	1	1	-	11
183	-	-	-	-	-	-	-	10	-	-
184	-	-	-	-	-	-	16	1	3	-
185	-	-	-	-	-	-	-	-	-	-
186	-	1	-	-	-	-	-	25	-	5
187	-	2	-	5	-	-	-	-	-	-
188	-	28	1	-	-	-	-	-	6	-
189	-	-	-	-	-	-	5	-	-	-
190	1	1	-	-	-	-	-	6	-	-
191	-	-	-	13	-	-	-	-	-	2
192	2	22	-	-	-	-	-	-	2	-
193	-	-	7	-	-	-	-	-	-	-
194	-	1	-	-	-	-	-	-	-	-
195	-	-	1	9	-	-	-	-	-	-
196	17	10	-	-	-	-	-	-	-	-
197	-	-	29	-	-	-	-	-	-	-
198	10	-	-	-	3	5	-	-	1	-
199	-	-	1	5	-	-	-	1	-	-
200	-	-	-	-	1	-	2	-	-	-
201	-	-	11	-	-	-	-	-	-	-
202	6	-	-	-	5	2	-	-	-	-
203	-	-	-	-	-	-	-	-	-	-
204	2	-	-	-	-	-	-	-	-	-
205	-	-	-	-	-	-	-	-	-	-
206	-	-	4	-	5	3	-	-	-	-
207	-	-	-	-	-	-	-	-	-	-
208	2	-	-	1	-	-	-	-	-	-
209	-	-	-	-	-	-	-	-	-	-
210	1	-	-	-	1	-	-	-	-	-
211	-	-	3	-	-	-	-	-	-	-
212	-	-	-	-	-	-	-	-	-	-
213	-	-	-	-	-	-	-	-	-	-
214	-	-	-	-	-	-	-	-	-	-
215	-	-	-	-	-	-	-	-	-	-
216	-	-	-	-	-	-	-	-	-	-
217	-	-	-	-	-	-	-	-	-	-
218	-	-	-	-	-	-	-	-	-	-
219	-	-	-	-	-	-	-	-	-	-
220	-	-	-	-	-	-	-	-	-	-
221	-	-	-	-	-	-	-	-	-	-
222	-	-	-	-	-	2	-	-	-	-
n	41	65	57	33	15	12	51	53	12	43

[a]In leap years, hatch dates are calculated using a leap year-specific Julian date calendar.

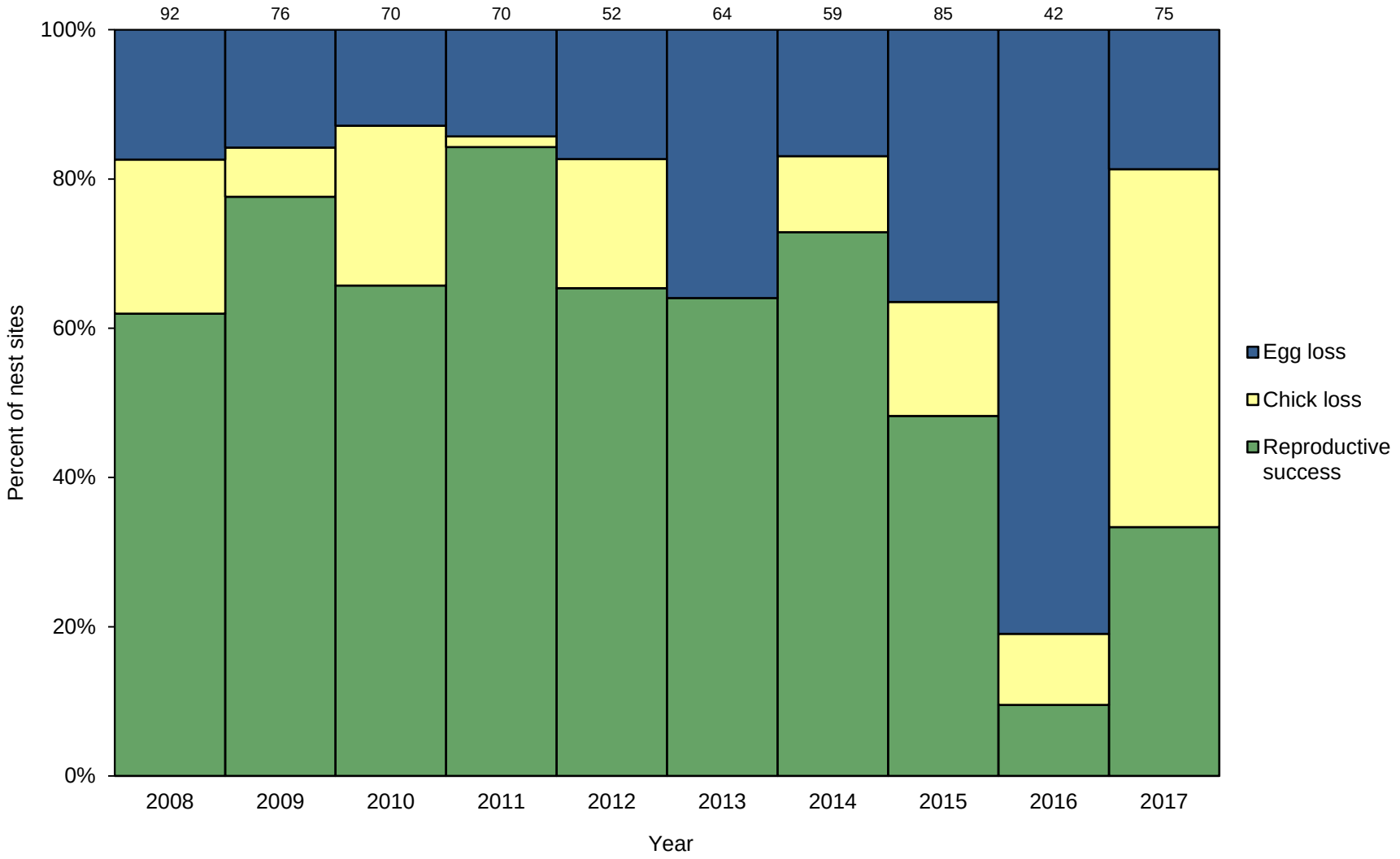

Figure 18. Reproductive performance of least auklets in natural crevices at St. George Island, Alaska. Data from birds nesting in artificial nest boxes are excluded. Egg loss=(B-D)/B; Chick loss=(D-F)/B; Reproductive success=F/B, where B=nest sites with eggs; D=nest site with chicks; F=nest sites with chicks fledged. Numbers above columns indicate sample sizes (B).

Table 28. Reproductive performance of least auklets in natural crevices at St. George Island, Alaska. Data from birds nesting in artificial nest boxes are excluded.

Year	Nest sites w/ eggs (B)	Nest sites w/ chicks (D)	Nest sites w/ chicks fledged (F)	Nesting Success (D/B)[a]	Fledging success (F/D)[b]	Reproductive success (F/B)
2008	92	76	57	0.83	0.75	0.62
2009	76	64	59	0.84	0.92	0.78
2010	70	61	46	0.87	0.75	0.66
2011	70	60	59	0.86	0.98	0.84
2012	52	43	34	0.83	0.79	0.65
2013	64	41	41	0.64	1.00	0.64
2014	59	49	43	0.83	0.88	0.73
2015	85	54	41	0.64	0.76	0.48
2016	42	8	4	0.19	0.50	0.10
2017	75	61	25	0.81	0.41	0.33

[a]For single-egg species, nesting success (D/B) is the same as hatching success (E/C) because nest sites w/ eggs (B)=total eggs (C) and nest sites w/ chicks (D)=total chicks (E).

[b]For single-egg species, fledging success (F/B) is the same as chick success (G/E) because nest sites w/ chicks (D)=total chicks (E) and nest sites w/ chicks fledged (F)=total chicks fledged (G).

Table 29. Reproductive performance of least auklets in artificial nest boxes at St. George Island, Alaska.

Year	Nest sites w/ eggs (B)	Nest sites w/ chicks (D)	Nest sites w/ chicks fledged (F)	Nesting success (D/B)[a]	Fledging success (F/D)[b]	Reproductive success (F/B)
2010	13	4	4	0.31	1.00	0.31
2011	15	11	10	0.73	0.91	0.67
2012	22	19	17	0.86	0.89	0.77
2013	27	21	20	0.78	0.95	0.74
2014	15	9	6	0.60	0.67	0.40
2015	16	7	7	0.44	1.00	0.44
2016	4	3	1	0.75	0.33	0.25
2017	5	5	2	1.00	0.40	0.40

[a]For single-egg species, nesting success (D/B) is the same as hatching success (E/C) because nest sites w/ eggs (B)=total eggs (C) and nest sites w/ chicks (D)=total chicks (E).

[b]For single-egg species, fledging success (F/B) is the same as chick success (G/E) because nest sites w/ chicks (D)=total chicks (E) and nest sites w/ chicks fledged (F)=total chicks fledged (G).

Table 30. Use of artificial nest boxes by least auklets at St. George Island, Alaska. Nest boxes (*n*=51) were installed during the fall of 2003 and were checked once or twice per season for occupancy only from 2004-2009, and weekly for productivity in 2010-2017.

Year	Percent of nest boxes used	Individual nest boxes used
2004	6	9,44,51
2005	0	-
2006	0	-
2007	8	11,13,31,38
2008	12	6,13,15,20,38,42
2009	20	2,13,15,16,20,22,27,31,38,42
2010	29	1-3,7,13,15,20,22,24,31,38,42,44,46,50
2011	29	2,7,12,13,15,20-24,31,38,40,42,44
2012	55	2,3,6,7,9,12,13,15,20-24,27-29,31,35,38-40,42,44,45,47-50
2013	76	1-7,9-13,15,16,18-24,27-31,35,36,38-40,42,44,45,47-51
2014	75	1-4,6-8,10-18,20-24,27-31,35-38,40,42,45-47,50,51
2015	31	2,3,10-12,15,20-23,35,38,40,42,45,47
2016	8	2, 15, 38, 40
2017	3	2, 15, 38, 40, 42

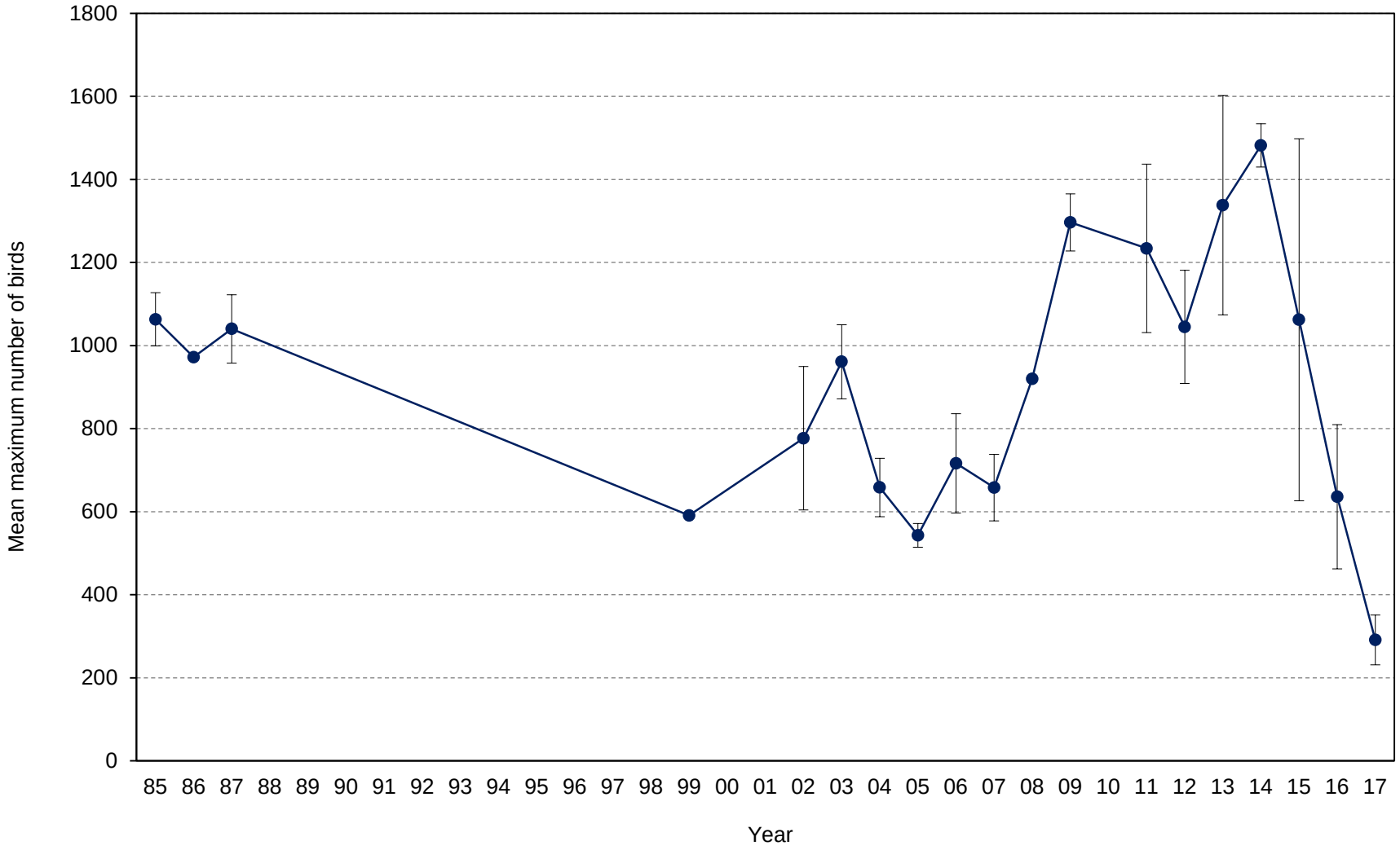

Figure 19. Mean maximum numbers of least auklets counted on index plots at St. George Island, Alaska. Values represent the annual mean of the sum of maximum counts on each of 14 plots. Error bars represent standard deviation. No counts were conducted in 1988-1998, 2000-2001, or 2010.

Table 31. Numbers of least auklets counted on index plots at St. George Island, Alaska. Values represent the sum of daily maximum counts on each of 14 plots. No counts were conducted in 1988-1998, 2000-2001, or 2010.

Replicate	1985	1986	1987	1999	2002	2003	2004	2005	2006	2007	2008	2009	2011	2012	2013	2014	2015	2016	2017
1	1021	972	952	591	721	1052	589	521	587	571	920	1345	1402	1045	1487	1456	1394	828	350
2	1032	-	1054	-	950	874	730	533	823	675	-	1248	1291	1181	1494	1560	1223	591	293
3	1136	-	1114	-	875	957	656	575	739	728	-	-	1009	909	1033	1508	568	490	231
4	-	-	-	-	561	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean	1063	972	1040	591	777	961	658	543	716	658	920	1297	1234	1045	1338	1482	1062	636	291
n	3[a]	1[a]	3	1[a]	4	3	3	3	3	3	1	2	3	3	3	3	3	3	3
SD	64	-	82	-	173	89	71	28	120	80	-	69	203	136	264	52	436	174	60
First count	19 Jun	19 Jun	16 Jun	15 Jul[b]	10 Jun	9 Jun	12 Jun	12 Jun	12 Jun	12 Jun	10 Jul	28 Jun	25 Jun	28 Jun	7 Jul	19 Jun	17 Jun	20 Jun	19 Jun
Last count	25 Jun	-	25 Jun	-	26 Jun	27 Jun	24 Jun	22 Jun	23 Jun	21 Jun	-	9 Jul	21 Jul	17 Jul	23 Jul	29 Jun	7 Jul	6Jul	9 Jul

[a]Data include only counts when all plots were counted (excludes counts conducted on 7 Jul 1985; 23 and 25 Jun 1986; and 28 and 30 Jun, 6 and 8 Jul 1999).
[b]Late count outside of protocol dates (10 June-10 July).

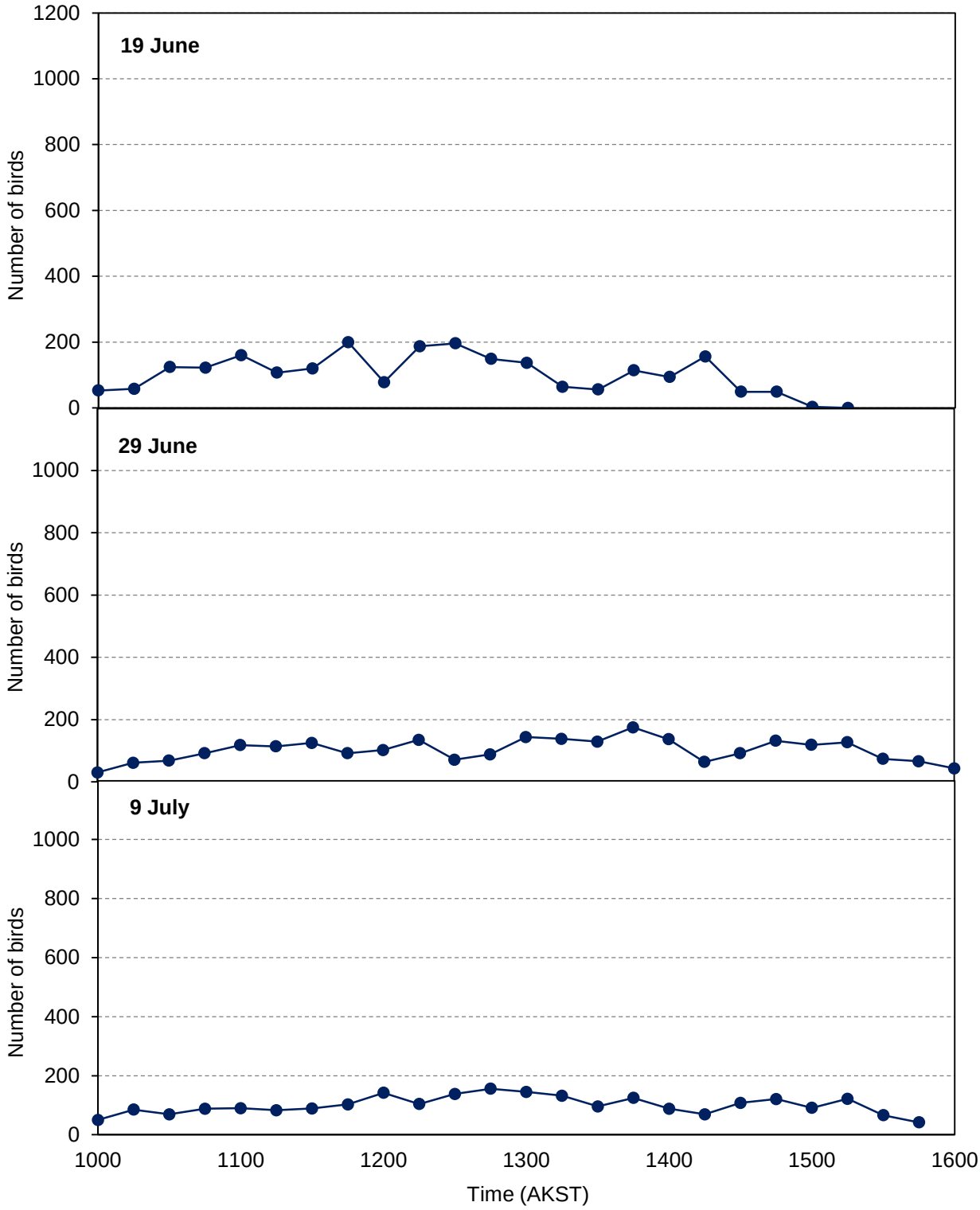

Figure 20. Attendance patterns of least auklets on index plots at St. George Island, Alaska, in 2017. Values represent total birds counted on 14 plots at 15-minute intervals.

Table 32. Numbers of least auklets counted on index plots at St. George Island, Alaska, on 19 June 2017.

Time	Plot														Total	Sum of max counts
	1	2	3	4	5	6	7	8	9	10	11	12	13	14		
1000	0	0	0	0	0	10	0	3	3	19	13	2	0	3	53	-
1015	4	0	4	19	0	0	0	0	2	11	2	16	0	0	58	-
1030	9	12	7	19	17	4	0	0	5	15	16	10	1	9	124	-
1045	13	7	8	24	8	0	0	0	0	29	20	13	0	0	122	-
1100	16	8	14	14	0	0	0	1	5	39	34	23	0	6	160	-
1115	9	22	12	1	0	0	0	0	4	30	17	11	1	0	107	-
1130	11	19	7	0	0	0	0	10	4	25	44	0	0	0	120	-
1145	0	5	15	21	0	0	3	10	7	31	52	24	24	7	199	-
1200	0	20	15	0	3	0	0	3	5	16	7	0	7	2	78	-
1215	2	12	17	0	25	0	0	0	4	31	44	14	21	17	187	-
1230	2	0	0	0	5	11	0	0	9	43	42	36	23	25	196	-
1245	0	0	0	0	0	0	0	0	0	58	30	27	29	5	149	-
1300	0	0	0	0	0	0	0	0	0	64	34	28	11	0	137	-
1315	0	11	0	0	0	0	0	0	0	4	12	0	33	4	64	-
1330	3	7	0	4	0	0	6	6	4	13	3	3	6	1	56	-
1345	3	13	0	0	7	0	0	0	0	0	41	31	19	0	114	-
1400	0	3	0	0	2	0	0	0	1	22	21	22	12	11	94	-
1415	0	0	0	6	0	0	0	0	2	46	32	36	26	8	156	-
1430	0	0	0	13	0	0	0	0	0	15	2	0	19	0	49	-
1445	0	1	0	0	0	0	0	0	0	43	2	0	3	0	49	-
1500	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	-
1515	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
1530	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1545	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Max. count	16	22	17	24	25	11	6	10	9	64	52	36	33	25	-	350

Table 33. Numbers of least auklets counted on index plots at St. George Island, Alaska, on 29 June 2017.

Time	Plot														Total	Sum of max counts
	1	2	3	4	5	6	7	8	9	10	11	12	13	14		
1000	3	6	0	7	1	0	0	0	0	5	0	8	0	0	30	-
1015	0	7	5	7	6	5	0	0	0	7	9	15	0	0	61	-
1030	2	0	9	0	4	13	0	1	4	9	14	8	2	2	68	-
1045	12	20	9	5	0	0	0	0	4	16	16	9	1	0	92	-
1100	12	12	10	13	9	0	0	0	0	26	30	0	5	1	118	-
1115	6	8	12	0	9	2	2	0	0	20	20	15	12	8	114	-
1130	13	15	9	12	0	0	0	0	0	29	30	12	5	0	125	-
1145	0	7	11	0	0	0	0	0	0	43	14	16	1	0	92	-
1200	2	20	12	5	0	0	1	3	0	29	10	17	3	0	102	-
1215	9	17	17	10	0	10	1	0	0	32	17	5	10	7	135	-
1230	14	22	10	0	0	8	0	0	0	6	1	2	8	0	71	-
1245	10	17	6	12	10	0	0	7	1	13	1	0	11	0	88	-
1300	13	27	7	10	8	18	7	10	0	18	23	1	2	0	144	-
1315	16	16	14	5	0	0	0	0	0	22	15	28	13	9	138	-
1330	0	9	0	10	12	0	0	0	0	51	12	22	13	0	129	-
1345	7	16	0	0	4	0	1	0	1	46	36	36	20	8	175	-
1400	9	20	0	3	0	0	0	1	6	41	29	22	5	1	137	-
1415	0	16	4	1	3	0	1	0	5	8	16	0	10	0	64	-
1430	0	0	5	0	4	0	0	0	0	46	23	0	14	0	92	-
1445	0	4	1	18	11	11	3	3	0	26	39	15	1	0	132	-
1500	3	0	0	13	14	12	2	0	0	23	33	12	7	0	119	-
1515	0	4	0	6	17	0	0	0	0	34	29	26	11	0	127	-
1530	0	3	0	0	0	9	0	0	0	53	1	3	5	0	74	-
1545	2	0	0	1	0	3	0	2	0	31	12	13	2	0	66	-
1600	0	0	0	0	0	0	0	0	0	16	8	15	0	4	43	-
Max. count	16	27	17	18	17	18	7	10	6	53	39	36	20	9	-	293

Table 34. Numbers of least auklets counted on index plots at St. George Island, Alaska, on 9 July 2017.

Time	Plot														Total	Sum of max counts
	1	2	3	4	5	6	7	8	9	10	11	12	13	14		
1000	0	2	2	0	1	6	0	2	0	18	14	3	1	1	50	-
1015	0	5	0	6	4	3	1	4	0	27	24	10	0	1	85	-
1030	3	7	1	2	4	2	0	0	1	12	28	3	2	4	69	-
1045	1	10	4	5	2	7	0	0	0	20	26	5	5	3	88	-
1100	2	3	0	5	4	1	0	1	0	29	30	9	6	0	90	-
1115	1	7	2	6	2	2	0	0	0	32	19	10	2	0	83	-
1130	1	13	3	0	0	8	1	3	3	16	26	9	6	0	89	-
1145	0	8	7	7	5	9	0	0	0	28	34	1	4	0	103	-
1200	0	11	8	5	8	7	0	2	0	30	54	15	2	0	142	-
1215	0	14	6	4	9	6	0	0	0	36	18	4	2	5	104	-
1230	1	14	4	9	10	14	0	0	4	34	24	18	6	0	138	-
1245	2	0	6	6	5	9	0	0	1	39	43	36	8	1	156	-
1300	1	8	5	6	3	0	0	0	1	43	45	30	3	0	145	-
1315	0	15	4	5	4	7	0	0	0	38	26	22	8	3	132	-
1330	0	14	2	6	0	9	0	0	0	22	21	11	8	3	96	-
1345	0	11	8	15	0	6	1	2	0	25	27	18	6	6	125	-
1400	0	0	1	8	2	7	0	2	0	46	19	0	3	0	88	-
1415	0	2	0	0	0	5	0	0	0	23	24	11	3	1	69	-
1430	0	0	0	0	0	0	0	0	0	31	55	12	10	0	108	-
1445	0	3	0	3	2	0	0	0	0	50	34	18	6	5	121	-
1500	0	0	1	8	0	1	0	2	0	26	35	8	7	3	91	-
1515	0	1	0	3	0	2	1	2	0	32	37	36	7	1	122	-
1530	0	3	0	1	0	0	0	0	0	22	22	13	3	2	66	-
1545	0	1	0	3	0	0	0	0	0	13	4	19	2	0	42	-
1600	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
Max. count	3	15	8	15	10	14	1	4	4	50	55	36	10	6	-	231

Table 35. Total number of least auklets banded on survival plot at Ulakaia Ridge, St. George Island, Alaska.

Parameter	Year														
	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17
Total new birds banded	189	79	80	33	0	0	75	0	23	19	50	15	18	24	18
New color band combinations (adults)[c]	187	66	81	30	0	0	75	0	23	19	50	15	18	24	17
New metal and colors (adults)	187	66	80	30	0	0	75	0	23	19	50	15	18	24	17
New colors on previous metal-only bird[a]	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
New metal bands only (adults and subadults)	2	13	0	3	0	0	0	0	0	0	0	0	0	0	1
New color bands replace old color bands[b]	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Cum. color-banded birds (adults only)	187	253	334	364	364	364	439	439	462	481	531	546	564	588	605
Cum. total birds banded (adults and subadults)	189	268	348	381	381	381	456	456	479	498	548	563	581	605	606

[a]Bird previously banded as subadult with metal band only, caught subsequent year as adult and given color bands. Adds one bird to number of new color bands but does not add to number of total birds banded.

[b]Bird previously banded with color bands recaptured and given new color combination due to accidental duplicate use of color combinations. Does not add to number of birds color-banded or total number of birds banded; mistakenly counted as new bird in 2005 report (Konyukhov 2005).

[c] Color band combinations that have been reused are included in calculations.

Table 36. Fates of cohorts of least auklets banded on survival plot at Ulakaia Ridge, St. George Island, Alaska.

Year	No. birds banded in year[a]	No. birds resighted in:														Prop. birds resighted in 2017
		04	05	06	07	08	09	10	11	12	13	14	15	16	17	
2003	184	135	85	90	73	80	44	41	34	39	29	28	16	15	11	0.08
2004	51	-	33	37	30	38	23	22	16	17	17	15	12	11	6	0.22
2005	77	-	-	72	64	58	50	47	43	41	35	30	23	17	16	0.22
2006	29	-	-	-	29	27	23	22	20	18	15	12	6	4	3	0.14
2007	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2008	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2009	73	-	-	-	-	-	-	70	60	54	51	48	31	21	15	0.29
2010	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2011	20	-	-	-	-	-	-	-	-	20	19	15	10	3	2	0.15
2012	18	-	-	-	-	-	-	-	-	-	17	17	13	8	6	0.44
2013	46	-	-	-	-	-	-	-	-	-	-	42	27	16	17	0.35
2014	12	-	-	-	-	-	-	-	-	-	-	-	8	6	1	0.50
2015	13	-	-	-	-	-	-	-	-	-	-	-	-	11	10	0.85
2016	18	-	-	-	-	-	-	-	-	-	-	-	-	-	18	1.00
2017	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
No. birds seen in current year (A)		135	118	199	196	203	140	202	173	189	183	207	146	112	105	-
Birds potentially alive from prior year (B)[b]		184	208	252	270	232	215	236	225	223	222	246	225	177	143	-
Apparent annual survival (A/B)[c]		0.73	0.57	0.79	0.73	0.88	0.65	0.86	0.77	0.85	0.82	0.84	0.65	0.63	0.73	-
Resighting effort																
Total no. resight days		28	26	28	22	13	24	20	27	23	22	19	20	20	20	-
Average no. hours/day		1.9	3.7	2.2	N/A[d]	3.9	3.9	3.9	3.2	3.8	3.6	4.0	4.0	3.9	2.6	-
Total no. resight hours		53.3	95.2	61.9	N/A	50.9	86.0	78.5	86.7	86.8	79.2	75.6	79.9	78.0	62.5	-

[a]Data include only those birds resighted at least once after banding (either in the year of banding or in future years); birds banded but never again seen on the plot are excluded from the survival dataset. Therefore, these values may be less than the total number of birds banded reported in Table 35.

[b]Value equals the sum of birds resighted in prior year + birds not resighted in prior year but resighted in future years and thus known to have been alive in prior year + new birds banded in prior year.

[c]Survival should be considered a minimum estimate because it is likely not all birds present were observed each year and, in some years, small numbers of birds with missing bands were observed and could not be individually identified (five in 2008, three in 2009).

[d]Resight effort data unavailable in 2007.

Table 37. Resight history of least auklets banded on survival plot at Ulakaia Ridge, St. George Island, Alaska. Data represent number of times birds were resighted each year.

Codes: Color combinations

BK = black DG = dark green R=red
BN = brown LB = light blue W=white
DB = dark blue O = orange Y=yellow

Notes

A = Banded on opposite legs
B = Bird found dead (year)
C = Originally banded with metal only as subadult (year)
D= Color band combination reused (year)

Resight history

x = band no longer resightable (dead, removed, etc.)

Color bands		Metal band #	Year banded	Notes	Year resighted														
L	R				03	04	05	06	07	08	09	10	11	12	13	14	15	16	17
DB	R/R	802-00398	2003	D(17)	4	0	0	0	0	0	0	0	0	0	0	0	0	0	x
O	DB/W	802-00399	2003		6	1	1	3	2	0	0	0	0	2	0	0	0	0	0
DB	R/W	802-00400	2003		2	8	0	1	0	0	0	0	0	0	0	0	0	0	0
DG	R/DG	802-01217	2004		-	1	9	1	0	0	0	0	0	0	0	0	0	0	0
DG	R/R	802-01218[a]	2004		-	-	0	0	0	0	0	0	0	0	0	0	0	0	0
DG	R/W	802-01219	2004		-	1	0	1	0	1	0	0	0	0	0	0	0	0	0
DG	R/Y	802-01220	2004			-	0	0	0	0	0	0	0	0	0	0	0	0	0
DG	W/DB	802-01221	2004		-	0	0	0	1	0	0	0	0	0	0	0	0	0	0
DG	W/DG	802-01222	2004		-	0	5	8	10	9	5	11	1	14	6	5	0	0	0
DG	W/LB	802-01223	2004		-	1	1	1	0	0	0	0	0	0	0	0	0	0	0
DG	W/R	802-01224	2004		-	0	3	6	3	9	12	7	7	3	0	0	0	0	0
DG	W/Y	802-01225	2004		-	0	12	18	11	12	22	19	17	21	12	12	14	5	0
DG	Y/DB	802-01227	2004		-	0	8	6	4	9	7	0	0	0	0	0	0	0	0
DG	Y/W	802-01229	2004		-	1	0	1	0	0	0	0	0	0	0	0	0	0	3
DG	Y/DG	802-01230	2004		-	1	3	1	1	2	4	7	0	5	0	0	0	0	0
LB	DG/W	802-01231	2004		-	1	0	9	14	11	12	11	9	14	9	2	2	16	9
DG	Y/R	802-01232	2004		-	-	0	0	0	0	0	0	0	0	0	0	0	0	0
R	LB/W	802-01233	2004		-	1	8	16	12	9	9	12	13	12	11	6	3	3	0
LB	DB/W	802-01234	2004		-	1	10	2	1	2	0	0	0	0	1	0	0	0	0
LB	O/W	802-01235	2004		-	-	0	0	0	0	0	0	0	0	0	0	0	0	0
BK	W/O	802-01237	2005	B(15) C(04)	-	-	0	6	9	0	0	0	0	0	1	0	1	x	x
O	Y/O	802-01238	2004		-	0	6	8	12	11	0	0	0	0	0	0	0	0	0
O	LB/W	802-01239	2004		-	1	0	0	0	1	0	0	0	0	0	0	0	0	0
O	DG/O	802-01240	2004		-	0	0	0	0	2	0	0	0	0	0	0	0	0	0
LB	R/W	802-01241	2004		-	0	0	0	0	1	0	0	0	0	0	0	0	0	0
R	DG/DG	802-01242	2004		-	0	14	16	11	11	11	8	9	14	10	7	12	13	8
R	O/DG	802-01243	2004		-	0	4	3	10	10	11	13	8	0	0	0	0	0	0
W	DB/DG	802-01244	2004		-	0	1	0	0	0	4	3	0	0	0	0	0	0	0
R	O/O	802-01245	2004		-	0	0	2	1	0	0	0	0	0	0	0	0	0	0
R	W/LB	802-01246	2004		-	-	0	0	0	0	0	0	0	0	0	0	0	0	0
W	DG/LB	802-01247	2004		-	-	0	0	0	0	0	0	0	0	0	0	0	0	0
W	LB/DG	802-01248	2004		-	0	7	10	5	10	9	13	0	0	0	1	0	0	0
W	DG/W	802-01249	2004		-	0	0	3	0	0	0	0	0	0	0	0	0	0	0
W	LB/R	802-01251	2004		-	0	0	0	0	1	0	0	1	0	0	0	0	1	0
W	LB/O	802-01252	2004		-	1	8	11	1	9	12	6	6	8	2	6	6	5	0
Y	DB/DG	802-01253	2004		-	1	2	3	0	8	2	8	0	5	4	2	2	0	0
W	Y/DG	802-01254	2004		-	0	5	2	0	0	0	0	0	0	0	0	0	0	0

Table 37 (continued). Resight history of least auklets banded on survival plot at Ulakaia Ridge, St. George Island, Alaska. Data represent number of times birds were resighted each year.

Codes: Color combinations

BK = black DG = dark green R=red
BN = brown LB = light blue W=white
DB = dark blue O = orange Y=yellow

Notes

A = Banded on opposite legs
B = Bird found dead (year)
C = Originally banded with metal only as subadult (year)
D= Color band combination reused (year)

Resight history

x = band no longer resightable (dead, removed, etc.)

Color bands		Metal band #	Year banded	Notes	Year resighted														
L	R				03	04	05	06	07	08	09	10	11	12	13	14	15	16	17
W	O/LB	802-01255	2004		-	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Y	DG/DG	802-01257	2004		-	0	12	0	2	3	0	0	0	0	0	0	0	0	0
Y	DG/O	802-01258	2004		-	-	0	0	0	0	0	0	0	0	0	0	0	0	0
DG	DG/LB	802-01259	2004		-	1	1	12	19	1	0	0	0	0	0	0	0	0	0
Y	DG/Y	802-01260	2004		-	0	0	0	1	1	0	0	0	0	0	0	0	0	0
Y	O/DG	802-01261	2004	D(17)	-	1	1	0	0	0	0	0	0	0	0	0	0	0	x
Y	Y/DG	802-01262	2004		-	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Y	O/Y	802-01263	2004		-	0	0	0	0	1	0	0	0	0	0	0	0	0	0
O	LB/DB	802-01266	2004		-	0	11	9	8	13	10	17	14	13	14	6	12	11	6
O	LB/DG	802-01268	2004		-	1	0	0	0	1	0	0	0	0	0	0	0	0	0
O	LB/LB	802-01270	2004		-	1	10	16	17	13	17	12	0	0	0	0	0	0	0
O	LB/O	802-01272	2004	B(16)	-	1	12	10	12	12	18	16	9	14	11	1	4	4	0
O	LB/R	802-01273	2004		-	0	0	0	0	2	0	0	0	0	0	0	0	0	0
O	LB/Y	802-01274	2004		-	-	0	0	0	0	0	0	0	0	0	0	0	0	0
O	O/LB	802-01275	2004		-	0	12	7	11	10	20	11	19	17	11	10	12	8	3
DB	DB/LB	802-01276	2005		-	-	0	1	0	0	0	0	0	0	0	0	0	0	0
DB	DG/LB	802-01277	2005		-	-	0	3	1	0	0	0	0	1	0	0	0	0	0
DB	LB/DB	802-01278	2005		-	-	0	2	13	3	0	0	0	0	0	0	0	0	0
DB	LB/DG	802-01279	2005		-	-	0	1	0	0	0	0	0	0	0	0	0	0	0
DB	LB/LB	802-01280	2005		-	-	0	15	17	12	13	12	0	0	0	0	0	0	0
DB	LB/O	802-01281	2005		-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
DB	LB/R	802-01282	2005		-	-	0	12	10	0	0	0	0	0	0	0	0	0	0
DB	O/LB	802-01283	2005		-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
DB	R/LB	802-01284	2005		-	-	0	8	9	11	6	9	3	12	6	1	0	0	0
DG	DB/LB	802-01285	2005		-	-	0	6	10	0	0	0	0	0	0	0	0	0	0
DG	LB/DB	802-01286	2005		-	-	0	1	1	0	0	0	0	0	0	0	0	0	0
DG	LB/DG	802-01287	2005		-	-	0	1	0	0	0	0	0	0	0	0	0	0	0
DG	LB/LB	802-01288	2005		-	-	0	7	0	0	0	0	0	0	0	0	0	0	0
DG	LB/O	802-01289	2005		-	-	0	4	2	11	8	8	2	8	6	0	0	0	0
DG	LB/R	802-01290	2005		-	-	0	12	1	0	0	0	0	0	0	0	0	0	0
DG	O/LB	802-01291	2005		-	-	0	18	0	0	0	0	0	0	0	0	0	0	0
DG	R/LB	802-01292	2005		-	-	0	8	0	1	0	0	0	0	0	0	0	0	0
LB	DB/DB	802-01293	2005		-	-	0	0	1	0	0	0	0	1	0	0	0	0	0
LB	DB/DG	802-01294	2005		-	-	0	0	0	1	0	0	0	0	0	0	0	0	0
LB	DB/LB	802-01295	2005		-	-	0	3	8	10	5	12	1	0	0	0	0	0	0
LB	DB/O	802-01296	2005		-	-	0	15	11	0	0	0	0	0	0	0	0	0	0
LB	DB/R	802-01297	2005		-	-	0	3	5	9	7	0	0	1	0	0	0	0	1

Table 37 (continued). Resight history of least auklets banded on survival plot at Ulakaia Ridge, St. George Island, Alaska. Data represent number of times birds were resighted each year.

Codes: Color combinations

BK = black DG = dark green R=red
BN = brown LB = light blue W=white
DB = dark blue O = orange Y=yellow

Notes

A = Banded on opposite legs
B = Bird found dead (year)
C = Originally banded with metal only as subadult (year)
D= Color band combination reused (year)

Resight history

x = band no longer resightable (dead, removed, etc.)

Color bands		Metal band #	Year banded	Notes	Year resighted														
L	R				03	04	05	06	07	08	09	10	11	12	13	14	15	16	17
LB	DG/DB	802-01298	2005		-	-	0	1	0	0	0	0	0	0	0	0	0	0	0
LB	DG/DG	802-01299	2005		-	-	0	15	13	13	17	20	17	19	17	10	13	18	8
LB	DG/LB	802-01300[b]	2005		-	-	0	x	x	x	x	x	x	x	x	x	x	x	x
LB	DG/O	802-01401	2005		-	-	0	19	14	12	13	8	17	0	0	0	0	0	0
DG	O/DG	802-01402	2004		-	0	0	0	0	1	0	0	0	0	0	0	0	0	0
DG	O/Y	802-01404	2004		-	1	0	1	1	0	0	0	0	1	0	0	0	0	0
LB	DG/R	802-01405	2005		-	-	0	2	6	12	9	11	3	6	2	1	6	7	2
LB	LB/DB	802-01406	2005		-	-	0	5	16	13	13	0	0	0	0	0	0	0	0
LB	LB/DG	802-01407	2005		-	-	0	9	11	7	12	8	20	17	14	1	13	1	0
LB	LB/LB	802-01408	2005		-	-	0	1	8	9	9	10	1	9	5	1	0	0	0
LB	LB/O	802-01409	2005		-	-	0	5	9	9	12	10	3	3	5	0	0	0	0
LB	LB/R	802-01410	2005		-	-	0	6	8	8	8	13	13	11	11	6	14	0	0
LB	LB/W	802-01411	2005		-	-	0	6	6	9	10	8	8	7	1	10	0	0	0
LB	O/DB	802-01412	2005		-	-	0	3	6	8	7	9	4	3	1	1	2	4	0
LB	O/DG	802-01413	2005		-	-	0	2	13	5	15	9	6	11	9	0	0	0	0
LB	O/O	802-01414	2005		-	-	0	16	0	0	0	0	0	0	0	0	0	0	0
LB	O/R	802-01415	2005		-	-	0	17	16	10	21	15	10	16	18	10	7	9	0
LB	R/DB	802-01416	2005		-	-	0	8	7	7	11	14	11	0	0	0	0	0	0
LB	R/DG	802-01417	2005		-	-	0	0	0	1	0	0	0	0	0	0	0	0	0
LB	R/O	802-01418	2005		-	-	0	8	0	0	0	0	0	0	0	0	0	0	0
LB	R/R	802-01419	2005		-	-	0	4	7	13	14	11	9	12	8	2	10	0	0
LB	W/DB	802-01420	2005		-	-	0	5	5	4	9	6	4	2	2	0	0	0	0
LB	W/DG	802-01421	2005		-	-	0	13	4	7	12	13	7	8	3	7	0	0	0
LB	W/O	802-01422	2005		-	-	0	5	0	0	0	0	0	0	0	0	0	0	0
LB	W/R	802-01423	2005		-	-	0	4	5	6	9	0	0	2	2	2	0	0	0
LB	W/W	802-01424	2005		-	-	0	13	10	7	2	4	1	0	0	0	0	0	0
O	DB/LB	802-01425	2005	B(16)	-	-	0	2	15	13	9	12	9	4	8	3	6	9	x
O	DG/LB	802-01426	2005		-	-	0	3	12	0	0	0	0	0	0	0	0	0	0
O	R/LB	802-01427	2005		-	-	0	2	4	3	11	8	0	1	0	1	0	1	0
BK	DB/DB	802-01428	2005		-	-	0	10	8	10	19	18	20	12	15	6	16	12	13
BK	DB/DG	802-01429	2005		-	-	0	12	12	5	10	6	1	0	0	0	0	0	1
BK	DB/O	802-01430	2005		-	-	0	18	16	13	20	18	17	22	18	12	13	14	12
BK	DB/R	802-01431	2005		-	-	0	16	5	7	13	15	13	10	10	1	4	4	3
BK	DB/W	802-01432	2005		-	-	0	5	14	8	0	0	0	0	0	0	0	0	0
BK	DG/DB	802-01433	2005		-	-	0	0	1	0	0	0	0	0	0	0	0	0	0
BK	DG/DG	802-01434	2005		-	-	0	16	16	9	17	16	0	0	0	0	0	0	0
BK	DG/O	802-01435	2005		-	-	0	14	14	12	18	15	10	12	6	11	0	0	0

Table 37 (continued). Resight history of least auklets banded on survival plot at Ulakaia Ridge, St. George Island, Alaska. Data represent number of times birds were resighted each year.

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Resight history

x = band no longer resightable (dead, removed, etc.)

Color bands		Metal band #	Year banded	Notes	Year resighted														
L	R				03	04	05	06	07	08	09	10	11	12	13	14	15	16	17
BK	DG/R	802-01436	2005		-	-	0	5	10	9	12	8	3	7	6	4	4	5	1
BK	DG/W	802-01437	2005		-	-	0	0	2	1	0	0	0	0	0	0	0	0	0
BK	O/DB	802-01438	2005		-	-	0	5	8	8	8	8	7	16	3	4	0	0	0
BK	O/DG	802-01439	2005		-	-	0	4	9	10	4	14	7	19	8	5	8	0	0
BK	O/O	802-01440	2005		-	-	0	1	7	13	4	7	5	3	0	0	0	0	0
BK	O/R	802-01441	2005		-	-	0	3	9	13	1	0	0	0	0	0	0	0	0
BK	R/DB	802-01442	2005		-	-	0	6	11	13	12	12	5	16	0	0	0	0	0
BK	R/DG	802-01443	2005		-	-	0	5	13	10	20	9	11	17	4	5	13	0	0
BK	R/O	802-01444	2005		-	-	0	7	7	10	13	10	11	18	9	5	0	0	0
BK	R/R	802-01445	2005		-	-	0	11	15	11	18	19	23	20	17	0	0	0	0
BK	R/W	802-01446	2005		-	-	0	12	9	1	0	0	0	0	0	0	0	0	1
BK	W/DB	802-01447	2005		-	-	0	3	0	1	0	2	0	0	0	0	2	0	2
BK	W/DG	802-01448	2005		-	-	0	11	7	10	14	12	12	11	10	5	9	12	7
BK	O/W	802-01449	2005		-	-	0	13	9	12	21	1	18	22	8	8	16	0	6
BK	W/R	802-01450	2005		-	-	0	2	7	10	9	14	14	13	6	3	7	2	5
BK	W/W	802-01451	2005		-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
DB	BK/DB	802-01452	2005		-	-	0	12	13	8	17	15	7	16	14	2	3	4	0
DB	BK/DG	802-01453	2005		-	-	0	6	7	9	12	15	11	14	0	3	0	0	1
DB	BK/O	802-01454	2005		-	-	0	2	6	12	8	5	3	0	2	0	0	0	0
DB	BK/R	802-01455	2005		-	-	0	2	4	7	10	4	2	1	1	4	1	2	3
DB	BK/W	802-01456	2005		-	-	0	2	6	6	2	4	3	1	2	1	2	5	1
DB	DB/BK	802-01457	2005		-	-	0	3	4	3	12	8	3	1	0	0	0	0	0
DB	BK/BK	802-01458	2005		-	-	0	10	14	7	11	9	3	0	16	0	0	0	0
BK	Y/BK	802-01459	2009		-	-	-	-	-	-	4	7	3	2	3	0	0	0	0
BN	Y/BK	802-01460	2009		-	-	-	-	-	-	6	0	0	0	0	0	0	0	0
DB	Y/BK	802-01461	2009		-	-	-	-	-	-	4	15	17	23	15	14	11	7	0
DG	Y/BK	802-01462	2009		-	-	-	-	-	-	7	12	11	15	13	13	17	16	14
LB	Y/BK	802-01463	2009		-	-	-	-	-	-	6	14	9	17	11	9	2	0	0
O	Y/BK	802-01464	2009		-	-	-	-	-	-	7	18	17	16	14	12	1	0	0
R	Y/BK	802-01465	2009		-	-	-	-	-	-	6	16	13	17	19	18	19	0	0
W	Y/BK	802-01466	2009		-	-	-	-	-	-	7	18	23	19	11	10	0	0	0
Y	Y/BK	802-01467	2009		-	-	-	-	-	-	8	18	20	19	16	13	0	0	0
BN	DG/DG	802-01469	2006		-	-	-	-	14	10	11	11	0	1	0	0	0	0	0
BN	O/O	802-01470	2006		-	-	-	-	9	7	16	15	4	6	6	0	0	0	0
BN	Y/Y	802-01471	2006		-	-	-	-	3	5	6	6	0	0	0	0	0	0	0
BN	R/R	802-01472	2006		-	-	-	-	12	11	7	12	0	0	0	0	0	0	0
BN	BK/BK	802-01473	2006		-	-	-	-	2	4	4	7	3	4	0	0	0	0	0

Table 37 (continued). Resight history of least auklets banded on survival plot at Ulakaia Ridge, St. George Island, Alaska. Data represent number of times birds were resighted each year.

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Notes

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D= Color band combination reused (year)

Resight history

x = band no longer resightable (dead, removed, etc.)

Color bands		Metal band #	Year banded	Notes	Year resighted														
L	R				03	04	05	06	07	08	09	10	11	12	13	14	15	16	17
BN	DB/DB	802-01474	2006		-	-	-	-	5	11	3	10	3	0	0	0	0	0	0
BN	W/W	802-01475	2006		-	-	-	-	12	12	14	15	7	8	4	1	5	9	0
BN	W/DG	802-01476	2006		-	-	-	-	21	9	20	15	14	19	18	6	12	1	0
BN	W/O	802-01477	2006		-	-	-	-	0	0	0	0	0	0	0	0	0	0	0
BN	W/Y	802-01478	2006		-	-	-	-	15	10	0	0	0	0	0	0	0	0	0
BN	W/BK	802-01479	2006		-	-	-	-	13	9	6	7	5	8	8	0	0	0	0
W	BN/DB	802-01480	2006		-	-	-	-	5	8	12	14	14	16	11	12	0	0	0
O	BN/DG	802-01481	2006		-	-	-	-	16	0	0	0	0	0	0	0	0	0	0
BN	DB/DG	802-01482	2006		-	-	-	-	12	9	14	19	6	12	8	2	0	0	0
BN	O/DG	802-01483	2006		-	-	-	-	10	10	4	10	6	14	7	4	0	0	0
BN	DB/Y	802-01484	2006		-	-	-	-	13	10	8	0	0	0	0	0	0	0	1
BN	Y/O	802-01485	2006		-	-	-	-	14	13	12	6	8	16	10	5	15	16	0
BN	R/W	802-01486	2006		-	-	-	-	17	0	0	0	0	0	0	0	0	0	0
BN	BK/Y	802-01487	2006		-	-	-	-	14	10	19	16	10	20	17	12	15	0	0
DB	BN/DB	802-01488	2006		-	-	-	-	11	3	0	0	1	0	0	0	0	0	0
Y	BN/Y	802-01489	2006		-	-	-	-	21	14	19	19	16	21	14	0	0	0	0
DG	BN/DG	802-01490	2006		-	-	-	-	12	6	5	5	5	9	6	2	0	0	0
W	BN/W	802-01491	2006		-	-	-	-	21	7	7	9	11	13	0	0	0	0	0
R	BN/R	802-01492	2006		-	-	-	-	18	11	1	6	2	10	6	5	0	0	0
O	BN/O	802-01493	2006		-	-	-	-	13	13	14	7	11	21	12	7	6	0	6
R	BN/Y	802-01496	2006		-	-	-	-	16	13	14	10	10	0	0	0	0	0	0
DB	BN/Y	802-01497	2006		-	-	-	-	1	2	0	0	0	0	0	0	0	0	0
W	BN/Y	802-01498	2006		-	-	-	-	11	12	11	11	13	16	7	12	0	0	1
DG	BN/Y	802-01499	2006		-	-	-	-	5	12	0	0	0	0	0	0	0	0	0
O	BN/Y	802-01500	2006		-	-	-	-	16	7	17	11	16	17	11	9	11	15	0
O	R/DG	802-39612	2003		5	14	0	0	0	0	0	0	0	0	0	0	0	0	0
O	R/O	802-39613	2003		5	4	5	5	0	0	0	0	0	0	0	0	0	0	0
O	R/R	802-39614	2003		1	2	4	1	6	1	0	0	0	0	0	0	0	0	0
O	R/W	802-39615	2003		6	3	0	0	0	0	0	0	0	0	0	0	0	0	0
O	R/Y	802-39616	2003		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O	W/DB	802-39617	2003		8	12	8	17	16	6	16	15	17	16	15	13	14	17	8
O	W/DG	802-39618	2003		7	14	2	0	0	0	0	0	0	0	0	0	0	0	0
O	W/O	802-39619	2003		1	5	2	2	4	11	8	9	7	11	8	2	1	2	2
O	W/R	802-39620	2003		5	5	5	8	10	14	14	0	0	0	0	0	0	0	0
O	W/W	802-39621	2003		8	18	0	0	0	0	0	0	0	0	0	0	0	0	0
O	W/Y	802-39622	2003		6	5	6	12	9	11	14	14	13	12	12	6	0	0	0
O	Y/DB	802-39623	2003		1	0	0	0	1	0	0	0	0	1	0	0	0	0	0

Table 37 (continued). Resight history of least auklets banded on survival plot at Ulakaia Ridge, St. George Island, Alaska. Data represent number of times birds were resighted each year.

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Resight history

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Color bands		Metal band #	Year banded	Notes	Year resighted														
L	R				03	04	05	06	07	08	09	10	11	12	13	14	15	16	17
O	Y/DG	802-39624	2003		8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O	Y/R	802-39625	2003		3	2	2	0	0	0	0	0	0	0	0	0	0	0	0
O	Y/W	802-39626	2003		0	0	0	1	0	1	1	0	1	0	0	0	0	0	0
O	Y/Y	802-39627	2003		5	2	0	1	0	0	0	0	0	0	0	0	0	0	0
R	DB/DB	802-39628	2003		3	10	10	0	2	0	0	0	0	1	0	0	0	0	0
R	DB/DG	802-39629	2003		2	9	1	16	16	13	0	0	0	0	0	0	0	0	0
DB	DB/DB	802-39630	2003		2	10	6	4	11	11	11	11	9	12	2	9	6	10	5
DB	DB/DG	802-39631	2003		0	17	11	8	5	0	0	0	0	0	0	0	0	0	0
DB	DB/O	802-39632	2003	D(17)	5	12	11	9	0	0	0	0	0	0	0	0	0	0	x
DB	DB/R	802-39633	2003	D(17)	6	22	1	1	0	0	0	0	0	0	0	0	0	0	x
DB	DB/W	802-39634	2003		3	6	0	1	1	1	0	0	0	0	0	0	0	0	0
DB	DB/Y	802-39635	2003		5	20	10	11	14	9	7	9	11	0	0	0	0	0	0
DB	R/DB	802-39636	2003		7	8	11	13	14	9	20	13	13	12	12	13	11	19	0
DB	R/DG	802-39637	2003		4	0	2	4	6	8	9	9	6	2	3	3	1	7	4
DB	R/O	802-39639	2003	D(17)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	x
O	R/DB	802-39650	2003		7	0	1	1	0	0	0	0	0	0	0	0	0	0	0
O	DB/Y	802-39651	2003		6	15	7	0	0	0	0	0	0	0	0	0	0	0	0
DB	R/Y	1172-81031	2003	D(17)	6	0	0	1	0	0	0	0	0	0	0	0	0	0	x
DB	W/DB	1172-81032	2003		3	4	1	1	0	1	0	0	0	1	0	0	0	0	0
DB	W/O	1172-81033	2003		4	8	0	0	0	0	0	0	0	0	0	0	0	0	0
DB	W/R	1172-81035	2003		6	0	0	1	0	0	0	0	0	0	0	0	0	0	0
DB	W/W	1172-81037	2003		5	3	4	8	5	7	0	0	0	0	0	0	0	0	0
DB	W/Y	1172-81038	2003		5	9	9	18	15	13	11	0	0	0	2	3	0	0	0
DB	Y/DB	1172-81039	2003		4	12	10	8	12	10	15	11	0	0	0	0	0	0	0
DB	Y/DG	1172-81040	2003		7	6	0	9	7	11	5	9	6	10	12	0	0	0	0
DB	Y/O	1172-81041	2003		2	6	5	1	0	0	0	0	0	0	0	0	0	0	0
DB	Y/R	1172-81042	2003		5	11	0	0	0	0	0	0	0	0	0	0	0	0	0
DB	Y/Y	1172-81043	2003		4	13	0	1	0	1	0	0	0	0	0	0	0	0	0
DG	DB/DB	1172-81044	2003		2	14	0	0	0	0	0	0	0	0	0	0	0	0	0
Y	R/DG	1172-81045	2003	D(17)	6	12	0	0	0	0	0	0	0	0	0	0	0	0	x
Y	R/DB	1172-81046	2003	D(17)	1	13	0	0	0	0	0	0	0	0	0	0	0	0	x
Y	R/O	1172-81047	2003	D(17)	6	0	0	0	0	0	0	0	0	0	0	0	0	0	x
Y	R/R	1172-81048	2003		6	15	13	13	14	0	0	0	0	0	0	0	0	0	0
Y	R/W	1172-81049	2003	D(17)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	x
Y	R/Y	1172-81050	2003		1	9	0	0	0	0	0	0	0	0	0	0	0	0	0
DB	W/DG	1172-81051	2003		7	7	3	2	3	6	13	13	14	8	12	0	0	0	0
Y	W/DB	1172-81052	2003		6	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Color bands		Metal band #	Year banded	Notes	Year resighted														
L	R				03	04	05	06	07	08	09	10	11	12	13	14	15	16	17
Y	W/DG	1172-81053	2003		7	17	0	0	0	0	0	0	0	0	0	0	0	0	0
Y	W/O	1172-81054	2003		6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Y	W/R	1172-81055	2003		4	10	0	2	0	0	0	0	0	0	0	0	0	0	0
Y	W/W	1172-81056	2003		7	2	5	7	6	11	17	14	4	10	3	2	4	0	0
Y	W/Y	1172-81057	2003		2	5	6	6	2	9	3	5	3	9	3	3	0	0	0
Y	DB/O	1172-81058	2003	D(17)	5	0	1	0	0	0	0	0	0	0	0	0	0	0	x
Y	DB/R	1172-81059	2003		2	10	7	13	8	8	16	12	14	20	0	0	0	0	0
Y	DB/W	1172-81060	2003		2	0	5	0	0	4	3	5	0	0	0	1	0	3	2
Y	DB/Y	1172-81061	2003		0	10	4	3	6	11	0	0	0	0	0	0	0	0	0
Y	DG/DB	1172-81062	2003	D (17)	6	0	1	0	0	0	0	0	0	0	0	0	0	0	x
Y	DG/R	1172-81063	2003	D (17)	5	3	0	0	0	0	0	0	0	0	0	0	0	0	x
Y	DG/W	1172-81064	2003		8	6	0	0	0	2	0	0	0	1	0	2	0	1	0
Y	Y/R	1172-81065	2003		2	13	1	0	0	2	0	0	0	0	0	0	0	0	0
Y	Y/W	1172-81066	2003		1	13	9	16	13	9	0	0	1	0	0	0	0	0	0
Y	Y/Y	1172-81067	2003		2	17	12	3	14	14	16	14	0	0	0	0	0	0	0
Y	Y/DB	1172-81068	2003		8	11	4	18	18	0	0	0	0	0	0	0	0	0	0
W	Y/R	1172-81069	2003		3	14	14	15	9	12	16	13	12	20	14	9	15	9	0
W	Y/W	1172-81070	2003		3	13	9	13	7	9	15	17	6	1	0	0	0	0	0
O	DG/DB	1172-81071	2003		1	9	4	3	10	0	0	0	0	0	0	0	0	0	0
O	DG/DG	1172-81072	2003		4	5	0	0	1	0	0	0	0	1	0	0	0	0	1
O	DG/R	1172-81073	2003		1	4	1	1	0	1	0	0	0	0	0	0	0	0	0
O	DG/W	1172-81074	2003		4	7	13	10	6	8	12	8	7	7	9	4	0	0	0
DB	DG/O	1172-81075	2003	D(17)	6	0	0	0	0	0	0	0	0	0	0	0	0	0	x
DB	DG/R	1172-81076	2003	D(17)	1	1	0	0	0	0	0	0	0	0	0	0	0	0	x
DB	DG/W	1172-81077	2003		5	17	10	17	15	10	14	16	15	13	14	13	0	0	0
R	DB/R	1172-81078	2003		3	9	11	0	0	0	0	0	0	0	0	0	0	0	0
R	DB/W	1172-81079	2003		1	3	0	0	0	0	0	0	0	0	0	0	0	0	0
R	DB/Y	1172-81080	2003		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
W	W/O	1172-81081	2003		3	2	1	0	0	0	0	0	0	0	0	0	0	0	0
W	W/R	1172-81082	2003		5	12	0	0	0	0	0	0	0	0	0	0	0	0	0
W	W/W	1172-81083	2003		1	4	1	0	0	0	6	9	0	1	0	0	0	0	0
W	W/Y	1172-81084	2003		1	2	0	5	6	5	0	0	0	0	0	0	0	0	0
W	R/R	1172-81085	2003		1	0	2	0	0	0	0	0	0	0	0	0	0	0	0
W	R/W	1172-81086	2003		-	0	0	0	0	0	0	0	0	0	0	0	0	0	0
W	R/Y	1172-81087	2003		1	2	1	1	1	7	0	0	0	0	0	0	0	0	0
W	DB/O	1172-81088	2003		1	0	0	2	0	0	0	0	0	0	0	0	0	0	0
W	DB/R	1172-81089	2003		0	1	5	1	3	2	6	4	2	5	2	2	5	2	0

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Color bands		Metal band #	Year banded	Notes	Year resighted														
L	R				03	04	05	06	07	08	09	10	11	12	13	14	15	16	17
W	DB/W	1172-81090	2003		1	3	3	0	0	0	0	0	0	0	0	0	0	0	0
W	DB/Y	1172-81091	2003		7	3	2	1	0	0	0	0	0	0	0	0	0	0	0
W	DG/DB	1172-81092	2003		3	1	0	0	2	0	0	0	0	0	0	0	0	0	0
R	DG/R	1172-81093	2003		4	14	13	3	8	4	15	12	13	12	2	10	10	0	0
R	DG/W	1172-81094	2003		4	1	0	0	0	2	0	0	0	0	0	0	0	0	0
R	DG/Y	1172-81095	2003		5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
R	O/Y	1172-81096	2003		6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
R	R/DB	1172-81097	2003		1	4	0	0	0	0	0	0	0	0	0	0	0	0	0
R	R/DG	1172-81098	2003		4	0	5	0	0	0	0	0	0	0	0	0	0	0	0
R	R/O	1172-81099	2003		5	0	0	0	1	0	0	0	0	0	0	0	0	0	0
R	R/R	1172-81100	2003		6	11	11	17	12	14	21	16	14	0	0	0	0	0	0
R	R/W	1172-81101	2003		3	6	0	1	1	1	0	1	0	0	0	1	0	2	0
R	R/Y	1172-81102	2003		3	0	0	0	0	1	0	0	0	0	0	0	0	0	0
R	W/DB	1172-81103	2003		4	12	8	9	12	7	23	19	12	18	8	0	0	0	0
R	W/DG	1172-81104	2003		4	0	0	1	0	0	0	0	0	0	0	0	0	0	0
R	W/O	1172-81105	2003		4	0	0	0	0	1	0	0	0	0	0	0	0	0	0
R	W/R	1172-81106	2003		0	10	0	0	0	0	0	0	0	0	0	0	0	0	0
R	W/W	1172-81107	2003		4	1	0	0	0	0	0	0	0	0	0	0	0	0	0
R	W/Y	1172-81108	2003	A	0	0	6	0	1	11	0	0	0	1	0	0	0	0	0
R	Y/DB	1172-81109	2003		5	12	11	14	0	0	0	0	0	0	0	0	0	0	0
R	Y/DG	1172-81110	2003		3	1	0	0	0	0	0	0	0	0	0	0	0	0	0
R	Y/O	1172-81111	2003		5	0	0	1	0	0	0	0	0	0	0	0	0	0	0
R	Y/R	1172-81112	2003		4	5	2	6	9	9	0	0	0	0	0	0	0	0	0
R	Y/W	1172-81113	2003	A	1	3	0	0	2	0	4	12	11	9	5	0	0	0	0
R	Y/Y	1172-81114	2003		4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
W	O/DB	1172-81115	2003		5	1	0	1	0	0	0	0	0	0	0	0	0	0	0
W	O/DG	1172-81116	2003		3	10	0	0	1	1	0	0	0	0	0	0	0	0	0
W	O/O	1172-81117	2003		0	2	0	3	0	0	0	0	0	0	0	0	0	0	0
W	O/R	1172-81118	2003		8	1	0	0	1	1	0	0	0	0	0	0	0	0	0
W	O/W	1172-81119	2003		5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
W	O/Y	1172-81120	2003		2	12	10	9	2	8	8	0	0	0	0	0	0	0	0
DB	DG/DB	1172-81121	2003		2	0	0	0	1	0	0	0	0	0	0	0	0	0	0
DB	DG/Y	1172-81122	2003		2	4	6	3	4	1	0	1	0	0	0	0	0	0	0
R	DB/O	1172-81123	2003		3	5	0	0	0	1	0	0	0	0	0	0	0	0	0
R	O/R	1172-81124	2003		4	14	7	12	9	12	5	10	13	13	8	0	0	0	0
R	O/W	1172-81125	2003		5	16	6	9	8	9	8	12	14	9	9	11	13	1	5
DB	Y/W	1172-81126	2003		4	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 37 (continued). Resight history of least auklets banded on survival plot at Ulakaia Ridge, St. George Island, Alaska. Data represent number of times birds were resighted each year.

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Color bands		Metal band #	Year banded	Notes	Year resighted														
L	R				03	04	05	06	07	08	09	10	11	12	13	14	15	16	17
DG	DB/R	1172-81127	2003		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DG	DB/W	1172-81128	2003		6	5	1	3	0	0	0	0	0	0	0	0	0	0	0
W	DB/DB	1172-81129	2003		5	14	0	0	1	1	0	0	0	0	0	0	0	0	0
W	R/DB	1172-81130	2003		6	8	4	1	0	1	0	0	0	0	0	0	0	0	0
W	R/DG	1172-81131	2003		5	17	0	0	0	1	0	0	0	0	0	0	0	0	0
W	R/O	1172-81132	2003		5	9	0	0	0	0	0	0	0	0	0	0	0	0	0
W	W/DB	1172-81133	2003		3	6	0	0	0	0	0	0	0	0	0	0	0	0	0
W	Y/DB	1172-81134	2003		7	14	0	0	0	0	0	0	0	0	0	0	0	0	0
W	Y/Y	1172-81135	2003	A	1	11	0	0	0	1	0	0	0	0	0	0	0	0	0
W	DB/LB	1172-81136	2003		4	6	0	1	0	0	0	0	0	0	0	0	0	0	0
Y	DB/DB	1172-81137	2003		2	3	1	4	3	7	9	8	0	0	0	0	0	0	0
W	Y/LB	1172-81138	2003		3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
W	R/LB	1172-81139	2003		2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
W	LB/Y	1172-81140	2003		7	7	6	10	7	11	7	0	0	0	0	0	0	0	0
W	LB/LB	1172-81141	2003		2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
W	LB/DB	1172-81142	2003		1	9	0	1	1	1	0	0	0	0	1	0	0	0	0
Y	LB/W	1172-81143	2003		6	4	0	0	0	0	0	0	0	0	0	0	0	0	0
R	R/LB	1172-81144	2003		1	13	9	16	8	11	15	8	10	8	5	6	4	7	0
R	Y/LB	1172-81145	2003		6	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Y	Y/LB	1172-81146	2003		7	5	8	4	3	11	0	0	0	0	0	0	0	0	0
LB	Y/Y	1172-81147	2003		1	7	5	1	2	0	0	0	0	0	0	0	0	0	0
LB	Y/R	1172-81148	2003		5	0	0	1	0	1	0	1	0	0	0	2	0	0	0
LB	Y/LB	1172-81149	2003		4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O	O/DB	1172-81150	2003		3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O	O/DG	1172-81151	2003		6	1	0	0	0	0	0	0	0	0	0	0	0	0	0
O	O/O	1172-81152	2003		5	20	9	11	8	2	0	0	0	0	0	0	0	0	0
O	O/R	1172-81153	2003		3	12	9	14	18	11	13	13	9	22	17	0	0	0	0
O	O/W	1172-81154	2003		3	7	0	0	0	2	0	0	0	0	0	0	0	0	6
O	O/Y	1172-81155	2003		5	14	0	2	0	0	0	0	0	0	0	0	0	0	0
DB	O/DB	1172-81156	2003		5	8	8	9	7	11	21	16	16	0	0	0	1	0	0
O	DG/Y	1172-81157	2003		3	1	0	0	0	0	0	0	0	0	0	0	0	0	0
DB	O/DG	1172-81158	2003	B (04) D(17)	7	1	x	x	x	x	x	x	x	x	x	x	x	x	x
R	DG/DB	1172-81159	2003		1	9	0	1	0	1	0	0	0	0	0	0	0	0	0
R	DG/O	1172-81160	2003		5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
W	DG/O	1172-81161	2003		3	0	0	1	0	1	0	0	0	0	0	0	0	0	0
W	DG/R	1172-81162	2003		4	10	7	10	10	8	11	12	10	11	14	4	0	0	2
W	DG/Y	1172-81163	2003		5	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 37 (continued). Resight history of least auklets banded on survival plot at Ulakaia Ridge, St. George Island, Alaska. Data represent number of times birds were resighted each year.

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Color bands		Metal band #	Year banded	Notes	Year resighted														
L	R				03	04	05	06	07	08	09	10	11	12	13	14	15	16	17
DG	O/R	1172-81164	2003		4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DG	O/W	1172-81165	2003		5	2	7	11	8	8	13	7	0	0	0	0	0	0	0
DG	R/DB	1172-81166	2003		1	7	0	0	0	0	0	0	0	0	0	0	0	0	0
DG	R/O	1172-81167	2003		7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DG	W/O	1172-81168	2003		2	6	2	0	0	0	0	0	0	0	0	0	0	0	0
DG	W/W	1172-81169	2003		4	10	9	10	13	9	13	8	7	10	7	5	9	0	0
W	W/DG	1172-81170	2003		4	5	0	2	0	0	1	0	0	1	0	4	0	0	0
W	Y/O	1172-81171	2003		6	1	1	0	0	1	0	0	0	0	0	0	0	0	0
Y	O/R	1172-81172	2003		-	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Y	O/W	1172-81173	2003		4	4	11	17	0	0	0	0	0	0	0	0	0	0	0
Y	Y/O	1172-81174	2003		2	5	0	2	10	12	18	0	0	12	7	8	9	10	0
Y	O/DB	1172-81175	2003		3	4	0	0	0	0	0	14	10	0	0	0	0	0	0
Y	O/O	1172-81176	2003		3	15	0	0	0	1	0	0	0	0	0	0	0	0	0
DG	Y/O	1172-81177	2003		8	0	0	0	0	1	1	0	0	1	0	0	0	0	0
DG	Y/Y	1172-81178	2003		1	10	0	0	0	0	0	0	0	0	0	0	0	0	0
W	DG/DG	1172-81179	2003		3	7	3	13	15	10	11	0	0	19	17	3	0	0	3
DG	DB/Y	1172-81180	2003		4	5	0	0	0	0	0	14	9	0	0	0	0	0	0
DG	DG/R	1172-81181	2003		4	8	13	12	12	11	13	0	16	16	14	9	12	7	0
DB	O/Y	1172-81182	2003		6	5	2	12	13	12	10	15	3	17	10	7	6	0	3
R	O/DB	1172-81183	2003		1	0	0	0	0	0	0	10	0	0	0	0	0	0	0
DB	DG/DG	1172-81184	2004	D(17)	-	0	6	0	0	0	0	0	0	0	0	0	0	0	x
DB	LB/W	1172-81185	2004		-	0	5	14	4	0	1	0	0	0	0	0	0	0	0
DB	O/O	1172-81186	2004		-	1	2	3	10	12	15	15	10	15	11	8	1	0	0
DB	O/R	1172-81187	2004		-	-	0	0	0	0	0	0	0	0	0	0	0	0	0
DB	O/W	1172-81189	2004		-	-	0	0	0	0	0	0	0	0	0	0	0	0	0
DG	DB/DG	1172-81190	2004		-	1	11	11	0	0	0	0	0	0	0	0	0	0	0
DB	W/LB	1172-81192	2004		-	0	11	10	8	13	18	3	0	0	0	0	0	0	0
DG	DB/O	1172-81193	2004		-	0	0	1	0	0	0	0	0	0	0	0	0	0	0
DG	DG/DB	1172-81194	2004		-	0	0	1	0	0	0	0	0	0	0	0	0	0	0
DG	DG/DG	1172-81195	2004		-	-	0	0	0	0	0	0	0	0	0	0	0	0	0
DG	DG/O	1172-81196	2004		-	1	8	9	11	11	7	8	13	15	8	4	0	0	0
DG	DG/W	1172-81197	2004		-	1	15	16	11	3	0	1	0	0	0	0	0	0	0
DG	DG/Y	1172-81198	2004		-	0	6	8	7	8	10	12	16	21	16	5	11	7	0
DG	LB/W	1172-81199	2004		-	-	0	0	0	0	0	0	0	0	0	0	0	0	0
DG	O/DB	1172-81200	2004		-	0	0	0	0	1	0	0	0	0	0	0	0	0	0
BK	Y/BN	1252-09501	2009		-	-	-	-	-	-	2	12	1	0	0	0	0	0	0
BN	Y/BN	1252-09502	2009		-	-	-	-	-	-	5	14	0	0	0	0	0	0	1

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Color bands		Metal band #	Year banded	Notes	Year resighted														
L	R				03	04	05	06	07	08	09	10	11	12	13	14	15	16	17
DB	Y/BN	1252-09503	2009		-	-	-	-	-	-	2	0	0	0	0	0	0	0	0
DG	Y/BN	1252-09504	2009		-	-	-	-	-	-	5	4	0	0	0	0	0	0	0
LB	Y/BN	1252-09505	2009		-	-	-	-	-	-	7	1	2	0	0	0	0	0	0
O	Y/BN	1252-09506	2009		-	-	-	-	-	-	6	17	7	0	1	0	0	0	0
R	Y/BN	1252-09507	2009		-	-	-	-	-	-	2	14	9	21	14	6	8	7	0
W	Y/BN	1252-09508	2009		-	-	-	-	-	-	7	11	5	4	4	6	10	4	0
Y	Y/BN	1252-09509	2009		-	-	-	-	-	-	5	7	5	7	5	3	8	9	0
BK	Y/DB	1252-09510	2009		-	-	-	-	-	-	1	17	15	20	14	15	0	0	0
BN	Y/DB	1252-09511	2009		-	-	-	-	-	-	5	13	1	0	0	1	0	0	0
BK	Y/DG	1252-09512	2009		-	-	-	-	-	-	6	12	13	10	8	10	13	0	0
BN	Y/DG	1252-09513	2009		-	-	-	-	-	-	5	12	19	18	11	12	0	0	0
LB	Y/DB	1252-09514	2009		-	-	-	-	-	-	3	13	14	12	5	3	6	0	0
LB	Y/DG	1252-09515	2009		-	-	-	-	-	-	8	19	15	0	0	1	0	0	0
BK	Y/LB	1252-09516	2009		-	-	-	-	-	-	7	18	10	17	8	7	7	5	3
BN	Y/LB	1252-09517	2009		-	-	-	-	-	-	8	17	8	18	12	5	0	0	0
DB	Y/LB	1252-09518	2009		-	-	-	-	-	-	5	14	1	0	0	0	0	0	0
DG	Y/LB	1252-09519	2009		-	-	-	-	-	-	3	18	7	14	8	3	6	0	1
O	Y/LB	1252-09520	2009		-	-	-	-	-	-	7	17	22	16	10	10	0	7	0
BK	Y/O	1252-09521	2009		-	-	-	-	-	-	0	13	12	19	16	3	0	1	0
LB	Y/O	1252-09522	2009	B(15)	-	-	-	-	-	-	4	19	19	24	11	13	9	x	x
BK	Y/R	1252-09523	2009		-	-	-	-	-	-	3	13	12	12	6	2	0	0	0
BN	Y/R	1252-09524	2009		-	-	-	-	-	-	7	18	21	19	13	11	14	14	4
BK	Y/W	1252-09525	2009		-	-	-	-	-	-	2	13	18	15	15	8	15	14	2
BN	Y/W	1252-09526	2009		-	-	-	-	-	-	7	18	17	25	17	0	0	1	0
LB	Y/W	1252-09527	2009		-	-	-	-	-	-	1	12	13	18	8	7	0	0	0
BK	Y/Y	1252-09528	2009		-	-	-	-	-	-	3	3	2	2	1	0	0	0	0
BK	W/Y	1252-09529	2009		-	-	-	-	-	-	5	17	11	24	17	7	20	0	0
BN	W/R	1252-09530	2009		-	-	-	-	-	-	7	16	9	14	8	3	2	0	0
LB	W/Y	1252-09531	2009		-	-	-	-	-	-	7	18	25	17	7	3	4	3	0
BK	W/LB	1252-09532	2009		-	-	-	-	-	-	2	8	8	9	9	2	11	8	8
BN	W/LB	1252-09533	2009		-	-	-	-	-	-	6	19	13	16	13	9	0	0	0
BK	W/BK	1252-09534	2009		-	-	-	-	-	-	1	18	6	12	7	4	0	0	0
DB	W/BK	1252-09535	2009		-	-	-	-	-	-	2	18	10	16	13	4	0	0	0
DG	W/BK	1252-09536	2009		-	-	-	-	-	-	1	2	0	0	0	0	0	0	0
LB	W/BK	1252-09537	2009		-	-	-	-	-	-	0	5	4	6	0	2	0	0	2
O	W/BK	1252-09538	2009		-	-	-	-	-	-	3	13	11	16	7	13	2	5	3
R	W/BK	1252-09539	2009		-	-	-	-	-	-	4	10	14	9	4	5	0	0	4

Table 37 (continued). Resight history of least auklets banded on survival plot at Ulakaia Ridge, St. George Island, Alaska. Data represent number of times birds were resighted each year.

Codes: Color combinations

BK = black DG = dark green R=red
BN = brown LB = light blue W=white
DB = dark blue O = orange Y=yellow

Notes

A = Banded on opposite legs
B = Bird found dead (year)
C = Originally banded with metal only as subadult (year)
D= Color band combination reused (year)

Resight history

x = band no longer resightable (dead, removed, etc.)

Color bands		Metal band #	Year banded	Notes	Year resighted														
L	R				03	04	05	06	07	08	09	10	11	12	13	14	15	16	17
W	W/BK	1252-09540	2009		-	-	-	-	-	-	2	14	13	7	13	3	11	1	4
Y	W/BK	1252-09541	2009		-	-	-	-	-	-	2	13	17	14	15	17	14	14	11
BK	R/BK	1252-09542	2009		-	-	-	-	-	-	3	18	1	1	0	0	0	0	0
BN	R/BK	1252-09543	2009		-	-	-	-	-	-	2	12	8	6	6	5	11	8	1
DB	R/BK	1252-09544	2009		-	-	-	-	-	-	0	15	19	15	11	10	0	0	0
DG	R/BK	1252-09545	2009		-	-	-	-	-	-	0	0	0	0	0	0	0	0	0
LB	R/BK	1252-09546	2009		-	-	-	-	-	-	2	11	0	0	0	0	0	0	0
O	R/BK	1252-09547	2009		-	-	-	-	-	-	3	13	17	19	13	7	1	11	0
R	R/BK	1252-09548	2009		-	-	-	-	-	-	1	17	17	19	12	9	1	0	0
W	R/BK	1252-09549	2009		-	-	-	-	-	-	2	18	0	0	0	0	0	0	0
Y	R/BK	1252-09550	2009		-	-	-	-	-	-	1	0	0	0	0	0	0	0	0
BN	W/DB	1252-09551	2009		-	-	-	-	-	-	2	16	0	0	0	0	0	0	0
BK	R/Y	1252-09552	2009		-	-	-	-	-	-	2	9	10	14	14	0	0	0	0
BN	R/Y	1252-09553	2009		-	-	-	-	-	-	0	12	10	18	19	7	6	12	6
LB	R/Y	1252-09554	2009		-	-	-	-	-	-	2	19	19	18	0	0	0	0	0
BN	R/O	1252-09555	2009		-	-	-	-	-	-	2	18	8	16	9	9	0	0	0
BN	R/DG	1252-09556	2009		-	-	-	-	-	-	2	11	11	8	10	5	6	17	0
BN	R/DB	1252-09557	2009		-	-	-	-	-	-	0	15	11	16	8	7	0	0	0
BN	R/LB	1252-09558	2009		-	-	-	-	-	-	2	12	7	0	0	0	0	0	0
BK	O/Y	1252-09559	2009		-	-	-	-	-	-	0	1	0	1	0	0	0	0	0
BN	O/Y	1252-09560	2009		-	-	-	-	-	-	2	19	0	0	0	0	0	0	0
LB	O/Y	1252-09561	2009		-	-	-	-	-	-	1	15	12	11	12	9	11	0	0
BN	O/W	1252-09562	2009		-	-	-	-	-	-	2	15	9	10	5	3	2	7	4
BN	O/R	1252-09563	2009		-	-	-	-	-	-	0	0	0	0	0	0	0	0	0
BN	O/DB	1252-09564	2009		-	-	-	-	-	-	1	9	0	0	0	0	0	0	0
LB	DB/BK	1252-09565	2009		-	-	-	-	-	-	2	18	3	6	5	0	20	12	0
R	LB/O	1252-09566	2009		-	-	-	-	-	-	1	1	0	0	0	0	1	0	0
DG	BK/BK	1252-09567	2011		-	-	-	-	-	-	-	-	2	7	7	11	11	0	0
LB	BK/BK	1252-09568	2011		-	-	-	-	-	-	-	-	4	12	11	9	8	0	0
O	BK/BK	1252-09569	2011		-	-	-	-	-	-	-	-	2	18	16	0	0	0	0
R	BK/BK	1252-09570	2011		-	-	-	-	-	-	-	-	3	18	10	8	2	1	0
W	BK/BK	1252-09571	2011		-	-	-	-	-	-	-	-	0	10	10	12	2	0	0
Y	BK/BK	1252-09572	2011		-	-	-	-	-	-	-	-	4	15	10	6	0	0	0
BK	W/BN	1252-09573	2011		-	-	-	-	-	-	-	-	3	10	11	0	0	0	0
BN	W/BN	1252-09574	2011		-	-	-	-	-	-	-	-	4	17	16	10	0	0	0
DG	W/BN	1252-09575	2011		-	-	-	-	-	-	-	-	4	7	3	4	2	0	0

Table 37 (continued). Resight history of least auklets banded on survival plot at Ulakaia Ridge, St. George Island, Alaska. Data represent number of times birds were resighted each year.

Codes: Color combinations

BK = black DG = dark green R=red
BN = brown LB = light blue W=white
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Notes

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D= Color band combination reused (year)

Resight history

x = band no longer resightable (dead, removed, etc.)

Color bands		Metal band #	Year banded	Notes	Year resighted														
L	R				03	04	05	06	07	08	09	10	11	12	13	14	15	16	17
DB	W/BN	1252-09576	2011		-	-	-	-	-	-	-	-	3	13	20	1	0	0	0
LB	W/BN	1252-09577	2011		-	-	-	-	-	-	-	-	0	16	11	5	6	13	4
O	W/BN	1252-09578	2011		-	-	-	-	-	-	-	-	4	15	16	12	22	0	0
R	W/BN	1252-09579	2011		-	-	-	-	-	-	-	-	4	18	0	0	0	0	0
W	W/BN	1252-09580	2011		-	-	-	-	-	-	-	-	0	0	0	0	0	0	1
Y	W/BN	1252-09581	2011		-	-	-	-	-	-	-	-	4	15	3	0	0	0	0
LB	DG/LB	1252-09582[b]	2011		-	-	-	-	-	-	-	-	x	x	x	x	x	x	0
BK	DG/LB	1252-09583	2011		-	-	-	-	-	-	-	-	3	11	17	6	3	0	0
R	DG/LB	1252-09584	2011		-	-	-	-	-	-	-	-	4	16	11	4	18	15	0
Y	DG/LB	1252-09585	2011		-	-	-	-	-	-	-	-	2	11	16	7	0	0	0
BN	DG/LB	1252-09586	2011		-	-	-	-	-	-	-	-	4	16	16	12	1	0	0
BK	BK/BK	1252-09587	2011		-	-	-	-	-	-	-	-	3	11	3	0	0	0	0
BK	DB/BN	1252-09588	2011		-	-	-	-	-	-	-	-	0	0	0	0	0	0	0
BN	DB/BN	1252-09589	2011		-	-	-	-	-	-	-	-	1	7	12	9	0	0	0
R	LB/R	1252-09590	2012		-	-	-	-	-	-	-	-	-	4	20	12	0	0	0
DG	O/O	1252-09591	2004		-	1	11	6	21	11	20	16	21	21	18	14	11	20	10
W	DG/BK	1252-09592	2012		-	-	-	-	-	-	-	-	-	0	13	11	6	0	4
Y	O/BK	1252-09593	2012		-	-	-	-	-	-	-	-	-	2	10	6	12	0	0
DB	LB/Y	1252-09594	2012		-	-	-	-	-	-	-	-	-	0	19	2	0	0	0
R	LB/BN	1252-09595	2012		-	-	-	-	-	-	-	-	-	4	0	0	0	0	0
Y	LB/R	1252-09596	2012		-	-	-	-	-	-	-	-	-	0	0	0	0	0	0
O	DB/BK	1252-09597	2012		-	-	-	-	-	-	-	-	-	2	15	7	11	20	11
BN	DB/LB	1252-09598	2012		-	-	-	-	-	-	-	-	-	0	8	7	11	0	0
DG	O/BK	1252-09599	2012		-	-	-	-	-	-	-	-	-	2	9	13	0	0	0
O	LB/BK	1252-09600	2012		-	-	-	-	-	-	-	-	-	3	13	3	22	19	3
BN	DG/DB	1252-09601	2012		-	-	-	-	-	-	-	-	-	0	6	6	3	0	0
R	LB/DB	1252-09602	2012		-	-	-	-	-	-	-	-	-	1	12	7	7	7	0
W	LB/BK	1252-09603	2012		-	-	-	-	-	-	-	-	-	3	13	8	11	15	9
BN	DB/O	1252-09604	2012		-	-	-	-	-	-	-	-	-	4	3	1	1	0	0
DG	LB/BK	1252-09605	2012		-	-	-	-	-	-	-	-	-	0	12	11	0	0	0
DG	DB/BK	1252-09606	2012		-	-	-	-	-	-	-	-	-	4	17	12	17	13	5
W	O/BK	1252-09607	2012		-	-	-	-	-	-	-	-	-	2	2	7	4	9	0
DB	LB/BN	1252-09608	2012		-	-	-	-	-	-	-	-	-	3	14	11	17	12	0
O	O/BK	1252-09609	2012		-	-	-	-	-	-	-	-	-	2	8	15	14	3	7
Y	BK/W	1252-09610	2013		-	-	-	-	-	-	-	-	-	-	1	13	0	0	6
O	BN/BK	1252-09611	2013		-	-	-	-	-	-	-	-	-	-	0	19	14	0	0
R	BN/DG	1252-09612	2013		-	-	-	-	-	-	-	-	-	-	0	11	16	22	5

Table 37 (continued). Resight history of least auklets banded on survival plot at Ulakaia Ridge, St. George Island, Alaska. Data represent number of times birds were resighted each year.

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BK = black DG = dark green R=red
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Notes

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Resight history

x = band no longer resightable (dead, removed, etc.)

Color bands		Metal band #	Year banded	Notes	Year resighted														
L	R				03	04	05	06	07	08	09	10	11	12	13	14	15	16	17
R	LB/LB	1252-09613	2013		-	-	-	-	-	-	-	-	-	-	0	0	0	0	0
O	BN/LB	1252-09614	2013		-	-	-	-	-	-	-	-	-	-	6	13	16	18	7
Y	BK/Y	1252-09615	2013		-	-	-	-	-	-	-	-	-	-	0	3	0	0	0
O	BN/W	1252-09616	2013		-	-	-	-	-	-	-	-	-	-	0	0	0	5	3
R	BN/LB	1252-09617	2013		-	-	-	-	-	-	-	-	-	-	0	6	18	15	5
O	BN/R	1252-09618	2013		-	-	-	-	-	-	-	-	-	-	4	15	5	0	0
R	BN/DB	1252-09619	2013		-	-	-	-	-	-	-	-	-	-	2	9	0	1	0
O	BN/DB	1252-09620	2013		-	-	-	-	-	-	-	-	-	-	2	0	0	0	0
R	LB/DG	1252-09621	2013		-	-	-	-	-	-	-	-	-	-	0	0	0	0	0
LB	BK/DG	1252-09622	2013		-	-	-	-	-	-	-	-	-	-	5	9	0	0	1
R	O/LB	1252-09623	2013		-	-	-	-	-	-	-	-	-	-	1	13	16	6	9
LB	BK/O	1252-09624	2013		-	-	-	-	-	-	-	-	-	-	0	11	4	0	0
R	LB/Y	1252-09625	2013		-	-	-	-	-	-	-	-	-	-	6	1	0	0	0
LB	BK/W	1252-09626	2013		-	-	-	-	-	-	-	-	-	-	0	10	9	1	0
LB	BK/Y	1252-09627	2013		-	-	-	-	-	-	-	-	-	-	5	4	0	0	0
LB	BK/DB	1252-09628	2013		-	-	-	-	-	-	-	-	-	-	1	1	0	0	0
R	BN/W	1252-09629	2013		-	-	-	-	-	-	-	-	-	-	2	0	0	0	0
LB	BK/R	1252-09630	2013		-	-	-	-	-	-	-	-	-	-	3	5	4	5	1
LB	BK/LB	1252-09631	2013		-	-	-	-	-	-	-	-	-	-	3	11	13	17	5
Y	DB/LB	1252-09632	2013		-	-	-	-	-	-	-	-	-	-	1	7	12	14	7
W	DB/BK	1252-09633	2013		-	-	-	-	-	-	-	-	-	-	4	14	13	0	0
R	BK/DG	1252-09634	2013		-	-	-	-	-	-	-	-	-	-	0	6	12	17	15
R	BK/DG	1252-09635	2013		-	-	-	-	-	-	-	-	-	-	3	11	17	0	1
R	BK/LB	1252-09636	2013		-	-	-	-	-	-	-	-	-	-	3	1	8	0	0
Y	R/LB	1252-09637	2013		-	-	-	-	-	-	-	-	-	-	2	8	0	0	0
Y	W/LB	1252-09638	2013		-	-	-	-	-	-	-	-	-	-	3	6	0	0	0
LB	R/LB	1252-09639	2013		-	-	-	-	-	-	-	-	-	-	2	6	0	0	0
O	BK/DB	1252-09640	2013		-	-	-	-	-	-	-	-	-	-	2	5	8	1	0
DG	DG/DB	1252-09641	2013		-	-	-	-	-	-	-	-	-	-	0	13	17	0	1
Y	LB/BK	1252-09642	2013		-	-	-	-	-	-	-	-	-	-	0	11	16	7	3
W	BK/DB	1252-09643	2013		-	-	-	-	-	-	-	-	-	-	1	13	11	15	3
BK	DG/Y	1252-09644	2013		-	-	-	-	-	-	-	-	-	-	-	-	1	0	0
O	BK/DG	1252-09645	2013	B(16)	-	-	-	-	-	-	-	-	-	-	4	8	13	15	x
W	BK/DG	1252-09646	2013		-	-	-	-	-	-	-	-	-	-	1	10	1	0	0
Y	LB/DG	1252-09647	2013		-	-	-	-	-	-	-	-	-	-	0	13	0	0	0
W	BK/Y	1252-09648	2013		-	-	-	-	-	-	-	-	-	-	2	11	10	0	0
Y	BK/R	1252-09649	2013		-	-	-	-	-	-	-	-	-	-	1	8	5	0	0

Table 37 (continued). Resight history of least auklets banded on survival plot at Ulakaia Ridge, St. George Island, Alaska. Data represent number of times birds were resighted each year.

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BK = black DG = dark green R=red
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Notes

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D= Color band combination reused (year)

Resight history

x = band no longer resightable (dead, removed, etc.)

Color bands		Metal band #	Year banded	Notes	Year resighted														
L	R				03	04	05	06	07	08	09	10	11	12	13	14	15	16	17
O	BK/LB	1252-09650	2013		-	-	-	-	-	-	-	-	-	-	0	11	8	1	0
R	DB/LB	1252-09651	2013		-	-	-	-	-	-	-	-	-	-	2	0	0	0	0
Y	LB/DG	1252-09652	2013		-	-	-	-	-	-	-	-	-	-	2	15	0	0	0
O	BK/O	1252-09653	2013		-	-	-	-	-	-	-	-	-	-	3	12	0	0	0
W	BK/LB	1252-09654	2013		-	-	-	-	-	-	-	-	-	-	1	13	0	0	1
Y	BK/O	1252-09655	2013		-	-	-	-	-	-	-	-	-	-	1	9	0	0	0
O	BK/R	1252-09656	2013		-	-	-	-	-	-	-	-	-	-	0	13	0	0	0
DG	LB/Y	1252-09657	2013		-	-	-	-	-	-	-	-	-	-	1	9	9	0	0
Y	BK/LB	1252-09658	2013		-	-	-	-	-	-	-	-	-	-	1	17	18	16	7
Y	LB/LB	1252-09659	2013		-	-	-	-	-	-	-	-	-	-	3	0	0	0	0
BK	BK/BN	1252-09660	2014		-	-	-	-	-	-	-	-	-	-	-	2	5	5	0
BK	BK/DB	1252-09661	2014		-	-	-	-	-	-	-	-	-	-	-	1	6	6	0
BK	BK/DG	1252-09662	2014		-	-	-	-	-	-	-	-	-	-	-	0	0	0	0
BK	BK/LB	1252-09663	2014		-	-	-	-	-	-	-	-	-	-	-	0	0	0	0
BK	BK/O	1252-09664	2014		-	-	-	-	-	-	-	-	-	-	-	1	17	10	0
BK	BK/R	1252-09665	2014		-	-	-	-	-	-	-	-	-	-	-	1	5	0	0
BK	BK/W	1252-09666	2014		-	-	-	-	-	-	-	-	-	-	-	3	22	0	0
BK	BK/Y	1252-09667	2014		-	-	-	-	-	-	-	-	-	-	-	2	17	0	0
BK	BN/BK	1252-09668	2014		-	-	-	-	-	-	-	-	-	-	-	0	0	0	0
BK	DB/BK	1252-09669	2014		-	-	-	-	-	-	-	-	-	-	-	2	3	0	0
BK	DB/LB	1252-09670	2014		-	-	-	-	-	-	-	-	-	-	-	2	0	0	0
BK	DB/Y	1252-09671	2014		-	-	-	-	-	-	-	-	-	-	-	2	0	0	0
BK	DG/BK	1252-09672	2014		-	-	-	-	-	-	-	-	-	-	-	0	0	0	0
BK	LB/BK	1252-09673	2014		-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
BK	LB/DB	1252-09674	2014		-	-	-	-	-	-	-	-	-	-	-	1	12	8	13
BK	O/BK	1252-09677	2015		-	-	-	-	-	-	-	-	-	-	-	-	0	15	12
DG	BK/O	1252-09678	2015		-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
DG	BK/R	1252-09679	2015		-	-	-	-	-	-	-	-	-	-	-	-	1	14	7
DG	BK/W	1252-09680	2015		-	-	-	-	-	-	-	-	-	-	-	-	0	19	6
DG	BK/Y	1252-09681	2015		-	-	-	-	-	-	-	-	-	-	-	-	0	14	8
O	BK/Y	1252-09682	2015		-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
R	BK/O	1252-09683	2015		-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
O	BK/W	1252-09684	2015		-	-	-	-	-	-	-	-	-	-	-	-	2	1	0
R	BK/R	1252-09685	2015		-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
R	BK/W	1252-09686	2015		-	-	-	-	-	-	-	-	-	-	-	-	0	9	6
R	BK/Y	1252-09687	2015		-	-	-	-	-	-	-	-	-	-	-	-	0	2	0

Table 37 (continued). Resight history of least auklets banded on survival plot at Ulakaia Ridge, St. George Island, Alaska. Data represent number of times birds were resighted each year.

Codes: Color combinations

BK = black DG = dark green R=red
BN = brown LB = light blue W=white
DB = dark blue O = orange Y=yellow

Notes

A = Banded on opposite legs
B = Bird found dead (year)
C = Originally banded with metal only as subadult (year)
D= Color band combination reused (year)

Resight history

x = band no longer resightable (dead, removed, etc.)

Color bands		Metal band #	Year banded	Notes	Year resighted														
L	R				03	04	05	06	07	08	09	10	11	12	13	14	15	16	17
R	O/BK	1252-09688	2015		-	-	-	-	-	-	-	-	-	-	-	-	1	9	7
W	BK/O	1252-09689	2015		-	-	-	-	-	-	-	-	-	-	-	-	0	8	3
W	BK/R	1252-09690	2015		-	-	-	-	-	-	-	-	-	-	-	-	0	0	2
W	BK/W	1252-09691	2015		-	-	-	-	-	-	-	-	-	-	-	-	0	0	1
BK	LB/O	1252-09692	2015		-	-	-	-	-	-	-	-	-	-	-	-	0	5	0
BK	LB/R	1252-09693	2015		-	-	-	-	-	-	-	-	-	-	-	-	0	12	8
BK	LB/Y	1252-09694	2015		-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
BK	LB/DG	1252-09696[b]	2016		-	-	-	-	-	-	-	-	-	-	-	-	-	x	x
DB	BK/Y	1252-09697	2016		-	-	-	-	-	-	-	-	-	-	-	-	-	0	8
DB	DG/BK	1252-09698	2016		-	-	-	-	-	-	-	-	-	-	-	-	-	0	4
DB	O/BK	1252-09699	2016		-	-	-	-	-	-	-	-	-	-	-	-	-	1	8
DG	BK/DB	1252-09700	2016		-	-	-	-	-	-	-	-	-	-	-	-	-	0	2
DG	BK/DG	1252-09701	2016		-	-	-	-	-	-	-	-	-	-	-	-	-	0	8
O	DG/BK	1252-09702	2016		-	-	-	-	-	-	-	-	-	-	-	-	-	0	8
R	DB/BK	1252-09703	2016		-	-	-	-	-	-	-	-	-	-	-	-	-	0	9
Y	BK/DG	1252-09704	2016		-	-	-	-	-	-	-	-	-	-	-	-	-	0	2
Y	DB/BK	1252-09705	2016		-	-	-	-	-	-	-	-	-	-	-	-	-	0	0
Y	DG/BK	1252-09706	2016		-	-	-	-	-	-	-	-	-	-	-	-	-	0	2
R	DG/BK	1252-09707	2016		-	-	-	-	-	-	-	-	-	-	-	-	-	0	0
BK	O/LB	1252-09708	2016		-	-	-	-	-	-	-	-	-	-	-	-	-	0	12
BK	R/LB	1252-09709	2016		-	-	-	-	-	-	-	-	-	-	-	-	-	0	10
DB	BK/LB	1252-09710	2016		-	-	-	-	-	-	-	-	-	-	-	-	-	0	4
DG	BK/LB	1252-09711	2016		-	-	-	-	-	-	-	-	-	-	-	-	-	0	9
BK	LB/DG	1252-09712[b]	2016		-	-	-	-	-	-	-	-	-	-	-	-	-	x	x
R	LB/BK	1252-09713	2016		-	-	-	-	-	-	-	-	-	-	-	-	-	0	8
LB	DG/BK	1252-09716	2016		-	-	-	-	-	-	-	-	-	-	-	-	-	0	0
BK	LB/LB	1252-09717	2016		-	-	-	-	-	-	-	-	-	-	-	-	-	0	0
BK	LB/W	1252-09718	2016		-	-	-	-	-	-	-	-	-	-	-	-	-	0	1
O	W/LB	1252-09719	2016		-	-	-	-	-	-	-	-	-	-	-	-	-	0	0
W	LB/W	1252-09720	2016		-	-	-	-	-	-	-	-	-	-	-	-	-	0	6
W	LB/O	1252-09721	2016		-	-	-	-	-	-	-	-	-	-	-	-	-	0	3
LB	W/LB	1252-09722	2016		-	-	-	-	-	-	-	-	-	-	-	-	-	0	0
LB	LB/BK	1252-09723	2016		-	-	-	-	-	-	-	-	-	-	-	-	-	0	4
Y	DB/O	1252-09725	2017		-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
Y	DG/DB	1252-09726	2017		-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
Y	DG/R	1252-09727	2017		-	-	-	-	-	-	-	-	-	-	-	-	-	-	0

Table 37 (continued). Resight history of least auklets banded on survival plot at Ulakaia Ridge, St. George Island, Alaska. Data represent number of times birds were resighted each year.

Codes: Color combinations

BK = black DG = dark green R=red
BN = brown LB = light blue W=white
DB = dark blue O = orange Y=yellow

Notes

A = Banded on opposite legs
B = Bird found dead (year)
C = Originally banded with metal only as subadult (year)
D= Color band combination reused (year)

Resight history

x = band no longer resightable (dead, removed, etc.)

Color bands		Metal band #	Year banded	Notes	Year resighted														
L	R				03	04	05	06	07	08	09	10	11	12	13	14	15	16	17
Y	O/DG	1252-09728	2017		-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
Y	R/DB	1252-09729	2017		-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
Y	R/DG	1252-09730	2017		-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
Y	R/O	1252-09731	2017		-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
Y	R/W	1252-09732	2017		-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
DB	DB/O	1252-09733	2017		-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
DB	DB/R	1252-09734	2017		-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
DB	DG/DG	1252-09735	2017		-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
DB	DG/O	1252-09736	2017		-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
DB	DG/R	1252-09737	2017		-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
DB	O/DG	1252-09738	2017		-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
DB	R/O	1252-09739	2017		-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
DB	R/R	1252-09740	2017		-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
DB	R/Y	1252-09741	2017		-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
O	DB/DG	1313-32211	2003		1	13	8	9	8	2	0	0	0	0	0	0	0	0	0
O	DB/O	1313-32212	2003		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O	DB/R	1313-32213	2003		0	4	1	0	1	1	0	0	0	0	0	0	0	0	0
O	DB/DB	1313-32236	2003		6	0	0	0	1	0	0	0	0	0	0	0	0	0	0
				Total birds resighted[c]	-	135	118	199	196	203	140	202	173	189	183	207	146	112	105

[a]Birds banded with color bands and never resighted are not included in analysis.
[b]Bird excluded from analysis due to multiple birds having the same color combination.
[c]Does not include resights of birds banded in resight year.

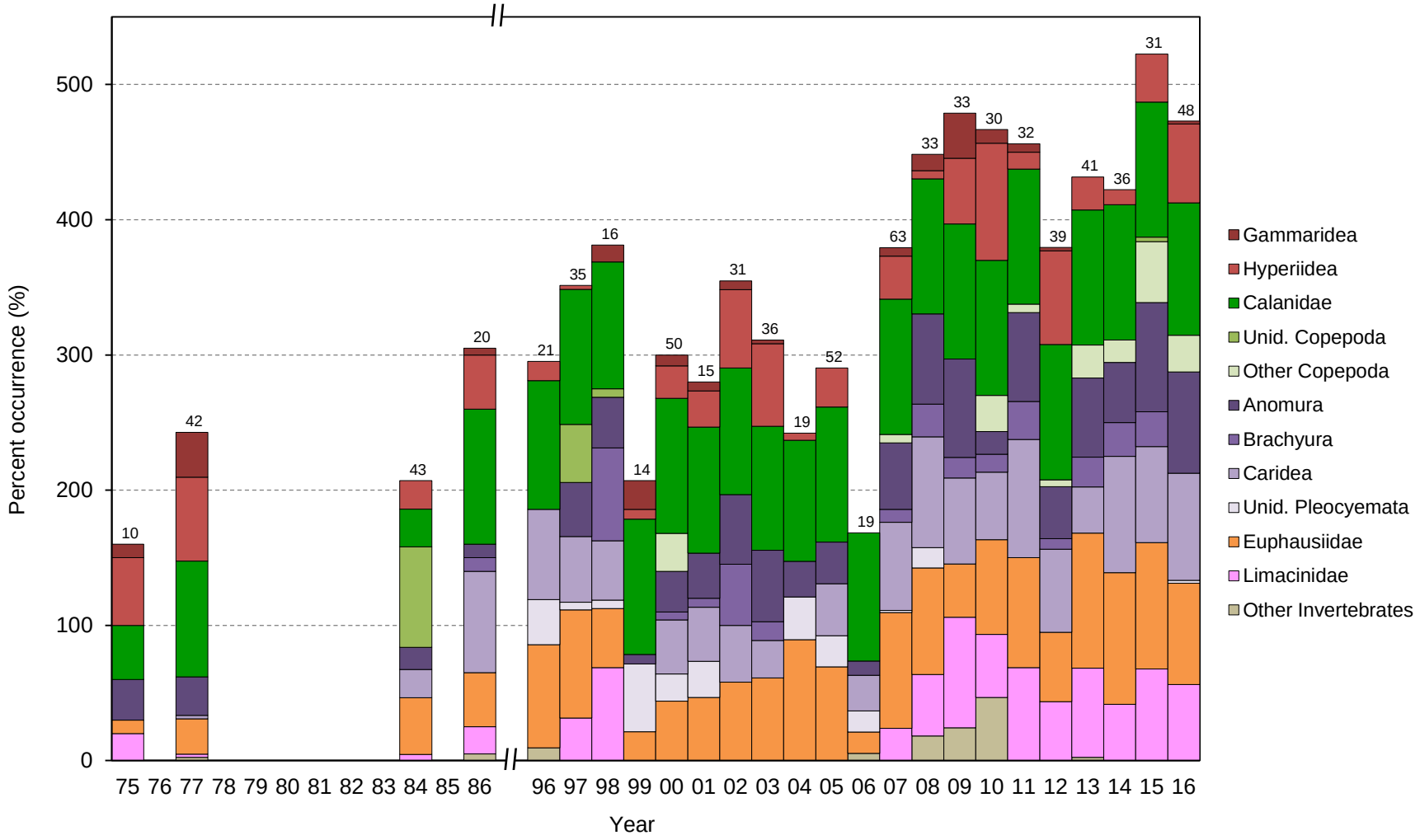

Figure 21. Frequency of occurrence of major prey items in diets of least auklet chicks at St. George Island, Alaska. Frequency is expressed as the percentage of food samples in which each prey item was present. Prey is grouped to family level or higher; only taxa with an among-year average occurrence of at least 5% are shown. Samples consist of regurgitations from adults returning to the colony to feed chicks (1975-1977, 1986-2016) and gular pouch contents from adults collected at or near the colony (1984). Numbers above columns indicate sample sizes. No diet samples were collected in 1976, 1978-1983, 1985, or 1987-1995; samples were collected in 2017 but have not yet been analyzed.

Table 38. Frequency of occurrence of major prey items in diets of least auklet chicks at St. George Island, Alaska. Frequency is expressed as the percentage of food samples in which each prey item was present. Prey was identified and measured in the laboratory to lowest taxon possible (some prey items were identified to species while others were only identified to genus, family, order, etc.). Any prey with an among-year average occurrence of at least 5% are shown to the lowest taxonomic level; others are lumped together as "others" in their respective taxonomic group with values in bold showing totals for those taxa. Samples consist of regurgitations from adults returning to the colony to feed chicks (1975-1977, 1986-2016) and gular pouch contents from adults collected at or near the colony (1984). No diet samples were collected in 1976, 1978-1983, 1985, or 1987-1995; samples were collected in 2017 but have not yet been analyzed. More detailed diet data and prey identifications are available, contact refuge biologists for details.

Prey	1975	1977	1984	1986	1996	1997	1998	1999	2000	2001	2002	2003	2004
No. samples	10	42	43	20	21	35	16	14	50	15	31	36	19
Invertebrates	**70.0**	**100.0**	**97.7**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Amphipoda	**60.0**	**73.8**	**67.4**	**40.0**	**14.3**	**2.9**	**12.5**	**28.6**	**26.0**	**33.3**	**61.3**	**61.1**	**10.5**
Gammaridea	10.0	33.3	-	5.0	-	-	12.5	21.4	8.0	6.7	6.5	2.8	-
Hyperiidea	**50.0**	**61.9**	**20.9**	**40.0**	**14.3**	**2.9**	-	**7.1**	**24.0**	**26.7**	**58.1**	**61.1**	**5.3**
Hyperoche medusarum	-	11.9	-	-	-	-	-	7.1	6.0	-	22.6	38.9	-
Themisto libellula	20.0	28.6	-	-	-	-	-	-	12.0	26.7	-	-	-
T. pacifica	10.0	4.8	-	40.0	14.3	2.9	-	-	-	-	48.4	22.2	-
Themisto spp.	10.0	7.1	20.9	-	-	-	-	-	6.0	-	9.7	11.1	5.3
Other Hyperiidea	30.0	33.3	-	-	-	-	-	-	-	-	3.2	11.1	-
Other Amphipoda	10.0	-	46.5	-	-	-	-	-	-	-	-	-	5.3
Copepoda	**40.0**	**85.7**	**97.7**	**100.0**	**95.2**	**100.0**	**100.0**	**100.0**	**100.0**	**93.3**	**93.5**	**91.7**	**89.5**
Calanidae	**40.0**	**85.7**	**27.9**	**100.0**	**95.2**	**100.0**	**93.8**	**100.0**	**100.0**	**93.3**	**93.5**	**91.7**	**89.5**
Calanus marshallae	-	-	4.7	-	-	94.3	18.8	100.0	38.0	93.3	35.5	13.9	-
Calanus spp.	40.0	83.3	9.3	85.0	-	-	-	-	-	-	-	-	-
Neocalanus cristatus	-	66.7	16.3	90.0	95.2	25.7	37.5	21.4	100.0	33.3	67.7	58.3	31.6
N. plumchrus/flemengeri	-	-	-	100.0	90.5	100.0	93.8	92.9	62.0	33.3	90.3	86.1	57.9
Unid. Calanidae	-	-	-	-	-	-	-	100.0	30.0	-	-	-	-
Other Calanidae	-	-	11.6	-	-	-	-	-	-	-	-	-	-
Unid. Copepoda	-	-	74.4	-	-	42.9	6.3	-	-	-	-	-	-
Other Copepoda	-	-	-	-	-	-	-	-	28.0	-	-	-	-
Decapoda	**40.0**	**28.6**	**69.8**	**80.0**	**71.4**	**68.6**	**93.8**	**50.0**	**70.0**	**73.3**	**80.6**	**77.8**	**52.6**
Anomura	**30.0**	**28.6**	**16.3**	**10.0**	**-**	**40.0**	**37.5**	**7.1**	**30.0**	**33.3**	**51.6**	**52.8**	**26.3**
Lithodidae	-	-	-	10.0	-	-	-	-	-	-	12.9	27.8	-
Paguridae	10.0	-	-	-	-	40.0	37.5	7.1	22.0	33.3	45.2	41.7	26.3
Other Anomura	20.0	28.6	16.3	-	-	-	-	-	12.0	-	-	-	-
Brachyura	**-**	**-**	**-**	**10.0**	**-**	**-**	**68.8**	**-**	**6.0**	**6.7**	**45.2**	**13.9**	**-**
Cheiragonidae/Atelecyclidae	-	-	-	-	-	-	68.8	-	-	-	45.2	13.9	-
Other Brachyura	-	-	-	10.0	-	-	-	-	6.0	6.7	-	-	-
Caridea	**-**	**2.4**	**20.9**	**75.0**	**66.7**	**48.6**	**43.8**	**-**	**40.0**	**40.0**	**41.9**	**27.8**	**-**
Crangonidae	-	-	-	-	-	-	-	-	-	-	-	-	-
Hippolytidae	-	-	-	55.0	-	-	-	-	24.0	-	-	-	-
Pandalidae	-	-	-	-	-	-	-	-	16.0	-	41.9	27.8	-
Unid. Caridea	-	2.4	20.9	-	66.7	48.6	43.8	-	18.0	40.0	-	-	-
Other Caridea	-	-	-	45.0	-	-	-	-	-	-	-	-	-
Unid. Pleocyemata	-	-	-	-	33.3	5.7	6.3	50.0	20.0	26.7	-	-	31.6
Other Decapoda	10.0	-	44.2	-	-	-	-	-	2.0	-	-	-	-

Table 38 (continued). Frequency of occurrence of major prey items in diets of least auklet chicks at St. George Island, Alaska. Frequency is expressed as the percentage of food samples in which each prey item was present. Prey was identified and measured in the laboratory to lowest taxon possible (some prey items were identified to species while others were only identified to genus, family, order, etc.). Any prey with an among-year average occurrence of at least 5% are shown to the lowest taxonomic level; others are lumped together as "others" in their respective taxonomic group with values in bold showing totals for those taxa. Samples consist of regurgitations from adults returning to the colony to feed chicks (1975-1977, 1986-2016) and gular pouch contents from adults collected at or near the colony (1984). No diet samples were collected in 1976, 1978-1983, 1985, or 1987-1995; samples were collected in 2017 but have not yet been analyzed. More detailed diet data and prey identifications are available, contact refuge biologists for details.

Prey	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
No. samples	52	19	63	33	33	30	32	39	41	36	31	48	32
Invertebrates	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	*pending*
Amphipoda	**28.8**	-	**36.5**	**18.2**	**63.6**	**86.7**	**18.8**	**71.8**	**24.4**	**11.1**	**35.5**	**58.3**	**-**
Gammaridea	-	-	6.3	12.1	33.3	10.0	6.3	2.6	-	-	-	2.1	-
Hyperiidea	**28.8**	-	**31.7**	**6.1**	**48.5**	**86.7**	**12.5**	**69.2**	**24.4**	**11.1**	**35.5**	**58.3**	**-**
Hyperoche medusarum	15.4	-	9.5	6.1	-	-	-	5.1	-	-	22.6	45.8	-
Themisto libellula	-	-	1.6	-	21.2	83.3	3.1	38.5	17.1	-	-	-	-
T. pacifica	9.6	-	14.3	-	18.2	16.7	12.5	28.2	-	11.1	25.8	45.8	-
Themisto spp.	7.7	-	7.9	-	30.3	-	-	-	9.8	-	-	-	-
Other Hyperiidea	-	-	6.3	-	-	46.7	3.1	17.9	-	-	3.2	-	-
Other Amphipoda	-	-	-	-	-	-	-	-	-	-	-	-	-
Copepoda	**100.0**	**94.7**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**97.9**	**-**
Calanidae	**100.0**	**94.7**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**97.9**	**-**
Calanus marshallae	9.6	-	74.6	66.7	100.0	93.3	65.6	76.9	75.6	80.6	93.5	47.9	-
Calanus spp.	-	-	-	-	-	-	-	-	-	-	3.2	-	-
Neocalanus cristatus	76.9	89.5	92.1	57.6	69.7	100.0	93.8	94.9	41.5	86.1	48.4	79.2	-
N. plumchrus/flemengeri	100.0	63.2	95.2	100.0	100.0	100.0	100.0	100.0	97.6	94.4	100.0	97.9	-
Unid. Calanidae	-	-	31.7	51.5	-	-	-	-	-	-	-	-	-
Other Calanidae	-	-	-	-	-	-	34.4	-	-	-	3.2	-	-
Unid. Copepoda	-	-	-	-	-	-	-	-	-	-	3.2	-	-
Other Copepoda	-	-	6.3	-	-	26.7	6.3	5.1	24.4	16.7	45.2	27.1	-
Decapoda	**65.4**	**42.1**	**74.6**	**100.0**	**93.9**	**63.3**	**93.8**	**76.9**	**82.9**	**88.9**	**96.8**	**87.5**	**-**
Anomura	**30.8**	**10.5**	**49.2**	**66.7**	**72.7**	**16.7**	**65.6**	**38.5**	**58.5**	**44.4**	**80.6**	**75.0**	**-**
Lithodidae	-	-	33.3	24.2	66.7	6.7	50.0	5.1	14.6	8.3	-	-	-
Paguridae	30.8	10.5	28.6	57.6	18.2	13.3	59.4	35.9	39.0	44.4	80.6	75.0	-
Other Anomura	-	-	15.9	-	-	-	-	-	29.3	19.4	-	-	-
Brachyura	**-**	**-**	**9.5**	**24.2**	**15.2**	**13.3**	**28.1**	**7.7**	**22.0**	**25.0**	**25.8**	**-**	**-**
Cheiragonidae/Atelecyclidae	-	-	-	-	6.1	-	21.9	7.7	4.9	-	-	-	-
Other Brachyura	-	-	9.5	24.2	9.1	13.3	9.4	5.1	17.1	25.0	25.8	-	-
Caridea	**38.5**	**26.3**	**65.1**	**81.8**	**63.6**	**50.0**	**87.5**	**61.5**	**34.1**	**86.1**	**71.0**	**79.2**	**-**
Crangonidae	-	-	11.1	51.5	18.2	-	6.3	30.8	-	13.9	-	-	-
Hippolytidae	-	-	38.1	78.8	63.6	23.3	40.6	51.3	24.4	77.8	71.0	79.2	-
Pandalidae	38.5	10.5	47.6	33.3	15.2	43.3	78.1	28.2	7.3	33.3	16.1	12.5	-
Unid. Caridea	1.9	21.1	3.2	6.1	-	3.3	-	-	2.4	22.2	12.9	-	-
Other Caridea	-	-	6.3	-	-	-	-	-	-	-	-	-	-
Unid. Pleocyemata	23.1	15.8	1.6	15.2	-	-	-	-	-	-	-	2.1	-
Other Decapoda	-	-	-	-	-	-	12.5	-	-	2.8	-	-	-

Table 38 (continued). Frequency of occurrence of major prey items in diets of least auklet chicks at St. George Island, Alaska. Frequency is expressed as the percentage of food samples in which each prey item was present. Prey was identified and measured in the laboratory to lowest taxon possible (some prey items were identified to species while others were only identified to genus, family, order, etc.). Any prey with an among-year average occurrence of at least 5% are shown to the lowest taxonomic level; others are lumped together as "others" in their respective taxonomic group with values in bold showing totals for those taxa. Samples consist of regurgitations from adults returning to the colony to feed chicks (1975-1977, 1986-2016) and gular pouch contents from adults collected at or near the colony (1984). No diet samples were collected in 1976, 1978-1983, 1985, or 1987-1995; samples were collected in 2017 but have not yet been analyzed. More detailed diet data and prey identifications are available, contact refuge biologists for details.

Prey	1975	1977	1984	1986	1996	1997	1998	1999	2000	2001	2002	2003	2004
Euphausiacea	**10.0**	**26.2**	**41.9**	**40.0**	**76.2**	**80.0**	**43.8**	**21.4**	**44.0**	**46.7**	**58.1**	**61.1**	**89.5**
Euphausiidae	**10.0**	**26.2**	**41.9**	**40.0**	**76.2**	**80.0**	**43.8**	**21.4**	**44.0**	**46.7**	**58.1**	**61.1**	**89.5**
Thysanoessa inermis	-	2.4	4.7	-	-	-	-	-	-	-	-	-	-
T. raschii	-	11.9	7.0	15.0	-	-	-	-	-	13.3	-	16.7	-
T. spinifera	-	-	2.3	-	-	-	-	-	-	-	-	-	-
Thysanoessa spp.	-	4.8	11.6	25.0	76.2	-	-	21.4	2.0	-	16.1	25.0	-
Unid. Euphausiidae	10.0	14.3	25.6	-	-	80.0	43.8	-	42.0	40.0	45.2	47.2	89.5
Other Euphausiidae	-	-	-	-	-	-	-	-	-	-	-	-	-
Gastropoda	**20.0**	**2.4**	**9.3**	**20.0**	**33.3**	**31.4**	**68.8**	**-**	**-**	**-**	**-**	**11.1**	**-**
Limacinidae	**20.0**	**2.4**	**4.7**	**20.0**	**-**	**31.4**	**68.8**	**-**	**-**	**-**	**-**	**-**	**-**
Limacina helicina	20.0	-	4.7	20.0	-	-	-	-	-	-	-	-	-
Other Limacinidae	-	2.4	-	-	-	31.4	68.8	-	-	-	-	-	-
Other Gastropoda	-	-	4.7	-	33.3	-	-	-	-	-	-	11.1	-
Other Invertebrates	-	2.4	-	5.0	9.5	-	-	-	-	-	-	-	-
Fish	**10.0**	**9.5**	**18.6**	**5.0**	**-**	**8.6**	**6.3**	**-**	**10.0**	**-**	**3.2**	**2.8**	**-**
Teleostei	**10.0**	**9.5**	**18.6**	**5.0**	**-**	**8.6**	**6.3**	**-**	**10.0**	**-**	**3.2**	**2.8**	**-**
Unid. Teleostei	10.0	9.5	18.6	-	-	8.6	6.3	-	10.0	-	3.2	-	-
Other Teleostei	-	-	-	5.0	-	-	-	-	-	-	-	2.8	-
Other	30.0	4.8	65.1	-	-	-	-	-	-	-	-	-	-

Table 38 (continued). Frequency of occurrence of major prey items in diets of least auklet chicks at St. George Island, Alaska. Frequency is expressed as the percentage of food samples in which each prey item was present. Prey was identified and measured in the laboratory to lowest taxon possible (some prey items were identified to species while others were only identified to genus, family, order, etc.). Any prey with an among-year average occurrence of at least 5% are shown to the lowest taxonomic level; others are lumped together as "others" in their respective taxonomic group with values in bold showing totals for those taxa. Samples consist of regurgitations from adults returning to the colony to feed chicks (1975-1977, 1986-2016) and gular pouch contents from adults collected at or near the colony (1984). No diet samples were collected in 1976, 1978-1983, 1985, or 1987-1995; samples were collected in 2017 but have not yet been analyzed. More detailed diet data and prey identifications are available, contact refuge biologists for details.

Prey	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Euphausiacea	**69.2**	**15.8**	**85.7**	**78.8**	**39.4**	**70.0**	**81.3**	**51.3**	**100.0**	**97.2**	**93.5**	**75.0**	**-**
Euphausiidae	**69.2**	**15.8**	**85.7**	**78.8**	**39.4**	**70.0**	**81.3**	**51.3**	**100.0**	**97.2**	**93.5**	**75.0**	**-**
Thysanoessa inermis	-	-	28.6	-	39.4	43.3	6.3	10.3	31.7	72.2	3.2	22.9	-
T. raschii	3.8	-	4.8	-	-	-	3.1	-	-	11.1	9.7	22.9	-
T. spinifera	-	-	-	-	-	-	-	-	-	8.3	71.0	45.8	-
Thysanoessa spp.	1.9	-	30.2	45.5	-	33.3	81.3	51.3	95.1	77.8	74.2	37.5	-
Unid. Euphausiidae	69.2	15.8	79.4	36.4	-	50.0	-	-	4.9	58.3	64.5	41.7	-
Other Euphausiidae	-	-	-	-	3.0	-	3.1	-	-	11.1	-	4.2	-
Gastropoda	**19.2**	**-**	**25.4**	**45.5**	**81.8**	**46.7**	**68.8**	**43.6**	**65.9**	**44.4**	**67.7**	**58.3**	**-**
Limacinidae	**-**	**-**	**23.8**	**45.5**	**81.8**	**46.7**	**68.8**	**43.6**	**65.9**	**41.7**	**67.7**	**56.3**	**-**
Limacina helicina	-	-	23.8	45.5	81.8	46.7	68.8	43.6	65.9	41.7	67.7	56.3	-
Other Limacinidae	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Gastropoda	19.2	-	1.6	-	-	-	-	-	-	5.6	-	8.3	-
Other Invertebrates	-	5.3	-	18.2	24.2	46.7	-	-	2.4	-	-	-	-
Fish	**-**	**5.3**	**23.8**	**24.2**	**21.2**	**13.3**	**34.4**	**15.4**	**24.4**	**41.7**	**61.3**	**35.4**	**-**
Teleostei	**-**	**5.3**	**23.8**	**24.2**	**21.2**	**13.3**	**34.4**	**15.4**	**24.4**	**41.7**	**61.3**	**35.4**	**-**
Unid. Teleostei	-	5.3	23.8	24.2	3.0	13.3	34.4	15.4	24.4	41.7	61.3	35.4	-
Other Teleostei	-	-	-	-	18.2	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	3.2	-	-

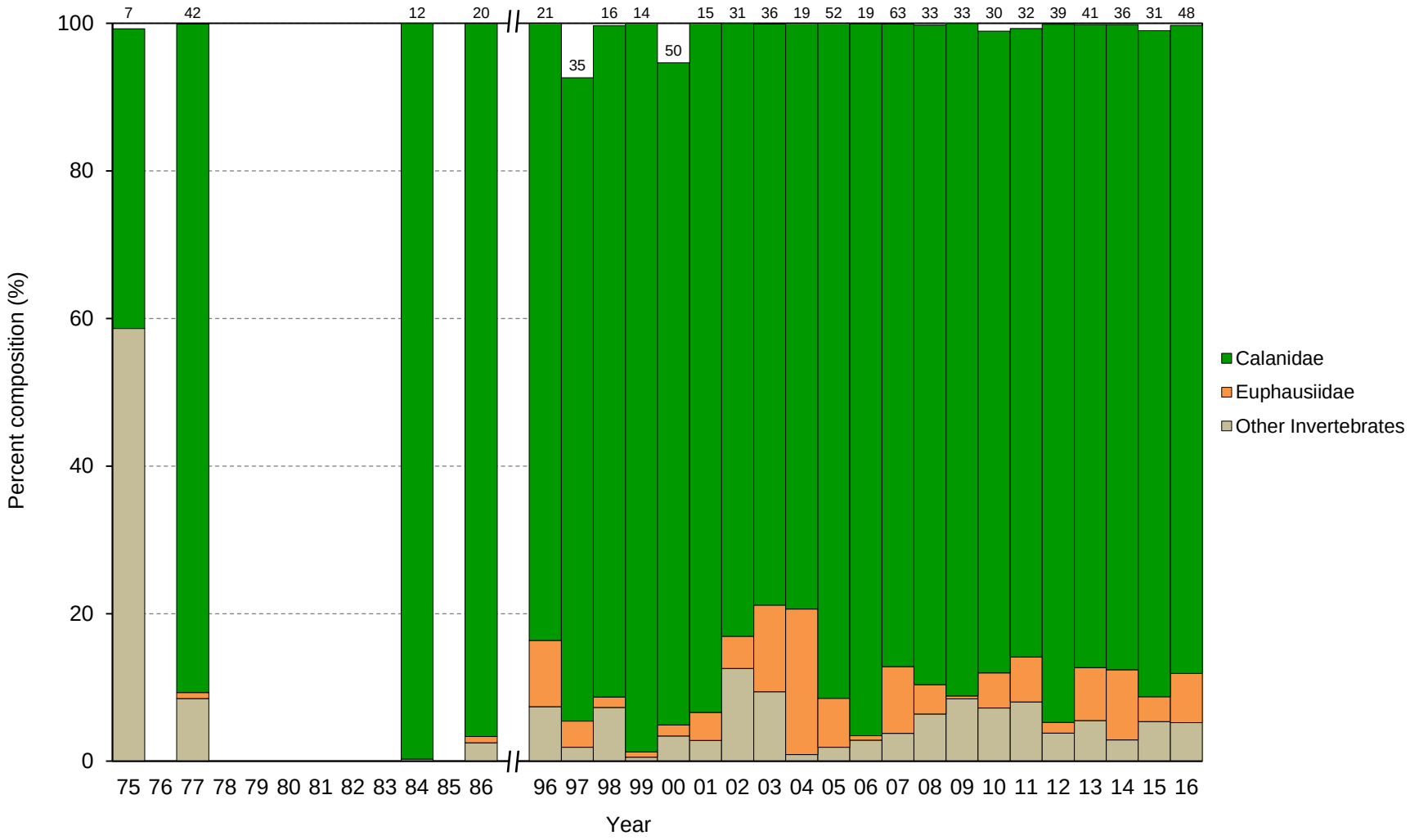

Figure 22. Percent composition of major prey items in diets of least auklet chicks at St. George Island, Alaska. Values are expressed as the percentage of total individual prey items comprised by each prey item. Prey is grouped to family level or higher; only taxa with an among-year average composition of at least 5% are shown. Samples consist of regurgitations from adults returning to the colony to feed chicks (1975-1977, 1986-2016) and gular pouch contents from adults collected at or near the colony. Numbers above columns indicate sample sizes. No diet samples were collected in 1976, 1978-1983, 1985, or 1987-1995; samples were collected in 2017 but have not yet been analyzed.

Table 39. Percent composition of major prey items in diets of least auklet chicks at St. George Island, Alaska. Values are expressed as the percentage of total individual prey items comprised by each prey item. Prey was identified and measured in the laboratory to lowest taxon possible (some prey items were identified to species while others were only identified to genus, family, order, etc.). Any prey with an among-year average composition of at least 5% are shown to the lowest taxonomic level; others are lumped together as "others" in their respective taxonomic group with values in bold showing totals for those taxa. Samples consist of regurgitations from adults returning to the colony to feed chicks (1975-1977, 1986-2016) and gular pouch contents from adults collected at or near the colony (1984). No diet samples were collected in 1976, 1978-1983, 1985, or 1987-1995; samples were collected in 2017 but have not yet been analyzed. More detailed diet data and prey identifications are available, contact refuge biologists for details.

Prey	1975	1977	1984	1986	1996	1997	1998	1999	2000	2001	2002	2003	2004
No. samples	7	42	12	20	21	35	16	14	50	15	31	36	19
No. individuals	133	8212	59086	7659	5076	8907	4293	6470	10986	4929	6331	8021	5779
Invertebrates	**99.2**	**99.9**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**99.9**	**100.0**
Copepoda	**40.6**	**90.6**	**99.7**	**96.6**	**83.6**	**94.5**	**91.3**	**98.7**	**95.0**	**93.4**	**83.1**	**78.7**	**79.4**
Calanidae	**40.6**	**90.6**	**99.7**	**96.6**	**83.6**	**87.2**	**91.0**	**98.7**	**89.8**	**93.4**	**83.1**	**78.7**	**79.4**
Calanus marshallae	-	-	19.3	-	-	36.9	0.7	56.4	15.5	91.7	14.7	2.3	-
Calanus spp.	40.6	82.0	24.9	15.9	-	-	-	-	-	-	-	-	-
Neocalanus cristatus	-	8.6	9.3	3.7	20.2	0.3	0.5	0.1	62.9	0.7	4.4	9.4	12.3
N. plumchrus/flemengeri	-	-	-	77.0	63.4	50.1	89.9	25.7	10.0	1.0	64.0	67.0	67.1
Other Calanidae	-	-	46.2	-	-	-	-	16.5	1.4	-	-	-	-
Other Copepoda	-	-	-	-	-	7.3	0.3	-	5.3	-	-	-	-
Euphausiacea	**-**	**0.8**	**<0.1**	**0.8**	**9.0**	**3.5**	**1.4**	**0.7**	**1.5**	**3.8**	**4.4**	**11.7**	**19.7**
Euphausiidae	-	0.8	<0.1	0.8	9.0	3.5	1.4	0.7	1.5	3.8	4.4	11.7	19.7
Other Invertebrates	58.6	8.5	0.3	2.5	7.4	1.9	7.3	0.5	3.4	2.8	12.6	9.4	0.9
Fish	0.8	0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	<0.1	0.1	-
Other	-	<0.1	-	-	-	-	-	-	-	-	-	-	-

Table 39 (continued). Percent composition of major prey items in diets of least auklet chicks at St. George Island, Alaska. Values are expressed as the percentage of total individual prey items comprised by each prey item. Prey was identified and measured in the laboratory to lowest taxon possible (some prey items were identified to species while others were only identified to genus, family, order, etc.). Any prey with an among-year average composition of at least 5% are shown to the lowest taxonomic level; others are lumped together as "others" in their respective taxonomic group with values in bold showing totals for those taxa. Samples consist of regurgitations from adults returning to the colony to feed chicks (1975-1977, 1986-2016) and gular pouch contents from adults collected at or near the colony (1984). No diet samples were collected in 1976, 1978-1983, 1985, or 1987-1995; samples were collected in 2017 but have not yet been analyzed. More detailed diet data and prey identifications are available, contact refuge biologists for details.

Prey	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
No. samples	52	19	63	33	33	30	32	39	41	36	31	48	32
No. individuals	33178	1269	22612	12808	60543	17202	13220	59028	27391	24883	23206	24335	*pending*
Invertebrates	**100.0**	**99.9**	**99.9**	**99.8**	**100.0**	**99.9**	**99.3**	**99.9**	**99.9**	**99.9**	**99.8**	**99.8**	**-**
Copepoda	**91.5**	**96.5**	**87.1**	**89.4**	**91.1**	**87.9**	**85.2**	**94.6**	**87.2**	**87.5**	**91.1**	**87.9**	**-**
Calanidae	**91.5**	**96.5**	**87.1**	**89.4**	**91.1**	**87.0**	**85.2**	**94.6**	**87.2**	**87.4**	**90.3**	**87.8**	**-**
Calanus marshallae	0.2	-	40.3	1.0	31.3	26.7	2.7	32.4	9.0	21.4	46.3	4.0	-
Calanus spp.	-	-	-	-	-	-	-	-	-	-	<0.1	-	-
Neocalanus cristatus	9.0	20.6	14.0	0.6	0.8	6.2	17.2	8.9	0.6	3.6	0.2	20.1	-
N. plumchrus/flemengeri	82.3	75.9	26.7	87.2	59.0	54.1	65.0	53.3	77.6	62.4	43.8	63.7	-
Other Calanidae	-	-	6.0	0.7	-	-	0.2	-	-	-	-	-	-
Other Copepoda	-	-	-	-	-	1.0	-	-	0.1	-	0.8	0.1	-
Euphausiacea	**6.6**	**0.6**	**9.0**	**4.0**	**0.4**	**4.7**	**6.1**	**1.5**	**7.1**	**9.5**	**3.4**	**6.7**	**-**
Euphausiidae	6.6	0.6	9.0	4.0	0.4	4.7	6.1	1.5	7.1	9.5	3.4	6.7	-
Other Invertebrates	1.9	2.8	3.8	6.4	8.5	7.2	8.0	3.8	5.5	2.9	5.4	5.2	-
Fish	-	0.1	0.1	0.2	<0.1	0.1	0.7	0.1	0.1	0.1	0.2	0.2	-
Other	-	-	-	-	-	-	-	-	-	-	<0.1	-	-

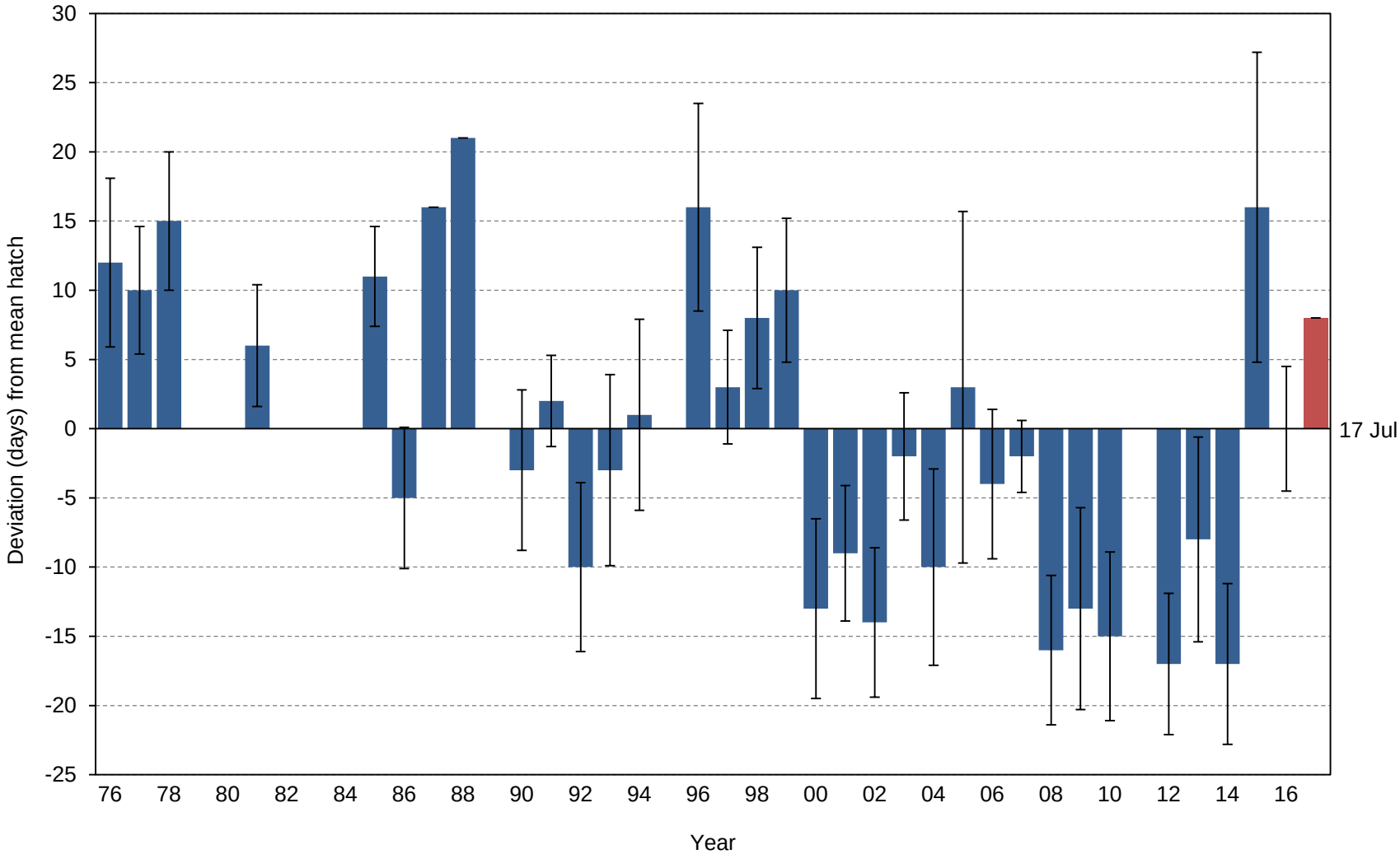

Figure 23. Yearly hatch date deviation (from the 1976-2016 average of 17 July) for black-legged kittiwakes at St. George Island, Alaska. Negative values indicate earlier than mean hatch date, positive values indicate later than mean hatch date. Error bars represent standard deviation around each year's mean hatch date; red highlights the current year. No data were collected in 1979-1980 or 1982-1984; no eggs hatched in plots in 1989, 1995, or 2011.

Table 40. Breeding chronology of black-legged kittiwakes at St. George Island, Alaska. Data represent the dates of the first egg laid and the first chick hatched in each nest. No data were collected in 1979-1980 or 1982-1984.

Year	Mean lay	SD	n[a]	Mean hatch	SD	n[b]	First lay	First hatch	Last hatch	First fledge[c]
1976	-	-	-	28 Jul	6.1	17	-	-	-	-
1977	-	-	-	27 Jul	4.6	63	-	-	-	-
1978	-	-	-	1 Aug	5.0	32	-	-	-	-
1981	12 Jul	1.0	2	23 Jul	4.4	27	11 Jul	19 Jul	9 Aug	10 Sep
1985	6 Jul	8.6	42	28 Jul	3.6	39	30 Jun	23 Jul	8 Aug	>26 Aug
1986	18 Jun	5.8	56	12 Jul	5.1	70	9 Jun	1 Jul	27 Jul	11 Aug
1987	3 Jul	6.9	23	2 Aug	0.0	2	15 Jun	2 Aug	-	-
1988	11 Jul	1.0	2	6 Aug	0.0	2	10 Jul	6 Aug	-	>26 Aug
1989	3 Jul	3.7	9	-	-	-	27 Jun	-	-	-
1990	18 Jun	4.0	46	14 Jul	5.8	42	13 Jun	29 Jun	29 Jul	5 Aug
1991	22 Jun	3.3	60	19 Jul	3.3	41	17 Jun	13 Jul	25 Jul	25 Aug
1992	13 Jun	5.6	62	6 Jul	6.1	43	5 Jun	24 Jun	22 Jul	11 Aug
1993	18 Jun	5.3	83	14 Jul	6.9	33	9 Jun	29 Jun	2 Aug	18 Aug
1994	20 Jun	6.3	73	18 Jul	6.9	12	8 Jun	7 Jul	2 Aug	20 Aug
1995	22 Jun	1.6	5	-	-	-	19 Jun	-	-	-
1996	30 Jun	12.2	45	1 Aug	7.5	14	8 Jun	16 Jul	13 Aug	>28 Aug
1997	23 Jun	4.8	64	20 Jul	4.1	34	17 Jun	13 Jul	27 Jul	26 Aug
1998	28 Jun	5.3	57	25 Jul	5.1	46	13 Jun	16 Jul	7 Aug	26 Aug
1999	28 Jun	5.3	41	27 Jul	5.2	6	21 Jun	23 Jul	6 Aug	-
2000	7 Jun	6.9	92	3 Jul	6.5	75	31 May	24 Jun	20 Jul	5 Aug
2001	13 Jun	4.6	73	8 Jul	4.9	16	1 Jun	27 Jun	15 Jul	12 Aug
2002	7 Jun	5.0	85	3 Jul	5.4	73	30 May	25 Jun	23 Jul	4 Aug
2003	18 Jun	4.3	88	15 Jul	4.6	52	1 Jun	1 Jul	25 Jul	12 Aug
2004	11 Jun	7.2	120	6 Jul	7.1	58	29 May	20 Jun	26 Jul	26 Jul
2005	24 Jun	9.9	55	20 Jul	12.7	11	5 Jun	5 Jul	10 Aug	25 Aug
2006	16 Jun	5.1	179	13 Jul	5.4	96	5 Jun	3 Jul	25 Jul	14 Aug
2007	19 Jun	5.3	30	15 Jul	2.6	5	10 Jun	11 Jul	19 Jul	>5 Sep
2008	7 Jun	4.0	86	30 Jun	5.4	99	2 Jun	18 Jun	14 Jul	11 Aug
2009	12 Jun	4.5	103	4 Jul	7.3	13	3 Jun	17 Jun	15 Jul	31 Aug
2010	8 Jun	4.4	100	2 Jul	6.1	104	3 Jun	13 Jun	10 Aug	9 Aug
2011	18 Jun	7.7	37	-	-	-	6 Jun	-	-	-
2012	6 Jun	4.2	87	29 Jun	5.1	112	2 Jun	15 Jun	18 Jul	31 Jul
2013	13 Jun	5.3	102	9 Jul	7.4	24	3 Jun	23 Jun	27 Jul	18 Aug
2014	8 Jun	4.9	65	30 Jun	5.8	116	5 Jun	19 Jun	17 Jul	2 Aug
2015	28 Jun	8.1	36	2 Aug	11.2	5	16 Jun	15 Jul	15 Aug	-
2016	23 Jun	5.3	32	16 Jul	4.5	5	14 Jun	12 Jul	24 Jul	30 Aug
2017	28 Jun	3.5	70	25 Jul	0.0	2	19 Jun	25 Jul	25 Jul	-

[a]Sample sizes for mean lay dates are a sub-sample of total nests for which no egg to egg interval is ≤ 7 days.
[b]Sample sizes for mean hatch dates are a sub-sample of total nests for which egg to chick interval is ≤ 7 days.
[c]In years when no chicks fledged before the field crew left the island at the end of the season, date of first fledge is listed as > the date of last nest check.

Table 41. Frequency distribution of hatch dates for black-legged kittiwakes at St. George Island, Alaska. Data represent the date of the first chick hatched in each nest and include only nests in which observations of egg to chick ≤ 7 days. No data were collected in 1979-1980 or 1982-1984; data from individual nests are not available before 1981 and no eggs hatched in plots in 1989, 1995, or 2011.

Julian date[a]	No. nests hatching on Julian date															
	1981	1985	1986	1987	1988	1990	1991	1992	1993	1994	1996	1997	1998	1999	2000	2001
164	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
165	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
166	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
167	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
168	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
169	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
170	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
171	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
172	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
173	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
174	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
175	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
176	-	-	-	-	-	-	-	1	-	-	-	-	-	-	5	-
177	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
178	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	1
179	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
180	-	-	-	-	-	1	-	6	1	-	-	-	-	-	10	1
181	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-
182	-	-	1	-	-	-	-	-	-	-	-	-	-	-	13	1
183	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
184	-	-	3	-	-	1	-	8	-	-	-	-	-	-	3	-
185	-	-	-	-	-	-	-	-	1	-	-	-	-	-	7	-
186	-	-	-	-	-	-	-	7	1	-	-	-	-	-	3	2
187	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
188	-	-	16	-	-	4	-	-	1	1	-	-	-	-	6	-
189	-	-	3	-	-	-	-	5	-	-	-	-	-	-	6	3
190	-	-	3	-	-	2	-	1	5	-	-	-	-	-	-	1
191	-	-	1	-	-	3	-	-	-	-	-	-	-	-	-	-
192	-	-	10	-	-	4	-	-	1	1	-	-	-	-	4	5
193	-	-	2	-	-	-	-	6	7	-	-	-	-	-	-	-
194	-	-	15	-	-	5	2	2	2	-	-	2	-	-	-	1
195	-	-	1	-	-	-	7	-	-	-	-	-	-	-	-	-
196	-	-	3	-	-	4	-	4	1	2	-	4	-	-	2	1
197	-	-	3	-	-	-	1	-	-	-	-	3	2	-	-	-
198	-	-	-	-	-	10	7	-	2	4	1	3	1	-	2	-
199	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-
200	12	-	4	-	-	1	8	1	4	1	-	-	2	-	-	-
201	-	-	-	-	-	2	-	-	-	-	-	10	-	-	-	-
202	-	-	-	-	-	1	12	-	1	-	1	-	11	-	2	-
203	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
204	-	4	4	-	-	3	-	1	3	1	-	7	1	3	-	-
205	11	-	-	-	-	-	2	-	-	-	-	-	3	-	-	-

Table 41 (continued). Frequency distribution of hatch dates for black-legged kittiwakes at St. George Island, Alaska. Data represent the date of the first chick hatched in each nest and include only nests in which observations of egg to chick ≤ 7 days. No data were collected in 1979-1980 or 1982-1984; data from individual nests are not available before 1981 and no eggs hatched in plots in 1989, 1995, or 2011.

Julian date[a]	No. nests hatching on Julian date															
	1981	1985	1986	1987	1988	1990	1991	1992	1993	1994	1996	1997	1998	1999	2000	2001
206	1	9	-	-	-	-	2	-	1	-	-	-	10	-	-	-
207	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
208	-	5	1	-	-	-	-	-	-	-	-	5	1	1	-	-
209	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-
210	1	14	-	-	-	1	-	-	-	1	-	-	5	-	-	-
211	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
212	-	-	-	-	-	-	-	-	-	-	7	-	2	1	-	-
213	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
214	-	-	-	2	-	-	-	-	1	1	-	-	1	-	-	-
215	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
216	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
217	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-
218	-	2	-	-	-	-	-	-	-	-	-	-	-	1	-	-
219	-	-	-	-	2	-	-	-	-	-	-	-	2	-	-	-
220	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
221	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
222	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
223	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
224	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
225	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
226	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-
227	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
228	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
229	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
230	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
231	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
232	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
233	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
234	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
n	27	39	70	2	2	42	41	43	33	12	14	34	46	6	75	16

Table 41 (continued). Frequency distribution of hatch dates for black-legged kittiwakes at St. George Island, Alaska. Data represent the date of the first chick hatched in each nest and include only nests in which observations of egg to chick ≤ 7 days. No data were collected in 1979-1980 or 1982-1984; data from individual nests are not available before 1981 and no eggs hatched in plots in 1989, 1995, or 2011.

Julian date[a]	No. nests hatching on Julian date														
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2012	2013	2014	2015	2016	2017
164	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
165	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
166	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
167	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
168	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
169	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
170	-	-	-	-	-	-	1	-	-	-	-	2	-	-	-
171	-	-	-	-	-	-	1	-	-	1	-	-	-	-	-
172	-	-	1	-	-	-	5	-	1	-	-	1	-	-	-
173	-	-	-	-	-	-	-	-	1	-	-	5	-	-	-
174	-	-	-	-	-	-	-	-	1	10	1	6	-	-	-
175	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
176	6	-	2	-	-	-	8	2	-	9	-	18	-	-	-
177	1	-	-	-	-	-	15	-	2	6	-	6	-	-	-
178	4	-	-	-	-	-	1	-	25	16	1	5	-	-	-
179	-	-	-	-	-	-	-	-	1	3	-	1	-	-	-
180	10	-	5	-	-	-	16	-	2	9	-	23	-	-	-
181	-	-	-	-	-	-	4	1	7	18	-	1	-	-	-
182	8	1	1	-	-	-	8	-	17	3	1	13	-	-	-
183	2	-	4	-	-	-	-	-	1	2	2	-	-	-	-
184	12	-	12	-	4	-	19	-	17	14	3	14	-	-	-
185	5	-	-	-	-	-	-	-	8	8	-	-	-	-	-
186	3	1	1	2	1	-	5	5	1	-	-	9	-	-	-
187	-	-	8	-	2	-	-	-	1	-	-	2	-	-	-
188	13	-	6	-	12	-	6	-	7	5	3	1	-	-	-
189	1	1	-	-	-	-	-	-	1	-	-	-	-	-	-
190	2	2	1	2	10	-	4	-	7	-	1	1	-	-	-
191	-	-	3	-	-	-	-	3	-	-	-	1	-	-	-
192	-	4	1	1	22	1	4	-	-	6	2	-	-	-	-
193	-	-	-	-	-	-	1	-	1	-	2	-	-	-	-
194	2	16	1	-	-	-	-	-	-	-	4	-	-	2	-
195	1	-	1	-	12	-	-	-	1	-	-	3	-	-	-
196	2	-	4	1	10	1	1	1	-	-	-	-	1	-	-
197	-	1	-	-	-	2	-	-	-	-	-	-	-	1	-
198	-	16	1	-	2	-	-	-	-	-	2	4	-	-	-
199	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-
200	-	-	4	-	2	1	-	-	-	1	1	-	-	1	-
201	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
202	-	8	-	1	12	-	-	-	-	-	-	-	-	-	-
203	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
204	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-
205	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-

Table 41 (continued). Frequency distribution of hatch dates for black-legged kittiwakes at St. George Island, Alaska. Data represent the date of the first chick hatched in each nest and include only nests in which observations of egg to chick ≤ 7 days. No data were collected in 1979-1980 or 1982-1984; data from individual nests are not available before 1981 and no eggs hatched in plots in 1989, 1995, or 2011.

Julian date[a]	No. nests hatching on Julian date														
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2012	2013	2014	2015	2016	2017
206	-	2	-	-	2	-	-	-	-	-	-	-	-	1	2
207	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
208	-	-	1	-	-	-	-	-	-	-	1	-	1	-	-
209	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
210	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
211	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
212	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
213	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
214	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
215	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
216	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-
217	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
218	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
219	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
220	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
221	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
222	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-
223	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
224	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
225	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
226	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
227	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
228	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
229	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
230	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
231	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
232	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
233	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
234	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
n	73	52	58	11	96	5	99	13	104	112	24	116	5	5	2

[a]In leap years, hatch dates are calculated using a leap year-specific Julian date calendar.

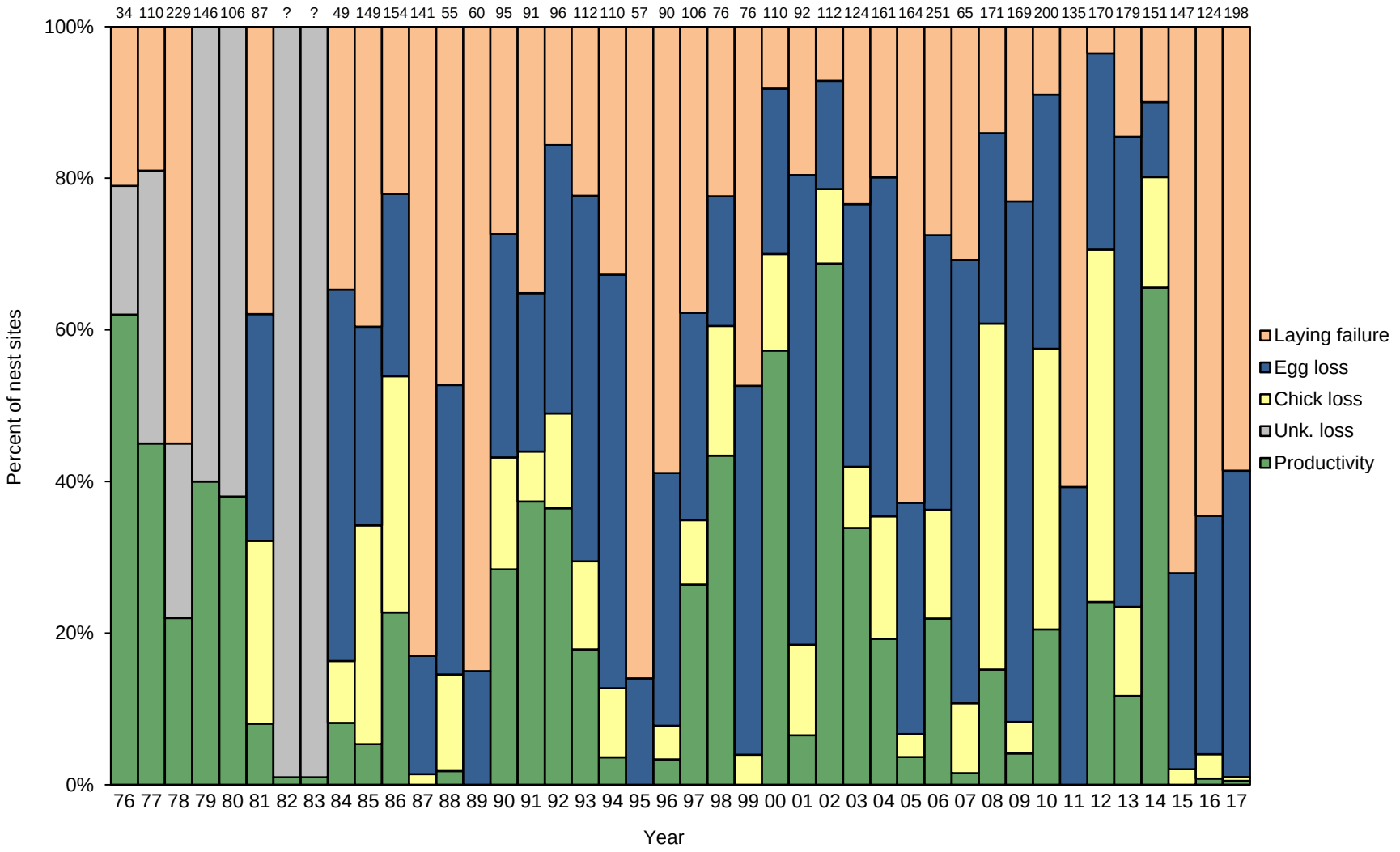

Figure 24. Reproductive performance of black-legged kittiwakes at St. George Island, Alaska. Laying failure=(A-B)/A; Egg loss=(B-D)/A; Chick loss=(D-F)/A; Productivity=F/A, where A=total nest sites; B=nest sites with eggs; D=nest sites with chicks; F=nest sites with chicks fledged. Numbers above columns indicate sample sizes (A).

Table 42. Reproductive performance of black-legged kittiwakes at St. George Island, Alaska.

Year	Total nest starts (A)	Nests w/ eggs (B)	Total eggs (C)	Nests w/ chicks (D)	Total chicks (E)	Nests w/ chicks fledged (F)	Total chicks fledged (G)	Laying success (B/A)	Mean clutch size (C/B)	Nesting success (D/B)	Hatching success (E/C)	Chick success (G/E)	Egg success (G/C)	Fledging success (F/D)	Reprod. success (F/B)	Fledglings/ nest start (G/A)	Prod. (F/A)
1976	34	(27)[a]	-	-	-	-	-	0.79	1.4[b]	-	0.82[c]	0.80[c]	-	-	0.79[b]	0.62	-
1977	110	(89)	-	-	-	-	-	0.81	1.5[b]	-	0.84[c]	0.47[c]	-	-	0.56[b]	0.45	-
1978	229	(103)	-	-	-	-	-	0.45	1.2[b]	-	0.67[c]	0.62[c]	-	-	0.48[b]	0.22	-
1979	146	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.40[d]	-
1980	106	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.38[d]	-
1981	87	54	78	28	29	7	7	0.62	1.4	0.52	0.37	0.24	0.09	0.25	0.13	0.08	0.08
1982	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.01[e]	0.01[e]	-
1983	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.01[e]	0.01[e]	-
1984	49	32	42	8	8	4	4	0.65	1.3	0.25	0.19	0.50	0.10	0.50	0.13	0.08	0.08
1985	149	90	112	51	56	8	8	0.60	1.2	0.57	0.50	0.14	0.07	0.16	0.09	0.05	0.05
1986	154	120	202	83	118	35	35	0.78	1.7	0.69	0.58	0.30	0.17	0.42	0.29	0.23	0.23
1987	141	24	25	2	2	0	0	0.17	1.0	0.08	0.08	0.00	0.00	0.00	0.00	0.00	0.00
1988	55	29	39	8	8	1	1	0.53	1.3	0.28	0.21	0.13	0.03	0.13	0.03	0.02	0.02
1989	60	9	12	0	0	0	0	0.15	1.3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1990	95	69	118	41	50	27	27	0.73	1.7	0.59	0.42	0.54	0.23	0.66	0.39	0.28	0.28
1991	91	59	98	40	58	34	35	0.65	1.7	0.68	0.59	0.60	0.36	0.85	0.58	0.38	0.37
1992	96	81	140	47	65	35	35	0.84	1.7	0.58	0.46	0.54	0.25	0.74	0.43	0.36	0.36
1993	112	87	139	33	44	20	20	0.78	1.6	0.38	0.32	0.45	0.14	0.61	0.23	0.18	0.18
1994	110	74	107	14	18	4	4	0.67	1.5	0.19	0.17	0.22	0.04	0.29	0.05	0.04	0.04
1995	57	8	10	0	0	0	0	0.14	1.3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	90	37	41	7	8	3	3	0.41	1.1	0.19	0.20	0.38	0.07	0.43	0.08	0.03	0.03
1997	106	66	92	37	43	28	28	0.62	1.4	0.56	0.47	0.65	0.30	0.76	0.42	0.26	0.26
1998	76	59	78	46	54	33	34	0.78	1.3	0.78	0.69	0.63	0.44	0.72	0.56	0.45	0.43
1999	76	40	41	3	3	0	0	0.53	1.0	0.08	0.07	0.00	0.00	0.00	0.00	0.00	0.00
2000	110	101	176	77	117	63	65	0.92	1.7	0.76	0.66	0.56	0.37	0.82	0.62	0.59	0.57
2001	92	74	116	17	23	6	6	0.80	1.6	0.23	0.20	0.26	0.05	0.35	0.08	0.07	0.07
2002	112	104	190	88	127	77	79	0.93	1.8	0.85	0.67	0.62	0.42	0.88	0.74	0.71	0.69
2003	124	95	150	52	75	42	45	0.77	1.6	0.55	0.50	0.60	0.30	0.81	0.44	0.36	0.34
2004	161	129	193	57	70	31	32	0.80	1.5	0.44	0.36	0.46	0.17	0.54	0.24	0.20	0.19
2005	164	61	81	11	13	6	6	0.37	1.3	0.18	0.16	0.46	0.07	0.55	0.10	0.04	0.04
2006	251	182	268	91	100	55	56	0.73	1.5	0.50	0.37	0.56	0.21	0.60	0.30	0.22	0.22
2007	65	45	55	7	8	1	1	0.69	1.2	0.16	0.15	0.13	0.02	0.14	0.02	0.02	0.02
2008	171	147	261	104	135	26	26	0.86	1.8	0.71	0.52	0.19	0.10	0.25	0.18	0.15	0.15
2009	169	130	187	14	15	7	7	0.77	1.4	0.11	0.08	0.47	0.04	0.50	0.05	0.04	0.04
2010	200	182	325	115	158	41	41	0.91	1.8	0.63	0.49	0.26	0.13	0.36	0.23	0.21	0.21
2011	135	53	60	0	0	0	0	0.39	1.1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2012	170	164	294	120	153	41	42	0.96	1.8	0.73	0.52	0.27	0.14	0.34	0.25	0.25	0.24
2013	179	153	226	42	47	21	21	0.85	1.5	0.27	0.21	0.45	0.09	0.50	0.14	0.12	0.12

Table 42 (continued). Reproductive performance of black-legged kittiwakes at St. George Island, Alaska.

Year	Total nest starts (A)	Nests w/ eggs (B)	Total eggs (C)	Nests w/ chicks (D)	Total chicks (E)	Nests w/ chicks fledged (F)	Total chicks fledged (G)	Laying success (B/A)	Mean clutch size (C/B)	Nesting success (D/B)	Hatching success (E/C)	Chick success (G/E)	Egg success (G/C)	Fledging success (F/D)	Reprod. success (F/B)	Fledglings/ nest start (G/A)	Prod. (F/A)
2014	151	136	251	121	166	99	99	0.90	1.9	0.89	0.66	0.60	0.39	0.82	0.73	0.66	0.66
2015	147	41	43	3	3	0	0	0.28	1.1	0.07	0.07	0.00	0.00	0.00	0.00	0.00	0.00
2016	124	44	46	5	5	1	1	0.35	1.1	0.11	0.11	0.20	0.02	0.20	0.02	0.01	0.01
2017	198	82	90	2	2	1	1	0.41	1.1	0.02	0.02	0.50	0.01	0.50	0.01	0.01	0.01

[a]Values in parentheses were not reported by original investigators and are estimated from other known parameters.
[b]Value calculated from smaller sample size.
[c]Reported values are the midpoint of a range (see Appendix A).
[d]Data based on short-duration visits (see Appendix A).
[e]Success values are based on qualitative estimates (see Appendix A).

Table 43. Standard deviation in reproductive performance parameters of black-legged kittiwakes at St. George Island, Alaska. Sampling for kittiwakes is clustered by plot except when sample sizes per plot are too small or plot data are not available.

Year	No. plots[a]	Total nest starts	Sampling design[b]	Laying success	Mean clutch size	Nesting success	Hatching success	Chick success	Egg success	Fledging success	Reprod. success	Fledglings /nest start	Prod.
1976	-	34	Simple random	0.07	-[c]	-	-[c]	-[c]	-	-	-[c]	0.08	-
1977	-	110	Simple random	0.04	-[c]	-	-[c]	-[c]	-	-	-[c]	0.05	-
1978	-	229	Simple random	0.03	-[c]	-	-[c]	-[c]	-	-	-[c]	0.03	-
1979	-	146	-	-	-	-	-	-	-	-	-	-[c]	-
1980	-	106	-	-	-	-	-	-	-	-	-	-[c]	-
1981	3	87	Cluster by plot	0.04	0.05	0.05	0.03	0.06	0.03	0.07	0.05	0.04	0.04
1982	-	-	-	-	-	-	-	-	-	-	-[c]	-[c]	-
1983	-	-	-	-	-	-	-	-	-	-	-[c]	-[c]	-
1984	-	49	Simple random	0.07	0.11	0.08	0.06	0.18	0.05	0.18	0.06	0.04	0.04
1985	11	149	Cluster by plot	0.05	0.04	0.06	0.05	0.09	0.05	0.10	0.06	0.04	0.04
1986	8	154	Cluster by plot	0.08	0.06	0.05	0.04	0.07	0.04	0.09	0.07	0.07	0.07
1987	7	141	Cluster by plot	0.04	0.05	0.08	0.08	0.00	0.00	0.00	0.00	0.00	0.00
1988	4	55	Cluster by plot	0.02	0.09	0.05	0.05	0.16	0.03	0.16	0.04	0.02	0.02
1989	5	60	Cluster by plot	0.02	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1990	5	95	Cluster by plot	0.06	0.08	0.03	0.02	0.05	0.03	0.08	0.06	0.04	0.04
1991	5	91	Cluster by plot	0.06	0.04	0.13	0.11	0.05	0.06	0.04	0.10	0.06	0.05
1992	5	96	Cluster by plot	0.03	0.04	0.06	0.03	0.05	0.03	0.04	0.05	0.05	0.05
1993	5	112	Cluster by plot	0.03	0.07	0.08	0.07	0.12	0.07	0.18	0.11	0.09	0.09
1994	5	110	Cluster by plot	0.03	0.08	0.07	0.06	0.06	0.02	0.10	0.04	0.03	0.03
1995	3	57	Cluster by plot	0.02	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	4	90	Cluster by plot	0.07	0.04	0.08	0.10	0.07	0.05	0.09	0.05	0.02	0.02
1997	5	106	Cluster by plot	0.06	0.04	0.07	0.05	0.06	0.04	0.04	0.06	0.02	0.02
1998	5	76	Cluster by plot	0.06	0.03	0.05	0.05	0.05	0.04	0.05	0.06	0.08	0.08
1999	4	76	Cluster by plot	0.12	0.02	0.04	0.04	0.00	0.00	0.00	0.00	0.00	0.00
2000	6	110	Cluster by plot	0.02	0.05	0.04	0.05	0.07	0.04	0.07	0.06	0.05	0.05
2001	5	92	Cluster by plot	0.03	0.02	0.08	0.07	0.14	0.04	0.17	0.06	0.05	0.05
2002	6	112	Cluster by plot	0.01	0.02	0.06	0.05	0.04	0.03	0.04	0.05	0.05	0.06
2003	6	124	Cluster by plot	0.06	0.08	0.16	0.14	0.04	0.10	0.06	0.15	0.16	0.15
2004	6	161	Cluster by plot	0.04	0.06	0.13	0.10	0.07	0.06	0.07	0.09	0.08	0.07
2005	11	164	Cluster by plot	0.06	0.05	0.09	0.08	0.11	0.05	0.15	0.07	0.03	0.03
2006	8	251	Cluster by plot	0.03	0.05	0.07	0.06	0.08	0.06	0.09	0.08	0.06	0.06
2007	3	65	Cluster by plot	0.09	0.07	0.06	0.06	0.12	0.02	0.15	0.03	0.02	0.02
2008	6	171	Cluster by plot	0.04	0.03	0.04	0.04	0.06	0.03	0.07	0.05	0.04	0.04
2009	6	169	Cluster by plot	0.05	0.06	0.07	0.05	0.12	0.02	0.11	0.03	0.03	0.03
2010	6	200	Cluster by plot	0.03	0.04	0.09	0.06	0.07	0.04	0.09	0.08	0.07	0.07
2011	7	135	Cluster by plot	0.03	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2012	5	170	Cluster by plot	0.02	0.03	0.09	0.07	0.07	0.04	0.07	0.07	0.07	0.07
2013	5	179	Cluster by plot	0.04	0.06	0.08	0.05	0.10	0.02	0.10	0.03	0.03	0.03

Table 43 (continued). Standard deviation in reproductive performance parameters of black-legged kittiwakes at St. George Island, Alaska. Sampling for kittiwakes is clustered by plot except when sample sizes per plot are too small or plot data are not available.

Year	No. plots[a]	Total nest starts	Sampling design[b]	Laying success	Mean clutch size	Nesting success	Hatching success	Chick success	Egg success	Fledging success	Reprod. success	Fledglings /nest start	Prod.
2014	5	151	Cluster by plot	0.02	0.03	0.02	0.04	0.03	0.03	0.04	0.05	0.03	0.03
2015	6	147	Cluster by plot	0.02	0.02	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00
2016	5	124	Cluster by plot	0.04	0.04	0.04	0.04	0.11	0.02	0.11	0.02	0.01	0.01
2017	7	198	Cluster by plot	0.07	0.04	0.03	0.02	0.00	0.01	0.00	0.01	0.01	0.01

[a]Plots that are combined for analysis are counted as a single "plot".

[b]For sampling clustered by plot, values are calculated based on plot as a sample unit; for simple random sampling, values are calculated using $\sqrt{\rho * (1-\rho)/n}$, where ρ is the success rate and n is the sample size of individual nests.

[c]Standard deviations are not calculated for success values that are midpoint estimates or based on unknown sample sizes, short-duration visits, or qualitative estimates.

Table 44. Clutch sizes of black-legged kittiwakes at St. George Island, Alaska. Sample units consist of total nests, not plots. No data were collected in 1982-1983.

Year	Total nest starts	Nest sites w/ x eggs:				Nest sites w/ eggs	Total eggs	Mean clutch size
	(A)	0	1	2	3	(B)	(C)	(C/B)
1976	34	-	-	-	-	(27)[a]	-	1.4[b]
1977	110	-	-	-	-	(89)	-	1.5[b]
1978	229	-	-	-	-	(103)	-	1.2[b]
1979	146	-	-	-	-	-	-	-
1980	106	-	-	-	-	-	-	-
1981	87	33	30	24	0	54	78	1.4
1984	49	-	-	-	-	32	42	1.3
1985	149	59	68	23	0	90	112	1.2
1986	154	34	38	82	0	120	202	1.7
1987	141	117	23	1	0	24	25	1.0
1988	55	26	19	10	0	29	39	1.3
1989	60	51	6	3	0	9	12	1.3
1990	95	26	20	49	0	69	118	1.7
1991	91	32	20	39	0	59	98	1.7
1992	96	15	22	59	0	81	140	1.7
1993	112	25	35	52	0	87	139	1.6
1994	110	36	41	33	0	74	107	1.5
1995	57	49	6	2	0	8	10	1.3
1996	90	53	33	4	0	37	41	1.1
1997	106	40	40	26	0	66	92	1.4
1998	76	17	40	19	0	59	78	1.3
1999	76	36	39	1	0	40	41	1.0
2000	110	9	26	75	0	101	176	1.7
2001	92	18	32	42	0	74	116	1.6
2002	112	8	18	86	0	104	190	1.8
2003	124	29	40	55	0	95	150	1.6
2004	161	32	65	64	0	129	193	1.5
2005	164	103	42	18	1	61	81	1.3
2006	251	69	96	86	0	182	268	1.5
2007	65	20	35	10	0	45	55	1.2
2008	171	24	33	114	0	147	261	1.8
2009	169	39	73	57	0	130	187	1.4
2010	200	18	39	143	0	182	325	1.8
2011	135	82	46	7	0	53	60	1.1
2012	170	6	35	128	1	164	294	1.8
2013	179	26	80	73	0	153	226	1.5
2014	161	15	23	123	0	146	269	1.8
2015	147	106	39	2	0	41	43	1.1
2016	124	80	42	2	0	44	46	1.1
2017	198	116	74	8	0	82	90	1.1

[a]Values in parentheses were not reported by original investigators and are estimated from other known parameters.
[b]Value calculated from smaller sample size.

Table 45. Reproductive performance of black-legged kittiwakes at St. George Island, Alaska in 2017.

Parameter	Plot							Total	SD[b]
	56/57[a]	58A	58C	61	62	69	85/87[a]		
Total nest starts (A)	26	50	50	30	28	1	13	198	-
Nest sites w/ eggs (B)	5	30	18	15	14	0	0	82	-
Total eggs (C)	5	35	18	16	16	0	0	90	-
Nest sites w/ chicks (D)	0	0	0	2	0	0	0	2	-
Total chicks (E)	0	0	0	2	0	0	0	2	-
Nest sites w/ chicks fledged (F)	0	0	0	1	0	0	0	1	-
Total chicks fledged (G)	0	0	0	1	0	0	0	1	-
Laying success (B/A)	0.19	0.60	0.36	0.50	0.50	0.00	0.00	0.41	0.07
Mean clutch size (C/B)	1.0	1.2	1.0	1.1	1.1	0.0	0.0	1.1	0.04
Nesting success (D/B)	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.02	0.03
Hatching success (E/C)	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.02	0.02
Chick success (G/E)	0.00	0.00	0.00	0.50	0.00	0.00	0.00	0.50	0.00
Egg success (G/C)	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.01	0.01
Fledging success (F/D)	0.00	0.00	0.00	0.50	0.00	0.00	0.00	0.50	0.00
Reproductive success (F/B)	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.01	0.01
Fledglings/nest start (G/A)	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.01	0.01
Productivity (F/A)	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.01	0.01

[a]Plots were combined for statistical purposes.
[b]Standard deviations are calculated based on plot as a sample unit.

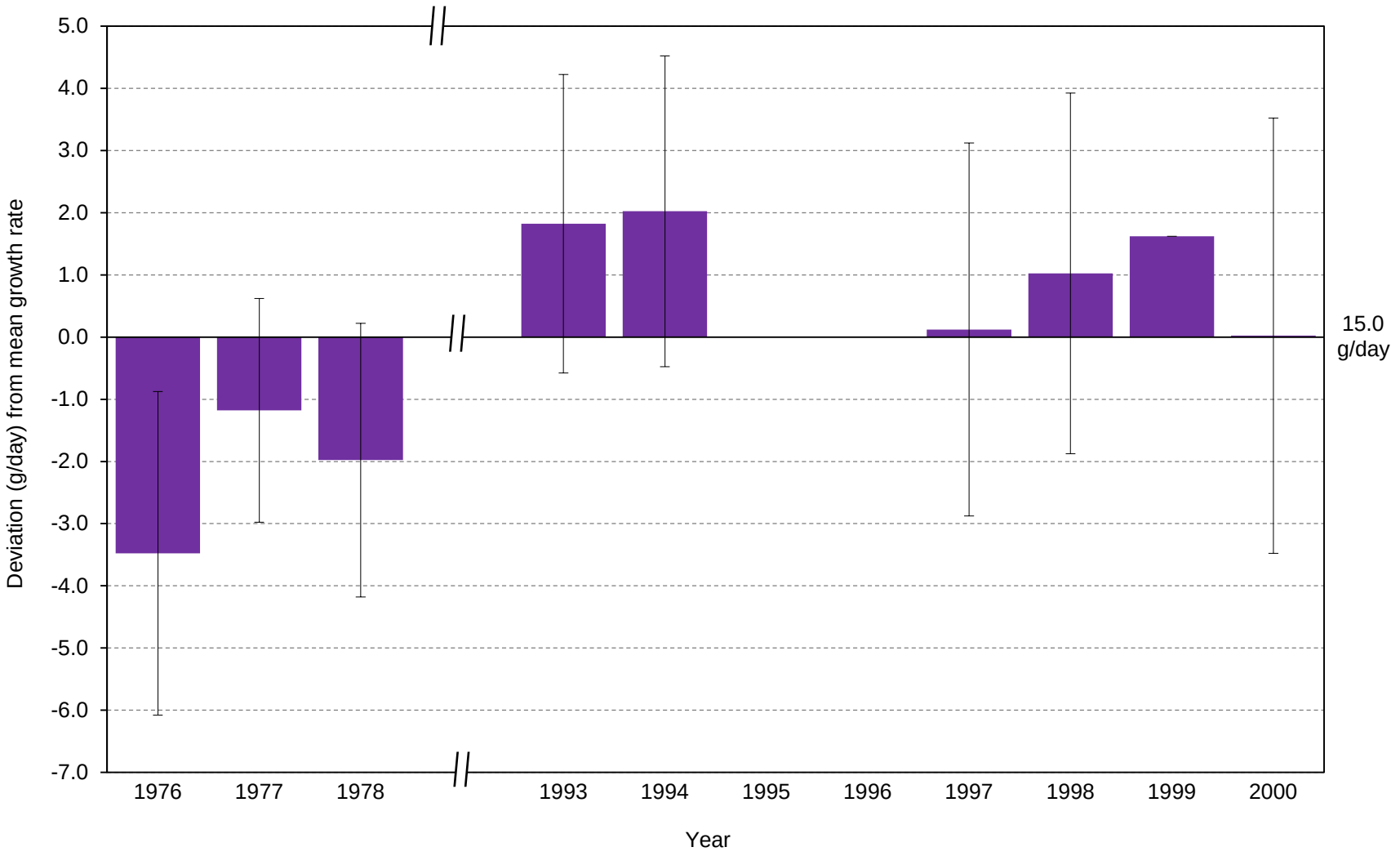

Figure 25. Yearly chick growth rate deviation (from the 1976-2000 average of 15.0 g/day) for black-legged kittiwakes at St. George Island, Alaska. Negative values indicate less than the mean growth rate, positive values exceed the mean growth rate. Error bars represent standard deviation around each year's mean growth rate. No chicks were measured in 1979-1992, 1995-1996, or after 2000.

Table 46. Mean growth rates of black-legged kittiwake chicks at St. George Island, Alaska. Data include chicks measured at least three times during the linear phase of growth. No chicks were measured in 1979-1992, 1995-1996, or after 2000.

Year	Mass (g/day)				Wing chord (mm/day)				Linear phase definition[a]
	Mean	SD	Range	*n*	Mean	SD	Range	*n*	
1976	11.5	2.6	-	24	-	-	-	-	A
1977	13.8	1.8	-	21	-	-	-	-	A
1978	13.0	2.2	-	16	-	-	-	-	A
1993	16.8	2.4	-	48	-	-	-	-	B
1994	17.0	2.5	-	9	-	-	-	-	B
1997	15.1	3.0	-	71	-	-	-	-	B
1998	16.0	2.9	-	62	-	-	-	-	B
1999	16.6	-	-	1	-	-	-	-	B
2000	15.0	3.5	8.8 - 24.6	53	6.6	1.5	2.6 - 8.7	45	B

[a]A=linear growth phase defined as period between initial and peak weight measurements of each chick; B=linear growth phase defined as period when chick age 5-25 days.

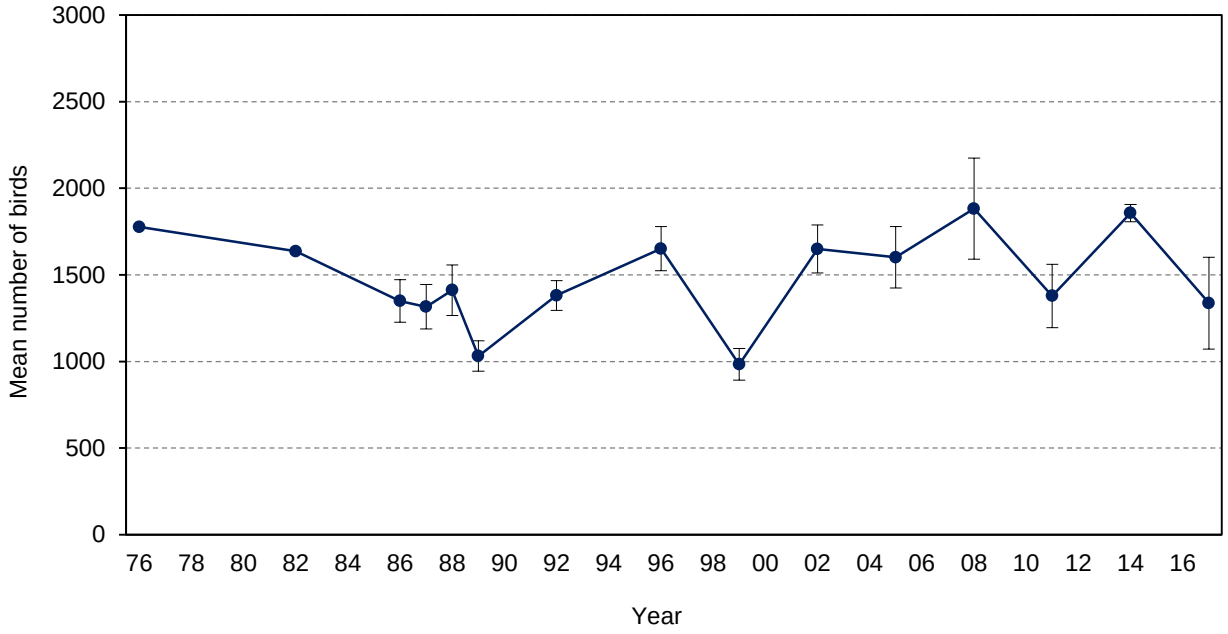

Figure 26. Mean numbers of black-legged kittiwakes counted on index plots at St. George Island, Alaska. Totals include all plots except 13N. Error bars represent standard deviation. No counts were conducted in years not shown except 1984 and 1985 when data are excluded because not all plots were counted.

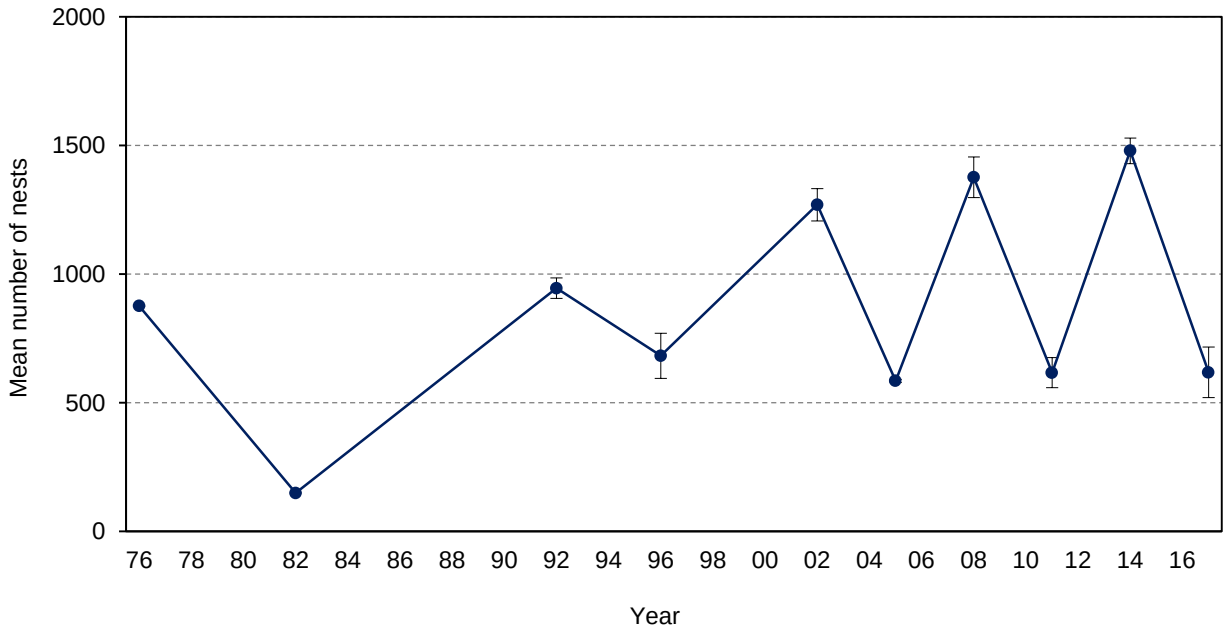

Figure 27. Mean numbers of black-legged kittiwake nests counted on index plots at St. George Island, Alaska. Totals include all plots except 13N. Error bars represent standard deviation. No counts were conducted in years not shown except 1984 and 1985 when data are excluded because not all plots were counted; data potentially exist in 1986-1989 and 1999 but have not yet been summarized.

Table 47. Numbers of black-legged kittiwakes counted on index plots at St. George Island, Alaska. Totals include all plots except 13N. No counts were conducted in years not listed except 1984 and 1985 when data are excluded because not all plots were counted.

Replicate	1976	1982	1986	1987	1988	1989	1992	1996	1999	2002	2005	2008	2011	2014	2017
1	1777	1636	1297	1155	1283	930	1468	1604	920	1371	1588	1505	1127	1812	1509
2	-	-	1261	1270	1268	1086	1380	1611	1103	1698	1401	1732	1496	1815	1470
3	-	-	1489	1431	1399	1077	1296	1864	1005	1679	1516	2105	1529	1899	1032
4	-	-	-	1407	1617	-	-	1525	904	1702	1369	1837	1362	1902	-
5	-	-	-	-	1491	-	-	1653	-	1658	1585	2233	-	-	-
6	-	-	-	-	-	-	-	-	-	1824	1701	-	-	-	-
7	-	-	-	-	-	-	-	-	-	1613	1777	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	1876	-	-	-	-
Mean	1777	1636	1349	1316	1412	1031	1381	1651	983	1649	1602	1882	1379	1857	1337
n	1	1	3	4	5	3	3	5	4	7	8	5	4	4	3
SD	-	-	123	129	147	88	86	128	92	139	177	291	183	50	265
First count	9 Jul	23 Jul	8 Jul	11 Jul	19 Jul	13 Jul	11 Jul	12 Jul	9 Jul	5 Jul	4 Jul	7 Jul	6 Jul	3 Jul	5 Jul
Last count	5 Aug	3 Aug	12 Aug	9 Aug	11 Aug	10 Aug	6 Aug	6 Aug	8 Aug	3 Aug	30 Jul	30 Jul	4 Aug	1 Aug	7 Aug

Table 48. Numbers of black-legged kittiwake nests counted on index plots at St. George Island, Alaska. Totals include all plots except 13N. No counts were conducted in years not listed except 1984 and 1985 when data are excluded because not all plots were counted.

Replicate	1976	1982	1986	1987	1988	1989	1992	1996	1999	2002	2005	2008	2011	2014	2017
1	876	149	xx[a]	xx	xx	xx	949	611	xx	1227	592	1286	592	1522	719
2	-	-	xx	xx	xx	xx	903	656	xx	1342	583	1406	704	1509	612
3	-	-	xx	xx	xx	xx	983	780	xx	1239	579	1435	583	1476	523
4	-	-	xx	xx	xx	xx	889[b]	-	xx	-	-	490[b]	588	1410	-
5	-	-	xx	xx	xx	xx	47[b]	-	xx	-	-	-	-	-	-
6	-	-	xx	xx	xx	xx	-	-	xx	-	-	-	-	-	-
Mean	876	149	xx	xx	xx	xx	945	682	xx	1269	585	1376	617	1479	618
Overall max.[c]	876	149	1170	1086	1111	539	1174	854	684	1465	704	1818	831	1724	827
n	1	1	xx	xx	xx	xx	3	3	xx	3	3	3	4	4	3
SD	-	-	xx	xx	xx	xx	40	88	xx	63	7	79	58	50	98
First count	9 Jul	23 Jul	8 Jul	11 Jul	19 Jul	13 Jul	11 Jul	12 Jul	9 Jul	5 Jul	4 Jul	7 Jul	6 Jul	3 Jul	5 Jul
Last count	5 Aug	3 Aug	12 Aug	9 Aug	11 Aug	10 Aug	6 Aug	6 Aug	8 Aug	18 Jul	13 Jul	29 Jul	4 Aug	1 Aug	7 Aug

[a]xx indicates data potentially exist but have not yet been summarized.
[b]Incomplete count used for maximum nest number but not included in calculation of mean.
[c]Overall maximum nest number is the highest nest count on each plot in a year, summed across all plots.

Table 49. Numbers of black-legged kittiwakes counted on index plots at St. George Island, Alaska in 2017.

Plot	Replicate			Mean	SD
	1	2	3		
	5-22 Jul	13 Jul-4 Aug	21 Jul-7 Aug		
1A	0	0	0	-	-
1B	23	31	13	-	-
2	2	0	0	-	-
8	1	2	1	-	-
9	1	4	6	-	-
10	3	3	3	-	-
11	0	0	1	-	-
12	0	0	2	-	-
13O	-[a]	0	0	-	-
13N	1	2	0	-	-
14	11	6	7	-	-
15	1	1	0	-	-
16	7	6	2	-	-
17	7	12	1	-	-
18	0	0	0	-	-
19	8	16	6	-	-
20	0	0	0	-	-
21	0	2	0	-	-
22	0	0	0	-	-
23	5	2	2	-	-
24T	11	6	2	-	-
24B	2	0	0	-	-
25	5	0	0	-	-
26	0	5	1	-	-
27T	8	12	4	-	-
27B	0	0	0	-	-
28	-	4[b]	-	-	-
28L	3	-	0	-	-
28M	0	-	1	-	-
29	6	5	4	-	-
30R	3	4	0	-	-
30L	3	1	1	-	-
31	4	0	3	-	-
32U	2	0	0	-	-
32L	2	0	0	-	-
33	5[b]	-	-	-	-
33A	-	6	5	-	-
33B	-	2	0	-	-
33C	-	0	0	-	-
33D	-	0	0	-	-
34	0	0	0	-	-
35	10[b]	-	-	-	-
35U	-	9	0	-	-
35L	-	0	2	-	-
36	12	13	5	-	-
37U	9	14	12	-	-
37L	2	2	0	-	-
38T	2	1	0	-	-
38M	9	7	3	-	-
38B	8	13	3	-	-
39	4	0	2	-	-
40	2	6	6	-	-
41T	14	19	3	-	-

Table 49 (continued). Numbers of black-legged kittiwakes counted on index plots at St. George Island, Alaska in 2017.

Plot	Replicate			Mean	SD
	1	2	3		
	5-22 Jul	13 Jul-4 Aug	21 Jul-7 Aug		
41B	11	5	6	-	-
42A	0	0	0	-	-
42B	0	0	0	-	-
43	9	4	0	-	-
44	10	1	2	-	-
45	6	11	5	-	-
46	31	29	22	-	-
47	18	18	8	-	-
48	0	0	0	-	-
49	9	11	9	-	-
50	0	0	0	-	-
51	10	19	16	-	-
52	32	45	30	-	-
53	51	58	41	-	-
54A	0	0	0	-	-
54B	0	0	0	-	-
54C	0	0	0	-	-
55	0	3	0	-	-
58A	280	163	170	-	-
58B	40	129	117	-	-
58C	319	309	193	-	-
59A	144	85	67	-	-
59B	76	45	23	-	-
59C	98	59	63	-	-
75	31	63	17	-	-
81A	28	20	31	-	-
81B	25	43	27	-	-
81C	54	61	45	-	-
81D	32	75	39	-	-
Total[c]	1509	1470	1032	1337	265

[a]No count was conducted
[b]Entire plot was included in a single count. No count of the subplots occurred.
[c]Total includes all plots except 13N.

Table 50. Numbers of black-legged kittiwake nests counted on index plots at St. George Island, Alaska in 2017.

Plot	Replicate			Mean	SD	Max.
	1	2	3			
	5-22 Jul	13 Jul-4 Aug	21 Jul-7 Aug			
1A	0	0	0	-	-	0
1B	4	1	2	-	-	4
2	0	0	0	-	-	0
8	0	0	0	-	-	0
9	0	0	0	-	-	0
10	1	0	1	-	-	1
11	0	0	0	-	-	0
12	0	0	0	-	-	0
13O	-[a]	0	0	-	-	0
13N	0	0	0	-	-	0
14	0	1	0	-	-	1
15	0	0	0	-	-	0
16	0	1	0	-	-	1
17	0	0	0	-	-	0
18	0	0	0	-	-	0
19	0	1	0	-	-	1
20	0	0	0	-	-	0
21	0	0	0	-	-	0
22	0	0	0	-	-	0
23	0	0	0	-	-	0
24T	2	0	0	-	-	2
24B	0	0	0	-	-	0
25	0	0	0	-	-	0
26	0	0	0	-	-	0
27T	1	1	0	-	-	1
27B	0	0	0	-	-	0
28	0[b]	-	-	-	-	0
28L	-	0	0	-	-	0
28M	-	0	0	-	-	0
29	0	0	0	-	-	0
30R	0	0	0	-	-	0
30L	0	0	0	-	-	0
31	0	0	0	-	-	0
32U	1	0	0	-	-	1
32L	0	0	0	-	-	0
33	0[b]	-	-	-	-	0
33A	-	1	0	-	-	1
33B	-	0	0	-	-	0
33C	-	0	0	-	-	0
33D	-	0	0	-	-	0
34	0	0	0	-	-	0
35	6[b]	-	-	-	-	6
35U	-	3	0	-	-	3
35L	-	0	0	-	-	0
36	1	4	2	-	-	4
37U	2	2	2	-	-	2
37L	0	0	0	-	-	0
38T	0	0	0	-	-	0
38M	0	2	2	-	-	2
38B	0	3	1	-	-	3
39	0	0	1	-	-	1
40	1	2	0	-	-	2
41T	5	6	0	-	-	6

Table 50 (continued). Numbers of black-legged kittiwake nests counted on index plots at St. George Island, Alaska i in 2017.

Plot	Replicate			Mean	SD	Max.
	1	2	3			
	5-22 Jul	13 Jul-4 Aug	21 Jul-7 Aug			
41B	3	3	0	-	-	3
42A	0	0	0	-	-	0
42B	0	0	0	-	-	0
43	1	0	0	-	-	1
44	4	0	1	-	-	4
45	2	2	3	-	-	3
46	9	10	9			10
47	4	3	5	-	-	5
48	0	0	0	-	-	0
49	2	2	2	-	-	2
50	0	0	0	-	-	0
51	3	3	2	-	-	3
52	4	4	4	-	-	4
53	19	21	16	-	-	21
54A	0	0	0	-	-	0
54B	0	0	0	-	-	0
54C	0	0	0	-	-	0
55	0	0	0	-	-	0
58A	199	118	133	-	-	199
58B	26	91	88	-	-	91
58C	207	186	153	-	-	207
59A	64	32	30	-	-	64
59B	36	20	2	-	-	36
59C	25	27	15	-	-	27
75	7	22	5	-	-	22
81A	25	10	14	-	-	25
81B	18	21	13	-	-	21
81C	19	1	8	-	-	19
81D	18	8	9	-	-	18
Total[c]	719	612	523	618	98	827[d]

[a]No count was conducted
[b]Entire plot was included in a single count. No count of the subplots occurred.
[c]Total includes all plots except 13N.
[d]Overall maximum nest number is the highest nest count on each plot, summed across all plots.

Table 51. Total number of adult black-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include birds banded with alphanumeric and numeric color bands and three color band combinations (2008 only) but not birds historically banded with color combinations 1970-1990's (see Kildaw 1997).

Parameter	Year																									
	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17
New color bands	7	8	0	0	0	1	3	0	7	0	0	7	5	0	5	0	10	27	100	9	43	11	25	0	3	0
New metal and colors	xx[a]	xx	0	0	0	xx	xx	0	xx	0	0	xx	xx	0	xx	0	9	18	80	9	38	10	24	0	3	0
New colors on previous metal-banded bird[b]	xx	xx	0	0	0	xx	xx	xx	xx	0	0	xx	xx	0	xx	0	1	9	18	0	5	1	1	0	0	0
New color bands replace old color bands[c]	xx	xx	0	0	0	xx	xx	xx	xx	0	0	xx	xx	0	xx	0	0	0	1	0	0	1	0	0	0	0
Cum. color-banded birds	7	15	15	15	15	16	19	19	26	26	26	33	38	38	43	43	53	80	180	189	232	243	268	268	271	271

[a]xx indicates data potentially exist but have not yet been summarized.
[b]Bird previously banded with metal band only or with color combinations from 1970's-1990's not used for survival caught subsequent year and given alphanumeric or numeric color band for inclusion in survival dataset.
[c]Bird previously banded with color band recaptured and given new color band; does not add to number of birds color-banded.

Table 52. Fates of cohorts of adult black-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include birds banded with alphanumeric and numeric color bands and three color band combinations (2008 only) but not birds historically banded with color combinations 1970-1990's (see Kildaw 1997).

Year	No. birds banded in year	No. birds resighted in:												
		93	94	95	96	97	98	99	00	01	02	03	04	05
1992	4	4	4	4	3	4	3	3	3	2	1	1	1	1
1993	6	-	5	6	6	6	4	4	3	2	3	2	2	1
1994	0	-	-	-	-	-	-	-	-	-	-	-	-	-
1995	0	-	-	-	-	-	-	-	-	-	-	-	-	-
1996	0	-	-	-	-	-	-	-	-	-	-	-	-	-
1997	1	-	-	-	-	-	1	1	1	0	0	0	0	0
1998	2	-	-	-	-	-	-	2	2	1	1	1	0	0
1999	0	-	-	-	-	-	-	-	-	-	-	-	-	-
2000	7	-	-	-	-	-	-	-	-	6	6	5	5	4
2001	0	-	-	-	-	-	-	-	-	-	-	-	-	-
2002	0	-	-	-	-	-	-	-	-	-	-	-	-	-
2003	7	-	-	-	-	-	-	-	-	-	-	-	4	6
2004	5	-	-	-	-	-	-	-	-	-	-	-	-	4
2005	0	-	-	-	-	-	-	-	-	-	-	-	-	-
2006	5	-	-	-	-	-	-	-	-	-	-	-	-	-
2007	0	-	-	-	-	-	-	-	-	-	-	-	-	-
2008	10	-	-	-	-	-	-	-	-	-	-	-	-	-
2009	27	-	-	-	-	-	-	-	-	-	-	-	-	-
2010	100	-	-	-	-	-	-	-	-	-	-	-	-	-
2011	9	-	-	-	-	-	-	-	-	-	-	-	-	-
2012	43	-	-	-	-	-	-	-	-	-	-	-	-	-
2013	11	-	-	-	-	-	-	-	-	-	-	-	-	-
2014	25	-	-	-	-	-	-	-	-	-	-	-	-	-
2015	0	-	-	-	-	-	-	-	-	-	-	-	-	-
2016	3	-	-	-	-	-	-	-	-	-	-	-	-	-
2017	0[a]	-	-	-	-	-	-	-	-	-	-	-	-	-
Birds seen in current year (A)		4	9	10	9	10	8	10	9	11	11	9	12	16
Birds potentially alive from prior year (B)[b]		4	10	10	10	10	11	12	12	17	13	12	17	21
Apparent annual survival (A/B)[c]		1.00	0.90	1.00	0.90	1.00	0.73	0.83	0.75	0.65	0.85	0.75	0.71	0.76
Resighting effort[d]														
Total no. resight days		xx[e]	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx
Total no. resight hours		xx	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx

Table 52 (continued). Fates of cohorts of adult black-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include birds banded with alphanumeric and numeric color bands and three color band combinations (2008 only) but not birds historically banded with color combinations 1970-1990's (see Kildaw 1997).

Year	No. birds banded in year	No. birds resighted in:												Prop. birds resighted in 2017
		06	07	08	09	10	11	12	13	14	15	16	17	
1992	4	0	0	1	1	1	0	0	0	0	0	0	0	0.00
1993	6	1	1	1	0	0	0	0	0	0	0	0	0	0.00
1994	0	-	-	-	-	-	-	-	-	-	-	-	-	-
1995	0	-	-	-	-	-	-	-	-	-	-	-	-	-
1996	0	-	-	-	-	-	-	-	-	-	-	-	-	-
1997	1	0	0	0	0	0	0	0	0	0	0	0	0	0.00
1998	2	1	0	1	0	0	0	1	0	0	0	0	0	0.00
1999	0	-	-	-	-	-	-	-	-	-	-	-	-	-
2000	7	2	3	3	2	2	2	2	1	1	0	0	1	0.14
2001	0	-	-	-	-	-	-	-	-	-	-	-	-	-
2002	0	-	-	-	-	-	-	-	-	-	-	-	-	-
2003	7	4	4	2	3	4	2	3	2	1	1	1	0	0.00
2004	5	5	3	2	1	3	4	4	3	3	2	3	2	0.40
2005	0	-	-	-	-	-	-	-	-	-	-	-	-	-
2006	5	-	5	3	2	2	1	3	1	1	0	0	0	0.00
2007	0	-	-	-	-	-	-	-	-	-	-	-	-	-
2008	10	-	-	-	6	7	4	7	3	3	2	2	2	0.20
2009	27	-	-	-	-	26	21	24	19	18	16	17	13	0.48
2010	100	-	-	-	-	-	80	83	76	77	70	63	55	0.56
2011	9	-	-	-	-	-	-	6	5	6	4	4	6	0.67
2012	43	-	-	-	-	-	-	-	38	32	31	35	27	0.63
2013	11	-	-	-	-	-	-	-	-	11	9	9	9	0.82
2014	25	-	-	-	-	-	-	-	-	-	24	21	21	0.84
2015	0	-	-	-	-	-	-	-	-	-	-	-	-	-
2016	3	-	-	-	-	-	-	-	-	-	-	-	1	0.33
2017	0[a]	-	-	-	-	-	-	-	-	-	-	-	-	-[a]
		-												
Birds seen in current year (A)		13	16	13	15	45	114	133	148	153	159	155	137	-
Birds potentially alive from prior year (B)[b]		20	21	20	28	52	149	150	187	175	189	175	163	-
Apparent annual survival (A/B)[c]		0.65	0.76	0.65	0.54	0.87	0.77	0.89	0.79	0.87	0.84	0.89	0.84	-
Resighting effort[d]														
Total no. resight days		17	8	10	19	22	22	28	23	23	28	39	25	-
Total no. resight hours		xx	xx	29.2	28.7	63.3	36.8	73.1	69.2	47.2	47.4	53.2	42.0	-

[a]Birds banded in current year are not resighted until following year and not included in current year totals.

[b]Value equals the sum of birds resighted in prior year + birds not resighted in prior year but resighted in future years and thus known to have been alive in prior year + new birds banded in prior year.

[c]Survival should be considered a minimum estimate because it is likely not all birds present were observed each year.

[d]Resighting effort represents sum of time spent at survival plots and includes only dedicated resighting time, not incidental observations made during other work. Hours are calculated by people-hours: 2 people resighting for 1 hour each = 2 resight hours.

[e]xx indicates data potentially exist but have not yet been summarized.

[f]N/A indicates total resight hours not recorded.

Table 53. Resight history of adult black-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include birds banded with alphanumeric and numeric color bands and three color band combinations (2008 only) but not birds historically banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2005). Color codes are recorded as color and # of band for birds banded with alphanumeric and numeric color bands, and as colors (in code) of bands on left (L) and right (R) legs for birds banded with three band combinations.

Codes:

Color combinations
DB = dark blue
DG = dark green
O = orange
R = red
W = white
Y = yellow

Location
V58A = Village 58A
V58C = Village 58C
RF = Rosy Finch
HB = High Bluffs

Notes
A = color band lost or removed (year)
B = rebanded from original color band number (original number; year rebanded)
F = band partially broken or very worn (year observed)

Resight history
y = resighted at least once (# times unknown)
0 = not resighted
x = band no longer resightable (dead, removed, etc.)

Color band		Metal band #	Year banded	Location banded	Notes	Year resighted												
Color or L leg	Band # or R leg					93	94	95	96	97	98	99	00	01	02	03	04	05
Red	T0[a]	?	2010	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	176	604-75313	1997	RF		-	-	-	-	-	y	y	y	0	0	0	0	0
Blue	438	604-75336	2000	RF		-	-	-	-	-	-	-	-	y	y	y	y	y
Blue	70	714-03288	1993	RF		-	y	y	y	y	y	y	y	0	0	0	0	0
Blue	71	714-03289	1993	RF		-	y	y	y	y	y	y	y	y	y	y	y	y
Red	J6	714-03290	2010	RF	B(72;10)	-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	81	714-03298	1993	RF		-	0	y	y	y	0	0	0	0	y	0	0	0
Blue	82	714-03299	1993	RF		-	y	y	y	y	y	y	0	0	0	0	0	0
Blue	337	714-10102	1992	RF	B(45;98)	y	y	y	y	y	y	y	y	y	0	0	0	0
Blue	64	714-10105	1992	RF		y	y	y	y	y	y	y	0	0	0	0	0	0
Blue	66	714-10106	1992	RF		y	y	y	y	y	y	y	y	y	y	y	y	y
Blue	173	714-10107	1992	RF	B(65;97)	y	y	y	0	y	0	0	y	0	0	0	0	0
Blue	474	714-10125	2003	RF		-	-	-	-	-	-	-	-	-	-	-	y	y
Blue	475	714-10126	2003	RF		-	-	-	-	-	-	-	-	-	-	-	y	0
Blue	477	714-10127	2003	RF		-	-	-	-	-	-	-	-	-	-	-	0	y
Blue	479	714-10128	2003	RF		-	-	-	-	-	-	-	-	-	-	-	y	y
Blue	480	714-10129	2003	RF		-	-	-	-	-	-	-	-	-	-	-	0	y
Blue	481	714-10130	2003	RF		-	-	-	-	-	-	-	-	-	-	-	0	y
Blue	485	714-10131	2003	RF		-	-	-	-	-	-	-	-	-	-	-	y	y
Blue	515	714-10146	2004	RF	F(12)	-	-	-	-	-	-	-	-	-	-	-	-	y
Blue	516	714-10147	2004	RF		-	-	-	-	-	-	-	-	-	-	-	-	y
Blue	520	714-10148	2004	RF		-	-	-	-	-	-	-	-	-	-	-	-	y
Blue	521	714-10149	2004	RF		-	-	-	-	-	-	-	-	-	-	-	-	y
Blue	522	714-10150	2004	RF		-	-	-	-	-	-	-	-	-	-	-	-	0
Blue	527	714-10151	2006	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	528	714-10152	2006	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	534	714-10153	2006	RF	F(12)	-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	536	714-10154	2006	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	586	714-10155	2006	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	C0	714-10201	2009	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	C1	714-10202	2009	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	C2	714-10203	2009	RF		-	-	-	-	-	-	-	-	-	-	-	-	-

Table 53 (continued). Resight history of adult black-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include birds banded with alphanumeric and numeric color bands and three color band combinations (2008 only) but not birds historically banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2005). Color codes are recorded as color and # of band for birds banded with alphanumeric and numeric color bands, and as colors (in code) of bands on left (L) and right (R) legs for birds banded with three band combinations.

Codes:	Color combinations		Location	Notes	Resight history
	DB = dark blue	R = red	V58A = Village 58A	A = color band lost or removed (year)	y = resighted at least once (# times unknown)
	DG = dark green	W = white	V58C = Village 58C	B = rebanded from original color band number	0 = not resighted
	O = orange	Y = yellow	RF = Rosy Finch	(original number; year rebanded)	x = band no longer resightable
			HB = High Bluffs	F = band partially broken or very worn (year observed)	(dead, removed, etc.)

Color band		Metal band #	Year banded	Location banded	Notes	Year resighted											
Color or L leg	Band # or R leg					06	07	08	09	10	11	12	13	14	15	16	17
Red	T0[a]	?	2010	V58A		-	-	-	-	-	2	3	2	0	1	1	1
Blue	176	604-75313	1997	RF		0	0	0	0	0	0	0	0	0	0	0	0
Blue	438	604-75336	2000	RF		0	0	0	0	0	0	0	0	0	0	0	0
Blue	70	714-03288	1993	RF		0	0	0	0	0	0	0	0	0	0	0	0
Blue	71	714-03289	1993	RF		0	0	0	0	0	0	0	0	0	0	0	0
Red	J6	714-03290	2010	RF		-	-	-	-	-	0	0	0	0	0	0	0
Blue	81	714-03298	1993	RF		0	0	0	0	0	0	0	0	0	0	0	0
Blue	82	714-03299	1993	RF		0	0	0	0	0	0	0	0	0	0	0	0
Blue	337	714-10102	1992	RF	B(45;98)	0	0	0	0	0	0	0	0	0	0	0	0
Blue	64	714-10105	1992	RF		0	0	0	0	x	x	x	x	x	x	x	0
Blue	66	714-10106	1992	RF		0	0	4	1	4	0	0	0	0	0	0	0
Blue	173	714-10107	1992	RF	B(65;97)	0	0	0	0	0	0	0	0	0	0	0	0
Blue	474	714-10125	2003	RF		1	0	0	2	3	4	2	0	0	1	4	0
Blue	475	714-10126	2003	RF		0	2	0	0	1	2	3	1	2	0	0	0
Blue	477	714-10127	2003	RF		1	1	2	0	3	0	4	2	0	0	0	0
Blue	479	714-10128	2003	RF		0	0	0	0	0	0	0	0	0	0	0	0
Blue	480	714-10129	2003	RF		1	1	0	2	2	0	0	0	0	0	0	0
Blue	481	714-10130	2003	RF		0	0	0	0	0	0	0	0	0	0	0	0
Blue	485	714-10131	2003	RF		1	1	2	2	0	0	0	0	0	0	0	0
Blue	515	714-10146	2004	RF	F(12)	1	0	0	0	0	2	3	3	1	0	0	0
Blue	516	714-10147	2004	RF		1	0	0	0	0	0	0	0	0	0	0	0
Blue	520	714-10148	2004	RF		1	1	2	0	2	4	3	4	0	3	4	1
Blue	521	714-10149	2004	RF		1	1	0	0	4	2	2	1	5	4	4	0
Blue	522	714-10150	2004	RF		1	1	2	1	3	2	4	0	3	0	4	2
Blue	527	714-10151	2006	RF		-	2	0	0	0	0	0	0	0	0	0	0
Blue	528	714-10152	2006	RF		-	2	2	1	0	0	2	0	0	0	0	0
Blue	534	714-10153	2006	RF	F(12)	-	1	2	2	1	2	5	1	0	0	0	0
Blue	536	714-10154	2006	RF		-	2	4	0	1	0	3	0	2	0	0	0
Blue	586	714-10155	2006	RF		-	1	0	0	0	0	0	0	0	0	0	0
Red	C0	714-10201	2009	RF		-	-	-	-	4	0	2	1	0	0	0	0
Red	C1	714-10202	2009	RF		-	-	-	-	3	3	5	8	3	3	4	3
Red	C2	714-10203	2009	RF		-	-	-	-	4	5	4	5	2	3	5	0

Table 54 (continued). Resight history of adult black-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include birds banded with alphanumeric and numeric color bands and three color band combinations (2008 only) but not birds historically banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2005). Color codes are recorded as color and # of band for birds banded with alphanumeric and numeric color bands, and as colors (in code) of bands on left (L) and right (R) legs for birds banded with three band combinations.

Codes:

Color combinations
DB = dark blue
DG = dark green
O = orange
R = red
W = white
Y = yellow

Location
V58A = Village 58A
V58C = Village 58C
RF = Rosy Finch
HB = High Bluffs

Notes
A = color band lost or removed (year)
B = rebanded from original color band number (original number; year rebanded)
F = band partially broken or very worn (year observed)

Resight history
y = resighted at least once (# times unknown)
0 = not resighted
x = band no longer resightable (dead, removed, etc.)

Color band		Metal band #	Year banded	Location banded	Notes	Year resighted												
Color or L leg	Band # or R leg					93	94	95	96	97	98	99	00	01	02	03	04	05
Red	C3	714-10204	2009	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	C4	714-10205	2009	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	C5	714-10206	2009	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	C6	714-10207	2009	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	C7	714-10208	2009	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	C8	714-10209	2009	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	C9	714-10210	2009	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	K1	714-10225	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	K3	714-10226	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	K4	714-10227	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	K5	714-10228	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	K6	714-10229	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	K7	714-10230	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	K8	714-10231	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	K9	714-10232	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	K0	714-10233	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	H1	714-10234	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	H2	714-10235	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	H3	714-10236	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	H5	714-10237	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	H6	714-10238	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	H7	714-10239	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	H8	714-10240	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	H9	714-10241	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	H0	714-10242	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	E1	714-10243	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	E2	714-10244	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	E3	714-10245	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	E4	714-10246	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	E5	714-10247	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	E7	714-10248	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	E8	714-10249	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	E9	714-10250	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-

Table 53 (continued). Resight history of adult black-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include birds banded with alphanumeric and numeric color bands and three color band combinations (2008 only) but not birds historically banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2005). Color codes are recorded as color and # of band for birds banded with alphanumeric and numeric color bands, and as colors (in code) of bands on left (L) and right (R) legs for birds banded with three band combinations.

Codes:

Color combinations
DB = dark blue
DG = dark green
O = orange
R = red
W = white
Y = yellow

Location
V58A = Village 58A
V58C = Village 58C
RF = Rosy Finch
HB = High Bluffs

Notes
A = color band lost or removed (year)
B = rebanded from original color band number (original number; year rebanded)
F = band partially broken or very worn (year observed)

Resight history
y = resighted at least once (# times unknown)
0 = not resighted
x = band no longer resightable (dead, removed, etc.)

Color band		Metal band #	Year banded	Location banded	Notes	Year resighted											
Color or L leg	Band # or R leg					06	07	08	09	10	11	12	13	14	15	16	17
Red	C3	714-10204	2009	RF		-	-	-	-	3	5	4	3	1	3	5	4
Red	C4	714-10205	2009	RF		-	-	-	-	3	1	5	0	0	0	0	0
Red	C5	714-10206	2009	RF		-	-	-	-	3	5	3	2	2	2	2	0
Red	C6	714-10207	2009	V58A		-	-	-	-	2	1	5	5	1	1	1	1
Red	C7	714-10208	2009	V58A		-	-	-	-	4	3	2	4	1	0	1	2
Red	C8	714-10209	2009	V58A		-	-	-	-	1	2	4	3	2	1	8	2
Red	C9	714-10210	2009	V58A		-	-	-	-	5	0	0	0	0	0	0	0
Red	K1	714-10225	2010	RF		-	-	-	-	-	3	4	0	2	1	2	1
Red	K3	714-10226	2010	RF		-	-	-	-	-	0	0	0	1	0	0	0
Red	K4	714-10227	2010	RF		-	-	-	-	-	2	0	0	0	0	0	0
Red	K5	714-10228	2010	RF		-	-	-	-	-	4	4	6	5	3	4	2
Red	K6	714-10229	2010	RF		-	-	-	-	-	4	1	6	0	0	0	0
Red	K7	714-10230	2010	RF		-	-	-	-	-	2	5	1	0	3	5	1
Red	K8	714-10231	2010	RF		-	-	-	-	-	1	2	0	1	0	0	0
Red	K9	714-10232	2010	RF		-	-	-	-	-	3	1	0	0	0	0	0
Red	K0	714-10233	2010	RF		-	-	-	-	-	5	5	5	5	3	0	0
Red	H1	714-10234	2010	RF		-	-	-	-	-	4	1	2	0	4	3	3
Red	H2	714-10235	2010	RF		-	-	-	-	-	5	5	2	3	4	9	0
Red	H3	714-10236	2010	RF		-	-	-	-	-	8	4	5	2	9	5	3
Red	H5	714-10237	2010	RF		-	-	-	-	-	3	8	3	1	5	3	2
Red	H6	714-10238	2010	RF		-	-	-	-	-	1	2	0	0	0	0	0
Red	H7	714-10239	2010	RF		-	-	-	-	-	4	2	7	7	2	0	0
Red	H8	714-10240	2010	RF		-	-	-	-	-	3	6	6	3	7	4	5
Red	H9	714-10241	2010	RF		-	-	-	-	-	1	0	4	3	2	0	0
Red	H0	714-10242	2010	RF		-	-	-	-	-	5	11	0	4	2	10	7
Red	E1	714-10243	2010	RF		-	-	-	-	-	5	1	6	2	2	4	1
Red	E2	714-10244	2010	RF		-	-	-	-	-	2	6	4	3	5	2	2
Red	E3	714-10245	2010	RF		-	-	-	-	-	3	6	7	5	4	4	2
Red	E4	714-10246	2010	RF		-	-	-	-	-	3	3	3	3	3	5	2
Red	E5	714-10247	2010	RF		-	-	-	-	-	0	0	0	0	0	0	0
Red	E7	714-10248	2010	RF		-	-	-	-	-	2	1	0	0	0	0	0
Red	E8	714-10249	2010	RF		-	-	-	-	-	0	9	6	7	5	5	3
Red	E9	714-10250	2010	RF		-	-	-	-	-	0	2	1	2	0	0	0

Table 53 (continued). Resight history of adult black-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include birds banded with alphanumeric and numeric color bands and three color band combinations (2008 only) but not birds historically banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2005). Color codes are recorded as color and # of band for birds banded with alphanumeric and numeric color bands, and as colors (in code) of bands on left (L) and right (R) legs for birds banded with three band combinations.

Codes:

Color combinations
DB = dark blue
DG = dark green
O = orange
R = red
W = white
Y = yellow

Location
V58A = Village 58A
V58C = Village 58C
RF = Rosy Finch
HB = High Bluffs

Notes
A = color band lost or removed (year)
B = rebanded from original color band number (original number; year rebanded)
F = band partially broken or very worn (year observed)

Resight history
y = resighted at least once (# times unknown)
0 = not resighted
x = band no longer resightable (dead, removed, etc.)

Color band		Metal band #	Year banded	Location banded	Notes	Year resighted												
Color or L leg	Band # or R leg					93	94	95	96	97	98	99	00	01	02	03	04	05
Red	E0	714-10251	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	M1	714-10252	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	M2	714-10253	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	M3	714-10254	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	M4	714-10255	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	M5	714-10256	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	M6	714-10257	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	M7	714-10258	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	M8	714-10259	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	M9	714-10260	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	M0	714-10261	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	R1	714-10262	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	R2	714-10263	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	R3	714-10264	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	R4	714-10265	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	R5	714-10266	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	R6	714-10267	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	R7	714-10268	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	R8	714-10269	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	R9	714-10270	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	R0	714-10271	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	X1	714-10272	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	X2	714-10273	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	X3	714-10274	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	X4	714-10275	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	X5	714-10276	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	X6	714-10277	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	X7	714-10278	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	X8	714-10279	2011	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	N9	714-10280	2011	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	P3	714-10281	2011	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	U0	714-10283	2011	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	N8	714-10284	2011	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-

Table 53 (continued). Resight history of adult black-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include birds banded with alphanumeric and numeric color bands and three color band combinations (2008 only) but not birds historically banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2005). Color codes are recorded as color and # of band for birds banded with alphanumeric and numeric color bands, and as colors (in code) of bands on left (L) and right (R) legs for birds banded with three band combinations.

Codes:

Color combinations
DB = dark blue
DG = dark green
O = orange
R = red
W = white
Y = yellow

Location
V58A = Village 58A
V58C = Village 58C
RF = Rosy Finch
HB = High Bluffs

Notes
A = color band lost or removed (year)
B = rebanded from original color band number (original number; year rebanded)
F = band partially broken or very worn (year observed)

Resight history
y = resighted at least once (# times unknown)
0 = not resighted
x = band no longer resightable (dead, removed, etc.)

Color band		Metal band #	Year banded	Location banded	Notes	Year resighted											
Color or L leg	Band # or R leg					06	07	08	09	10	11	12	13	14	15	16	17
Red	E0	714-10251	2010	RF		-	-	-	-	-	2	2	5	4	7	9	7
Red	M1	714-10252	2010	RF		-	-	-	-	-	3	1	4	4	5	4	2
Red	M2	714-10253	2010	RF		-	-	-	-	-	5	2	3	0	0	0	0
Red	M3	714-10254	2010	RF		-	-	-	-	-	7	2	3	2	3	5	2
Red	M4	714-10255	2010	RF		-	-	-	-	-	4	1	1	3	7	0	0
Red	M5	714-10256	2010	RF		-	-	-	-	-	5	6	3	3	4	0	0
Red	M6	714-10257	2010	RF		-	-	-	-	-	6	3	6	2	3	5	4
Red	M7	714-10258	2010	RF		-	-	-	-	-	6	4	4	6	3	0	0
Red	M8	714-10259	2010	RF		-	-	-	-	-	2	4	5	4	6	8	3
Red	M9	714-10260	2010	RF		-	-	-	-	-	2	6	4	2	5	3	2
Red	M0	714-10261	2010	RF		-	-	-	-	-	3	7	9	6	5	10	3
Red	R1	714-10262	2010	RF		-	-	-	-	-	1	7	2	2	0	2	2
Red	R2	714-10263	2010	RF		-	-	-	-	-	2	3	0	1	0	0	0
Red	R3	714-10264	2010	RF		-	-	-	-	-	4	3	3	1	0	0	0
Red	R4	714-10265	2010	RF		-	-	-	-	-	2	6	3	2	3	3	0
Red	R5	714-10266	2010	RF		-	-	-	-	-	5	6	6	2	1	0	3
Red	R6	714-10267	2010	RF		-	-	-	-	-	2	6	2	2	3	2	0
Red	R7	714-10268	2010	RF		-	-	-	-	-	0	0	0	0	0	0	0
Red	R8	714-10269	2010	RF		-	-	-	-	-	2	0	0	0	0	2	1
Red	R9	714-10270	2010	RF		-	-	-	-	-	2	0	0	0	0	0	0
Red	R0	714-10271	2010	RF		-	-	-	-	-	2	4	4	7	4	3	2
Red	X1	714-10272	2010	RF		-	-	-	-	-	3	7	4	0	1	4	4
Red	X2	714-10273	2010	RF		-	-	-	-	-	4	4	0	4	2	1	2
Red	X3	714-10274	2010	RF		-	-	-	-	-	6	3	5	4	5	8	1
Red	X4	714-10275	2010	RF		-	-	-	-	-	1	3	0	0	0	0	0
Red	X5	714-10276	2010	RF		-	-	-	-	-	1	0	0	0	0	0	0
Red	X6	714-10277	2010	RF		-	-	-	-	-	1	0	0	0	0	0	0
Red	X7	714-10278	2010	RF		-	-	-	-	-	5	5	5	1	4	1	0
Red	X8	714-10279	2011	V58A		-	-	-	-	-	-	1	3	0	3	2	2
Red	N9	714-10280	2011	V58A		-	-	-	-	-	-	3	0	0	0	0	0
Red	P3	714-10281	2011	V58A		-	-	-	-	-	-	4	1	1	2	3	3
Red	U0	714-10283	2011	V58A		-	-	-	-	-	-	6	2	0	0	0	1
Red	N8	714-10284	2011	V58A		-	-	-	-	-	-	3	0	2	0	1	1

Table 53 (continued). Resight history of adult black-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include birds banded with alphanumeric and numeric color bands and three color band combinations (2008 only) but not birds historically banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2005). Color codes are recorded as color and # of band for birds banded with alphanumeric and numeric color bands, and as colors (in code) of bands on left (L) and right (R) legs for birds banded with three band combinations.

Codes:	Color combinations		Location	Notes	Resight history
	DB = dark blue	R = red	V58A = Village 58A	A = color band lost or removed (year)	y = resighted at least once (# times unknown)
	DG = dark green	W = white	V58C = Village 58C	B = rebanded from original color band number	0 = not resighted
	O = orange	Y = yellow	RF = Rosy Finch	(original number; year rebanded)	x = band no longer resightable
			HB = High Bluffs	F = band partially broken or very worn (year observed)	(dead, removed, etc.)

Color band		Metal band #	Year banded	Location banded	Notes	Year resighted												
Color or L leg	Band # or R leg					93	94	95	96	97	98	99	00	01	02	03	04	05
Red	145	714-10285	2013	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	150	714-10286	2013	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	151	714-10287	2013	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	154	714-10288	2013	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	157	714-10289	2013	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	158	714-10290	2013	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	X0	714-10298	2011	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
W/DB	R	714-10456	2008	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
DB/DG	R	714-10457	2008	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	K2	714-10466	2008	RF	B(3 bands[b];10)	-	-	-	-	-	-	-	-	-	-	-	-	-
DB/O	DB	714-10467	2008	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
DG/W	Y	714-10469	2008	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	T8	714-10470	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	F7	714-10478	2009	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	A3	714-10480	2009	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	F0	714-10481	2009	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	F2	714-10482	2009	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	F3	714-10484	2009	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	T5	714-10487	2010	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
DB/Y	DG	714-10488	2008	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	A8	714-10489	2009	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	U9	714-10490	2011	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	155	714-10491	2008	V58C	B(3 bands[c];13)	-	-	-	-	-	-	-	-	-	-	-	-	-
Red	A4	714-10494	2009	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	A2	714-10495	2009	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	F5	714-10496	2009	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	N6	714-10797	2010	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	103	714-17032	1993	HB		-	y	y	y	y	0	0	0	0	0	0	0	0
Blue	257	714-17079	1993	HB		-	y	y	y	y	y	y	y	y	y	y	y	0
Red	T1	794-32157	2010	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	129	794-32264	2012	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	346	794-32266	1998	HB	F(?)	-	-	-	-	-	-	y	y	y	y	y	0	0
Blue	420	794-32287	2000	RF		-	-	-	-	-	-	-	-	y	y	y	y	y

Table 53 (continued). Resight history of adult black-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include birds banded with alphanumeric and numeric color bands and three color band combinations (2008 only) but not birds historically banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2005). Color codes are recorded as color and # of band for birds banded with alphanumeric and numeric color bands, and as colors (in code) of bands on left (L) and right (R) legs for birds banded with three band combinations.

Codes:

Color combinations
DB = dark blue
DG = dark green
O = orange
R = red
W = white
Y = yellow

Location
V58A = Village 58A
V58C = Village 58C
RF = Rosy Finch
HB = High Bluffs

Notes
A = color band lost or removed (year)
B = rebanded from original color band number (original number; year rebanded)
F = band partially broken or very worn (year observed)

Resight history
y = resighted at least once (# times unknown)
0 = not resighted
x = band no longer resightable (dead, removed, etc.)

Color band		Metal band #	Year banded	Location banded	Notes	Year resighted											
Color or L leg	Band # or R leg					06	07	08	09	10	11	12	13	14	15	16	17
Red	145	714-10285	2013	V58C		-	-	-	-	-	-	-	-	6	2	2	3
Red	150	714-10286	2013	RF		-	-	-	-	-	-	-	-	7	1	6	1
Red	151	714-10287	2013	RF		-	-	-	-	-	-	-	-	3	3	2	2
Red	154	714-10288	2013	V58C		-	-	-	-	-	-	-	-	2	2	6	6
Red	157	714-10289	2013	V58C		-	-	-	-	-	-	-	-	5	4	5	3
Red	158	714-10290	2013	V58C		-	-	-	-	-	-	-	-	1	0	0	0
Red	X0	714-10298	2011	V58A		-	-	-	-	-	-	0	0	2	2	0	0
W/DB	R	714-10456	2008	V58A		-	-	-	1	6	1	4	0	0	0	0	0
DB/DG	R	714-10457	2008	V58A		-	-	-	0	0	0	0	0	0	0	0	0
Red	K2	714-10466	2008	RF	B(3 bands[b];10)	-	-	-	4	4	4	4	4	3	6	8	2
DB/O	DB	714-10467	2008	V58A		-	-	-	7	5	0	7	0	1	0	0	0
DG/W	Y	714-10469	2008	RF		-	-	-	0	3	0	0	0	0	0	0	0
Red	T8	714-10470	2010	RF		-	-	-	-	-	1	3	2	2	0	4	3
Red	F7	714-10478	2009	V58C		-	-	-	-	3	0	3	0	0	0	0	0
Red	A3	714-10480	2009	V58C		-	-	-	-	7	2	5	5	6	4	5	4
Red	F0	714-10481	2009	V58C		-	-	-	-	2	2	6	1	3	5	0	0
Red	F2	714-10482	2009	V58C		-	-	-	-	6	3	6	0	0	0	0	0
Red	F3	714-10484	2009	V58C		-	-	-	-	1	0	3	5	1	2	2	0
Red	T5	714-10487	2010	V58A		-	-	-	-	-	0	2	3	2	1	6	4
DB/Y	DG	714-10488	2008	V58A		-	-	-	2	4	1	2	0	0	0	0	0
Red	A8	714-10489	2009	V58A		-	-	-	-	0	3	0	0	0	0	0	0
Red	U9	714-10490	2011	V58C		-	-	-	-	-	-	8	5	3	0	4	8
Red	155	714-10491	2008	V58C	B(3 bands[c];13)	-	-	-	3	1	0	2	2	5	1	4	6
Red	A4	714-10494	2009	V58C		-	-	-	-	1	2	4	1	3	2	5	2
Red	A2	714-10495	2009	V58C		-	-	-	-	2	3	3	7	4	3	6	1
Red	F5	714-10496	2009	V58C		-	-	-	-	1	6	4	3	2	1	12	8
Red	N6	714-10797	2010	V58C		-	-	-	-	-	6	4	2	3	2	3	0
Blue	103	714-17032	1993	HB		0	0	0	0	0	0	0	0	0	0	0	0
Blue	257	714-17079	1993	HB		1	1	2	0	0	0	0	0	0	0	0	0
Red	T1	794-32157	2010	V58C		-	-	-	-	-	0	4	3	2	1	0	2
Red	129	794-32264	2012	V58A		-	-	-	-	-	-	-	1	2	3	6	2
Blue	346	794-32266	1998	HB	F(?)	1	0	1	0	0	0	1	0	0	0	0	0
Blue	420	794-32287	2000	RF		0	1	2	3	4	2	6	3	3	0	0	0

Table 53 (continued). Resight history of adult black-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include birds banded with alphanumeric and numeric color bands and three color band combinations (2008 only) but not birds historically banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2005). Color codes are recorded as color and # of band for birds banded with alphanumeric and numeric color bands, and as colors (in code) of bands on left (L) and right (R) legs for birds banded with three band combinations.

Codes:

Color combinations
DB = dark blue
DG = dark green
O = orange
R = red
W = white
Y = yellow

Location
V58A = Village 58A
V58C = Village 58C
RF = Rosy Finch
HB = High Bluffs

Notes
A = color band lost or removed (year)
B = rebanded from original color band number (original number; year rebanded)
F = band partially broken or very worn (year observed)

Resight history
y = resighted at least once (# times unknown)
0 = not resighted
x = band no longer resightable (dead, removed, etc.)

Color band		Metal band #	Year banded	Location banded	Notes	Year resighted												
Color or L leg	Band # or R leg					93	94	95	96	97	98	99	00	01	02	03	04	05
Red	U6	794-32632	2012	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	J2	794-32652	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	336	794-32689	1998	HB		-	-	-	-	-	-	y	y	0	0	0	0	0
Red	114	794-32810	2012	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	E6	794-32839	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	H4	794-32873	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	P5	794-32877	2012	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
W/Y	O	794-32924	2008	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	415	794-32939	2000	RF		-	-	-	-	-	-	-	-	y	0	0	y	y
Blue	416	794-32940	2000	RF		-	-	-	-	-	-	-	-	y	y	y	0	0
Blue	423	794-32943	2000	RF		-	-	-	-	-	-	-	-	y	y	y	y	y
Blue	424	794-32944	2000	RF		-	-	-	-	-	-	-	-	y	y	y	y	0
Blue	425	794-32945	2000	RF		-	-	-	-	-	-	-	-	0	y	0	0	0
Red	141	794-35128	2013	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	142	794-35129	2013	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	143	794-35130	2013	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	144	794-35131	2013	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	U1	794-35132	2012	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	U2	794-35133	2012	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	U3	794-35134	2012	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	U4	794-35135	2012	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	U5	794-35136	2012	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	U7	794-35137	2012	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	P4	794-35138	2012	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	P6	794-35139	2012	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	P7	794-35140	2012	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	P8	794-35141	2012	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	P9	794-35142	2012	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	100	794-35143	2012	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	102	794-35144	2012	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	103	794-35145	2012	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	104	794-35146	2012	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	105	794-35147	2012	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-

Table 53 (continued). Resight history of adult black-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include birds banded with alphanumeric and numeric color bands and three color band combinations (2008 only) but not birds historically banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2005). Color codes are recorded as color and # of band for birds banded with alphanumeric and numeric color bands, and as colors (in code) of bands on left (L) and right (R) legs for birds banded with three band combinations.

Codes:

Color combinations
DB = dark blue
DG = dark green
O = orange
R = red
W = white
Y = yellow

Location
V58A = Village 58A
V58C = Village 58C
RF = Rosy Finch
HB = High Bluffs

Notes
A = color band lost or removed (year)
B = rebanded from original color band number (original number; year rebanded)
F = band partially broken or very worn (year observed)

Resight history
y = resighted at least once (# times unknown)
0 = not resighted
x = band no longer resightable (dead, removed, etc.)

Color band		Metal band #	Year banded	Location banded	Notes	Year resighted											
Color or L leg	Band # or R leg					06	07	08	09	10	11	12	13	14	15	16	17
Red	U6	794-32632	2012	V58C		-	-	-	-	-	-	-	6	3	7	13	3
Red	J2	794-32652	2010	RF		-	-	-	-	-	5	6	4	3	6	3	2
Blue	336	794-32689	1998	HB		0	0	0	0	0	0	0	0	0	0	0	0
Red	114	794-32810	2012	V58A		-	-	-	-	-	-	-	0	0	0	0	0
Red	E6	794-32839	2010	RF		-	-	-	-	-	4	5	5	2	2	5	5
Red	H4	794-32873	2010	RF		-	-	-	-	-	3	4	1	2	4	3	2
Red	P5	794-32877	2012	V58C		-	-	-	-	-	-	-	4	0	0	0	0
W/Y	O	794-32924	2008	V58A		-	-	-	3	1	1	9	2	0	0	0	0
Blue	415	794-32939	2000	RF		1	1	2	1	0	0	0	0	0	0	0	1
Blue	416	794-32940	2000	RF		0	0	0	0	0	0	0	0	0	0	0	0
Blue	423	794-32943	2000	RF		1	2	3	0	4	5	2	0	0	0	0	0
Blue	424	794-32944	2000	RF		0	0	0	0	0	0	0	0	0	0	0	0
Blue	425	794-32945	2000	RF		0	0	0	0	0	0	0	0	0	0	0	0
Red	141	794-35128	2013	V58A		-	-	-	-	-	-	-	-	1	1	0	0
Red	142	794-35129	2013	V58A		-	-	-	-	-	-	-	-	3	0	3	2
Red	143	794-35130	2013	V58C		-	-	-	-	-	-	-	-	6	3	8	5
Red	144	794-35131	2013	V58C		-	-	-	-	-	-	-	-	4	3	3	3
Red	U1	794-35132	2012	RF		-	-	-	-	-	-	-	2	3	5	9	8
Red	U2	794-35133	2012	RF		-	-	-	-	-	-	-	2	1	5	5	3
Red	U3	794-35134	2012	V58C		-	-	-	-	-	-	-	0	0	0	0	0
Red	U4	794-35135	2012	V58C		-	-	-	-	-	-	-	5	5	4	0	0
Red	U5	794-35136	2012	V58C		-	-	-	-	-	-	-	5	3	2	4	6
Red	U7	794-35137	2012	V58C		-	-	-	-	-	-	-	5	1	3	4	3
Red	P4	794-35138	2012	V58C		-	-	-	-	-	-	-	6	0	0	0	0
Red	P6	794-35139	2012	V58C		-	-	-	-	-	-	-	0	0	0	1	0
Red	P7	794-35140	2012	V58C		-	-	-	-	-	-	-	3	3	0	3	5
Red	P8	794-35141	2012	V58C		-	-	-	-	-	-	-	4	4	3	2	3
Red	P9	794-35142	2012	V58C		-	-	-	-	-	-	-	7	3	5	10	5
Red	100	794-35143	2012	V58C		-	-	-	-	-	-	-	5	5	4	7	3
Red	102	794-35144	2012	V58C		-	-	-	-	-	-	-	5	3	3	3	3
Red	103	794-35145	2012	V58C		-	-	-	-	-	-	-	4	4	1	4	3
Red	104	794-35146	2012	V58C		-	-	-	-	-	-	-	6	2	0	3	0
Red	105	794-35147	2012	V58C		-	-	-	-	-	-	-	5	6	1	1	4

Table 53 (continued). Resight history of adult black-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include birds banded with alphanumeric and numeric color bands and three color band combinations (2008 only) but not birds historically banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2005). Color codes are recorded as color and # of band for birds banded with alphanumeric and numeric color bands, and as colors (in code) of bands on left (L) and right (R) legs for birds banded with three band combinations.

Codes:	Color combinations		Location	Notes	Resight history
	DB = dark blue	R = red	V58A = Village 58A	A = color band lost or removed (year)	y = resighted at least once (# times unknown)
	DG = dark green	W = white	V58C = Village 58C	B = rebanded from original color band number	0 = not resighted
	O = orange	Y = yellow	RF = Rosy Finch	(original number; year rebanded)	x = band no longer resightable
			HB = High Bluffs	F = band partially broken or very worn (year observed)	(dead, removed, etc.)

Color band		Metal band #	Year banded	Location banded	Notes	Year resighted												
Color or L leg	Band # or R leg					93	94	95	96	97	98	99	00	01	02	03	04	05
Red	108	794-35148	2012	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	106	794-35149	2012	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	120	794-35150	2012	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	110	794-35151	2012	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	121	794-35152	2012	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	122	794-35153	2012	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	123	794-35154	2012	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	125	794-35155	2012	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	126	794-35156	2012	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	127	794-35157	2012	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	128	794-35158	2012	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	130	794-35159	2012	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	131	794-35160	2012	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	132	794-35161	2012	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	133	794-35162	2012	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	134	794-35163	2012	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	136	794-35164	2012	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	135	794-35165	2012	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	137	794-35166	2012	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	138	794-35167	2012	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	139	794-35168	2012	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	140	794-35169	2012	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	161	794-35170	2014	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	124	794-86927	2012	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	152	794-86931	2013	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	P2	944-06504	2010	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
DB/R	DB	944-06509	2008	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	T9	944-06510	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	J3	944-06511	2010	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	A1	944-06523	2009	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	P0	944-06525	2010	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	184	944-06526	2014	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	A5	944-06527	2009	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-

Table 53 (continued). Resight history of adult black-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include birds banded with alphanumeric and numeric color bands and three color band combinations (2008 only) but not birds historically banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2005). Color codes are recorded as color and # of band for birds banded with alphanumeric and numeric color bands, and as colors (in code) of bands on left (L) and right (R) legs for birds banded with three band combinations.

Codes:	Color combinations		Location	Notes	Resight history
	DB = dark blue	R = red	V58A = Village 58A	A = color band lost or removed (year)	y = resighted at least once (# times unknown)
	DG = dark green	W = white	V58C = Village 58C	B = rebanded from original color band number	0 = not resighted
	O = orange	Y = yellow	RF = Rosy Finch	(original number; year rebanded)	x = band no longer resightable
			HB = High Bluffs	F = band partially broken or very worn (year observed)	(dead, removed, etc.)

Color band		Metal band #	Year banded	Location banded	Notes	Year resighted											
Color or L leg	Band # or R leg					06	07	08	09	10	11	12	13	14	15	16	17
Red	108	794-35148	2012	V58A		-	-	-	-	-	-	-	2	6	3	7	10
Red	106	794-35149	2012	V58C		-	-	-	-	-	-	-	3	1	1	1	0
Red	120	794-35150	2012	V58A		-	-	-	-	-	-	-	5	0	3	2	2
Red	110	794-35151	2012	V58A		-	-	-	-	-	-	-	1	4	2	4	2
Red	121	794-35152	2012	V58A		-	-	-	-	-	-	-	3	0	2	1	0
Red	122	794-35153	2012	V58A		-	-	-	-	-	-	-	2	2	0	2	0
Red	123	794-35154	2012	V58A		-	-	-	-	-	-	-	4	4	5	7	2
Red	125	794-35155	2012	V58A		-	-	-	-	-	-	-	1	1	2	7	1
Red	126	794-35156	2012	V58A		-	-	-	-	-	-	-	3	2	1	6	4
Red	127	794-35157	2012	V58A		-	-	-	-	-	-	-	2	3	2	4	4
Red	128	794-35158	2012	V58A		-	-	-	-	-	-	-	0	0	0	0	0
Red	130	794-35159	2012	V58C		-	-	-	-	-	-	-	4	1	3	9	4
Red	131	794-35160	2012	V58C		-	-	-	-	-	-	-	2	0	0	0	0
Red	132	794-35161	2012	V58C		-	-	-	-	-	-	-	5	2	2	4	4
Red	133	794-35162	2012	V58C		-	-	-	-	-	-	-	5	2	3	7	0
Red	134	794-35163	2012	V58C		-	-	-	-	-	-	-	0	0	0	0	0
Red	136	794-35164	2012	RF		-	-	-	-	-	-	-	4	4	2	7	5
Red	135	794-35165	2012	V58A		-	-	-	-	-	-	-	2	3	0	1	0
Red	137	794-35166	2012	RF		-	-	-	-	-	-	-	3	4	3	7	1
Red	138	794-35167	2012	RF		-	-	-	-	-	-	-	3	1	5	7	3
Red	139	794-35168	2012	RF		-	-	-	-	-	-	-	3	4	6	2	3
Red	140	794-35169	2012	RF		-	-	-	-	-	-	-	3	2	6	5	3
Red	161	794-35170	2014	RF		-	-	-	-	-	-	-	-	-	3	0	0
Red	124	794-86927	2012	V58A		-	-	-	-	-	-	-	5	0	1	1	0
Red	152	794-86931	2013	V58C		-	-	-	-	-	-	-	-	5	8	6	7
Red	P2	944-06504	2010	V58C		-	-	-	-	-	0	0	2	7	2	2	0
DB/R	DB	944-06509	2008	V58C		-	-	-	0	0	0	0	0	0	0	0	0
Red	T9	944-06510	2010	RF		-	-	-	-	-	3	5	7	3	4	1	0
Red	J3	944-06511	2010	V58A		-	-	-	-	-	0	3	0	3	0	0	0
Red	A1	944-06523	2009	RF		-	-	-	-	3	0	0	0	0	0	0	0
Red	P0	944-06525	2010	V58C		-	-	-	-	-	0	2	4	2	1	2	3
Red	184	944-06526	2014	V58C		-	-	-	-	-	-	-	-	-	4	4	1
Red	A5	944-06527	2009	V58C		-	-	-	-	3	2	4	7	2	2	3	1

Table 53 (continued). Resight history of adult black-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include birds banded with alphanumeric and numeric color bands and three color band combinations (2008 only) but not birds historically banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2005). Color codes are recorded as color and # of band for birds banded with alphanumeric and numeric color bands, and as colors (in code) of bands on left (L) and right (R) legs for birds banded with three band combinations.

Codes:	Color combinations		Location	Notes	Resight history
	DB = dark blue	R = red	V58A = Village 58A	A = color band lost or removed (year)	y = resighted at least once (# times unknown)
	DG = dark green	W = white	V58C = Village 58C	B = rebanded from original color band number	0 = not resighted
	O = orange	Y = yellow	RF = Rosy Finch	(original number; year rebanded)	x = band no longer resightable
			HB = High Bluffs	F = band partially broken or very worn (year observed)	(dead, removed, etc.)

Color band		Metal band #	Year banded	Location banded	Notes	Year resighted												
Color or L leg	Band # or R leg					93	94	95	96	97	98	99	00	01	02	03	04	05
Red	F1	944-06528	2009	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	T7	944-06529	2010	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	N7	944-06530	2010	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	F4	944-06531	2009	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	N5	944-06533	2010	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	A6	944-06535	2009	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	A7	944-06544	2009	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	F6	944-06545	2009	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	L2	944-06547	2010	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	T2	944-06548	2010	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	P1	944-06549	2010	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	J0	944-06553	2009	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	A0	944-06555	2010	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	A9	944-06557	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	J4	944-06558	2010	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	J9	944-06559	2010	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	J1	944-06560	2010	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	J5	944-06561	2010	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	L0	944-06564	2010	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	L4	944-06565	2010	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	J8	944-06566	2010	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	L1	944-06567	2010	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	J7	944-06568	2010	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	F9	944-06569	2010	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	F8	944-06570	2010	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	N2	944-06571	2010	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	L9	944-06572	2010	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	L3	944-06573	2010	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	T6	944-06574	2010	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	L5	944-06575	2010	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	N1	944-06576	2010	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	L6	944-06577	2010	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	T3	944-06578	2010	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-

Table 53 (continued). Resight history of adult black-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include birds banded with alphanumeric and numeric color bands and three color band combinations (2008 only) but not birds historically banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2005). Color codes are recorded as color and # of band for birds banded with alphanumeric and numeric color bands, and as colors (in code) of bands on left (L) and right (R) legs for birds banded with three band combinations.

Codes:	Color combinations		Location	Notes	Resight history
	DB = dark blue	R = red	V58A = Village 58A	A = color band lost or removed (year)	y = resighted at least once (# times unknown)
	DG = dark green	W = white	V58C = Village 58C	B = rebanded from original color band number	0 = not resighted
	O = orange	Y = yellow	RF = Rosy Finch	(original number; year rebanded)	x = band no longer resightable
			HB = High Bluffs	F = band partially broken or very worn (year observed)	(dead, removed, etc.)

Color band		Metal band #	Year banded	Location banded	Notes	Year resighted											
Color or L leg	Band # or R leg					06	07	08	09	10	11	12	13	14	15	16	17
Red	F1	944-06528	2009	V58A		-	-	-	-	1	1	5	0	0	0	0	0
Red	T7	944-06529	2010	V58C		-	-	-	-	-	2	1	5	6	0	2	0
Red	N7	944-06530	2010	V58C		-	-	-	-	-	0	5	0	2	1	5	1
Red	F4	944-06531	2009	V58C		-	-	-	-	1	4	3	3	7	3	2	1
Red	N5	944-06533	2010	V58C		-	-	-	-	-	3	6	5	3	2	3	0
Red	A6	944-06535	2009	V58C		-	-	-	-	3	3	6	8	7	3	4	3
Red	A7	944-06544	2009	RF		-	-	-	-	3	4	1	0	0	0	0	0
Red	F6	944-06545	2009	V58C		-	-	-	-	2	2	4	4	5	3	3	1
Red	L2	944-06547	2010	V58A		-	-	-	-	-	0	2	1	2	1	0	1
Red	T2	944-06548	2010	V58A		-	-	-	-	-	1	0	1	0	0	0	0
Red	P1	944-06549	2010	V58A		-	-	-	-	-	0	5	3	2	1	0	1
Red	J0	944-06553	2009	V58A		-	-	-	-	1	0	7	3	1	0	1	0
Red	A0	944-06555	2010	V58A		-	-	-	-	-	0	3	5	4	2	1	1
Red	A9	944-06557	2010	RF		-	-	-	-	-	4	2	6	2	2	5	5
Red	J4	944-06558	2010	V58C		-	-	-	-	-	3	0	3	1	3	3	0
Red	J9	944-06559	2010	V58C		-	-	-	-	-	1	6	4	3	1	7	5
Red	J1	944-06560	2010	V58C		-	-	-	-	-	4	5	3	1	4	5	3
Red	J5	944-06561	2010	V58C		-	-	-	-	-	2	3	4	5	1	1	1
Red	L0	944-06564	2010	V58C		-	-	-	-	-	0	1	2	6	2	0	0
Red	L4	944-06565	2010	V58C		-	-	-	-	-	0	2	5	3	4	4	1
Red	J8	944-06566	2010	V58C		-	-	-	-	-	2	3	0	0	0	0	0
Red	L1	944-06567	2010	V58C		-	-	-	-	-	0	3	0	0	0	0	0
Red	J7	944-06568	2010	V58C		-	-	-	-	-	3	7	5	5	4	5	4
Red	F9	944-06569	2010	V58C		-	-	-	-	-	3	4	4	3	1	1	2
Red	F8	944-06570	2010	V58C		-	-	-	-	-	4	7	6	5	3	7	0
Red	N2	944-06571	2010	V58C		-	-	-	-	-	2	1	2	2	3	1	2
Red	L9	944-06572	2010	V58C		-	-	-	-	-	2	8	3	5	3	8	0
Red	L3	944-06573	2010	V58A		-	-	-	-	-	1	6	1	1	1	1	1
Red	T6	944-06574	2010	V58A		-	-	-	-	-	1	0	1	1	0	1	2
Red	L5	944-06575	2010	V58A		-	-	-	-	-	1	1	3	5	1	1	6
Red	N1	944-06576	2010	V58C		-	-	-	-	-	1	3	3	6	0	9	4
Red	L6	944-06577	2010	V58C		-	-	-	-	-	1	3	6	0	1	4	4
Red	T3	944-06578	2010	V58C		-	-	-	-	-	3	0	0	0	0	0	0

Table 53 (continued). Resight history of adult black-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include birds banded with alphanumeric and numeric color bands and three color band combinations (2008 only) but not birds historically banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2005). Color codes are recorded as color and # of band for birds banded with alphanumeric and numeric color bands, and as colors (in code) of bands on left (L) and right (R) legs for birds banded with three band combinations.

Codes:

Color combinations
DB = dark blue
DG = dark green
O = orange
R = red
W = white
Y = yellow

Location
V58A = Village 58A
V58C = Village 58C
RF = Rosy Finch
HB = High Bluffs

Notes
A = color band lost or removed (year)
B = rebanded from original color band number (original number; year rebanded)
F = band partially broken or very worn (year observed)

Resight history
y = resighted at least once (# times unknown)
0 = not resighted
x = band no longer resightable (dead, removed, etc.)

Color band		Metal band #	Year banded	Location banded	Notes	Year resighted												
Color or L leg	Band # or R leg					93	94	95	96	97	98	99	00	01	02	03	04	05
Red	L7	944-06579	2010	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	N3	944-06580	2010	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	N4	944-06581	2010	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	N0	944-06582	2010	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	T4	944-06583	2010	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	L8	944-06584	2010	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	U8	944-06591	2011	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	X9	944-06592	2011	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
W/DG	Y	954-11601	2008	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	159	1034-11567	2014	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	162	1034-11568	2014	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	164	1034-11569	2014	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	165	1034-11570	2014	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	166	1034-11571	2014	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	167	1034-11572	2014	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	168	1034-11573	2014	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	169	1034-11574	2014	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	170	1034-11575	2014	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	171	1034-11576	2014	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	172	1034-11577	2014	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	173	1034-11578	2014	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	174	1034-11579	2014	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	175	1034-11580	2014	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	176	1034-11581	2014	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	177	1034-11582	2014	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	178	1034-11583	2014	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	180	1034-11584	2014	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	181	1034-11585	2014	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	182	1034-11586	2014	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	183	1034-11587	2014	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	186	1034-11588	2014	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	187	1034-11589	2014	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	188	1034-11604	2016	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-

Table 53 (continued). Resight history of adult black-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include birds banded with alphanumeric and numeric color bands and three color band combinations (2008 only) but not birds historically banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2005). Color codes are recorded as color and # of band for birds banded with alphanumeric and numeric color bands, and as colors (in code) of bands on left (L) and right (R) legs for birds banded with three band combinations.

Codes:	Color combinations		Location	Notes	Resight history
	DB = dark blue	R = red	V58A = Village 58A	A = color band lost or removed (year)	y = resighted at least once (# times unknown)
	DG = dark green	W = white	V58C = Village 58C	B = rebanded from original color band number	0 = not resighted
	O = orange	Y = yellow	RF = Rosy Finch	(original number; year rebanded)	x = band no longer resightable
			HB = High Bluffs	F = band partially broken or very worn (year observed)	(dead, removed, etc.)

Color band		Metal band #	Year banded	Location banded	Notes	Year resighted											
Color or L leg	Band # or R leg					06	07	08	09	10	11	12	13	14	15	16	17
Red	L7	944-06579	2010	V58C		-	-	-	-	-	4	3	4	2	6	0	3
Red	N3	944-06580	2010	V58C		-	-	-	-	-	2	2	2	2	2	0	0
Red	N4	944-06581	2010	V58A		-	-	-	-	-	1	5	7	1	3	2	5
Red	N0	944-06582	2010	V58A		-	-	-	-	-	1	0	2	1	1	4	2
Red	T4	944-06583	2010	V58C		-	-	-	-	-	0	4	1	2	0	5	0
Red	L8	944-06584	2010	V58C		-	-	-	-	-	2	4	1	7	3	5	2
Red	U8	944-06591	2011	V58A		-	-	-	-	-	-	0	1	6	2	0	1
Red	X9	944-06592	2011	V58A		-	-	-	-	-	-	0	0	1	0	0	0
W/DG	Y	954-11601	2008	V58A		-	-	-	0	0	0	1	0	0	0	0	0
Red	159	1034-11567	2014	RF		-	-	-	-	-	-	-	-	-	4	0	0
Red	162	1034-11568	2014	RF		-	-	-	-	-	-	-	-	-	6	0	0
Red	164	1034-11569	2014	RF		-	-	-	-	-	-	-	-	-	3	5	3
Red	165	1034-11570	2014	V58C		-	-	-	-	-	-	-	-	-	5	5	5
Red	166	1034-11571	2014	V58C		-	-	-	-	-	-	-	-	-	5	4	3
Red	167	1034-11572	2014	V58C		-	-	-	-	-	-	-	-	-	4	7	1
Red	168	1034-11573	2014	V58C		-	-	-	-	-	-	-	-	-	1	6	4
Red	169	1034-11574	2014	V58C		-	-	-	-	-	-	-	-	-	2	5	4
Red	170	1034-11575	2014	V58C		-	-	-	-	-	-	-	-	-	2	6	2
Red	171	1034-11576	2014	V58C		-	-	-	-	-	-	-	-	-	3	9	8
Red	172	1034-11577	2014	V58C		-	-	-	-	-	-	-	-	-	2	8	4
Red	173	1034-11578	2014	V58C		-	-	-	-	-	-	-	-	-	4	5	5
Red	174	1034-11579	2014	V58C		-	-	-	-	-	-	-	-	-	1	3	3
Red	175	1034-11580	2014	V58C		-	-	-	-	-	-	-	-	-	1	3	1
Red	176	1034-11581	2014	V58C		-	-	-	-	-	-	-	-	-	1	4	2
Red	177	1034-11582	2014	V58C		-	-	-	-	-	-	-	-	-	3	3	6
Red	178	1034-11583	2014	V58C		-	-	-	-	-	-	-	-	-	2	1	2
Red	180	1034-11584	2014	V58C		-	-	-	-	-	-	-	-	-	3	2	1
Red	181	1034-11585	2014	V58C		-	-	-	-	-	-	-	-	-	3	11	4
Red	182	1034-11586	2014	V58C		-	-	-	-	-	-	-	-	-	3	5	3
Red	183	1034-11587	2014	V58C		-	-	-	-	-	-	-	-	-	0	0	0
Red	186	1034-11588	2014	V58C		-	-	-	-	-	-	-	-	-	1	5	3
Red	187	1034-11589	2014	V58C		-	-	-	-	-	-	-	-	-	1	5	2
Red	188	1034-11604	2016	V58A		-	-	-	-	-	-	-	-	-	-	-	2

Table 53 (continued). Resight history of adult black-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include birds banded with alphanumeric and numeric color bands and three color band combinations (2008 only) but not birds historically banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2005). Color codes are recorded as color and # of band for birds banded with alphanumeric and numeric color bands, and as colors (in code) of bands on left (L) and right (R) legs for birds banded with three band combinations.

Codes:	Color combinations		Location	Notes	Resight history
	DB = dark blue	R = red	V58A = Village 58A	A = color band lost or removed (year)	y = resighted at least once (# times unknown)
	DG = dark green	W = white	V58C = Village 58C	B = rebanded from original color band number (original number; year rebanded)	0 = not resighted
	O = orange	Y = yellow	RF = Rosy Finch	F = band partially broken or very worn (year observed)	x = band no longer resightable (dead, removed, etc.)
			HB = High Bluffs		

Color band		Metal band #	Year banded	Location banded	Notes	Year resighted												
Color or L leg	Band # or R leg					93	94	95	96	97	98	99	00	01	02	03	04	05
Red	191	1034-11605	2016	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Red	192	1034-11606	2016	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
				Total birds resighted[d]		4	9	10	9	10	8	10	9	11	11	9	12	16

Table 53 (continued). Resight history of adult black-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include birds banded with alphanumeric and numeric color bands and three color band combinations (2008 only) but not birds historically banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2005). Color codes are recorded as color and # of band for birds banded with alphanumeric and numeric color bands, and as colors (in code) of bands on left (L) and right (R) legs for birds banded with three band combinations.

Codes:	Color combinations		Location	Notes	Resight history
	DB = dark blue	R = red	V58A = Village 58A	A = color band lost or removed (year)	y = resighted at least once (# times unknown)
	DG = dark green	W = white	V58C = Village 58C	B = rebanded from original color band number (original number; year rebanded)	0 = not resighted
	O = orange	Y = yellow	RF = Rosy Finch	F = band partially broken or very worn (year observed)	x = band no longer resightable (dead, removed, etc.)
			HB = High Bluffs		

Color band		Metal band #	Year banded	Location banded	Notes	Year resighted												
Color or L leg	Band # or R leg					06	07	08	09	10	11	12	13	14	15	16	17	
Red	191	1034-11605	2016	V58A		-	-	-	-	-	-	-	-	-	-	-	0	
Red	192	1034-11606	2016	V58A		-	-	-	-	-	-	-	-	-	-	-	0	
				Total birds resighted[d]		13	16	13	15	45	114	133	148	153	159	155	137	

[a] Bird has metal band but number is unknown. Excluded from total birds resighted.
[b] Bird originally banded with three color band combination DB/DG on left, Y on right in 2008; replaced with alphanumeric band in 2010.
[c] Bird originally banded with three color band combination DB/O on left, Y on right in 2008; replaced with alphanumeric band in 2013.
[d] Total birds resighted does not include birds banded in the resight year or birds that had color bands lost or removed during the study (i.e. note "A").

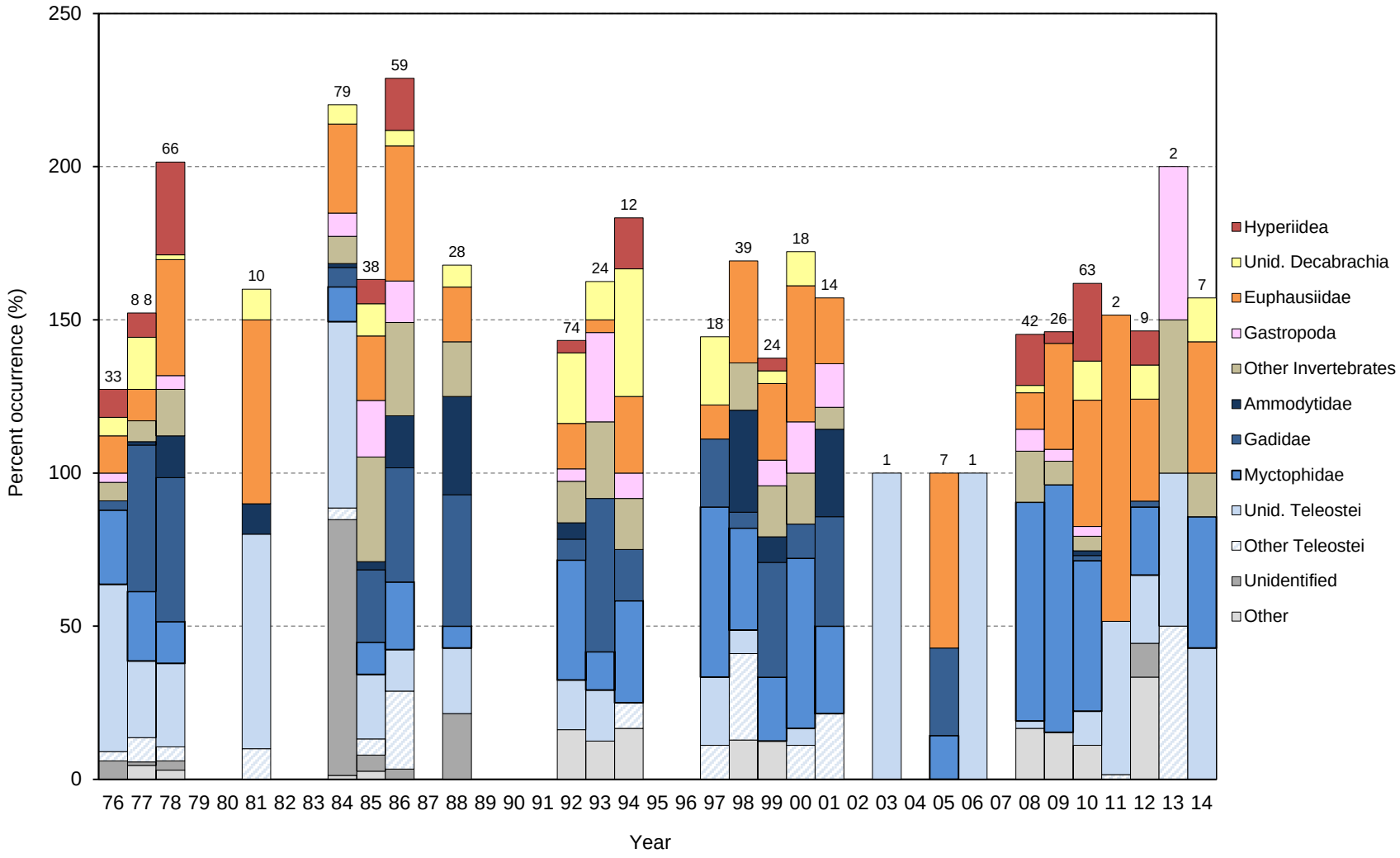

Figure 28. Frequency of occurrence of major prey items in diets of black-legged kittiwake adults and chicks at St. George Island, Alaska. Frequency is expressed as the percentage of food samples in which each prey item was present. Prey is grouped to family level or higher; only taxa with an among-year average occurrence of at least 5% are shown. Samples consist of stomach contents from adults collected at or near the colony, regurgitations from adults returning to the colony to feed chicks and regurgitations from chicks themselves. Numbers above columns indicate sample sizes. No diet samples were collected in 1979-1980, 1982-1983, 1987, 1989-1991, 1995-1996, 2007, 2015, or 2017; samples were collected in 2002, 2004, and 2016 but have not yet been analyzed.

Table 54. Frequency of occurrence of major prey items in diets of black-legged kittiwake adults and chicks at St. George Island, Alaska. Frequency is expressed as the percentage of food samples in which each prey item was present. Prey was identified and measured in the laboratory to lowest taxon possible (some prey items were identified to species while others were only identified to genus, family, order, etc.). Any prey with an among-year average occurrence of at least 5% are shown to the lowest taxonomic level; others are lumped together as "others" in their respective taxonomic group with values in bold showing totals for those taxa. Samples consist of stomach contents from adults collected at or near the colony, regurgitations from adults returning to the colony to feed chicks and regurgitations from chicks themselves. No diet samples were collected in 1979-1980, 1982-1983, 1987, 1989-1991, 1995-1996, 2007, 2015, or 2017; samples were collected in 2002, 2004, and 2016 but have not yet been analyzed. More detailed diet data and prey identifications are available, contact refuge biologists for details.

Prey	1976	1977	1978	1981	1984	1985	1986	1988	1992	1993	1994	1997	1998	1999	2000	2001
No. samples	33	88	66	10	79	38	59	28	74	24[a]	12[b]	18	39	24[c]	18[d]	14
Invertebrates	**33.3**	**37.5**	**60.6**	**60.0**	**49.4**	**68.4**	**71.2**	**39.3**	**54.1**	**58.3**	**58.3**	**33.3**	**64.1**	**45.8**	**66.7**	**57.1**
Amphipoda	**12.1**	**11.4**	**34.8**	**-**	**6.3**	**7.9**	**22.0**	**3.6**	**4.1**	**8.3**	**16.7**	**-**	**5.1**	**12.5**	**-**	**21.4**
Hyperiidea	9.1	8.0	30.3	-	-	7.9	16.9	-	4.1	-	16.7	-	-	4.2	-	-
Other Amphipoda	3.0	3.4	4.5	-	6.3	-	5.1	3.6	-	8.3	-	-	5.1	8.3	-	21.4
Cephalopoda	**6.1**	**17.0**	**1.5**	**10.0**	**12.7**	**10.5**	**5.1**	**7.1**	**23.0**	**12.5**	**41.7**	**22.2**	**23.1**	**4.2**	**11.1**	**21.4**
Unid. Decabrachia	6.1	17.0	1.5	10.0	6.3	10.5	5.1	7.1	23.0	12.5	41.7	22.2	-	4.2	11.1	-
Other Cephalopoda	-	-	-	-	6.3	-	-	-	-	-	-	-	23.1	-	-	21.4
Euphausiacea	**12.1**	**10.2**	**37.9**	**60.0**	**29.1**	**21.1**	**44.1**	**17.9**	**14.9**	**4.2**	**25.0**	**11.1**	**33.3**	**25.0**	**44.4**	**21.4**
Euphausiidae	**12.1**	**10.2**	**37.9**	**60.0**	**29.1**	**21.1**	**44.1**	**17.9**	**14.9**	**4.2**	**25.0**	**11.1**	**33.3**	**25.0**	**44.4**	**21.4**
Thysanoessa inermis	3.0	-	16.7	-	6.3	15.8	33.9	-	-	-	-	-	-	-	-	-
T. raschii	3.0	2.3	27.3	60.0	7.6	7.9	30.5	-	2.7	-	-	-	-	-	-	-
Thysanoessa spp.	-	-	1.5	-	7.6	-	-	17.9	12.2	4.2	-	-	-	-	-	14.3
Unid. Euphausiidae	9.1	8.0	16.7	-	21.5	2.6	5.1	-	-	-	25.0	11.1	33.3	25.0	44.4	7.1
Other Euphausiidae	-	-	15.2	-	7.6	-	-	-	-	-	-	-	-	-	-	-
Gastropoda	3.0	-	4.5	-	7.6	18.4	13.6	-	4.1	29.2	8.3	-	-	8.3	16.7	14.3
Other Invertebrates	6.1	6.8	15.2	-	8.9	34.2	30.5	17.9	13.5	25.0	16.7	-	15.4	16.7	16.7	7.1
Fish	**84.8**	**83.0**	**83.3**	**90.0**	**68.4**	**55.3**	**72.9**	**82.1**	**63.5**	**54.2**	**50.0**	**88.9**	**76.9**	**66.7**	**66.7**	**78.6**
Teleostei	**84.8**	**83.0**	**83.3**	**90.0**	**68.4**	**55.3**	**72.9**	**82.1**	**63.5**	**54.2**	**50.0**	**88.9**	**76.9**	**66.7**	**66.7**	**78.6**
Ammodytidae	**-**	**1.1**	**13.6**	**10.0**	**1.3**	**2.6**	**16.9**	**32.1**	**5.4**	**-**	**-**	**-**	**33.3**	**8.3**	**-**	**28.6**
Ammodytes spp.	-	1.1	13.6	10.0	1.3	2.6	16.9	32.1	5.4	-	-	-	33.3	8.3	-	28.6
Gadidae	**3.0**	**47.7**	**47.0**	**-**	**6.3**	**23.7**	**37.3**	**42.9**	**6.8**	**50.0**	**16.7**	**22.2**	**5.1**	**37.5**	**11.1**	**35.7**
Gadus chalcogrammus	-	30.7	47.0	-	5.1	23.7	37.3	39.3	1.4	41.7	16.7	22.2	5.1	37.5	11.1	35.7
Other Gadidae	3.0	17.0	-	-	1.3	-	-	10.7	5.4	12.5	-	-	-	-	-	-
Myctophidae	**24.2**	**22.7**	**13.6**	**-**	**11.4**	**10.5**	**22.0**	**7.1**	**39.2**	**12.5**	**33.3**	**55.6**	**33.3**	**20.8**	**55.6**	**28.6**
Stenobrachius leucopsarus	-	-	-	-	-	-	-	-	-	-	-	-	33.3	-	-	14.3
Unid. Myctophidae	12.1	22.7	13.6	-	11.4	10.5	22.0	7.1	39.2	12.5	33.3	55.6	2.6	20.8	55.6	14.3
Other Myctophidae	12.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28.6
Unid. Teleostei	54.5	25.0	27.3	70.0	60.8	21.1	13.6	21.4	16.2	16.7	-	22.2	7.7	-	5.6	-
Other Teleostei	3.0	8.0	4.5	10.0	3.8	5.3	25.4	-	-	-	8.3	11.1	28.2	-	11.1	21.4
Other	**6.1**	**5.7**	**6.1**	**-**	**84.8**	**5.3**	**3.4**	**21.4**	**16.2**	**12.5**	**16.7**	**-**	**12.8**	**12.5**	**-**	**-**
Unidentified	6.1	1.1	3.0	-	83.5	5.3	3.4	21.4	-	-	-	-	-	-	-	-
Other	-	4.5	3.0	-	1.3	2.6	-	-	16.2	12.5	16.7	-	12.8	12.5	-	-

Table 54 (continued). Frequency of occurrence of major prey items in diets of black-legged kittiwake adults and chicks at St. George Island, Alaska. Frequency is expressed as the percentage of food samples in which each prey item was present. Prey was identified and measured in the laboratory to lowest taxon possible (some prey items were identified to species while others were only identified to genus, family, order, etc.). Any prey with an among-year average occurrence of at least 5% are shown to the lowest taxonomic level; others are lumped together as "others" in their respective taxonomic group with values in bold showing totals for those taxa. Samples consist of stomach contents from adults collected at or near the colony, regurgitations from adults returning to the colony to feed chicks and regurgitations from chicks themselves. No diet samples were collected in 1979-1980, 1982-1983, 1987, 1989-1991, 1995-1996, 2007, 2015, or 2017; samples were collected in 2002, 2004, and 2016 but have not yet been analyzed. More detailed diet data and prey identifications are available, contact refuge biologists for details.

Prey	2002	2003	2004	2005	2006	2008	2009	2010	2011	2012	2013	2014	2016
No. samples	15	1[e]	8	7	1	42	26	63	2	9	2	7	2
Invertebrates	*pending*	**-**	*pending*	**57.1**	**-**	**45.2**	**50.0**	**71.4**	**100.0**	**55.6**	**50.0**	**42.9**	*pending*
Amphipoda	**-**	**-**	**-**	**-**	**-**	**21.4**	**19.2**	**34.9**	**-**	**11.1**	**-**	**-**	**-**
Hyperiidea	-	-	-	-	-	16.7	3.8	25.4	-	11.1	-	**-**	-
Other Amphipoda	-	-	-	-	-	11.9	15.4	15.9	-	-	-	-	-
Cephalopoda	**-**	**-**	**-**	**-**	**-**	**2.4**	**7.7**	**14.3**	**-**	**11.1**	**-**	**-**	**-**
Unid. Decabrachia	-	-	-	-	-	2.4	-	12.7	-	11.1	-	14.3	-
Other Cephalopoda	-	-	-	-	-	-	7.7	1.6	-	-	-	14.3	-
Euphausiacea	**-**	**-**	**-**	**57.1**	**-**	**11.9**	**34.6**	**41.3**	**100.0**	**33.3**	**-**	**42.9**	**-**
Euphausiidae	-	-	**-**	**57.1**	-	**11.9**	**34.6**	**41.3**	**100.0**	**33.3**	**-**	**42.9**	**-**
Thysanoessa inermis	-	-	-	-	-	-	-	6.3	50.0	22.2	-	14.3	-
T. raschii	-	-	-	-	-	2.4	3.8	20.6	50.0	22.2	-	-	-
Thysanoessa spp.	-	-	-	-	-	4.8	30.8	20.6	100.0	22.2	-	14.3	-
Unid. Euphausiidae	-	-	-	57.1	-	7.1	-	3.2	50.0	-	-	14.3	-
Other Euphausiidae	-	-	-	-	-	-	-	-	-	-	-	-	-
Gastropoda	-	-	-	-	-	7.1	3.8	3.2	-	-	50.0	-	-
Other Invertebrates	-	-	-	-	-	16.7	7.7	4.8	-	-	50.0	14.3	-
Fish	**-**	**100.0**	**-**	**42.9**	**100.0**	**71.4**	**80.8**	**63.5**	**50.0**	**44.4**	**100.0**	**85.7**	**-**
Teleostei	**-**	**100.0**	**-**	**42.9**	**100.0**	**71.4**	**80.8**	**63.5**	**50.0**	**44.4**	**100.0**	**85.7**	**-**
Ammodytidae	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**1.6**	**-**	**-**	**-**	**-**	**-**
Ammodytes spp.	-	-	-	-	-	-	-	1.6	-	-	-	-	-
Gadidae	**-**	**-**	**-**	**28.6**	**-**	**-**	**-**	**1.6**	**-**	**1.9**	**-**	**-**	**-**
Gadus chalcogrammus	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Gadidae	-	-	-	28.6	-	-	-	1.6	-	1.9	-	-	-
Myctophidae	**-**	**-**	**-**	**14.3**	**-**	**71.4**	**80.8**	**49.2**	**-**	**22.2**	**-**	**42.9**	**-**
Stenobrachius leucopsarus	-	-	-	14.3	-	71.4	80.8	3.2	-	-	-	-	-
Unid. Myctophidae	-	-	-	14.3	-	-	-	31.7	-	22.2	-	42.9	-
Other Myctophidae	-	-	-	-	-	-	-	19.0	-	-	-	-	-
Unid. Teleostei	-	100.0	-	-	100.0	2.4	-	11.1	50.0	22.2	50.0	42.9	-
Other Teleostei	-	-	-	-	-	-	-	-	1.6	-	50.0	-	-
Other	**-**	**-**	**-**	**-**	**-**	**16.7**	**15.4**	**11.1**	**-**	**44.4**	**-**	**-**	**-**
Unidentified	-	-	-	-	-	-	-	-	-	11.1	-	-	-
Other	-	-	-	-	-	16.7	15.4	11.1	-	33.3	-	-	-

[a]Seventy-two additional samples are still pending analysis.
[b]Thirty-one additional samples are still pending analysis.
[c]Four additional samples are still pending analysis.
[d]Ninety-four additional samples are still pending analysis.
[e]Fifteen additional samples are still pending analysis.

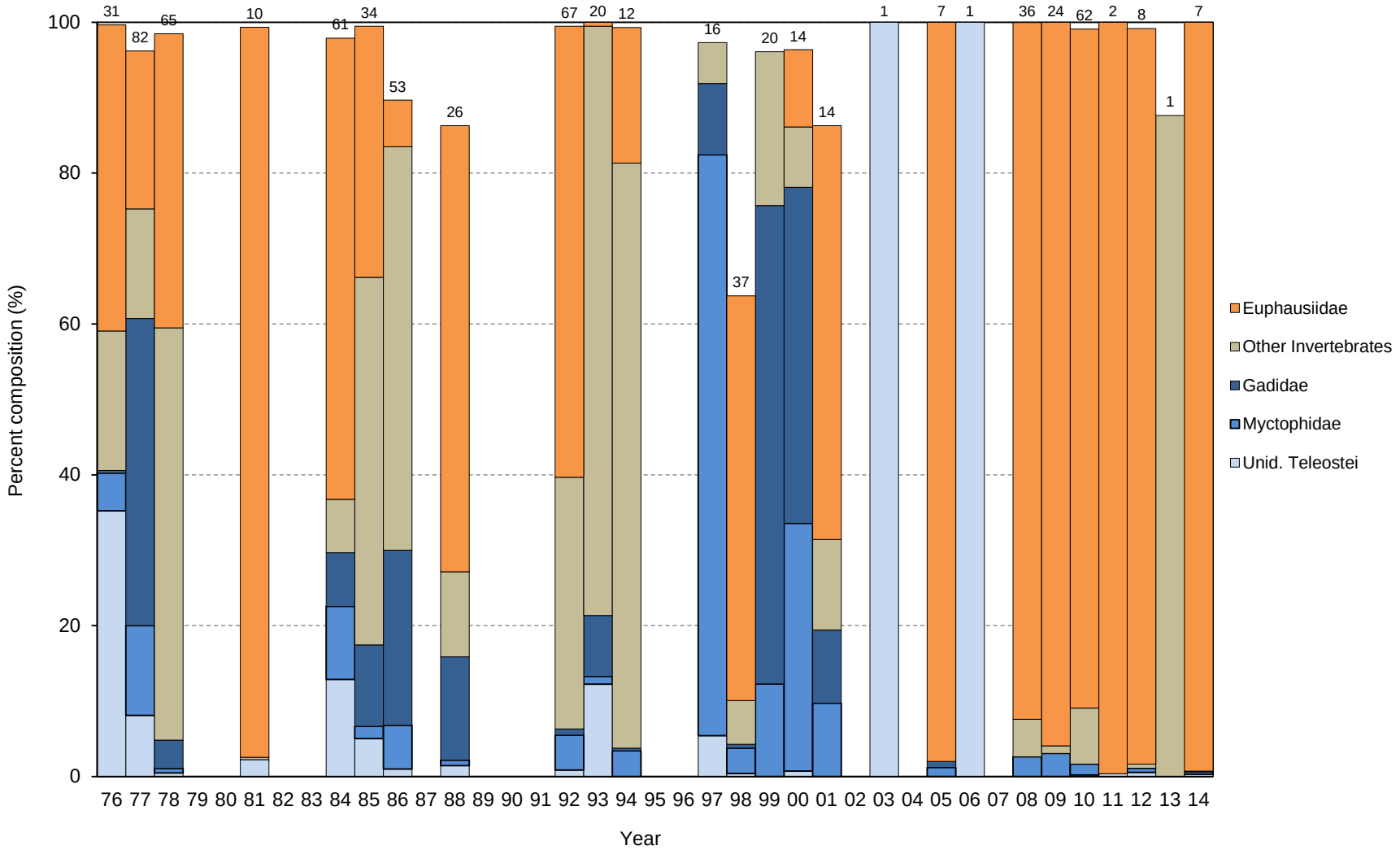

Figure 29. Percent composition of major prey items in diets of black-legged kittiwake adults and chicks at St. George Island, Alaska. Values are expressed as the percentage of total individual prey items comprised by each prey item. Prey is grouped to family level or higher; only taxa with an among-year average composition of at least 5% are shown. Samples consist of stomach contents from adults collected at or near the colony, regurgitations from adults returning to the colony to feed chicks and regurgitations from chicks themselves. Numbers above columns indicate sample sizes. No diet samples were collected in 1979-1980, 1982-1983, 1987, 1989-1991, 1995-1996, 2007, 2015, or 2017; samples were collected in 2002, 2004, and 2016 but have not yet been analyzed.

Table 55. Percent composition of major prey items in diets of black-legged kittiwake adults and chicks at St. George Island, Alaska. Values are expressed as the percentage of total individual prey items comprised by each prey item. Prey was identified and measured in the laboratory to lowest taxon possible (some prey items were identified to species while others were only identified to genus, family, order, etc.). Any prey with an among-year average composition of at least 5% are shown to the lowest taxonomic level; others are lumped together as "others" in their respective taxonomic group with values in bold showing totals for those taxa. Samples consist of stomach contents from adults collected at or near the colony, regurgitations from adults returning to the colony to feed chicks and regurgitations from chicks themselves. No diet samples were collected in 1979-1980, 1982-1983, 1987, 1989-1991, 1995-1996, 2007, 2015, or 2017; samples were collected in 2002, 2004, and 2016 but have not yet been analyzed. More detailed diet data and prey identifications are available, contact refuge biologists for details.

Prey	1976	1977	1978	1981	1984	1985	1986	1988	1992	1993	1994	1997	1998	1999	2000	2001
No. samples	31	82	65	10	61	34	53	26	67	20[a]	12[b]	16	37	20[c]	14[d]	14
No. individuals	281	420	5607	1024	381	556	793	416	1298	384	584	74	984	358	137	137
Invertebrates	**59.1**	**35.5**	**93.7**	**97.1**	**68.2**	**82.0**	**59.6**	**70.4**	**93.1**	**78.6**	**95.5**	**5.4**	**59.5**	**20.4**	**18.2**	**66.9**
Euphausiacea	**40.6**	**21.0**	**39.0**	**96.8**	**61.2**	**33.3**	**6.2**	**59.1**	**59.8**	**0.5**	**18.0**	**-**	**53.7**	**-**	**10.2**	**54.9**
Euphausiidae	**40.6**	**21.0**	**39.0**	**96.8**	**61.2**	**33.3**	**6.2**	**59.1**	**59.8**	**0.5**	**18.0**	**-**	**53.7**	**-**	**10.2**	**54.9**
Thysanoessa inermis	16.4	-	3.2	-	14.4	28.8	0.5	-	-	-	-	-	-	-	-	-
T. raschii	12.5	16.7	19.5	96.8	13.4	4.5	5.5	-	2.2	-	-	-	-	-	-	-
Thysanoessa spp.	-	-	<0.1	-	22.0	-	-	59.1	57.6	0.5	-	-	-	-	-	45.1
Unid. Euphausiidae	11.7	4.3	13.8	-	0.5	-	0.1	-	-	-	18.0	-	53.7	-	10.2	9.7
Other Euphausiidae	-	-	2.5	-	10.8	-	-	-	-	-	-	-	-	-	-	-
Other Invertebrates	18.5	14.5	54.6	0.3	7.1	48.7	53.5	11.3	33.4	78.1	77.6	5.4	5.8	20.4	8.0	12.0
Fish	**40.9**	**64.5**	**6.3**	**2.9**	**31.8**	**18.0**	**40.4**	**29.6**	**6.6**	**21.4**	**3.9**	**94.6**	**40.5**	**78.2**	**81.8**	**33.1**
Teleostei	**40.9**	**64.5**	**6.3**	**2.9**	**31.8**	**18.0**	**40.4**	**29.6**	**6.6**	**21.4**	**3.9**	**94.6**	**40.5**	**78.2**	**81.8**	**33.1**
Gadidae	**0.4**	**40.7**	**3.8**	**-**	**7.1**	**10.8**	**23.2**	**13.7**	**0.8**	**8.1**	**0.3**	**9.5**	**0.5**	**63.4**	**44.5**	**9.7**
Gadus chalcogrammus	-	31.0	3.8	-	6.8	10.8	23.2	12.3	0.1	7.3	0.3	9.5	0.5	63.4	44.5	9.7
Other Gadidae	0.4	9.8	-	-	0.3	-	-	1.4	0.8	0.8	-	-	-	-	-	-
Myctophidae	**5.0**	**11.9**	**0.6**	**-**	**9.7**	**1.6**	**5.8**	**0.7**	**4.6**	**1.0**	**3.4**	**77.0**	**3.4**	**12.3**	**32.8**	**9.7**
Unid. Myctophidae	2.8	11.9	0.6	-	9.7	1.6	5.8	0.7	4.6	1.0	3.4	77.0	0.1	12.3	32.8	1.1
Other Myctophidae	2.1	-	-	-	-	-	-	-	-	-	-	-	3.3	-	-	8.6
Unid. Teleostei	35.2	8.1	0.5	2.2	12.9	5.0	1.0	1.4	0.8	12.2	-	5.4	0.4	-	0.7	0.0
Other Teleostei	0.4	3.8	1.5	0.7	2.1	0.5	10.3	13.7	0.3	-	0.2	2.7	36.3	2.5	3.6	13.7
Other	-	-	-	-	-	-	-	-	0.2	-	0.5	-	-	1.4	-	-

Table 55 (continued). Percent composition of major prey items in diets of black-legged kittiwake adults and chicks at St. George Island, Alaska. Values are expressed as the percentage of total individual prey items comprised by each prey item. Prey was identified and measured in the laboratory to lowest taxon possible (some prey items were identified to species while others were only identified to genus, family, order, etc.). Any prey with an among-year average composition of at least 5% are shown to the lowest taxonomic level; others are lumped together as "others" in their respective taxonomic group with values in bold showing totals for those taxa. Samples consist of stomach contents from adults collected at or near the colony, regurgitations from adults returning to the colony to feed chicks and regurgitations from chicks themselves. No diet samples were collected in 1979-1980, 1982-1983, 1987, 1989-1991, 1995-1996, 2007, 2015, or 2017; samples were collected in 2002, 2004, and 2016 but have not yet been analyzed. More detailed diet data and prey identifications are available, contact refuge biologists for details.

Prey	2002	2003	2004	2005	2006	2008	2009	2010	2011	2012	2013	2014	2016
No. samples	15	1[e]	8	7	1	36	24	62	2	8	1	7	2
No. individuals	*pending*	1	*pending*	250	1	3263	1498	3376	259	364	170	2326	*pending*
Invertebrates	**-**	**-**	**-**	**98.0**	**-**	**97.3**	**96.9**	**97.4**	**99.6**	**98.1**	**87.6**	**99.4**	**-**
Euphausiacea	**-**	**-**	**-**	**98.0**	**-**	**92.4**	**95.9**	**90.0**	**99.6**	**97.5**	**-**	**99.3**	**-**
Euphausiidae	**-**	**-**	**-**	**98.0**	**-**	**92.4**	**95.9**	**90.0**	**99.6**	**97.5**	**-**	**99.3**	**-**
Thysanoessa inermis	-	-	-	-	-	-	-	6.2	1.5	44.5	-	90.5	-
T. raschii	-	-	-	-	-	0.2	51.7	48.3	4.6	41.8	-	-	-
Thysanoessa spp.	-	-	-	-	-	0.4	44.3	29.0	22.0	11.3	-	0.2	-
Unid. Euphausiidae	-	-	-	98.0	-	91.8	-	6.5	71.4	-	-	8.6	-
Other Euphausiidae	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Invertebrates	-	-	-	-	-	5.0	1.0	7.4	-	0.5	87.6	0.1	-
Fish	**-**	**100.0**	**-**	**2.0**	**100.0**	**2.7**	**3.1**	**2.5**	**0.4**	**1.1**	**12.4**	**0.6**	**-**
Teleostei	**-**	**100.0**	**-**	**2.0**	**100.0**	**2.7**	**3.1**	**2.5**	**0.4**	**1.1**	**12.4**	**0.6**	**-**
Gadidae	**-**	**-**	**-**	**0.8**	**-**	**-**	**-**	**<0.1**	**-**	**-**	**-**	**-**	**-**
Gadus chalcogrammus	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Gadidae	-	-	-	0.8	-	-	-	<0.1	-	-	-	-	-
Myctophidae	**-**	**-**	**-**	**1.2**	**-**	**2.6**	**3.1**	**1.5**	**-**	**0.5**	**-**	**0.3**	**-**
Unid. Myctophidae	-	-	-	0.4	-	-	-	0.8	-	0.5	-	0.3	-
Other Myctophidae	-	-	-	0.8	-	2.6	3.1	0.6	-	-	-	-	-
Unid. Teleostei	-	100.0	-	-	100.0	<0.1	-	0.2	0.4	0.5	-	0.3	-
Other Teleostei	-	-	-	-	-	-	-	0.9	-	-	12.4	-	-
Other	-	-	-	-	-	-	-	0.1	-	0.8	-	-	-

[a]Seventy-two additional samples are still pending analysis.
[b]Thirty-one additional samples are still pending analysis.
[c]Four additional samples are still pending analysis.
[d]Ninety-four additional samples are still pending analysis.
[e]Fifteen additional samples are still pending analysis.

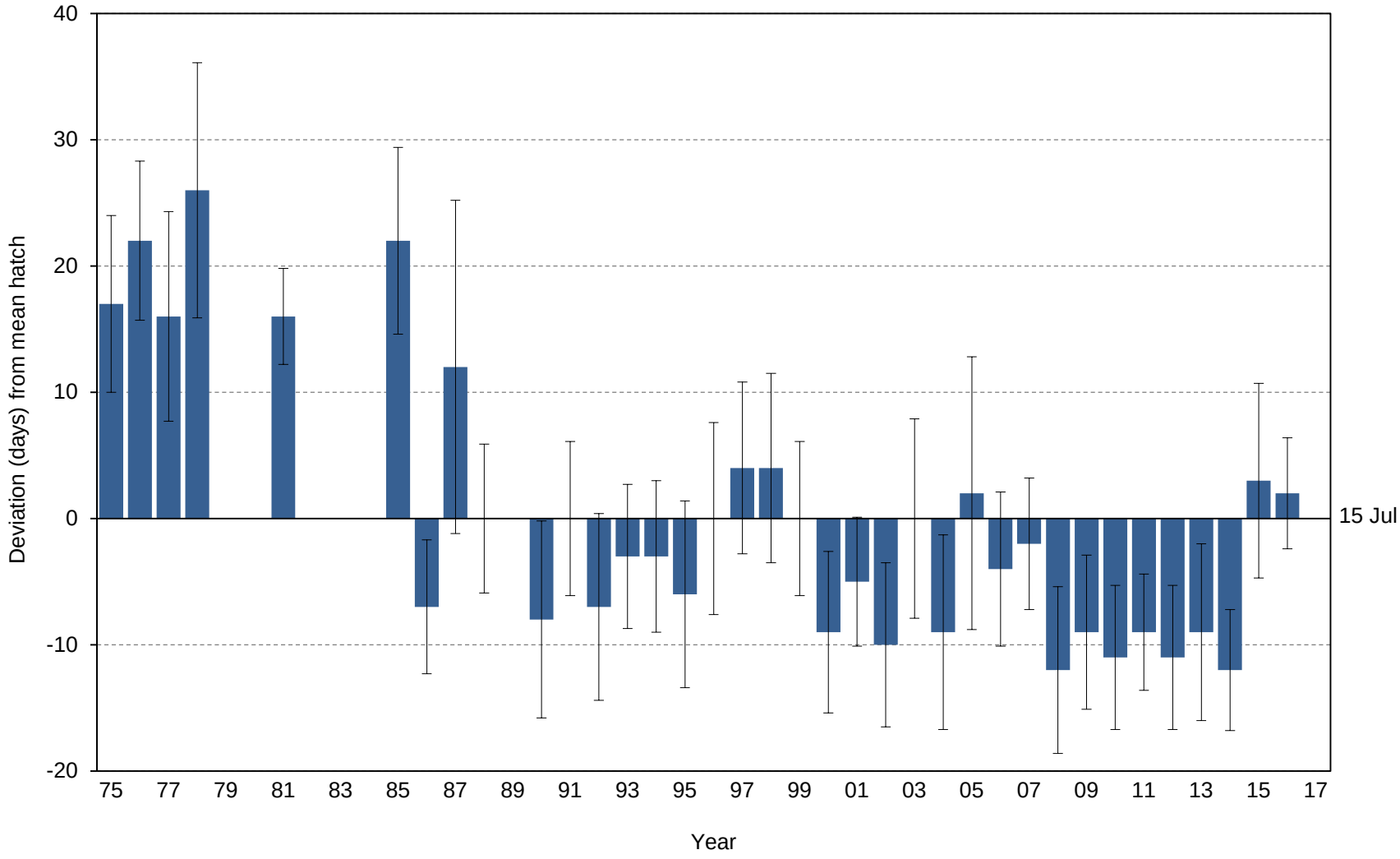

Figure 30. Yearly hatch date deviation (from the 1975-2016 average of 15 July) for red-legged kittiwakes at St. George Island, Alaska. Negative values indicate earlier than mean hatch date, positive values indicate later than mean hatch date. Error bars represent standard deviation around each year's mean hatch date. No data were collected in 1979-1980 or 1982-1984; no eggs hatched in plots in 1989 or 2017.

Table 56. Breeding chronology of red-legged kittiwakes at St. George Island, Alaska. Data represent the dates of the first egg laid and the first chick hatched in each nest. No data were collected in 1979-1980 or 1982-1984.

Year	Mean lay	SD	n[a]	Mean hatch	SD	n[b]	First lay	First hatch	Last hatch	First fledge[c]
1975	-	-	-	1 Aug	7.0	19	-	-	-	-
1976	-	-	-	5 Aug	6.3	35	-	-	-	-
1977	-	-	-	31 Jul	8.3	93	-	-	-	-
1978	-	-	-	10 Aug	10.1	25	-	-	-	-
1981	10 Jul	2.1	7	31 Jul	3.8	6	7 Jul	25 Jul	7 Aug	5 Sep
1985	14 Jul	9.6	26	6 Aug	7.4	17	1 Jul	21 Jul	23 Aug	>23 Aug
1986	21 Jun	9.3	28	8 Jul	5.3	82	9 Jun	29 Jun	31 Jul	13 Aug
1987	28 Jun	12.1	88	27 Jul	13.2	38	15 Jun	9 Jul	22 Aug	29 Aug
1988	11 Jul	2.4	3	14 Jul	5.9	54	9 Jul	10 Jul	11 Aug	10 Aug
1989	20 Jun	7.4	20	-	-	-	13 Jun	-	-	-
1990	17 Jun	5.9	69	7 Jul	7.8	121	11 Jun	25 Jun	14 Aug	12 Aug
1991	18 Jun	5.9	96	15 Jul	6.1	137	8 Jun	27 Jun	6 Aug	13 Aug
1992	11 Jun	6.2	154	7 Jul	7.4	115	4 Jun	26 Jun	4 Aug	3 Aug
1993	14 Jun	6.4	209	12 Jul	5.7	140	3 Jun	1 Jul	3 Aug	8 Aug
1994	14 Jun	6.3	215	12 Jul	6.0	88	4 Jun	3 Jul	2 Aug	8 Aug
1995	11 Jun	5.8	104	9 Jul	7.4	28	7 Jun	27 Jun	27 Jul	20 Aug
1996	16 Jun	9.0	129	14 Jul	7.6	32	7 Jun	4 Jul	7 Aug	16 Aug
1997	19 Jun	7.3	141	19 Jul	6.8	73	7 Jun	5 Jul	6 Aug	15 Aug
1998	20 Jun	7.1	170	19 Jul	7.5	95	7 Jun	1 Jul	8 Aug	15 Aug
1999	19 Jun	7.3	145	15 Jul	6.1	68	9 Jun	5 Jul	6 Aug	18 Aug
2000	7 Jun	6.4	227	5 Jul	6.4	152	29 May	23 Jun	31 Jul	8 Aug
2001	12 Jun	5.5	269	10 Jul	5.1	99	30 May	27 Jun	29 Jul	12 Aug
2002	7 Jun	6.9	228	5 Jul	6.5	116	28 May	25 Jun	28 Jul	1 Aug
2003	16 Jun	7.6	169	15 Jul	7.9	79	1 Jun	3 Jul	4 Aug	19 Aug
2004	6 Jun	6.4	240	5 Jul	7.7	87	27 May	24 Jun	1 Aug	10 Aug
2005	13 Jun	8.7	202	17 Jul	10.8	28	1 Jun	1 Jul	6 Aug	25 Aug
2006	14 Jun	6.8	270	11 Jul	6.1	176	1 Jun	29 Jun	4 Aug	8 Aug
2007	13 Jun	7.2	118	13 Jul	5.2	33	1 Jun	2 Jul	28 Jul	18 Aug
2008	8 Jun	5.8	156	2 Jul	6.6	183	2 Jun	20 Jun	1 Aug	8 Aug
2009	9 Jun	5.1	169	6 Jul	6.1	107	1 Jun	18 Jun	27 Jul	6 Aug
2010	9 Jun	5.9	191	4 Jul	5.7	154	3 Jun	24 Jun	23 Jul	2 Aug
2011	10 Jun	5.0	188	6 Jul	4.6	50	5 Jun	1 Jul	23 Jul	12 Aug
2012	7 Jun	5.8	181	3 Jul	5.7	158	2 Jun	22 Jun	24 Jul	1 Aug
2013	11 Jun	5.2	137	6 Jul	7.0	89	3 Jun	27 Jun	2 Aug	5 Aug
2014	9 Jun	5.9	212	4 Jul	4.8	170	3 Jun	22 Jun	15 Jul	7 Aug
2015	20 Jun	6.9	123	18 Jul	7.7	10	9 Jun	8 Jul	31 Jul	24 Aug
2016	22 Jun	6.1	73	16 Jul	4.4	4	8 Jun	10 Jul	22 Jul	-
2017	21 Jun	6.2	4	-	-	-	13 Jun	-	-	-

[a]Sample sizes for mean lay dates are a sub-sample of total nests for which no egg to egg interval is ≤ 7 days.
[b]Sample sizes for mean hatch dates are a sub-sample of total nests for which egg to chick interval is ≤ 7 days.
[c]In years when no chicks fledged before the field crew left the island at the end of the season, date of first fledge is listed as > the date of last nest check.

Table 57. Frequency distribution of hatch dates for red-legged kittiwakes at St. George Island, Alaska. Data represent the date of the first chick hatched in each nest and include only nests in which observations of egg to chick ≤ 7 days. No data were collected in 1979-1980 or 1982-1984; data from individual nests are not available before 1981 and no eggs hatched in plots in 1989 or 2017.

Julian date[a]	No. nests hatching on Julian date																
	1981	1985	1986	1987	1988	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
169	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
170	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
171	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
172	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
173	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
174	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
175	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-
176	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	1	-
177	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
178	-	-	-	-	-	4	1	5	-	-	2	-	-	-	-	2	1
179	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-
180	-	-	2	-	-	6	-	5	-	-	-	-	-	-	-	2	1
181	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-
182	-	-	11	-	-	2	3	4	2	-	5	-	-	1	-	8	5
183	-	-	-	-	-	3	-	14	-	-	-	-	-	-	-	13	-
184	-	-	4	-	-	28	2	17	-	2	-	-	-	-	-	4	-
185	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	26	1
186	-	-	12	-	-	6	2	4	15	20	-	1	1	3	3	23	11
187	-	-	-	-	-	11	1	-	-	-	-	-	-	-	-	-	-
188	-	-	4	-	-	6	2	31	4	6	12	-	1	2	1	26	10
189	-	-	8	-	-	2	1	7	-	-	-	-	-	-	-	7	10
190	-	-	1	1	-	15	11	-	6	-	-	14	4	5	8	7	19
191	-	-	22	-	-	2	-	-	53	-	-	-	-	-	1	-	6
192	-	-	2	-	18	3	14	2	-	30	-	-	6	3	2	6	15
193	-	-	-	-	-	-	-	2	6	-	-	-	-	-	7	1	1
194	-	-	5	3	-	8	-	7	7	1	1	1	3	-	15	2	5
195	-	-	-	2	-	9	6	-	1	1	-	-	-	-	1	-	1
196	-	-	-	6	31	3	1	2	16	5	-	9	14	26	6	1	5
197	-	-	9	-	-	-	55	1	1	16	-	-	2	3	-	-	3
198	-	-	-	2	3	-	4	4	2	1	6	-	1	1	2	2	1
199	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-
200	-	-	-	2	-	-	6	2	18	-	-	-	12	7	9	-	-
201	-	-	-	-	-	4	-	-	-	-	-	2	5	-	-	1	-
202	-	1	-	-	-	-	19	1	1	-	-	-	5	6	1	-	-
203	-	-	-	-	-	-	-	-	-	2	1	-	-	2	-	5	-
204	-	-	-	6	-	-	-	1	-	-	-	-	2	12	9	3	1
205	-	-	-	-	-	-	1	-	2	-	-	-	-	-	-	-	-
206	1	1	-	-	-	-	3	-	1	-	-	2	5	1	-	-	-
207	-	-	-	-	-	-	-	-	-	-	-	-	1	7	-	-	1

Table 57 (continued). Frequency distribution of hatch dates for red-legged kittiwakes at St. George Island, Alaska. Data represent the date of the first chick hatched in each nest and include only nests in which observations of egg to chick ≤ 7 days. No data were collected in 1979-1980 or 1982-1984; data from individual nests are not available before 1981 and no eggs hatched in plots in 1989 or 2017.

Julian date[a]	No. nests hatching on Julian date																
	1981	1985	1986	1987	1988	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
208	-	-	-	2	-	-	1	4	1	2	1	-	5	3	-	-	1
209	-	-	-	-	-	-	-	-	-	-	-	1	-	2	-	-	-
210	-	1	-	-	-	-	1	-	2	-	-	-	-	2	1	1	1
211	-	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
212	4	-	1	-	-	-	-	1	1	-	-	1	3	3	1	-	-
213	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-
214	-	2	-	-	-	-	-	-	-	2	-	-	-	2	-	-	-
215	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
216	-	2	-	2	-	-	2	-	-	-	-	-	2	-	-	-	-
217	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-
218	-	-	-	-	-	-	1	-	-	-	-	-	1	1	1	-	-
219	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
220	-	4	-	3	-	-	-	-	-	-	-	1	-	1	-	-	-
221	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
222	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
223	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
224	-	4	-	2	2	1	-	-	-	-	-	-	-	-	-	-	-
225	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
226	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
227	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
228	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-
229	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
230	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-
231	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
232	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
233	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
234	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
n	6	17	82	38	54	121	137	115	140	88	28	32	73	95	68	152	99

Table 57 (continued). Frequency distribution of hatch dates for red-legged kittiwakes at St. George Island, Alaska. Data represent the date of the first chick hatched in each nest and include only nests in which observations of egg to chick ≤ 7 days. No data were collected in 1979-1980 or 1982-1984; data from individual nests are not available before 1981 and no eggs hatched in plots in 1989 or 2017.

Julian date[a]	No. nests hatching on Julian date														
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
169	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
170	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
171	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
172	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
173	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
174	-	-	-	-	-	-	-	-	-	-	2	-	5	-	-
175	-	-	-	-	-	-	-	-	2	-	1	-	-	-	-
176	2	-	2	-	-	-	32	2	-	-	2	-	1	-	-
177	2	-	2	-	-	-	2	2	-	-	-	-	1	-	-
178	4	-	6	-	-	-	2	4	17	-	19	1	2	-	-
179	1	-	-	-	-	-	-	8	6	-	-	1	5	-	-
180	13	-	5	-	1	-	21	-	4	-	10	5	1	-	-
181	5	-	7	-	-	-	-	3	-	-	21	-	1	-	-
182	8	-	12	1	4	-	39	10	41	6	20	27	9	-	-
183	-	-	2	-	1	1	-	-	2	-	-	-	2	-	-
184	22	2	-	-	4	-	9	14	19	9	17	8	7	-	-
185	19	2	5	-	-	-	2	-	1	16	16	-	2	-	-
186	1	-	4	2	12	-	41	15	-	-	12	5	54	-	-
187	1	-	10	1	3	-	-	-	36	1	1	17	2	-	-
188	10	14	-	2	41	-	2	2	3	-	4	1	3	-	-
189	5	1	13	-	2	2	-	21	-	9	-	-	1	1	-
190	10	1	1	6	20	9	5	-	-	4	12	6	2	-	-
191	-	-	-	1	19	-	5	3	-	-	-	-	1	-	-
192	1	14	5	1	9	1	6	8	4	-	5	5	20	2	1
193	1	2	-	-	2	2	-	2	4	3	5	-	-	-	-
194	1	2	5	-	8	11	-	6	1	-	-	1	-	-	-
195	-	-	-	-	21	-	-	-	6	-	-	-	-	-	-
196	4	3	2	3	8	-	6	1	-	-	3	5	3	2	1
197	1	3	-	-	-	1	-	1	2	-	4	1	-	-	-
198	-	15	-	2	-	2	6	1	-	-	-	-	-	1	-
199	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
200	-	1	1	-	-	-	1	-	4	-	2	-	-	-	-
201	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
202	-	4	-	-	6	-	1	2	-	-	1	-	-	-	-
203	-	-	1	-	2	-	-	-	-	-	-	-	-	2	-
204	-	-	-	-	2	3	-	-	2	2	-	-	-	-	1
205	-	2	-	-	4	-	-	-	-	-	-	-	-	-	-
206	1	1	-	-	3	-	1	-	-	-	1	2	-	-	-
207	-	1	1	1	-	-	-	-	-	-	-	-	-	-	-

Table 57 (continued). Frequency distribution of hatch dates for red-legged kittiwakes at St. George Island, Alaska. Data represent the date of the first chick hatched in each nest and include only nests in which observations of egg to chick ≤ 7 days. No data were collected in 1979-1980 or 1982-1984; data from individual nests are not available before 1981 and no eggs hatched in plots in 1989 or 2017.

Julian date[a]	No. nests hatching on Julian date														
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
208	1	3	-	1	-	-	-	1	-	-	-	2	-	-	-
209	3	1	1	-	-	1	-	-	-	-	-	-	-	-	-
210	-	2	-	2	1	-	-	-	-	-	-	-	-	-	-
211	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
212	-	2	-	1	1	-	-	-	-	-	-	-	-	2	-
213	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
214	-	2	2	1	-	-	1	-	-	-	-	1	-	-	-
215	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
216	-	1	-	-	1	-	-	-	-	-	-	-	-	-	-
217	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
218	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-
219	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
220	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
221	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
222	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
223	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
224	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
225	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
226	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
227	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
228	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
229	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
230	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
231	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
232	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
233	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
234	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
n	116	79	87	28	176	33	183	107	154	50	158	89	123	10	4

[a]In leap years, hatch dates are calculated using a leap year-specific Julian date calendar.

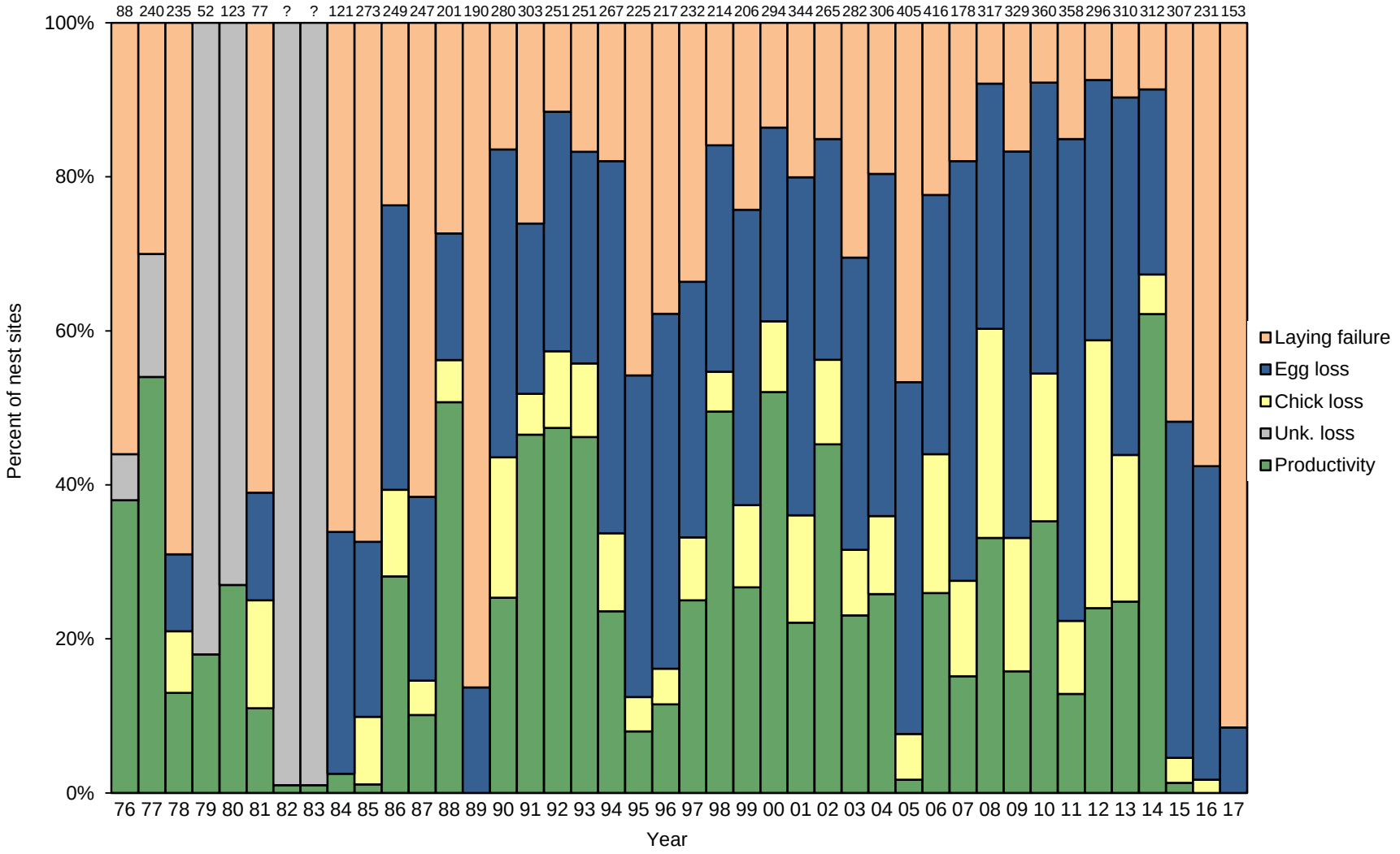

Figure 31. Reproductive performance of red-legged kittiwakes at St. George Island, Alaska. Laying failure=(A-B)/A; Egg loss=(B-D)/A; Chick loss=(D-F)/A; Productivity=F/A, where A=total nest sites; B=nest sites with eggs; D=nest sites with chicks; F=nest sites with chicks fledged. Numbers above columns indicate sample sizes (A).

Table 58. Reproductive performance of red-legged kittiwakes at St. George Island, Alaska.

Year	Total nest starts (A)	Nest sites w/ eggs (B)	Total eggs (C)	Nest sites w/ chicks (D)	Total chicks (E)	Nest sites w/ chicks fledged (F)	Total chicks fledged (G)	Laying success (B/A)	Mean clutch size (C/B)	Nesting success (D/B)	Hatching success (E/C)	Chick success (G/E)	Egg success (G/C)	Fledging success (F/D)	Reprod. success (F/B)	Fledglings /nest start (G/A)	Prod. (F/A)
1976	88	(39)[a]	-	-	-	-	-	0.44	-	0.83[b]	-	-	-	0.80[b]	0.67	-	0.38[b]
1977	240	(168)	-	-	-	-	-	0.70	-	0.82[b]	-	-	-	0.83[b]	0.68	-	0.54
1978	235	72	-	(50)	-	(31)	-	0.31	-	0.69[b]	-	-	-	0.65[b]	0.43	-	0.13
1979	52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.18[c]
1980	123	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.27[c]
1981	77	30	30	15	15	10	10	0.39	1.0	0.50	0.50	0.67	0.33	0.67	0.33	0.13	0.13
1982	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.01[d]	-	0.01[d]
1983	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.01[d]	-	0.01[d]
1984	121	41	-	3	-	3	-	0.34	-	0.07	-	-	-	1.00	0.07	-	0.02
1985	273	89	89	27	27	3	3	0.33	1.0	0.30	0.30	0.11	0.03	0.11	0.03	0.01	0.01
1986	249	190	190	98	98	70	70	0.76	1.0	0.52	0.52	0.71	0.37	0.71	0.37	0.28	0.28
1987	247	95	95	36	36	25	25	0.38	1.0	0.38	0.38	0.69	0.26	0.69	0.26	0.10	0.10
1988	201	146	146	113	113	102	102	0.73	1.0	0.77	0.77	0.90	0.70	0.90	0.70	0.51	0.51
1989	190	26	26	0	0	0	0	0.14	1.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1990	280	234	235	122	122	71	71	0.84	1.0	0.52	0.52	0.58	0.30	0.58	0.30	0.25	0.25
1991	303	224	224	157	157	141	141	0.74	1.0	0.70	0.70	0.90	0.63	0.90	0.63	0.47	0.47
1992	251	222	222	144	144	119	119	0.88	1.0	0.65	0.65	0.83	0.54	0.83	0.54	0.47	0.47
1993	251	209	224	140	140	116	116	0.83	1.1	0.67	0.63	0.83	0.52	0.83	0.56	0.46	0.46
1994	267	219	219	90	90	63	63	0.82	1.0	0.41	0.41	0.70	0.29	0.70	0.29	0.24	0.24
1995	225	122	122	28	28	18	18	0.54	1.0	0.23	0.23	0.64	0.15	0.64	0.15	0.08	0.08
1996	217	135	135	35	35	25	25	0.62	1.0	0.26	0.26	0.71	0.19	0.71	0.19	0.12	0.12
1997	232	154	155	77	77	58	58	0.66	1.0	0.50	0.50	0.75	0.37	0.75	0.38	0.25	0.25
1998	214	180	187	117	117	106	106	0.84	1.0	0.65	0.63	0.91	0.57	0.91	0.59	0.50	0.50
1999	206	156	156	77	77	55	55	0.76	1.0	0.49	0.49	0.71	0.35	0.71	0.35	0.27	0.27
2000	294	254	255	180	180	153	153	0.86	1.0	0.71	0.71	0.85	0.60	0.85	0.60	0.52	0.52
2001	344	275	277	124	124	76	76	0.80	1.0	0.45	0.45	0.61	0.27	0.61	0.28	0.22	0.22
2002	265	225	226	149	149	120	120	0.85	1.0	0.66	0.66	0.81	0.53	0.81	0.53	0.45	0.45
2003	282	196	197	89	89	65	65	0.70	1.0	0.45	0.45	0.73	0.33	0.73	0.33	0.23	0.23
2004	306	246	247	110	110	79	79	0.80	1.0	0.45	0.45	0.72	0.32	0.72	0.32	0.26	0.26
2005	405	216	217	31	31	7	7	0.53	1.0	0.14	0.14	0.23	0.03	0.23	0.03	0.02	0.02
2006	416	323	326	183	183	108	108	0.78	1.0	0.57	0.56	0.59	0.33	0.59	0.33	0.26	0.26
2007	178	146	146	49	49	27	27	0.82	1.0	0.34	0.34	0.55	0.18	0.55	0.18	0.15	0.15
2008	317	292	292	191	191	105	105	0.92	1.0	0.65	0.65	0.55	0.36	0.55	0.36	0.33	0.33
2009	329	274	274	109	109	52	52	0.83	1.0	0.40	0.40	0.48	0.19	0.48	0.19	0.16	0.16
2010	360	332	336	196	197	127	127	0.92	1.0	0.59	0.59	0.64	0.38	0.65	0.38	0.35	0.35

Table 58 (continued). Reproductive performance of red-legged kittiwakes at St. George Island, Alaska.

Year	Total nest starts (A)	Nest sites w/ eggs (B)	Total eggs (C)	Nest sites w/ chicks (D)	Total chicks (E)	Nest sites w/ chicks fledged (F)	Total chicks fledged (G)	Laying success (B/A)	Mean clutch size (C/B)	Nesting success (D/B)	Hatching success (E/C)	Chick success (G/E)	Egg success (G/C)	Fledging success (F/D)	Reprod. success (F/B)	Fledglings /nest start (G/A)	Prod. (F/A)
2011	358	304	304	80	80	46	46	0.85	1.0	0.26	0.26	0.58	0.15	0.58	0.15	0.13	0.13
2012	296	274	274	174	174	71	71	0.93	1.0	0.64	0.64	0.41	0.26	0.41	0.26	0.24	0.24
2013	310	280	280	136	136	77	77	0.90	1.0	0.49	0.49	0.57	0.28	0.57	0.28	0.25	0.25
2014	312	285	285	210	210	194	194	0.91	1.0	0.74	0.74	0.92	0.68	0.92	0.68	0.62	0.62
2015	307	148	148	14	14	4	4	0.48	1.0	0.09	0.09	0.29	0.03	0.29	0.03	0.01	0.01
2016	231	98	98	4	4	0	0	0.42	1.0	0.04	0.04	0.00	0.00	0.00	0.00	0.00	0.00
2017	153	13	13	0	0	0	0	0.08	1.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

[a]Values in parentheses were not reported by original investigators and are estimated from other known parameters.
[b]Reported values are the midpoint of a range (see Appendix B).
[c]Data based on short-duration visits (see Appendix B).
[d]Success values are based on qualitative estimates (see Appendix B)

Table 59. Standard deviation in reproductive performance parameters of red-legged kittiwakes at St. George Island, Alaska. Sampling for kittiwakes is clustered by plot except when sample sizes per plot are too small or plot data are not available.

Year	No. plots[a]	Total nest starts	Sampling design[b]	Laying success	Mean clutch size	Nesting success	Hatching success	Chick success	Egg success	Fledging success	Reprod. success	Fledglings /nest start	Prod.
1976	-	88	Simple random	0.05	-	-[c]	-	-	-	-[c]	0.05	-	-[c]
1977	-	240	Simple random	0.03	-	-[c]	-	-	-	-[c]	0.03	-	0.03
1978	-	235	Simple random	0.03	-	-[c]	-	-	-	-[c]	0.03	-	0.02
1979	-	52	-	-	-	-	-	-	-	-	-	-	-[c]
1980	-	123	-	-	-	-	-	-	-	-	-	-	-[c]
1981	5	77	Cluster by plot	0.03	0.00	0.13	0.13	0.09	0.11	0.09	0.11	0.04	0.04
1982	-	-	-	-	-	-	-	-	-	-	-[c]	-	-[c]
1983	-	-	-	-	-	-	-	-	-	-	-[c]	-	-[c]
1984	-	121	Simple random	0.04	-	0.04	-	-	-	0.00	0.04	-	0.01
1985	10	273	Cluster by plot	0.04	0.00	0.06	0.06	0.10	0.03	0.10	0.03	0.01	0.01
1986	11	249	Cluster by plot	0.02	0.00	0.04	0.04	0.05	0.04	0.05	0.04	0.04	0.04
1987	11	247	Cluster by plot	0.09	0.00	0.04	0.04	0.09	0.04	0.09	0.04	0.02	0.02
1988	9	201	Cluster by plot	0.05	0.00	0.03	0.03	0.04	0.03	0.04	0.03	0.04	0.04
1989	9	190	Cluster by plot	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1990	11	280	Cluster by plot	0.03	<0.01	0.05	0.05	0.04	0.05	0.04	0.05	0.04	0.04
1991	9	303	Cluster by plot	0.04	0.00	0.04	0.04	0.02	0.04	0.02	0.04	0.05	0.05
1992	9	251	Cluster by plot	0.02	0.00	0.04	0.04	0.04	0.05	0.04	0.05	0.05	0.05
1993	9	251	Cluster by plot	0.02	0.03	0.06	0.05	0.05	0.06	0.05	0.07	0.07	0.07
1994	9	267	Cluster by plot	0.03	0.00	0.09	0.09	0.10	0.07	0.10	0.10	0.08	0.08
1995	10	225	Cluster by plot	0.06	0.00	0.07	0.07	0.05	0.07	0.05	0.04	0.03	0.03
1996	9	217	Cluster by plot	0.05	0.00	0.10	0.10	0.10	0.07	0.10	0.08	0.06	0.06
1997	10	232	Cluster by plot	0.07	0.01	0.06	0.06	0.06	0.07	0.06	0.07	0.06	0.06
1998	10	214	Cluster by plot	0.03	0.01	0.05	0.05	0.04	0.07	0.04	0.04	0.05	0.05
1999	9	206	Cluster by plot	0.05	0.00	0.08	0.08	0.07	0.07	0.07	0.08	0.08	0.08
2000	10	294	Cluster by plot	0.02	<0.01	0.04	0.04	0.02	0.07	0.02	0.04	0.04	0.04
2001	11	344	Cluster by plot	0.03	0.01	0.06	0.06	0.10	0.07	0.10	0.07	0.06	0.06
2002	11	265	Cluster by plot	0.04	<0.01	0.06	0.06	0.05	0.07	0.05	0.07	0.07	0.07
2003	10	282	Cluster by plot	0.06	<0.01	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
2004	9	306	Cluster by plot	0.03	<0.01	0.08	0.08	0.06	0.07	0.06	0.07	0.07	0.07
2005	17	405	Cluster by plot	0.04	<0.01	0.05	0.05	0.12	0.02	0.12	0.02	0.01	0.01
2006	15	416	Cluster by plot	0.03	<0.01	0.06	0.07	0.08	0.08	0.08	0.08	0.07	0.07
2007	10	178	Cluster by plot	0.06	0.00	0.09	0.09	0.09	0.08	0.09	0.08	0.07	0.07
2008	10	317	Cluster by plot	0.02	0.00	0.04	0.04	0.08	0.05	0.08	0.05	0.05	0.05
2009	10	329	Cluster by plot	0.02	0.00	0.06	0.06	0.08	0.05	0.08	0.05	0.04	0.04
2010	10	360	Cluster by plot	0.02	0.01	0.05	0.05	0.06	0.05	0.06	0.05	0.04	0.04

Table 59 (continued). Standard deviation in reproductive performance parameters of red-legged kittiwakes at St. George Island, Alaska. Sampling for kittiwakes is clustered by plot except when sample sizes per plot are too small or plot data are not available.

Year	No. plots[a]	Total nest starts	Sampling design[b]	Laying success	Mean clutch size	Nesting success	Hatching success	Chick success	Egg success	Fledging success	Reprod. success	Fledglings /nest start	Prod.
2011	11	358	Cluster by plot	0.03	0.00	0.09	0.09	0.13	0.07	0.13	0.07	0.06	0.06
2012	7	296	Cluster by plot	0.02	0.00	0.08	0.08	0.08	0.07	0.08	0.07	0.07	0.07
2013	8	310	Cluster by plot	0.02	0.00	0.06	0.06	0.07	0.06	0.07	0.06	0.06	0.06
2014	8	312	Cluster by plot	0.02	0.00	0.03	0.03	0.02	0.03	0.02	0.03	0.03	0.03
2015	10	307	Cluster by plot	0.04	0.00	0.06	0.06	0.17	0.03	0.17	0.03	0.01	0.01
2016	8	231	Cluster by plot	0.04	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00
2017	8	153	Cluster by plot	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

[a]Plots that are combined for analysis are counted as a single "plot".

[b]For sampling clustered by plot, values are calculated based on plot as a sample unit; for simple random sampling, values are calculated using $\sqrt{\rho * (1-\rho)/n}$, where ρ is the success rate and n is the sample size of individual nests.

[c]Standard deviations are not calculated for success values that are midpoint estimates or based on qualitative estimates.

Table 60. Clutch sizes of red-legged kittiwakes at St. George Island, Alaska. Sample units consist of total nest sites, not plots. No data were collected in 1982-1983.

Year	Total nest starts	Nest sites w/ x eggs:			Nest sites w/ eggs	Total Eggs	Mean clutch size
	(A)	0	1	2	(B)	(C)	(C/B)
1976	88	-	-	-	(39)[a]	-	-
1977	240	-	-	-	(168)	-	-
1978	235	-	-	-	72	-	-
1979	52	-	-	-	-	-	-
1980	123	-	-	-	-	-	-
1981	77	47	30	0	30	30	1.0
1984	121	-	-	-	41	-	-
1985	273	184	89	0	89	89	1.0
1986	249	59	190	0	190	190	1.0
1987	247	152	95	0	95	95	1.0
1988	201	55	146	0	146	146	1.0
1989	190	164	26	0	26	26	1.0
1990	280	46	233	1	234	235	1.0
1991	303	79	224	0	224	224	1.0
1992	251	29	222	0	222	222	1.0
1993	251	42	194	15	209	224	1.1
1994	267	48	219	0	219	219	1.0
1995	225	103	122	0	122	122	1.0
1996	217	82	135	0	135	135	1.0
1997	232	78	153	1	154	155	1.0
1998	214	34	173	7	180	187	1.0
1999	206	50	156	0	156	156	1.0
2000	294	40	253	1	254	255	1.0
2001	344	69	273	2	275	277	1.0
2002	265	40	224	1	225	226	1.0
2003	282	86	195	1	196	197	1.0
2004	306	60	245	1	246	247	1.0
2005	405	189	215	1	216	217	1.0
2006	416	93	320	3	323	326	1.0
2007	178	32	146	0	146	146	1.0
2008	317	25	292	0	292	292	1.0
2009	329	55	274	0	274	274	1.0
2010	360	28	328	4	332	336	1.0
2011	358	54	304	0	304	304	1.0
2012	296	22	274	0	274	274	1.0
2013	310	30	280	0	280	280	1.0
2014	312	27	285	0	285	285	1.0
2015	307	159	148	0	148	148	1.0
2016	231	133	98	0	98	98	1.0
2017	153	140	13	0	13	13	1.0

[a]Values in parentheses were not reported by original investigators and are estimated from other known parameters.

Table 61. Reproductive performance of red-legged kittiwakes at St. George Island, Alaska in 2017.

Parameter	Plot								Total	SD[a]
	58	61	69	70	78	90	91	92		
Total nest starts (A)	10	7	29	20	11	35	21	20	153	-
Nest sites w/ eggs (B)	5	1	4	0	0	1	1	1	13	-
Total eggs (C)	5	1	4	0	0	1	1	1	13	-
Nest sites w/ chicks (D)	0	0	0	0	0	0	0	0	0	-
Total chicks (E)	0	0	0	0	0	0	0	0	0	-
Nest sites w/ chicks fledged (F)	0	0	0	0	0	0	0	0	0	-
Total chicks fledged (G)	0	0	0	0	0	0	0	0	0	-
Laying success (B/A)	0.50	0.14	0.14	0.00	0.00	0.03	0.05	0.05	0.08	0.03
Mean clutch size (C/B)	1.0	1.0	1.0	0.0	0.0	1.0	1.0	1.0	1.0	0.00
Nesting success (D/B)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hatching success (E/C)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Chick success (G/E)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Egg success (G/C)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fledging success (F/D)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Reproductive success (F/B)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fledglings/nest start (G/A)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Productivity (F/A)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

[a]Standard deviations are calculated based on plot as a sample unit.

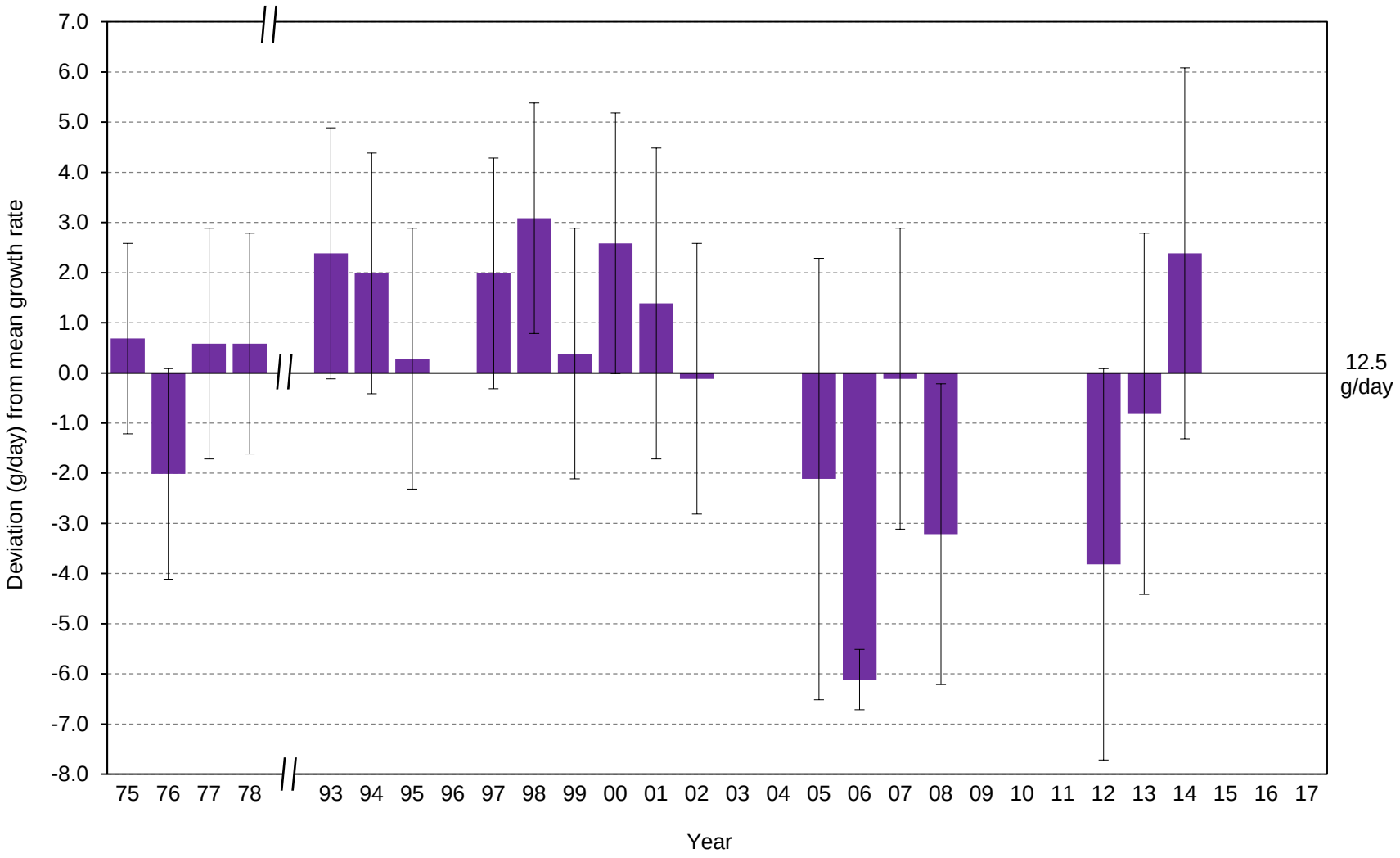

Figure 32. Yearly chick growth rate deviation (from the 1975-2016 average of 12.5 g/day) for red-legged kittiwakes at St. George Island, Alaska. Negative values indicate less than the mean growth rate, positive values exceed the mean growth rate. Error bars represent standard deviation around each year's mean growth rate. No chicks were measured in 1979-1992, 1996, 2003-2004, 2009-2011, or 2015-2017.

Table 62. Mean growth rates of red-legged kittiwake chicks at St. George Island, Alaska. Data include chicks measured at least three times during the linear phase of growth. No chicks were measured in 1979-1992, 1996, 2003-2004, 2009-2011, or 2015-2017.

Year	Mass (g/day)				Wing chord (mm/day)				Linear phase definition[a]
	Mean	SD	Range	*n*	Mean	SD	Range	*n*	
1975	13.2	1.9	-	16	-	-	-	-	A
1976	10.5	2.1	-	12	-	-	-	-	A
1977	13.1	2.3	-	42	-	-	-	-	A
1978	13.1	2.2	-	13	-	-	-	-	A
1993	14.9	2.5	-	77	-	-	-	-	B
1994	14.5	2.4	-	83	-	-	-	-	B
1995	12.8	2.6	-	25	-	-	-	-	B
1997	14.5	2.3	-	67	-	-	-	-	B
1998	15.6	2.3	-	95	-	-	-	-	B
1999	12.9	2.5	-	58	-	-	-	-	B
2000	15.1	2.6	9.6 - 21.5	53	6.8	0.5	6.1 - 7.7	13	B
2001	13.9	3.1	6.6 - 20.5	39	7.0	1.1	3.1 - 8.3	39	B
2002	12.4	2.7	6.1 - 15.8	13	7.0	1.2	3.6 - 8.3	13	B
2005	10.4	4.4	6.0 - 20.4	12	7.2	0.5	6.5 - 8.1	12	C
2006	6.4	0.6	5.2 - 7.4	30	7.6	1.7	4.8 - 13.7	30	C
2007	12.4	3.0	6.6 - 17.6	34	6.6	0.5	5.8 - 8.2	34	C
2008	9.3	3.0	3.2 - 13.7	25	6.4	1.0	3.0 - 7.4	25	C
2012	8.7	3.9	-0.1 - 15.1	24	5.2	2.2	0.3 - 7.8	24	C
2013	11.7	3.6	4.7 - 17.0	17	6.4	2.4	1.3 - 12.2	17	C
2014	14.9	3.7	3.4 - 20.2	27	6.7	1.1	4.3 - 8.7	27	B

[a]A=linear growth phase defined as period between initial and peak weight measurements of each chick; B=linear growth phase defined as period when chick age 5-25 days; C=chicks of unknown age, linear growth phase determined by visual inspection of individual growth curves.

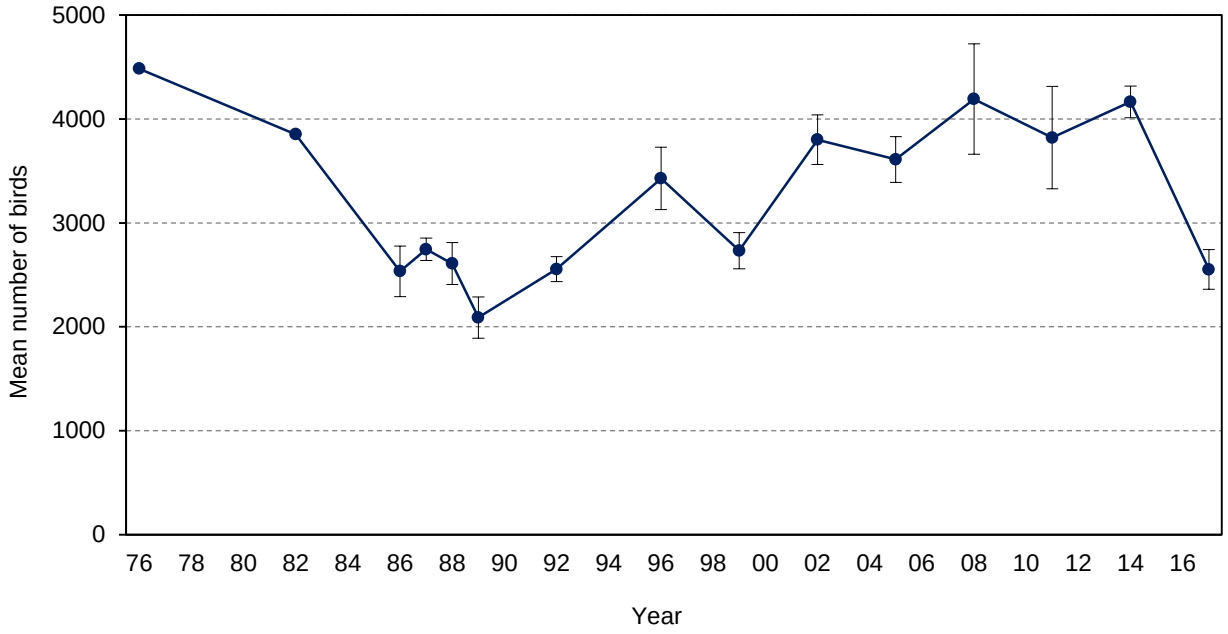

Figure 33. Mean numbers of red-legged kittiwakes counted on index plots at St. George Island, Alaska. Totals include all plots except 13N. Error bars represent standard deviation. No counts were conducted in years not shown except 1984 and 1985 when data are excluded because not all plots were counted.

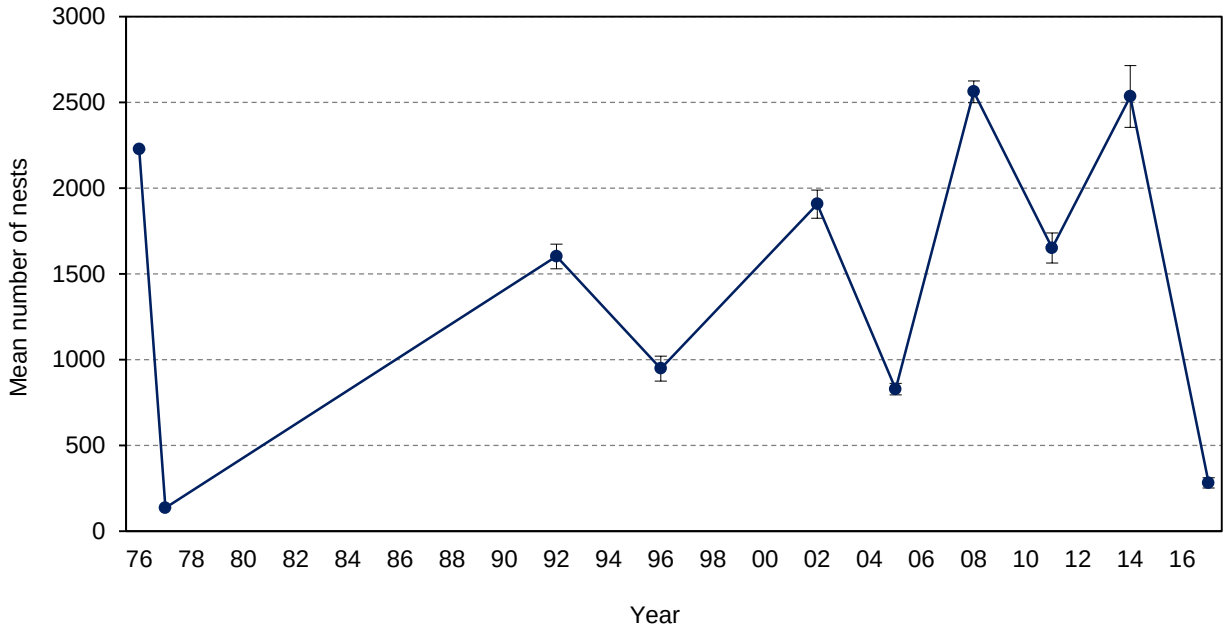

Figure 34. Mean numbers of red-legged kittiwake nests counted on index plots at St. George Island, Alaska. Totals include all plots except 13N. Error bars represent standard deviation. No counts were conducted in years not shown except 1984 and 1985 when data are excluded because not all plots were counted; data potentially exist in 1986-1989 and 1999 but have not yet been summarized.

Table 63. Numbers of red-legged kittiwakescounted on index plots at St. George Island, Alaska. Totals include all plots except 13N. No counts were conducted in years not listed except 1984 and 1985 when data are excluded because not all plots were counted.

Replicate	1976	1982	1986	1987	1988	1989	1992	1996	1999	2002	2005	2008	2011	2014	2017
1	4484	3852	2560	2734	2334	2230	2416	3399	2772	3482	3476	3676	3213	4012	2338
2	-	-	2279	2708	2474	1949	2623	3177	2911	3695	3221	3619	3630	4250	2701
3	-	-	2764	2897	2659	-	2625	3945	2493	3905	3869	4839	4179	4335	2618
4	-	-	-	2644	2806	-	-	3362	2756	3507	3565	4512	4260	4064	-
5	-	-	-	-	2772	-	-	3259	-	4056	3579	4310	-	-	-
6	-	-	-	-	-	-	-	-	-	4017	3532	-	-	-	-
7	-	-	-	-	-	-	-	-	-	3942	3858	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	3788	-	-	-	-
Mean	4484	3852	2534	2746	2609	2090	2555	3428	2733	3801	3611	4191	3821	4165	2552
n	1	1	3	4	5	2	3	5	4	7	8	5	4	4	3
SD	-	-	244	108	201	199	120	302	175	239	220	531	492	152	190
First count	9 Jul	23 Jul	8 Jul	11 Jul	19 Jul	13 Jul	11 Jul	12 Jul	9 Jul	5 Jul	4 Jul	7 Jul	6 Jul	3 Jul	5 Jul
Last count	5 Aug	3 Aug	12 Aug	9 Aug	11 Aug	10 Aug	6 Aug	6 Aug	8 Aug	3 Aug	30 Jul	30 Jul	4 Aug	1 Aug	7 Aug

Table 64. Numbers of red-legged kittiwake nests counted on index plots at St. George Island, Alaska. Totals include all plots except 13N. No counts were conducted in years not listed except 1984 and 1985 when data are excluded because not all plots were counted.

Replicate	1976	1982	1986	1987	1988	1989	1992	1996	1999	2002	2005	2008	2011	2014	2017
1	2226	136	xx[a]	xx	xx	xx	1553	868	xx	1940	795	2635	1679	2514	275
2	-	-	xx	xx	xx	xx	1568	965	xx	1968	827	2529	1731	2752	254
3	-	-	xx	xx	xx	xx	1684	1011	xx	1814	863	2522	1667	2556	314
4	-	-	xx	xx	xx	xx	386[b]	-	xx	-	-	240[b]	1526	2313	-
5	-	-	xx	xx	xx	xx	20[b]	-	xx	-	-	-	-	-	-
6	-	-	xx	xx	xx	xx	-	-	xx	-	-	-	-	-	-
Mean	2226	136	xx	xx	xx	xx	1602	948	xx	1907	828	2562	1651	2534	281
Overall max.[c]	2226	136	1772	2009	1868	xx	1819	1212	xx	2365	996	3475	2080	3190	406
n	1	1	xx	xx	xx	xx	3	3	xx	3	3	3	4	4	3
SD	-	-	xx	xx	xx	xx	72	73	xx	82	34	63	88	180	30
First count	9 Jul	23 Jul	8 Jul	11 Jul	19 Jul	13 Jul	11 Jul	12 Jul	9 Jul	5 Jul	4 Jul	7 Jul	6 Jul	3 Jul	5 Jul
Last count	5 Aug	3 Aug	12 Aug	9 Aug	11 Aug	10 Aug	6 Aug	6 Aug	8 Aug	18 Jul	13 Jul	29 Jul	4 Aug	1 Aug	7 Aug

[a]xx indicates data potentially exist but have not yet been summarized.
[b]Incomplete count used for maximum nest number but not included in calculation of mean.
[c]Overall maximum nest number is the highest nest count on each plot in a year, summed across all plots.

Table 65. Numbers of red-legged kittiwakes counted on index plots at St. George Island, Alaska in 2017.

Plot	Replicate			Mean	SD
	1	2	3		
	5-22 Jul	13 Jul-4 Aug	21 Jul-7 Aug		
1A	0	0	0	-	-
1B	13	18	9	-	-
2	3	0	0	-	-
8	0	4	8	-	-
9	7	19	20	-	-
10	0	4	7	-	-
11	0	0	0	-	-
12	0	1	0	-	-
13N	4	3	0	-	-
13O	-[a]	1	4	-	-
14	0	0	0	-	-
15	0	1	0	-	-
16	0	0	0	-	-
17	2	4	1	-	-
18	1	2	6	-	-
19	1	0	0	-	-
20	0	0	0	-	-
21	4	0	2	-	-
22	0	0	0	-	-
23	11	4	4	-	-
24T	0	4	0	-	-
24B	0	1	0	-	-
25	0	1	0	-	-
26	0	1	1	-	-
27T	1	6	1	-	-
27B	1	0	0	-	-
28	0[b]	-	-	-	-
28L	-	0	1	-	-
28M	-	0	2	-	-
29	5	7	0	-	-
30R	0	2	0	-	-
30L	0	0	0	-	-
31	0	0	0	-	-
32U	2	0	0	-	-
32L	0	0	0	-	-
33	30[b]	-	-	-	-
33A	-	14	1	-	-
33B	-	0	1	-	-
33C	-	0	0	-	-
33D	-	0	0	-	-
34	0	0	0	-	-
35	7[b]	-	-	-	-
35U	-	1	0	-	-
35L	-	0	0	-	-
36	2	3	1	-	-
37U	20	15	9	-	-
37L	5	3	1	-	-
38T	6	5	2	-	-
38M	5	6	0	-	-
38B	0	0	0	-	-
39	5	2	4	-	-
40	70	73	64	-	-
41T	108	189	146	-	-

Table 65 (continued). Numbers of red-legged kittiwakes counted on index plots at St. George Island, Alaska in 2017.

Plot	Replicate			Mean	SD
	1	2	3		
	5-22 Jul	13 Jul-4 Aug	21 Jul-7 Aug		
41B	91	103	104	-	-
42A	55	56	39	-	-
42B	0	0	2	-	-
43	280	276	224	-	-
44	423	359	429	-	-
45	0	0	0	-	-
46	3	3	2	-	-
47	6	5	4	-	-
48	5	5	4	-	-
49	10	9	7	-	-
50	0	0	0	-	-
51	131	112	115	-	-
52	18	4	21	-	-
53	39	33	44	-	-
54A	-[a]	168	170	-	-
54B	-[a]	32	37	-	-
54C	-[a]	35	22	-	-
55	47	133	73	-	-
58A	191	187	160	-	-
58B	6	93	56	-	-
58C	177	70	80	-	-
59A	70	60	116	-	-
59B	416	399	390	-	-
59C	38	0	13	-	-
75	0	0	0	-	-
81A	2	14	18	-	-
81B	0	15	13	-	-
81C	1	14	20	-	-
81D	16	122	160	-	-
Total[c]	2334	2698	2618	2552	190

[a]No count was conducted.
[b]Entire plot was included in a single count. No count of the subplots occurred.
[c]Total includes all plots except 13N.

Table 66. Numbers of red-legged kittiwake nests counted on index plots at St. George Island, Alaska in 2017.

Plot	Replicate			Mean	SD	Max.
	1	2	3			
	5-22 Jul	13 Jul-4 Aug	21 Jul-7 Aug			
1A	0	0	0	-	-	0
1B	0	0	2	-	-	2
2	0	0	0	-	-	0
8	0	1	2	-	-	2
9	0	4	0	-	-	4
10	0	0	1	-	-	1
11	0	0	0	-	-	0
12	0	0	0	-	-	0
13N	0	0	0	-	-	0
13O	-[a]	1	0	-	-	1
14	0	1	0	-	-	1
15	0	0	0	-	-	0
16	0	0	0	-	-	0
17	0	0	0	-	-	0
18	0	0	0	-	-	0
19	0	0	0	-	-	0
20	0	0	0	-	-	0
21	0	0	0	-	-	0
22	0	0	0	-	-	0
23	0	0	4	-	-	4
24T	0	0	0	-	-	0
24B	0	0	0	-	-	0
25	0	0	0	-	-	0
26	0	0	0	-	-	0
27T	0	0	0	-	-	0
27B	0	0	0	-	-	0
28	0[b]	-	-	-	-	0
28L	-	0	0	-	-	0
28M	-	0	0	-	-	0
29	0	0	0	-	-	0
30R	0	0	0	-	-	0
30L	0	0	0	-	-	0
31	0	0	0	-	-	0
32U	0	0	0	-	-	0
32L	0	0	0	-	-	0
33	13[b]	-	-	-	-	13
33A	-	5	0	-	-	5
33B	-	0	0	-	-	0
33C	-	0	0	-	-	0
33D	-	0	0	-	-	0
34	0	0	0	-	-	0
35	0[b]	-	-	-	-	0
35U	-	0	0	-	-	0
35L	-	0	0	-	-	0
36	0	0	0	-	-	0
37U	0	2	3	-	-	3
37L	0	0	0	-	-	0
38T	0	1	0	-	-	1
38M	0	1	0	-	-	1
38B	0	0	0	-	-	0
39	0	0	0	-	-	0
40	4	2	2	-	-	4

Table 66 (continued). Numbers of red-legged kittiwake nests counted on index plots at St. George Island, Alaska in 2017.

Plot	Replicate			Mean	SD	Max.
	1	2	3			
	5-22 Jul	13 Jul-4 Aug	21 July-7 Aug			
41T	7	3	3	-	-	7
41B	2	3	0	-	-	3
42A	0	2	1	-	-	2
42B	0	0	0	-	-	0
43	80	46	53	-	-	80
44	65	42	86	-	-	86
45	0	0	0	-	-	0
46	0	1	0	-	-	1
47	0	0	0	-	-	0
48	0	0	0	-	-	0
49	0	0	0	-	-	0
50	0	0	0	-	-	0
51	10	11	9	-	-	11
52	1	1	1	-	-	1
53	16	15	22	-	-	22
54A	-[a]	3	0	-	-	3
54B	-[a]	3	0	-	-	3
54C	-[a]	0	0	-	-	0
55	7	4	2	-	-	7
58A	20	29	31	-	-	31
58B	0	15	9	-	-	15
58C	13	21	15	-	-	21
59A	5	3	17	-	-	17
59B	26	28	42	-	-	42
59C	3	0	0	-	-	3
75	0	0	0	-	-	0
81A	0	0	2	-	-	2
81B	0	2	3	-	-	3
81C	0	0	0	-	-	0
81D	3	4	4	-	-	4
Total[c]	275	254	314			406[d]

[a]No count was conducted.
[b]Entire plot was included in a single count. No count of the subplots occurred.
[c]Total includes all plots except 13N.
[d]Overall maximum nest number is the highest nest count on each plot, summed across all plots.

Table 67. Total number of adult red-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include only birds banded with numeric color bands and not birds banded historically with color combinations 1970-1990's (see Kildaw 1997).

Parameter	Year																										
	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17
New color bands	27	32	75	20	21	0	42	70	12	24	0	0	18	12	40	15	10	9	21	26	0	51	20	31	15	4	0
New metal and colors	xx[a]	xx	xx	xx	xx	0	xx	xx	xx	xx	0	0	xx	xx	xx	xx	xx	9	14	25	0	49	20	28	12	4	0
New colors on previous metal-banded bird[b]	xx	xx	xx	xx	xx	0	xx	xx	xx	xx	0	0	xx	xx	xx	xx	xx	0	7	1	0	2	0	3	4	3	0
New color bands replace old color bands[c]	xx	xx	xx	xx	xx	0	xx	xx	xx	xx	0	0	xx	xx	xx	xx	xx	0	3	1	0	9	3	0	0	0	3
Cum. color-banded birds	27	59	134	154	175	175	217	287	299	323	323	323	341	353	393	408	418	427	448	474	474	525	545	576	591	598	598

[a]xx indicates data potentially exist but have not yet been summarized.
[b]Bird previously banded with metal band only or with color combinations from 1970's-1990's not used for survival caught subsequent year and given numeric color band for inclusion in survival dataset.
[c]Bird previously banded with color band recaptured and given new color band; does not add to number of birds color-banded.

Table 68. Fates of cohorts of adult red-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include only birds banded with numeric color bands and not birds banded with color combinations 1970-1990's (see Kildaw 1997).

Year	No. birds banded in year	No. birds resighted in:													
		92	93	94	95	96	97	98	99	00	01	02	03	04	05
1991	27	23	21	20	18	16	14	12	10	12	7	10	7	6	7
1992	32	-	26	24	20	18	17	13	10	9	5	5	7	4	4
1993	75	-	-	69	64	58	56	51	46	37	28	28	22	15	16
1994	20	-	-	-	19	18	18	16	14	9	6	9	6	3	2
1995	21	-	-	-	-	18	19	18	17	16	15	16	12	10	10
1996	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1997	42	-	-	-	-	-	-	41	39	36	32	35	27	21	19
1998	70	-	-	-	-	-	-	-	68	66	58	58	52	43	30
1999	12	-	-	-	-	-	-	-	-	11	11	11	9	5	3
2000	24	-	-	-	-	-	-	-	-	-	19	20	19	15	12
2001	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2002	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2003	18	-	-	-	-	-	-	-	-	-	-	-	-	16	17
2004	12	-	-	-	-	-	-	-	-	-	-	-	-	-	11
2005	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2006	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2007	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2008	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2009	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2010	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2011	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2012	51	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2013	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2014	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2015	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2016	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2017	0[a]	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Birds seen in current year (A)		23	47	113	121	128	124	151	204	196	181	192	161	138	131
Birds potentially alive from prior year (B)[b]		25	56	123	135	146	133	169	227	226	232	213	203	193	183
Apparent annual survival (A/B)[c]		0.92	0.84	0.92	0.90	0.88	0.93	0.89	0.90	0.87	0.78	0.90	0.79	0.72	0.72
Resighting effort[d]															
Total no. resight days		xx[e]	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx
Total no. resight hours		xx	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx

Table 68 (continued). Fates of cohorts of adult red-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include only birds banded with numeric color bands and not birds banded with color combinations 1970-1990's (see Kildaw 1997).

Year	No. birds banded in year	No. birds resighted in:												Prop. birds resighted in 2017
		06	07	08	09	10	11	12	13	14	15	16	17	
1991	27	6	3	4	1	1	0	1	1	2	0	0	0	0.00
1992	32	3	3	4	1	1	1	1	1	1	1	0	0	0.00
1993	75	20	17	12	8	8	4	7	6	3	2	2	2	0.03
1994	20	4	4	2	1	0	1	1	1	1	0	0	0	0.00
1995	21	10	8	8	3	5	5	4	6	4	2	2	0	0.00
1996	0	-	-	-	-	-	-	-	-	-	-	-	-	-
1997	42	14	11	9	4	3	1	4	4	3	2	1	2	0.05
1998	70	34	24	22	18	18	20	18	15	12	11	8	6	0.09
1999	12	6	6	4	3	4	2	2	4	2	2	1	1	0.08
2000	24	13	11	10	5	4	6	6	5	5	2	1	1	0.04
2001	0	-	-	-	-	-	-	-	-	-	-	-	-	-
2002	0	-	-	-	-	-	-	-	-	-	-	-	-	-
2003	18	16	12	14	11	10	5	8	5	6	5	5	5	0.28
2004	12	11	10	9	7	6	5	8	6	5	5	5	4	0.33
2005	40	37	30	26	13	11	7	8	7	5	1	4	2	0.05
2006	15	-	14	11	4	0	0	0	0	0	0	0	0	0.00
2007	10	-	-	10	7	1	0	0	1	1	1	1	1	0.10
2008	9	-	-	-	9	6	2	5	5	4	3	2	6	0.67
2009	21	-	-	-	-	16	16	17	17	16	9	11	8	0.38
2010	26	-	-	-	-	-	19	19	15	15	13	11	10	0.38
2011	0	-	-	-	-	-	-	-	-	-	-	-	-	-
2012	51	-	-	-	-	-	-	-	49	44	39	40	32	0.63
2013	20	-	-	-	-	-	-	-	-	20	17	17	11	0.55
2014	30	-	-	-	-	-	-	-	-	-	25	23	21	0.70
2015	13	-	-	-	-	-	-	-	-	-	-	11	10	0.77
2016	6	-	-	-	-	-	-	-	-	-	-	-	6	1.00
2017	0[a]	-	-	-	-	-	-	-	-	-	-	-	-	-[a]
Birds seen in current year (A)		174	153	145	95	94	94	109	148	149	140	145	128	-
Birds potentially alive from prior year (B)[b]		204	201	182	170	143	144	127	169	175	186	173	161	-
Apparent annual survival (A/B)[c]		0.85	0.76	0.80	0.56	0.66	0.65	0.86	0.88	0.85	0.75	0.84	0.80	-
Resighting effort[d]														
Total no. resight days		26	25	26	22	24	27	34	32	29	45	54	35	-
Total no. resight hours		68.7	xx	xx	32.8	53.0	34.5	69.9	68.8	77.4	68.6	71.9	62.8	-

[a]Birds banded in current year are not resighted until following year and not included in current year totals.

[b]Value equals the sum of birds resighted in prior year + birds not resighted in prior year but resighted in future years and thus known to have been alive in prior year + new birds banded in prior year.

[c]Survival should be considered a minimum estimate because it is likely not all birds present were observed each year.

[d]Resighting effort represents sum of time spent at survival plots and includes only dedicated resighting time, not incidental observations made during other work. Hours are calculated by people-hours: 2 people resighting for 1 hour each = 2 resight hours.

[e]xx indicates data potentially exist but have not yet been summarized.

Table 69. Resight history of adult red-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include only birds banded with numeric color bands and not birds banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2008).

Codes:

Location
RF = Rosy Finch
HB = High Bluffs
V = Village Plots

Notes
A = color band lost or removed (year)
B = rebanded from original color band number (original number; year rebanded)
C = shot by subsistence hunter (year)
D = band slipped above tibio-tarsus joint
E = resighted at different location, on low cliffs (year first observed)
F = band partially broken or very worn (year observed)

Resight history
y = resighted at least once (# times unknown)
0 = not resighted
x = band no longer resightable (dead, removed, etc.)

Color band		Metal band #	Year banded	Location banded	Notes	Year resighted												
Color	Band #					92	93	94	95	96	97	98	99	00	01	02	03	04
Blue	172	584-09237	1997	RF		-	-	-	-	-	-	y	y	y	y	y	y	y
Blue	68	584-09247	1992	RF		-	y	0	0	0	0	0	0	0	0	0	0	0
Blue	447	584-09265	2003	RF		-	-	-	-	-	-	-	-	-	-	-	-	y
Blue	80	584-09292	1993	RF		-	-	y	y	y	y	y	y	y	y	0	0	0
Blue	631	684-42717	2009	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	627	684-42720	2009	HB	F(12)	-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	366	684-42744	1999	HB		-	-	-	-	-	-	-	-	y	y	y	y	0
Blue	73	714-03291	1993	RF	A(99)	-	-	y	y	y	y	y	x[a]	x[a]	x	x	x	x
Blue	74	714-03292	1993	RF		-	-	y	y	0	0	0	0	0	0	0	0	0
Blue	75	714-03294	1993	RF		-	-	y	y	y	y	y	y	y	y	0	0	0
Blue	77	714-03295	1993	RF		-	-	y	y	y	y	y	y	0	y	y	y	0
Blue	78	714-03296	1993	RF		-	-	y	0	0	0	0	0	0	0	0	0	0
Blue	79	714-03297	1993	RF		-	-	y	y	0	0	0	0	0	0	0	0	0
Blue	267	714-03300	1993	HB		-	-	y	y	y	y	y	y	y	y	y	y	y
Blue	179	714-07049	1997	RF		-	-	-	-	-	-	y	y	y	y	y	y	0
Blue	612	714-10112	2003	HB	B(452;09)	-	-	-	-	-	-	-	-	-	-	-	-	y
Blue	454	714-10113	2003	HB		-	-	-	-	-	-	-	-	-	-	-	-	y
Blue	455	714-10114	2003	HB		-	-	-	-	-	-	-	-	-	-	-	-	y
Blue	458	714-10115	2003	HB		-	-	-	-	-	-	-	-	-	-	-	-	y
Blue	459	714-10116	2003	HB		-	-	-	-	-	-	-	-	-	-	-	-	y
Blue	461	714-10117	2003	HB		-	-	-	-	-	-	-	-	-	-	-	-	y
Blue	463	714-10118	2003	HB		-	-	-	-	-	-	-	-	-	-	-	-	y
Blue	464	714-10119	2003	HB		-	-	-	-	-	-	-	-	-	-	-	-	y
Blue	467	714-10120	2003	HB		-	-	-	-	-	-	-	-	-	-	-	-	y
Blue	468	714-10121	2003	HB		-	-	-	-	-	-	-	-	-	-	-	-	y
Blue	469	714-10122	2003	HB		-	-	-	-	-	-	-	-	-	-	-	-	0
Blue	471	714-10123	2003	HB		-	-	-	-	-	-	-	-	-	-	-	-	y
Blue	473	714-10124	2003	HB		-	-	-	-	-	-	-	-	-	-	-	-	0
Blue	487	714-10132	2003	HB		-	-	-	-	-	-	-	-	-	-	-	-	y
Blue	775	714-10133	2003	HB	B(489;12)	-	-	-	-	-	-	-	-	-	-	-	-	y
Blue	490	714-10134	2003	HB		-	-	-	-	-	-	-	-	-	-	-	-	y
Blue	491	714-10135	2003	HB		-	-	-	-	-	-	-	-	-	-	-	-	y
Blue	502	714-10136	2004	HB		-	-	-	-	-	-	-	-	-	-	-	-	-

Table 69 (continued). Resight history of adult red-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include only birds banded with numeric color bands and not birds banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2008).

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Color band		Metal band #	Year banded	Location banded	Notes	Year resighted												
Color	Band #					05	06	07	08	09	10	11	12	13	14	15	16	17
Blue	172	584-09237	1997	RF		y	y	y	0	0	0	0	0	0	0	0	0	1
Blue	68	584-09247	1992	RF		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	447	584-09265	2003	RF		y	y	y	y	0	0	0	0	0	0	0	0	0
Blue	80	584-09292	1993	RF		0	0	0	0	0	1	0	0	0	0	0	0	0
Blue	631	684-42717	2009	HB		-	-	-	-	-	3	5	4	2	1	4	4	4
Blue	627	684-42720	2009	HB	F(12)	-	-	-	-	-	2	4	4	3	3	7	1	2
Blue	366	684-42744	1999	HB		0	0	y	0	0	0	0	0	0	0	0	0	0
Blue	73	714-03291	1993	RF	A(99)	x	x[a]	x	x	x	x	x	x	x	x	x	x	0
Blue	74	714-03292	1993	RF		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	75	714-03294	1993	RF		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	77	714-03295	1993	RF		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	78	714-03296	1993	RF		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	79	714-03297	1993	RF		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	267	714-03300	1993	HB		0	y	y	y	2	1	4	2	3	5	4	3	5
Blue	179	714-07049	1997	RF		0	y	0	0	0	0	0	1	0	0	0	0	0
Blue	612	714-10112	2003	HB	B(452;09)	y	y	y	y	4	0	0	0	0	1	0	0	0
Blue	454	714-10113	2003	HB		y	y	y	y	7	2	0	2	3	2	4	8	1
Blue	455	714-10114	2003	HB		y	y	0	y	2	4	0	0	0	0	0	0	0
Blue	458	714-10115	2003	HB		y	y	y	y	4	4	0	1	0	0	0	0	0
Blue	459	714-10116	2003	HB		y	y	y	y	0	0	0	0	0	0	0	0	0
Blue	461	714-10117	2003	HB		y	y	y	y	2	4	3	3	3	5	6	6	4
Blue	463	714-10118	2003	HB		y	y	y	y	3	4	2	6	7	6	5	5	3
Blue	464	714-10119	2003	HB		y	y	0	y	0	0	0	0	0	0	0	0	0
Blue	467	714-10120	2003	HB		y	y	0	y	3	4	3	5	0	0	0	0	0
Blue	468	714-10121	2003	HB		y	y	y	y	0	0	0	2	0	0	0	0	0
Blue	469	714-10122	2003	HB		y	y	0	0	0	0	0	0	0	0	0	0	0
Blue	471	714-10123	2003	HB		y	y	y	y	1	3	5	6	7	8	2	3	4
Blue	473	714-10124	2003	HB		0	0	y	0	0	0	0	0	0	0	0	0	0
Blue	487	714-10132	2003	HB		y	y	y	y	5	4	0	0	0	0	0	0	0
Blue	775	714-10133	2003	HB	B(489;12)	y	y	y	y	6	5	4	3	3	6	7	9	3
Blue	490	714-10134	2003	HB		y	y	0	0	1	3	0	0	0	0	0	0	0
Blue	491	714-10135	2003	HB		y	0	0	0	0	0	0	0	0	0	0	0	0
Blue	502	714-10136	2004	HB		y	y	y	y	2	0	0	0	0	0	0	0	0

Table 69 (continued). Resight history of adult red-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include only birds banded with numeric color bands and not birds banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2008).

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Color band		Metal band #	Year banded	Location banded	Notes	Year resighted												
Color	Band #					92	93	94	95	96	97	98	99	00	01	02	03	04
Blue	855	714-10137	2015	HB	B(503;15)	-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	754	714-10138	2004	HB	B(504;12)	-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	505	714-10139	2004	HB	A(12)	-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	506	714-10140	2004	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	508	714-10141	2004	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	507	714-10142	2004	HB	A(12)	-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	753	714-10143	2004	HB	B(509;12)	-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	863	714-10144	2016	HB	B(510;16)	-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	511	714-10145	2004	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	780	714-10156	2007	HB	B(587;12)	-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	588	714-10157	2007	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	589	714-10158	2007	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	590	714-10159	2007	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	591	714-10160	2007	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	592	714-10161	2007	RF	E(09)	-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	593	714-10162	2007	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	594	714-10163	2007	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	595	714-10164	2007	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	596	714-10165	2007	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	663	714-10166	2008	RF	B(597;12)	-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	598	714-10167	2008	RF	E(12)	-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	599	714-10168	2008	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	648	714-10169	2008	RF	B(600;10)	-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	601	714-10170	2008	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	602	714-10171	2008	RF	F(12)	-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	603	714-10172	2008	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	605	714-10173	2008	RF	F(12)	-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	607	714-10174	2008	RF	E(12)	-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	610	714-10175	2009	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	611	714-10176	2009	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	613	714-10177	2009	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	614	714-10178	2009	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	616	714-10179	2009	HB		-	-	-	-	-	-	-	-	-	-	-	-	-

Table 69 (continued). Resight history of adult red-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include only birds banded with numeric color bands and not birds banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2008).

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Color band		Metal band #	Year banded	Location banded	Notes	Year resighted												
Color	Band #					05	06	07	08	09	10	11	12	13	14	15	16	17
Blue	855	714-10137	2015	HB	B(503;15)	y	y	y	y	4	1	3	5	0	0	0	10	5
Blue	754	714-10138	2004	HB	B(504;12)	y	y	y	y	0	0	0	1	6	10	4	10	9
Blue	505	714-10139	2004	HB	A(12)	y	y	y	y	2	1	0	2	x	x	x	x	x
Blue	506	714-10140	2004	HB		y	y	y	y	5	5	3	7	6	10	13	0	0
Blue	508	714-10141	2004	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	507	714-10142	2004	HB	A(12)	y	y	y	y	2	2	4	2	2	0	0	0	0
Blue	753	714-10143	2004	HB	B(509;12)	y	y	y	y	0	0	0	4	5	6	10	14	6
Blue	863	714-10144	2016	HB	B(510;16)	y	y	y	y	3	2	4	2	3	2	2	1	0
Blue	511	714-10145	2004	HB		y	y	0	0	0	0	0	0	0	0	0	0	0
Blue	780	714-10156	2007	HB	B(587;12)	-	-	-	y	0	0	0	0	4	6	4	6	6
Blue	588	714-10157	2007	HB		-	-	-	y	4	0	0	0	0	0	0	0	0
Blue	589	714-10158	2007	HB		-	-	-	y	0	0	0	0	0	0	0	0	0
Blue	590	714-10159	2007	RF		-	-	-	y	5	6	0	0	0	0	0	0	0
Blue	591	714-10160	2007	RF		-	-	-	y	5	0	0	0	0	0	0	0	0
Blue	592	714-10161	2007	RF	E(09)	-	-	-	y	7	0	0	0	0	0	0	0	0
Blue	593	714-10162	2007	RF		-	-	-	y	4	0	0	0	0	0	0	0	0
Blue	594	714-10163	2007	RF		-	-	-	y	4	0	0	0	0	0	0	0	0
Blue	595	714-10164	2007	RF		-	-	-	y	6	0	0	0	0	0	0	0	0
Blue	596	714-10165	2007	RF		-	-	-	y	0	0	0	0	0	0	0	0	0
Blue	663	714-10166	2008	RF	B(597;12)	-	-	-	-	5	5	4	5	5	5	4	6	4
Blue	598	714-10167	2008	RF	E(12)	-	-	-	-	4	5	0	6	0	0	0	0	0
Blue	599	714-10168	2008	RF		-	-	-	-	4	0	0	0	0	0	0	0	0
Blue	648	714-10169	2008	RF	B(600;10)	-	-	-	-	5	4	0	0	0	1	0	0	1
Blue	601	714-10170	2008	RF		-	-	-	-	6	0	0	0	0	0	0	0	2
Blue	602	714-10171	2008	RF	F(12)	-	-	-	-	5	6	2	3	1	4	2	6	6
Blue	603	714-10172	2008	RF		-	-	-	-	7	0	0	0	1	0	0	0	1
Blue	605	714-10173	2008	RF	F(12)	-	-	-	-	5	6	0	2	2	0	0	0	0
Blue	607	714-10174	2008	RF	E(12)	-	-	-	-	7	3	0	2	1	4	2	0	4
Blue	610	714-10175	2009	HB		-	-	-	-	-	4	4	4	8	4	7	8	6
Blue	611	714-10176	2009	HB		-	-	-	-	-	2	3	4	3	5	0	0	0
Blue	613	714-10177	2009	HB		-	-	-	-	-	2	1	2	0	0	0	0	0
Blue	614	714-10178	2009	HB		-	-	-	-	-	0	1	0	0	0	0	0	0
Blue	616	714-10179	2009	HB		-	-	-	-	-	5	4	5	7	8	0	0	0

Table 69 (continued). Resight history of adult red-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include only birds banded with numeric color bands and not birds banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2008).

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Color band		Metal band #	Year banded	Location banded	Notes	Year resighted												
Color	Band #					92	93	94	95	96	97	98	99	00	01	02	03	04
Blue	617	714-10180	2009	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	618	714-10181	2009	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	619	714-10182	2009	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	620	714-10183	2009	HB	F(12)	-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	865	714-10184	2009	HB	B(621, 17)	-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	779	714-10185	2009	HB	B(622;12)	-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	623	714-10186	2009	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	626	714-10187	2009	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	628	714-10188	2009	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	634	714-10189	2010	RF	F(12)	-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	635	714-10190	2010	RF	F(12)	-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	636	714-10191	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	786	714-10192	2010	RF	B(637;13)	-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	638	714-10193	2010	RF	F(12)	-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	639	714-10194	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	640	714-10195	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	641	714-10196	2010	RF	F(12)	-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	642	714-10197	2010	RF	E(12);E(15)	-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	643	714-10198	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	644	714-10199	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	645	714-10200	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	519	714-10401	2005	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	523	714-10402	2005	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	524	714-10403	2005	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	525	714-10404	2005	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	529	714-10405	2005	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	530	714-10406	2005	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	531	714-10407	2005	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	539	714-10408	2005	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	537	714-10409	2005	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	538	714-10410	2005	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	549	714-10411	2005	RF	E(09)	-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	547	714-10412	2005	RF		-	-	-	-	-	-	-	-	-	-	-	-	-

Table 69 (continued). Resight history of adult red-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include only birds banded with numeric color bands and not birds banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2008).

Codes:

Location
RF = Rosy Finch
HB = High Bluff
V = Village Plots s

Notes
A = color band lost or removed (year)
B = rebanded from original color band number (original number; year rebanded)
C = shot by subsistence hunter (year)
D = band slipped above tibio-tarsus joint
E = resighted at different location, on low cliffs (year first observed)
F = band partially broken or very worn (year observed)

Resight history
y = resighted at least once (# times unknown)
0 = not resighted
x = band no longer resightable (dead, removed, etc.)

Color band		Metal band #	Year banded	Location banded	Notes	Year resighted												
Color	Band #					05	06	07	08	09	10	11	12	13	14	15	16	17
Blue	617	714-10180	2009	HB		-	-	-	-	-	5	2	3	3	5	4	8	3
Blue	618	714-10181	2009	HB		-	-	-	-	-	1	0	1	2	2	0	1	0
Blue	619	714-10182	2009	HB		-	-	-	-	-	1	2	3	5	6	2	3	0
Blue	620	714-10183	2009	HB	F(12)	-	-	-	-	-	4	5	4	3	5	0	6	1
Blue	865	714-10184	2009	HB	B(621, 17)	-	-	-	-	-	3	4	8	5	5	14	6	6
Blue	779	714-10185	2009	HB	B(622;12)	-	-	-	-	-	7	4	4	1	0	0	0	0
Blue	623	714-10186	2009	HB		-	-	-	-	-	0	0	0	1	1	0	0	2
Blue	626	714-10187	2009	HB		-	-	-	-	-	0	8	4	5	6	2	0	0
Blue	628	714-10188	2009	HB		-	-	-	-	-	2	4	8	2	5	0	0	1
Blue	634	714-10189	2010	RF	F(12)	-	-	-	-	-	-	1	8	7	5	6	9	6
Blue	635	714-10190	2010	RF	F(12)	-	-	-	-	-	-	2	4	3	4	4	8	5
Blue	636	714-10191	2010	RF		-	-	-	-	-	-	2	2	0	0	0	0	0
Blue	786	714-10192	2010	RF	B(637;13)	-	-	-	-	-	-	2	7	5	8	9	7	3
Blue	638	714-10193	2010	RF	F(12)	-	-	-	-	-	-	3	4	3	5	5	0	0
Blue	639	714-10194	2010	RF		-	-	-	-	-	-	7	3	7	7	6	9	6
Blue	640	714-10195	2010	RF		-	-	-	-	-	-	0	0	0	1	2	0	1
Blue	641	714-10196	2010	RF	F(12)	-	-	-	-	-	-	3	4	7	4	5	7	5
Blue	642	714-10197	2010	RF	E(12)	-	-	-	-	-	-	0	1	1	0	1	0	0
Blue	643	714-10198	2010	RF		-	-	-	-	-	-	5	3	6	3	5	7	4
Blue	644	714-10199	2010	RF		-	-	-	-	-	-	0	0	0	0	0	0	0
Blue	645	714-10200	2010	RF		-	-	-	-	-	-	1	0	0	0	0	0	0
Blue	519	714-10401	2005	RF		-	y	y	y	0	0	0	0	1	0	0	0	0
Blue	523	714-10402	2005	RF		-	y	y	y	0	0	0	0	0	0	0	0	0
Blue	524	714-10403	2005	RF		-	y	0	y	0	0	0	0	0	0	0	0	0
Blue	525	714-10404	2005	RF		-	y	0	y	0	0	0	0	0	0	0	0	0
Blue	529	714-10405	2005	RF		-	y	y	0	0	0	0	0	0	0	0	0	0
Blue	530	714-10406	2005	RF		-	y	y	y	0	0	0	0	0	0	0	0	0
Blue	531	714-10407	2005	RF		-	y	y	y	0	0	0	0	0	0	0	0	0
Blue	539	714-10408	2005	RF		-	y	y	0	0	0	0	0	0	0	0	0	0
Blue	537	714-10409	2005	RF		-	y	y	y	0	0	0	0	0	0	0	0	0
Blue	538	714-10410	2005	RF		-	0	0	0	0	0	0	0	0	0	0	0	0
Blue	549	714-10411	2005	RF	E(09)	-	y	y	y	7	1	0	0	0	0	0	0	0
Blue	547	714-10412	2005	RF		-	y	y	0	0	0	0	0	0	0	0	0	0

Table 69 (continued). Resight history of adult red-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include only birds banded with numeric color bands and not birds banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2008).

Codes:

Location
RF = Rosy Finch
HB = High Bluffs
V = Village Plots

Notes
A = color band lost or removed (year)
B = rebanded from original color band number (original number; year rebanded)
C = shot by subsistence hunter (year)
D = band slipped above tibio-tarsus joint
E = resighted at different location, on low cliffs (year first observed)
F = band partially broken or very worn (year observed)

Resight history
y = resighted at least once (# times unknown)
0 = not resighted
x = band no longer resightable (dead, removed, etc.)

Color band		Metal band #	Year banded	Location banded	Notes	Year resighted												
Color	Band #					92	93	94	95	96	97	98	99	00	01	02	03	04
Blue	548	714-10413	2005	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	545	714-10414	2005	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	799	714-10415	2005	HB	B(544;13)	-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	543	714-10416	2005	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	542	714-10417	2005	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	823	0714-10418	2014	HB	B(541;14)	-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	540	714-10419	2005	HB	A(12)	-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	848	714-10420	2015	HB	B(550;15)	-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	551	714-10421	2005	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	552	714-10422	2005	HB	A(12)	-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	553	714-10423	2005	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	554	714-10424	2005	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	555	714-10425	2005	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	556	714-10426	2005	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	558	714-10427	2005	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	674	714-10428	2005	HB	B(557;12)	-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	615	714-10429	2005	HB	B(559;09)	-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	560	714-10430	2005	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	561	714-10431	2005	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	562	714-10432	2005	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	788	714-10433	2005	RF	B(563;13)	-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	564	714-10434	2005	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	565	714-10435	2005	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	566	714-10436	2005	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	567	714-10437	2005	RF	E(09)	-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	568	714-10438	2005	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	569	714-10439	2005	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	570	714-10440	2005	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	571	714-10441	2006	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	572	714-10442	2006	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	573	714-10443	2006	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	574	714-10444	2006	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	575	714-10445	2006	RF	E(08)	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 69 (continued). Resight history of adult red-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include only birds banded with numeric color bands and not birds banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2008).

Codes:

Location
RF = Rosy Finch
HB = High Bluffs
V = Village Plots

Notes
A = color band lost or removed (year)
B = rebanded from original color band number (original number; year rebanded)
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E = resighted at different location, on low cliffs (year first observed)
F = band partially broken or very worn (year observed)

Resight history
y = resighted at least once (# times unknown)
0 = not resighted
x = band no longer resightable (dead, removed, etc.)

Color band		Metal band #	Year banded	Location banded	Notes	Year resighted												
Color	Band #					05	06	07	08	09	10	11	12	13	14	15	16	17
Blue	548	714-10413	2005	RF		-	y	y	y	0	0	0	0	0	0	0	0	0
Blue	545	714-10414	2005	HB		-	y	y	y	3	1	0	1	3	0	0	0	0
Blue	799	714-10415	2005	HB	B(544;13)	-	y	y	y	1	0	0	0	3	2	0	3	0
Blue	543	714-10416	2005	HB		-	y	y	y	0	0	0	0	0	0	0	0	0
Blue	542	714-10417	2005	HB		-	y	y	y	1	0	0	0	0	0	0	0	0
Blue	823	0714-10418	2014	HB	B(541;14)	-	y	y	0	0	0	1	0	0	0	0	1	6
Blue	540	714-10419	2005	HB	A(12)	-	y	y	y	4	5	1	2	0	0	0	0	0
Blue	848	714-10420	2015	HB	B(550;15)	-	y	y	y	5	3	5	4	10	6	0	6	6
Blue	551	714-10421	2005	HB		-	y	y	y	1	0	0	0	0	0	0	0	0
Blue	552	714-10422	2005	HB	A(12)	-	0	0	0	0	0	1	1	x	x	x	x	x
Blue	553	714-10423	2005	HB		-	0	0	0	1	0	0	0	0	0	0	0	0
Blue	554	714-10424	2005	HB		-	y	y	y	0	3	0	0	0	0	0	0	0
Blue	555	714-10425	2005	HB		-	y	0	0	0	0	0	1	0	0	0	0	0
Blue	556	714-10426	2005	HB		-	y	0	0	0	0	0	0	0	0	0	0	0
Blue	558	714-10427	2005	HB		-	y	0	0	0	0	0	0	0	0	0	0	0
Blue	674	714-10428	2005	HB	B(557;12)	-	y	y	y	2	1	4	2	3	7	0	0	0
Blue	615	714-10429	2005	HB	B(559;09)	-	y	y	y	1	1	2	1	1	2	0	0	0
Blue	560	714-10430	2005	RF		-	y	y	0	0	0	0	0	0	0	0	0	0
Blue	561	714-10431	2005	RF		-	y	y	y	0	0	0	0	0	0	0	0	0
Blue	562	714-10432	2005	RF		-	y	y	0	0	0	0	0	0	0	0	0	0
Blue	788	714-10433	2005	RF	B(563;13)	-	y	y	y	5	3	8	2	5	5	8	3	0
Blue	564	714-10434	2005	RF		-	y	y	y	0	0	0	0	0	0	0	0	0
Blue	565	714-10435	2005	RF		-	y	0	y	4	5	0	0	0	0	0	0	0
Blue	566	714-10436	2005	RF		-	y	0	0	0	1	0	0	0	0	0	0	0
Blue	567	714-10437	2005	RF	E(09)	-	y	y	y	6	4	0	0	0	0	0	0	0
Blue	568	714-10438	2005	RF		-	y	y	0	0	0	0	0	0	0	0	0	0
Blue	569	714-10439	2005	RF		-	y	y	y	0	0	0	0	0	0	0	0	0
Blue	570	714-10440	2005	RF		-	y	y	y	0	0	0	0	0	0	0	0	0
Blue	571	714-10441	2006	RF		-	-	y	y	10	0	0	0	0	0	0	0	0
Blue	572	714-10442	2006	RF		-	-	y	y	0	0	0	0	0	0	0	0	0
Blue	573	714-10443	2006	RF		-	-	y	y	5	0	0	0	0	0	0	0	0
Blue	574	714-10444	2006	RF		-	-	y	y	0	0	0	0	0	0	0	0	0
Blue	575	714-10445	2006	RF	E(08)	-	-	y	y	0	0	0	0	0	0	0	0	0

Table 69 (continued). Resight history of adult red-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include only birds banded with numeric color bands and not birds banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2008).

Codes:

Location
RF = Rosy Finch
HB = High Bluffs
V = Village Plots

Notes
A = color band lost or removed (year)
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E = resighted at different location, on low cliffs (year first observed)
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Resight history
y = resighted at least once (# times unknown)
0 = not resighted
x = band no longer resightable (dead, removed, etc.)

Color band		Metal band #	Year banded	Location banded	Notes	Year resighted												
Color	Band #					92	93	94	95	96	97	98	99	00	01	02	03	04
Blue	576	714-10446	2006	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	577	714-10447	2006	RF	E(09)	-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	578	714-10448	2006	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	580	714-10449	2006	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	581	714-10450	2006	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	582	714-10451	2006	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	579	714-10452	2006	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	583	714-10453	2006	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	584	714-10454	2006	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	585	714-10455	2006	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	136	714-17001	1993	HB		-	-	0	0	0	0	0	0	0	0	0	0	0
Blue	137	714-17009	1993	HB		-	-	y	y	y	y	0	0	0	0	0	0	0
Blue	253	714-17010	1993	HB		-	-	y	y	y	y	y	y	y	0	0	0	0
Blue	178	714-17011	1997	HB		-	-	-	-	-	-	y	y	y	y	y	y	0
Blue	125	714-17013	1993	HB		-	-	y	y	y	y	y	y	y	0	0	0	0
Blue	100	714-17029	1993	HB		-	-	y	y	y	y	y	y	y	y	y	y	0
Blue	101	714-17030	1993	HB		-	-	y	y	y	y	y	y	0	0	0	0	0
Blue	102	714-17031	1993	HB		-	-	y	y	y	y	y	y	y	y	y	y	y
Blue	104	714-17033	1993	HB		-	-	y	y	y	y	y	y	y	y	y	y	y
Blue	105	714-17034	1993	HB		-	-	y	y	y	y	y	y	y	y	y	0	0
Blue	107	714-17035	1993	HB		-	-	y	y	y	y	y	y	y	y	y	0	0
Blue	110	714-17036	1993	HB		-	-	y	y	y	y	y	y	y	y	y	y	y
Blue	111	714-17037	1993	HB		-	-	y	y	y	y	y	y	y	y	y	y	y
Blue	112	714-17038	1993	HB	E(09)	-	-	y	0	y	0	0	0	0	0	0	0	0
Blue	113	714-17039	1993	HB		-	-	0	0	0	0	0	0	0	0	0	0	0
Blue	114	714-17040	1993	HB		-	-	y	0	0	0	0	0	0	0	0	0	0
Blue	115	714-17041	1993	HB		-	-	y	y	y	y	y	y	y	y	y	y	y
Blue	116	714-17042	1993	HB		-	-	y	y	0	0	0	0	0	y	0	0	0
Blue	117	714-17043	1993	HB		-	-	y	y	y	y	y	0	0	0	?	0	0
Blue	118	714-17044	1993	HB		-	-	y	0	0	0	0	0	0	0	0	0	0
Blue	119	714-17045	1993	HB		-	-	y	y	y	y	y	y	y	y	y	y	y
Blue	120	714-17046	1993	HB		-	-	y	y	y	y	y	y	y	y	y	y	y
Blue	121	714-17047	1993	HB		-	-	y	y	y	y	y	0	0	0	0	0	0

Table 69 (continued). Resight history of adult red-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include only birds banded with numeric color bands and not birds banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2008).

Codes:

Location
RF = Rosy Finch
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V = Village Plots

Notes
A = color band lost or removed (year)
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y = resighted at least once (# times unknown)
0 = not resighted
x = band no longer resightable (dead, removed, etc.)

Color band		Metal band #	Year banded	Location banded	Notes	Year resighted												
Color	Band #					05	06	07	08	09	10	11	12	13	14	15	16	17
Blue	576	714-10446	2006	RF		-	-	y	y	0	0	0	0	0	0	0	0	0
Blue	577	714-10447	2006	RF	E(09)	-	-	y	y	5	0	0	0	0	0	0	0	0
Blue	578	714-10448	2006	RF		-	-	y	y	0	0	0	0	0	0	0	0	0
Blue	580	714-10449	2006	RF		-	-	0	0	0	0	0	0	0	0	0	0	0
Blue	581	714-10450	2006	RF		-	-	y	y	8	0	0	0	0	0	0	0	0
Blue	582	714-10451	2006	RF		-	-	y	0	0	0	0	0	0	0	0	0	0
Blue	579	714-10452	2006	RF		-	-	y	y	0	0	0	0	0	0	0	0	0
Blue	583	714-10453	2006	RF		-	-	y	0	0	0	0	0	0	0	0	0	0
Blue	584	714-10454	2006	RF		-	-	y	y	0	0	0	0	0	0	0	0	0
Blue	585	714-10455	2006	RF		-	-	y	0	0	0	0	0	0	0	0	0	0
Blue	136	714-17001	1993	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	137	714-17009	1993	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	253	714-17010	1993	HB		0	0	y	0	0	0	0	0	0	0	0	0	0
Blue	178	714-17011	1997	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	125	714-17013	1993	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	100	714-17029	1993	HB		0	0	y	0	0	0	0	1	0	0	0	0	0
Blue	101	714-17030	1993	HB		y	y	0	0	0	0	0	0	0	0	0	0	0
Blue	102	714-17031	1993	HB		y	y	y	y	0	0	0	0	0	0	0	0	0
Blue	104	714-17033	1993	HB		y	y	y	y	1	2	3	5	4	3	5	4	0
Blue	105	714-17034	1993	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	107	714-17035	1993	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	110	714-17036	1993	HB		y	y	y	y	4	2	0	0	0	0	0	0	0
Blue	111	714-17037	1993	HB		0	y	y	0	0	0	0	0	0	0	0	0	0
Blue	112	714-17038	1993	HB	E(09)	0	0	0	0	1	0	0	0	0	0	0	0	0
Blue	113	714-17039	1993	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	114	714-17040	1993	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	115	714-17041	1993	HB		y	y	y	y	2	1	0	2	6	0	0	0	0
Blue	116	714-17042	1993	HB		0	0	y	0	0	0	0	0	0	0	0	0	0
Blue	117	714-17043	1993	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	118	714-17044	1993	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	119	714-17045	1993	HB		y	y	y	y	0	0	0	0	0	0	0	0	0
Blue	120	714-17046	1993	HB		y	y	y	y	2	2	4	6	2	0	0	0	0
Blue	121	714-17047	1993	HB		0	0	0	0	0	0	0	0	0	0	0	0	0

Table 69 (continued). Resight history of adult red-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include only birds banded with numeric color bands and not birds banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2008).

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Resight history
y = resighted at least once (# times unknown)
0 = not resighted
x = band no longer resightable (dead, removed, etc.)

Color band		Metal band #	Year banded	Location banded	Notes	Year resighted												
Color	Band #					92	93	94	95	96	97	98	99	00	01	02	03	04
Blue	122	714-17048	1993	HB		-	-	y	y	y	y	y	y	y	y	y	y	y
Blue	108	714-17050	1993	HB		-	-	y	y	y	0	0	0	0	0	0	0	0
Blue	123	714-17051	1993	HB		-	-	y	y	y	y	y	y	y	0	0	0	0
Blue	124	714-17052	1993	HB		-	-	y	y	y	y	0	0	0	0	0	0	0
Blue	126	714-17053	1993	HB		-	-	y	y	y	y	y	y	0	0	0	0	0
Blue	127	714-17054	1993	HB		-	-	y	y	y	y	y	y	y	0	0	0	0
Blue	129	714-17055	1993	HB		-	-	y	y	y	y	y	y	y	y	y	y	y
Blue	130	714-17056	1993	HB		-	-	y	y	y	y	y	y	0	0	0	0	0
Blue	131	714-17057	1993	HB		-	-	0	0	0	0	0	0	0	0	0	0	0
Blue	132	714-17058	1993	HB		-	-	y	y	0	0	0	0	0	0	0	0	0
Blue	133	714-17059	1993	HB		-	-	y	y	y	y	y	y	y	y	y	y	y
Blue	134	714-17060	1993	HB		-	-	0	y	y	y	y	y	y	y	y	y	y
Blue	135	714-17061	1993	HB		-	-	y	y	y	y	y	y	y	0	0	0	0
Blue	138	714-17062	1993	HB		-	-	y	y	y	y	y	y	y	y	y	y	y
Blue	139	714-17063	1993	HB		-	-	y	y	y	y	0	0	0	0	0	0	0
Blue	141	714-17064	1993	HB		-	-	y	y	y	y	0	0	0	0	0	0	0
Blue	142	714-17065	1993	HB		-	-	y	y	y	y	y	y	y	y	y	y	0
Blue	143	714-17066	1993	HB		-	-	y	y	y	y	y	0	0	0	0	0	0
Blue	144	714-17067	1993	HB		-	-	y	y	y	y	y	y	y	0	0	0	0
Blue	145	714-17068	1993	HB		-	-	y	y	y	y	y	y	y	y	y	y	0
Blue	146	714-17069	1993	HB		-	-	y	y	y	y	y	y	y	y	y	y	0
Blue	147	714-17070	1993	HB		-	-	y	0	0	0	0	0	0	0	0	0	0
Blue	148	714-17071	1993	HB		-	-	y	y	0	0	0	0	0	0	0	0	0
Blue	149	714-17072	1993	HB		-	-	y	y	y	y	y	y	y	0	y	0	0
Blue	250	714-17073	1993	HB		-	-	y	y	y	y	y	0	0	0	0	0	0
Blue	251	714-17074	1993	HB		-	-	y	y	y	y	y	y	y	0	y	y	0
Blue	252	714-17075	1993	HB		-	-	y	y	y	y	y	y	0	0	0	0	0
Blue	254	714-17076	1993	HB		-	-	y	y	y	y	y	y	y	0	y	y	y
Blue	255	714-17077	1993	HB		-	-	y	y	y	y	y	y	y	0	0	0	0
Blue	256	714-17078	1993	HB		-	-	y	y	0	0	0	0	0	0	y	0	0
Blue	258	714-17080	1993	HB		-	-	y	y	y	y	y	0	y	y	y	y	0
Blue	259	714-17081	1993	HB		-	-	y	0	0	0	0	0	0	0	?	0	0
Blue	260	714-17082	1993	HB		-	-	y	y	y	y	y	y	0	0	0	0	0

Table 69 (continued). Resight history of adult red-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include only birds banded with numeric color bands and not birds banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2008).

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Color band		Metal band #	Year banded	Location banded	Notes	Year resighted												
Color	Band #					05	06	07	08	09	10	11	12	13	14	15	16	17
Blue	122	714-17048	1993	HB		y	y	y	y	0	0	0	0	0	0	0	0	0
Blue	108	714-17050	1993	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	123	714-17051	1993	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	124	714-17052	1993	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	126	714-17053	1993	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	127	714-17054	1993	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	129	714-17055	1993	HB		0	y	y	0	0	0	0	0	0	0	0	0	0
Blue	130	714-17056	1993	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	131	714-17057	1993	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	132	714-17058	1993	HB		0	0	0	0	0	1	0	0	0	0	0	0	0
Blue	133	714-17059	1993	HB		y	y	y	y	1	0	5	2	3	0	0	0	0
Blue	134	714-17060	1993	HB		y	y	y	y	1	0	0	0	0	0	0	0	0
Blue	135	714-17061	1993	HB		0	y	0	0	0	0	0	0	0	0	0	0	0
Blue	138	714-17062	1993	HB		y	y	0	y	0	0	0	0	0	0	0	0	0
Blue	139	714-17063	1993	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	141	714-17064	1993	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	142	714-17065	1993	HB		0	y	0	0	0	0	0	0	0	0	0	0	0
Blue	143	714-17066	1993	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	144	714-17067	1993	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	145	714-17068	1993	HB		0	y	y	y	0	1	0	5	5	2	0	0	2
Blue	146	714-17069	1993	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	147	714-17070	1993	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	148	714-17071	1993	HB		y	0	0	0	0	0	0	0	0	0	0	0	0
Blue	149	714-17072	1993	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	250	714-17073	1993	HB		y	0	0	0	0	0	0	0	0	0	0	0	0
Blue	251	714-17074	1993	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	252	714-17075	1993	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	254	714-17076	1993	HB		y	y	0	0	0	0	0	0	0	0	0	0	0
Blue	255	714-17077	1993	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	256	714-17078	1993	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	258	714-17080	1993	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	259	714-17081	1993	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	260	714-17082	1993	HB		0	0	0	0	0	0	0	0	0	0	0	0	0

Table 69 (continued). Resight history of adult red-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include only birds banded with numeric color bands and not birds banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2008).

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Color band		Metal band #	Year banded	Location banded	Notes	Year resighted												
Color	Band #					92	93	94	95	96	97	98	99	00	01	02	03	04
Blue	261	714-17083	1993	HB		-	-	y	y	y	y	y	y	y	y	y	y	y
Blue	262	714-17084	1993	HB		-	-	y	y	y	y	y	y	y	0	0	0	0
Blue	263	714-17085	1993	HB		-	-	y	y	y	y	y	y	0	0	0	0	0
Blue	264	714-17086	1993	HB		-	-	y	y	y	y	y	y	y	0	0	0	0
Blue	265	714-17087	1993	HB		-	-	y	y	y	y	0	0	y	y	0	0	0
Blue	266	714-17088	1993	HB		-	-	y	y	y	y	y	y	0	y	y	0	0
Blue	268	714-17089	1993	HB		-	-	y	y	y	y	y	y	0	0	0	0	0
Blue	269	714-17090	1993	HB		-	-	y	y	y	y	y	y	0	0	0	0	0
Blue	270	714-17091	1993	HB		-	-	y	y	y	y	y	y	0	0	0	0	0
Blue	271	714-17092	1993	HB		-	-	0	0	0	0	0	0	0	0	0	0	0
Blue	274	714-17093	1993	HB		-	-	y	y	0	0	0	0	0	0	0	0	0
Blue	275	714-17094	1993	HB		-	-	y	y	y	y	y	y	y	y	y	0	0
Blue	11	734-09112	1991	RF		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	175	734-09115	1997	RF		-	-	-	-	-	-	y	y	y	y	y	y	y
Blue	59	734-09199	1992	RF		-	y	y	y	y	y	0	0	0	0	?	y	0
Blue	174	734-09214	1997	RF		-	-	-	-	-	-	y	y	y	y	y	y	y
Blue	6	734-09222	1991	RF		y	y	y	y	y	0	0	0	0	0	0	0	0
Blue	41	734-09223	1992	RF		-	y	y	y	y	y	y	y	y	y	y	y	y
Blue	49	734-09224	1992	RF	C(96)	-	y	y	y	y	x	x	x	x	x	x	x	x
Blue	861	764-86788	2016	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	0	784-64801	1991	RF	D	y	y	y	y	y	y	y	0	y	0	y	0	0
Blue	1	784-64802	1991	RF		y	y	y	y	y	y	y	0	0	0	0	0	0
Blue	2	784-64803	1991	RF	A(06)	y	y	y	y	y	y	y	y	y	y	y	0	0
Blue	3	784-64804	1991	RF		y	y	y	y	0	0	0	0	0	0	0	0	0
Blue	4	784-64805	1991	RF		y	0	0	0	0	0	0	0	0	0	0	0	0
Blue	5	784-64806	1991	RF		y	y	y	y	y	y	y	y	y	0	y	y	y
Blue	8	784-64807	1991	RF		y	y	y	y	y	y	y	y	y	y	y	0	0
Blue	9	784-64808	1991	RF		y	y	y	y	y	y	y	y	y	0	0	0	0
Blue	10	784-64809	1991	RF		y	y	y	0	y	0	0	0	y	0	y	0	0
Blue	12	784-64810	1991	RF	E(09)	y	y	y	y	y	y	y	y	y	y	y	y	y
Blue	13	784-64811	1991	RF		0	y	0	0	0	0	0	0	0	0	0	0	0
Blue	14	784-64812	1991	RF		y	y	y	y	y	y	y	y	y	y	y	y	y
Blue	15	784-64813	1991	RF		y	y	y	y	y	y	y	y	y	y	y	y	y

Table 69 (continued). Resight history of adult red-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include only birds banded with numeric color bands and not birds banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2008).

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Color band		Metal band #	Year banded	Location banded	Notes	Year resighted												
Color	Band #					05	06	07	08	09	10	11	12	13	14	15	16	17
Blue	261	714-17083	1993	HB		y	y	0	0	0	0	0	0	0	0	0	0	0
Blue	262	714-17084	1993	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	263	714-17085	1993	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	264	714-17086	1993	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	265	714-17087	1993	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	266	714-17088	1993	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	268	714-17089	1993	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	269	714-17090	1993	HB		0	0	y	0	0	0	0	0	0	0	0	0	0
Blue	270	714-17091	1993	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	271	714-17092	1993	HB		y	0	0	0	0	0	0	0	0	0	0	0	0
Blue	274	714-17093	1993	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	275	714-17094	1993	HB		0	y	0	0	0	0	0	0	0	0	0	0	0
Blue	11	734-09112	1991	RF		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	175	734-09115	1997	RF		y	0	y	y	0	0	0	0	0	0	0	0	0
Blue	59	734-09199	1992	RF		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	174	734-09214	1997	RF		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	6	734-09222	1991	RF		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	41	734-09223	1992	RF		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	49	734-09224	1992	RF	C(96)	x	x	x	x	x	x	x	x	x	x	x	x	x
Blue	861	764-86788	2016	HB		-	-	-	-	-	-	-	-	-	-	-	-	4
Blue	0	784-64801	1991	RF	D	0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	1	784-64802	1991	RF		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	2	784-64803	1991	RF	A(06)	0	y	x	x	x	x	x	x	x	x	x	x	0
Blue	3	784-64804	1991	RF		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	4	784-64805	1991	RF		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	5	784-64806	1991	RF		y	y	y	y	0	0	0	0	0	0	0	0	0
Blue	8	784-64807	1991	RF		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	9	784-64808	1991	RF		0	y	0	0	0	0	0	0	0	0	0	0	0
Blue	10	784-64809	1991	RF		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	12	784-64810	1991	RF	E(09)	y	y	0	y	2	2	0	2	2	2	0	0	0
Blue	13	784-64811	1991	RF		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	14	784-64812	1991	RF		y	0	0	0	0	0	0	0	0	0	0	0	0
Blue	15	784-64813	1991	RF		y	y	0	y	0	0	0	0	0	0	0	0	0

Table 69 (continued). Resight history of adult red-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include only birds banded with numeric color bands and not birds banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2008).

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Color band		Metal band #	Year banded	Location banded	Notes	Year resighted												
Color	Band #					92	93	94	95	96	97	98	99	00	01	02	03	04
Blue	16	784-64814	1991	RF		y	y	y	y	0	0	0	0	0	0	0	0	0
Blue	17	784-64815	1991	RF		y	y	y	0	0	0	0	0	0	0	0	0	0
Blue	18	784-64816	1991	RF	A(06)	y	y	y	y	y	y	y	y	y	y	0	y	y
Blue	19	784-64817	1991	RF		y	y	y	y	y	y	y	y	y	0	0	0	0
Blue	20	784-64818	1991	RF		y	0	0	0	0	0	0	0	0	0	0	0	0
Blue	21	784-64819	1991	RF		y	0	0	0	0	0	0	0	0	0	0	0	0
Blue	22	784-64820	1991	RF		y	y	y	y	0	0	0	0	0	0	0	0	0
Blue	23	784-64821	1991	RF		y	y	y	y	y	y	y	y	y	y	y	y	y
Blue	24	784-64822	1991	RF		y	y	y	y	y	y	y	y	y	y	y	y	y
Blue	25	784-64823	1991	HB		y	y	y	y	y	y	0	0	0	0	0	0	0
Blue	26	784-64824	1991	HB		y	y	y	y	y	y	0	0	0	0	0	0	0
Blue	27	784-64825	1991	RF		y	y	y	y	y	y	y	y	y	y	y	y	0
Blue	30	784-64827	1992	RF		-	y	y	y	y	y	y	y	y	y	0	0	0
Blue	31	784-64828	1992	RF		-	0	y	y	y	0	0	0	0	0	0	0	0
Blue	32	784-64829	1992	RF		-	y	y	y	y	y	y	0	0	0	0	0	0
Blue	33	784-64830	1992	RF		-	y	y	y	y	y	0	0	0	0	0	0	0
Blue	34	784-64831	1992	RF		-	y	y	y	y	y	y	0	0	0	0	0	0
Blue	35	784-64832	1992	RF		-	y	y	y	y	y	0	0	0	0	0	0	0
Blue	36	784-64833	1992	RF		-	y	0	0	0	0	0	0	0	0	0	0	0
Blue	37	784-64834	1992	RF		-	y	y	0	0	0	0	0	0	0	0	0	0
Blue	38	784-64835	1992	RF	A(97)	-	y	y	y	y	y	x[a]	x[a]	x[a]	x	x	x	x
Blue	39	784-64836	1992	RF		-	y	y	y	y	y	y	y	y	y	y	y	0
Blue	40	784-64837	1992	RF		-	0	0	0	0	0	0	0	0	0	0	0	0
Blue	42	784-64838	1992	RF	A(98)	-	0	y	y	0	y	y	x	x	x	x	x	x
Blue	43	784-64839	1992	RF	A(96)	-	y	0	y	y	x[a]	x[a]	x[a]	x[a]	x	x	x	x
Blue	171	784-64840	1992	RF	B(44;97)	-	y	y	0	y	y	y	y	y	0	y	y	y
Blue	46	784-64841	1992	RF		-	y	y	0	0	0	0	0	0	0	0	0	0
Blue	47	784-64842	1992	RF	C(97)	-	y	y	0	0	y	x	x	x	x	x	x	x
Blue	48	784-64843	1992	RF		-	y	y	y	0	0	0	0	0	0	0	0	0
Blue	182	784-64844	1992	RF	B(51;97)	-	y	0	y	0	0	y	y	0	0	0	y	y
Blue	52	784-64845	1992	RF		-	y	y	y	y	y	y	y	0	0	0	0	0
Blue	53	784-64846	1992	RF		-	y	y	y	y	y	y	y	y	y	y	y	0
Blue	55	784-64847	1992	RF		-	y	y	y	y	y	y	0	y	0	0	0	0

Table 69 (continued). Resight history of adult red-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include only birds banded with numeric color bands and not birds banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2008).

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Location
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Resight history
y = resighted at least once (# times unknown)
0 = not resighted
x = band no longer resightable (dead, removed, etc.)

Color band		Metal band #	Year banded	Location banded	Notes	Year resighted												
Color	Band #					05	06	07	08	09	10	11	12	13	14	15	16	17
Blue	16	784-64814	1991	RF		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	17	784-64815	1991	RF		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	18	784-64816	1991	RF	A(06)	y	y	x	x	x	x	x	x	x	x	x	x	x
Blue	19	784-64817	1991	RF		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	20	784-64818	1991	RF		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	21	784-64819	1991	RF		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	22	784-64820	1991	RF		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	23	784-64821	1991	RF		y	y	y	y	0	0	0	0	0	0	0	0	0
Blue	24	784-64822	1991	RF		y	y	y	0	0	0	0	0	0	0	0	0	0
Blue	25	784-64823	1991	HB		0	0	0	0	0	0	0	0	0	1	0	0	0
Blue	26	784-64824	1991	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	27	784-64825	1991	RF		y	0	0	0	0	0	0	0	0	0	0	0	0
Blue	30	784-64827	1992	RF		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	31	784-64828	1992	RF		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	32	784-64829	1992	RF		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	33	784-64830	1992	RF		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	34	784-64831	1992	RF		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	35	784-64832	1992	RF		y	0	0	y	0	0	0	0	0	0	0	0	0
Blue	36	784-64833	1992	RF		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	37	784-64834	1992	RF		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	38	784-64835	1992	RF	A(97)	x	x	x	x	x	x	x	x	x	x	x	x	0
Blue	39	784-64836	1992	RF		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	40	784-64837	1992	RF		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	42	784-64838	1992	RF	A(98)	x	x	x	x	x	x	x	x	x	x	x	x	0
Blue	43	784-64839	1992	RF	A(96)	x	x	x	x	x	x	x	x	x	x	x	x	0
Blue	171	784-64840	1992	RF	B(44;97)	y	y	y	y	7	1	3	5	4	2	4	0	0
Blue	46	784-64841	1992	RF		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	47	784-64842	1992	RF	C(97)	x	x	x	x	x	x	x	x	x	x	x	x	0
Blue	48	784-64843	1992	RF		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	182	784-64844	1992	RF	B(51;97)	y	y	y	y	0	0	0	0	0	0	0	0	0
Blue	52	784-64845	1992	RF		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	53	784-64846	1992	RF		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	55	784-64847	1992	RF		0	0	0	0	0	0	0	0	0	0	0	0	0

Table 69 (continued). Resight history of adult red-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include only birds banded with numeric color bands and not birds banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2008).

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Resight history
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0 = not resighted
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Color band		Metal band #	Year banded	Location banded	Notes	Year resighted												
Color	Band #					92	93	94	95	96	97	98	99	00	01	02	03	04
Blue	57	784-64848	1992	RF	F(08)	-	y	y	y	y	y	y	y	y	y	y	y	y
Blue	58	784-64849	1992	RF		-	0	0	0	0	0	0	0	0	0	0	0	0
Blue	183	784-64850	1992	RF	B(60;98)	-	y	y	y	y	y	y	y	y	0	0	0	0
Blue	61	784-64851	1992	RF		-	y	y	y	y	y	0	0	0	0	0	0	0
Blue	62	784-64852	1992	RF		-	y	y	0	0	0	0	0	0	0	0	0	0
Blue	63	784-64853	1992	RF	D	-	y	y	y	0	0	0	0	0	0	0	0	0
Blue	249	784-64854	1992	RF	B(67;98)	-	y	y	y	y	y	y	y	y	0	0	0	0
Blue	311	794-09110	1998	RF	E(12)	-	-	-	-	-	-	-	y	y	0	y	y	y
Blue	363	794-32107	1999	HB		-	-	-	-	-	-	-	-	0	0	?	0	0
Blue	320	794-32120	1998	HB		-	-	-	-	-	-	-	y	y	y	y	y	y
Blue	240	794-32127	1998	HB		-	-	-	-	-	-	-	y	y	y	y	y	y
Blue	195	794-32141	1998	HB		-	-	-	-	-	-	-	y	y	y	y	y	y
Blue	318	794-32160	1998	HB		-	-	-	-	-	-	-	y	y	y	y	y	y
Blue	276	794-32227	1994	HB		-	-	-	y	y	y	y	y	y	y	y	y	0
Blue	277	794-32228	1994	HB		-	-	-	y	y	y	y	y	y	y	y	y	y
Blue	278	794-32229	1994	HB		-	-	-	y	y	y	0	0	0	0	0	0	0
Blue	280	794-32230	1994	HB		-	-	-	y	y	y	y	y	0	0	0	0	0
Blue	281	794-32241	1994	HB		-	-	-	y	y	y	0	0	0	0	y	0	0
Blue	282	794-32242	1994	HB		-	-	-	y	y	y	y	y	y	0	y	y	0
Blue	283	794-32243	1994	HB		-	-	-	y	y	y	y	y	y	y	y	y	y
Blue	284	794-32244	1994	HB		-	-	-	y	y	y	y	0	0	0	0	0	0
Blue	285	794-32245	1994	HB		-	-	-	y	y	y	y	y	0	0	0	0	0
Blue	286	794-32246	1994	HB		-	-	-	y	y	y	y	y	y	y	y	0	0
Blue	287	794-32247	1994	HB		-	-	-	y	y	y	y	y	0	0	0	0	0
Blue	289	794-32248	1994	HB		-	-	-	y	0	0	0	0	0	0	0	0	0
Blue	290	794-32249	1994	HB		-	-	-	y	y	y	y	y	y	y	y	y	y
Blue	291	794-32250	1994	HB		-	-	-	y	y	y	y	0	0	0	0	0	0
Blue	293	794-32251	1994	HB		-	-	-	y	y	y	y	y	0	0	0	0	0
Blue	288	794-32252	1994	HB		-	-	-	0	0	0	0	0	0	0	0	0	0
Blue	294	794-32263	1994	HB		-	-	-	y	y	y	y	y	y	0	0	0	0
Blue	295	794-32267	1994	HB		-	-	-	y	y	y	y	y	0	0	?	0	0
Blue	296	794-32269	1994	HB		-	-	-	y	y	y	y	y	y	y	y	y	0
Blue	297	794-32270	1994	HB		-	-	-	y	y	y	y	y	y	0	y	0	0

Table 69 (continued). Resight history of adult red-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include only birds banded with numeric color bands and not birds banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2008).

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Color band		Metal band #	Year banded	Location banded	Notes	Year resighted												
Color	Band #					05	06	07	08	09	10	11	12	13	14	15	16	17
Blue	57	784-64848	1992	RF	F(08)	y	y	y	y	0	0	0	0	0	0	0	0	0
Blue	58	784-64849	1992	RF		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	183	784-64850	1992	RF	B(60;98)	0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	61	784-64851	1992	RF		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	62	784-64852	1992	RF		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	63	784-64853	1992	RF	D	0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	249	784-64854	1992	RF	B(67;98)	0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	311	794-09110	1998	RF	E(12)	y	y	0	0	0	0	0	1	0	0	0	0	0
Blue	363	794-32107	1999	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	320	794-32120	1998	HB		y	y	y	y	0	0	0	2	0	0	0	0	0
Blue	240	794-32127	1998	HB		0	y	y	y	0	1	2	4	6	3	3	2	3
Blue	195	794-32141	1998	HB		y	0	0	y	1	1	1	2	5	9	6	8	5
Blue	318	794-32160	1998	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	276	794-32227	1994	HB		0	y	y	y	1	0	1	1	4	3	0	0	0
Blue	277	794-32228	1994	HB		0	y	y	0	0	0	0	0	0	0	0	0	0
Blue	278	794-32229	1994	HB		0	y	0	0	0	0	0	0	0	0	0	0	0
Blue	280	794-32230	1994	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	281	794-32241	1994	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	282	794-32242	1994	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	283	794-32243	1994	HB		y	y	y	y	0	0	0	0	0	0	0	0	0
Blue	284	794-32244	1994	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	285	794-32245	1994	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	286	794-32246	1994	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	287	794-32247	1994	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	289	794-32248	1994	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	290	794-32249	1994	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	291	794-32250	1994	HB		0	0	y	0	0	0	0	0	0	0	0	0	0
Blue	293	794-32251	1994	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	288	794-32252	1994	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	294	794-32263	1994	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	295	794-32267	1994	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	296	794-32269	1994	HB		y	0	0	0	0	0	0	0	0	0	0	0	0
Blue	297	794-32270	1994	HB		0	0	0	0	0	0	0	0	0	0	0	0	0

Table 69 (continued). Resight history of adult red-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include only birds banded with numeric color bands and not birds banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2008).

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Color band		Metal band #	Year banded	Location banded	Notes	Year resighted												
Color	Band #					92	93	94	95	96	97	98	99	00	01	02	03	04
Blue	243	794-32298	1998	HB		-	-	-	-	-	-	-	y	y	y	y	y	y
Blue	161	794-32300	1995	HB		-	-	-	-	y	y	y	y	y	y	y	y	y
Blue	241	794-32306	1998	HB		-	-	-	-	-	-	-	y	y	0	0	0	0
Blue	239	794-32311	1998	HB		-	-	-	-	-	-	-	y	y	y	y	y	y
Blue	632	794-32314	2009	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	325	794-32317	1998	HB		-	-	-	-	-	-	-	y	y	y	y	0	0
Blue	369	794-32318	2000	HB		-	-	-	-	-	-	-	-	-	y	y	y	0
Blue	361	794-32327	1999	HB	A(?)	-	-	-	-	-	-	-	-	y	y	y	y	y
Blue	629	794-32329	2009	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	187	794-32331	1998	HB		-	-	-	-	-	-	-	y	y	y	y	y	y
Blue	660	794-32338	2010	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	317	794-32368	1998	HB		-	-	-	-	-	-	-	y	y	y	y	y	0
Blue	298	794-32388	1995	HB		-	-	-	-	y	y	y	0	0	0	0	0	0
Blue	299	794-32389	1995	HB		-	-	-	-	y	y	y	y	y	y	y	y	y
Blue	151	794-32390	1995	HB		-	-	-	-	0	y	y	y	y	y	y	0	0
Blue	152	794-32391	1995	HB		-	-	-	-	y	y	y	y	y	y	y	y	y
Blue	153	794-32392	1995	HB		-	-	-	-	y	y	y	y	y	y	y	y	y
Blue	154	794-32393	1995	HB		-	-	-	-	y	y	y	y	y	y	y	y	y
Blue	155	794-32394	1995	HB		-	-	-	-	y	y	y	y	y	y	y	y	y
Blue	156	794-32395	1995	HB		-	-	-	-	y	0	0	0	0	0	y	0	0
Blue	157	794-32396	1995	HB		-	-	-	-	y	y	y	y	y	y	y	y	0
Blue	158	794-32397	1995	HB		-	-	-	-	y	y	y	y	y	y	y	y	y
Blue	159	794-32398	1995	HB		-	-	-	-	y	y	y	y	y	y	y	0	0
Blue	160	794-32399	1995	HB		-	-	-	-	y	y	y	y	0	0	0	0	0
Blue	162	794-32401	1995	HB		-	-	-	-	y	y	y	y	y	y	y	0	0
Blue	163	794-32402	1995	HB		-	-	-	-	0	0	0	0	0	0	0	0	0
Blue	164	794-32408	1995	HB		-	-	-	-	y	y	y	y	y	y	y	y	y
Blue	165	794-32409	1995	HB		-	-	-	-	y	y	y	y	y	0	0	0	0
Blue	166	794-32411	1995	HB		-	-	-	-	y	y	y	y	y	y	y	y	0
Blue	167	794-32412	1995	HB		-	-	-	-	y	y	y	y	y	y	y	y	y
Blue	168	794-32413	1995	HB		-	-	-	-	y	y	y	y	y	y	y	y	y
Blue	169	794-32415	1995	HB		-	-	-	-	0	y	0	0	0	0	0	0	0
Blue	380	794-32446	2000	HB		-	-	-	-	-	-	-	-	-	y	y	y	0

Table 69 (continued). Resight history of adult red-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include only birds banded with numeric color bands and not birds banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2008).

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y = resighted at least once (# times unknown)
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x = band no longer resightable (dead, removed, etc.)

Color band		Metal band #	Year banded	Location banded	Notes	Year resighted												
Color	Band #					05	06	07	08	09	10	11	12	13	14	15	16	17
Blue	243	794-32298	1998	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	161	794-32300	1995	HB		y	y	y	y	0	2	2	4	5	4	5	3	0
Blue	241	794-32306	1998	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	239	794-32311	1998	HB		0	y	y	0	2	0	0	0	0	0	0	0	0
Blue	632	794-32314	2009	HB		-	-	-	-	-	1	2	2	1	5	5	1	0
Blue	325	794-32317	1998	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	369	794-32318	2000	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	361	794-32327	1999	HB	A(?)	0	0	0	0	0	0	1	0	1	0	0	0	0
Blue	629	794-32329	2009	HB		-	-	-	-	-	0	1	1	8	4	2	2	0
Blue	187	794-32331	1998	HB		y	0	0	0	0	0	0	0	0	0	0	0	0
Blue	660	794-32338	2010	HB		-	-	-	-	-	-	5	4	0	0	0	0	0
Blue	317	794-32368	1998	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	298	794-32388	1995	HB		y	y	0	0	0	0	0	0	0	0	0	0	0
Blue	299	794-32389	1995	HB		y	y	y	y	0	3	1	2	3	5	0	0	0
Blue	151	794-32390	1995	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	152	794-32391	1995	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	153	794-32392	1995	HB		y	y	y	y	0	2	1	0	0	0	0	0	0
Blue	154	794-32393	1995	HB		y	y	y	y	0	0	0	0	0	0	0	0	0
Blue	155	794-32394	1995	HB		y	y	y	0	0	0	0	0	0	0	0	0	0
Blue	156	794-32395	1995	HB		0	0	0	0	0	0	0	0	1	0	0	0	0
Blue	157	794-32396	1995	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	158	794-32397	1995	HB		y	y	y	y	1	2	3	3	5	5	3	2	0
Blue	159	794-32398	1995	HB		0	0	0	0	0	0	0	0	1	0	0	0	0
Blue	160	794-32399	1995	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	162	794-32401	1995	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	163	794-32402	1995	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	164	794-32408	1995	HB		y	y	y	y	3	0	0	0	0	0	0	0	0
Blue	165	794-32409	1995	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	166	794-32411	1995	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	167	794-32412	1995	HB		y	y	0	y	0	1	2	4	0	0	0	0	0
Blue	168	794-32413	1995	HB		y	y	y	y	1	0	0	0	0	0	0	0	0
Blue	169	794-32415	1995	HB		0	0	0	0	0	0	0	0	1	1	0	0	0
Blue	380	794-32446	2000	HB		0	y	0	y	0	0	1	4	2	1	0	0	1

Table 69 (continued). Resight history of adult red-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include only birds banded with numeric color bands and not birds banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2008).

Codes:

Location
RF = Rosy Finch
HB = High Bluffs
V = Village Plots

Notes
A = color band lost or removed (year)
B = rebanded from original color band number (original number; year rebanded)
C = shot by subsistence hunter (year)
D = band slipped above tibio-tarsus joint
E = resighted at different location, on low cliffs (year first observed)
F = band partially broken or very worn (year observed)

Resight history
y = resighted at least once (# times unknown)
0 = not resighted
x = band no longer resightable (dead, removed, etc.)

Color band		Metal band #	Year banded	Location banded	Notes	Year resighted												
Color	Band #					92	93	94	95	96	97	98	99	00	01	02	03	04
Blue	200	794-32451	1997	HB		-	-	-	-	-	-	y	y	y	0	0	0	0
Blue	201	794-32452	1997	HB		-	-	-	-	-	-	y	y	y	y	y	y	y
Blue	202	794-32453	1997	HB		-	-	-	-	-	-	0	0	0	0	y	0	0
Blue	203	794-32454	1997	HB		-	-	-	-	-	-	y	y	y	y	y	y	y
Blue	204	794-32455	1997	HB		-	-	-	-	-	-	y	y	y	y	y	0	0
Blue	205	794-32456	1997	HB		-	-	-	-	-	-	y	y	y	y	y	y	y
Blue	206	794-32457	1997	HB		-	-	-	-	-	-	y	y	y	y	y	0	0
Blue	207	794-32458	1997	HB		-	-	-	-	-	-	y	y	y	y	y	y	y
Blue	209	794-32459	1997	HB		-	-	-	-	-	-	y	y	y	y	0	0	0
Blue	210	794-32460	1997	HB		-	-	-	-	-	-	y	y	0	0	y	0	0
Blue	211	794-32461	1997	HB		-	-	-	-	-	-	y	y	y	y	y	y	y
Blue	212	794-32462	1997	HB		-	-	-	-	-	-	y	y	y	y	y	0	0
Blue	214	794-32463	1997	HB		-	-	-	-	-	-	y	0	0	0	0	0	0
Blue	215	794-32464	1997	HB		-	-	-	-	-	-	y	y	y	y	y	y	y
Blue	216	794-32465	1997	HB		-	-	-	-	-	-	y	y	y	y	y	y	y
Blue	217	794-32466	1997	HB		-	-	-	-	-	-	y	y	y	y	y	y	0
Blue	218	794-32467	1997	HB		-	-	-	-	-	-	y	y	y	y	y	y	y
Blue	219	794-32468	1997	HB		-	-	-	-	-	-	y	y	y	y	y	y	y
Blue	220	794-32469	1997	HB		-	-	-	-	-	-	y	y	y	0	y	y	y
Blue	221	794-32470	1997	HB		-	-	-	-	-	-	y	y	y	y	y	0	0
Blue	222	794-32471	1997	HB		-	-	-	-	-	-	y	y	0	0	0	0	0
Blue	223	794-32472	1997	HB		-	-	-	-	-	-	y	y	y	y	y	y	0
Blue	177	794-32473	1997	HB		-	-	-	-	-	-	y	y	y	y	y	y	y
Blue	681	794-32474	1997	HB	B(180;12)	-	-	-	-	-	-	y	y	y	y	y	y	y
Blue	224	794-32475	1997	HB		-	-	-	-	-	-	y	y	y	0	0	0	0
Blue	226	794-32476	1997	HB		-	-	-	-	-	-	y	0	0	0	0	0	0
Blue	227	794-32477	1997	HB		-	-	-	-	-	-	y	y	y	0	0	0	0
Blue	228	794-32478	1997	HB		-	-	-	-	-	-	y	y	y	y	y	y	y
Blue	229	794-32479	1997	HB		-	-	-	-	-	-	y	y	y	y	y	y	y
Blue	230	794-32480	1997	HB		-	-	-	-	-	-	y	y	y	y	y	y	0
Blue	231	794-32481	1997	HB		-	-	-	-	-	-	y	y	y	y	y	y	y
Blue	233	794-32482	1997	HB		-	-	-	-	-	-	y	y	0	0	y	0	0
Blue	234	794-32483	1997	HB		-	-	-	-	-	-	y	y	y	y	y	y	0

Table 69 (continued). Resight history of adult red-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include only birds banded with numeric color bands and not birds banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2008).

Codes:	Location	Notes	Resight history
	RF = Rosy Finch HB = High Bluffs V = Village Plots	A = color band lost or removed (year) B = rebanded from original color band number (original number; year rebanded) C = shot by subsistence hunter (year) D = band slipped above tibio-tarsus joint E = resighted at different location, on low cliffs (year first observed) F = band partially broken or very worn (year observed)	y = resighted at least once (# times unknown) 0 = not resighted x = band no longer resightable (dead, removed, etc.)

Color band		Metal band #	Year banded	Location banded	Notes	Year resighted												
Color	Band #					05	06	07	08	09	10	11	12	13	14	15	16	17
Blue	200	794-32451	1997	HB		y	0	0	0	0	0	0	0	0	0	0	0	0
Blue	201	794-32452	1997	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	202	794-32453	1997	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	203	794-32454	1997	HB		0	0	0	0	0	0	0	0	0	1	0	0	0
Blue	204	794-32455	1997	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	205	794-32456	1997	HB		y	0	0	0	0	0	0	0	0	0	0	0	0
Blue	206	794-32457	1997	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	207	794-32458	1997	HB		y	0	0	0	0	0	0	0	0	0	0	0	0
Blue	209	794-32459	1997	HB		0	0	0	0	0	0	0	1	0	0	0	0	0
Blue	210	794-32460	1997	HB		0	y	0	0	0	0	0	0	0	0	0	0	0
Blue	211	794-32461	1997	HB		y	y	0	y	2	0	0	0	0	0	0	0	0
Blue	212	794-32462	1997	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	214	794-32463	1997	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	215	794-32464	1997	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	216	794-32465	1997	HB		y	y	y	y	0	0	0	0	1	0	0	0	0
Blue	217	794-32466	1997	HB		y	0	0	0	0	0	0	0	0	0	0	0	0
Blue	218	794-32467	1997	HB		y	y	y	0	0	0	0	0	0	0	0	0	0
Blue	219	794-32468	1997	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	220	794-32469	1997	HB		y	0	0	0	0	0	0	0	0	0	0	0	0
Blue	221	794-32470	1997	HB		0	y	y	0	0	0	0	0	0	0	0	0	0
Blue	222	794-32471	1997	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	223	794-32472	1997	HB		y	y	y	y	0	3	0	1	5	3	1	0	0
Blue	177	794-32473	1997	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	681	794-32474	1997	HB	B(180;12)	y	y	y	y	6	2	5	5	9	11	8	8	7
Blue	224	794-32475	1997	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	226	794-32476	1997	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	227	794-32477	1997	HB		0	y	0	0	0	0	0	0	0	0	0	0	0
Blue	228	794-32478	1997	HB		y	y	0	0	0	0	0	0	0	0	0	0	0
Blue	229	794-32479	1997	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	230	794-32480	1997	HB		y	0	y	y	2	0	0	0	0	0	0	0	0
Blue	231	794-32481	1997	HB		y	y	y	y	0	0	0	0	0	0	0	0	0
Blue	233	794-32482	1997	HB		0	0	0	0	0	0	0	0	1	0	0	0	0
Blue	234	794-32483	1997	HB		y	0	0	0	0	0	0	0	0	0	0	0	0

Table 69 (continued). Resight history of adult red-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include only birds banded with numeric color bands and not birds banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2008).

Codes:

Location
RF = Rosy Finch
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Notes
A = color band lost or removed (year)
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Resight history
y = resighted at least once (# times unknown)
0 = not resighted
x = band no longer resightable (dead, removed, etc.)

Color band		Metal band #	Year banded	Location banded	Notes	Year resighted												
Color	Band #					92	93	94	95	96	97	98	99	00	01	02	03	04
Blue	235	794-32485	1997	HB		-	-	-	-	-	-	y	y	y	y	y	0	0
Blue	236	794-32486	1997	HB		-	-	-	-	-	-	y	y	y	y	y	y	y
Blue	237	794-32487	1997	HB		-	-	-	-	-	-	y	y	y	y	y	y	y
Blue	238	794-32488	1997	HB		-	-	-	-	-	-	y	y	y	y	y	y	y
Blue	300	794-32641	1998	HB		-	-	-	-	-	-	-	y	y	y	y	y	0
Blue	301	794-32642	1998	HB		-	-	-	-	-	-	-	y	y	y	y	y	y
Blue	302	794-32643	1998	HB		-	-	-	-	-	-	-	y	y	0	0	0	0
Blue	304	794-32644	1998	HB		-	-	-	-	-	-	-	y	y	y	y	y	y
Blue	305	794-32645	1998	HB		-	-	-	-	-	-	-	y	y	y	y	y	0
Blue	306	794-32646	1998	HB		-	-	-	-	-	-	-	y	y	y	y	0	0
Blue	307	794-32647	1998	HB	A(?)	-	-	-	-	-	-	-	y	y	y	y	y	y
Blue	308	794-32648	1998	HB		-	-	-	-	-	-	-	y	y	y	y	y	0
Blue	309	794-32649	1998	HB		-	-	-	-	-	-	-	y	y	0	y	y	0
Blue	310	794-32650	1998	HB		-	-	-	-	-	-	-	y	y	y	y	y	y
Blue	242	794-32651	1998	HB		-	-	-	-	-	-	-	y	0	0	0	0	0
Blue	184	794-32653	1998	HB		-	-	-	-	-	-	-	y	y	0	0	0	0
Blue	185	794-32654	1998	HB		-	-	-	-	-	-	-	y	y	y	y	y	y
Blue	186	794-32655	1998	HB		-	-	-	-	-	-	-	y	y	y	y	y	y
Blue	188	794-32656	1998	HB		-	-	-	-	-	-	-	y	y	y	y	y	y
Blue	189	794-32657	1998	HB		-	-	-	-	-	-	-	y	y	y	y	y	y
Blue	190	794-32658	1998	HB		-	-	-	-	-	-	-	y	y	0	0	0	0
Blue	191	794-32659	1998	HB		-	-	-	-	-	-	-	y	y	y	y	y	y
Blue	192	794-32660	1998	HB		-	-	-	-	-	-	-	y	y	y	y	y	y
Blue	193	794-32661	1998	HB		-	-	-	-	-	-	-	0	0	0	0	0	0
Blue	194	794-32662	1998	HB		-	-	-	-	-	-	-	y	y	y	y	y	y
Blue	196	794-32663	1998	HB		-	-	-	-	-	-	-	y	y	y	y	y	y
Blue	198	794-32664	1998	HB		-	-	-	-	-	-	-	y	y	y	y	y	y
Blue	197	794-32665	1998	HB		-	-	-	-	-	-	-	y	y	y	y	y	y
Blue	199	794-32666	1998	HB		-	-	-	-	-	-	-	y	y	y	y	y	y
Blue	244	794-32667	1998	HB		-	-	-	-	-	-	-	y	y	y	0	0	0
Blue	245	794-32668	1998	HB		-	-	-	-	-	-	-	y	y	y	y	y	y
Blue	246	794-32669	1998	HB		-	-	-	-	-	-	-	y	y	y	y	y	0
Blue	248	794-32670	1998	HB		-	-	-	-	-	-	-	y	y	y	y	y	y

Table 69 (continued). Resight history of adult red-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include only birds banded with numeric color bands and not birds banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2008).

Codes:

Location
RF = Rosy Finch
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V = Village Plots

Notes
A = color band lost or removed (year)
B = rebanded from original color band number (original number; year rebanded)
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Resight history
y = resighted at least once (# times unknown)
0 = not resighted
x = band no longer resightable (dead, removed, etc.)

Color band		Metal band #	Year banded	Location banded	Notes	Year resighted												
Color	Band #					05	06	07	08	09	10	11	12	13	14	15	16	17
Blue	235	794-32485	1997	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	236	794-32486	1997	HB		y	y	y	y	6	3	0	0	0	0	0	0	0
Blue	237	794-32487	1997	HB		y	0	0	0	0	0	0	0	0	0	0	0	0
Blue	238	794-32488	1997	HB		y	y	y	y	0	0	0	0	0	0	0	0	0
Blue	300	794-32641	1998	HB		0	y	0	0	0	0	0	0	0	0	0	0	0
Blue	301	794-32642	1998	HB		y	y	0	0	0	0	0	0	0	0	0	0	0
Blue	302	794-32643	1998	HB		0	y	0	0	0	0	0	0	0	0	0	0	0
Blue	304	794-32644	1998	HB		y	0	0	0	0	0	1	0	0	0	0	0	0
Blue	305	794-32645	1998	HB		y	y	y	y	0	1	1	4	1	0	0	0	0
Blue	306	794-32646	1998	HB		0	y	0	0	0	0	0	0	0	0	0	0	0
Blue	307	794-32647	1998	HB	A(?)	y	y	y	0	0	0	0	1	0	0	0	0	0
Blue	308	794-32648	1998	HB		0	y	0	0	0	0	0	0	0	0	0	0	0
Blue	309	794-32649	1998	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	310	794-32650	1998	HB		y	y	y	y	1	3	4	3	6	4	2	1	3
Blue	242	794-32651	1998	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	184	794-32653	1998	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	185	794-32654	1998	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	186	794-32655	1998	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	188	794-32656	1998	HB		y	y	0	0	0	0	0	0	0	0	0	0	0
Blue	189	794-32657	1998	HB		y	y	y	y	0	0	1	9	4	1	0	0	0
Blue	190	794-32658	1998	HB		0	y	0	0	0	1	1	0	0	0	0	0	0
Blue	191	794-32659	1998	HB		y	0	y	y	0	1	1	0	0	0	0	0	0
Blue	192	794-32660	1998	HB		y	y	y	y	6	4	4	0	0	0	0	0	0
Blue	193	794-32661	1998	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	194	794-32662	1998	HB		0	y	y	y	1	2	1	5	7	5	3	2	3
Blue	196	794-32663	1998	HB		y	y	0	y	4	1	1	0	0	0	0	0	0
Blue	198	794-32664	1998	HB		y	0	0	0	0	0	0	0	0	0	0	0	0
Blue	197	794-32665	1998	HB		y	y	y	y	2	0	1	3	7	4	4	2	0
Blue	199	794-32666	1998	HB		0	0	0	0	0	0	0	0	1	0	0	0	0
Blue	244	794-32667	1998	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	245	794-32668	1998	HB		y	y	0	0	0	0	0	0	0	0	0	0	0
Blue	246	794-32669	1998	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	248	794-32670	1998	HB		y	y	y	0	0	0	0	0	0	0	0	0	0

Table 69 (continued). Resight history of adult red-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include only birds banded with numeric color bands and not birds banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2008).

Codes:

Location
RF = Rosy Finch
HB = High Bluffs
V = Village Plots

Notes
A = color band lost or removed (year)
B = rebanded from original color band number (original number; year rebanded)
C = shot by subsistence hunter (year)
D = band slipped above tibio-tarsus joint
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F = band partially broken or very worn (year observed)

Resight history
y = resighted at least once (# times unknown)
0 = not resighted
x = band no longer resightable (dead, removed, etc.)

Color band		Metal band #	Year banded	Location banded	Notes	Year resighted												
Color	Band #					92	93	94	95	96	97	98	99	00	01	02	03	04
Blue	312	794-32671	1998	HB		-	-	-	-	-	-	-	y	y	y	y	y	y
Blue	313	794-32672	1998	HB		-	-	-	-	-	-	-	y	y	y	y	y	y
Blue	315	794-32673	1998	HB		-	-	-	-	-	-	-	y	y	y	y	y	y
Blue	319	794-32675	1998	HB		-	-	-	-	-	-	-	y	y	y	y	y	y
Blue	326	794-32676	1998	HB		-	-	-	-	-	-	-	y	y	y	y	0	0
Blue	321	794-32677	1998	HB		-	-	-	-	-	-	-	y	0	0	y	y	0
Blue	323	794-32678	1998	HB		-	-	-	-	-	-	-	y	y	y	y	y	y
Blue	324	794-32679	1998	HB		-	-	-	-	-	-	-	y	y	y	0	0	0
Blue	327	794-32680	1998	HB		-	-	-	-	-	-	-	y	y	y	y	y	y
Blue	328	794-32681	1998	HB		-	-	-	-	-	-	-	y	y	y	y	0	0
Blue	329	794-32682	1998	HB		-	-	-	-	-	-	-	0	0	0	0	0	0
Blue	330	794-32683	1998	HB		-	-	-	-	-	-	-	y	y	y	y	y	y
Blue	331	794-32684	1998	HB		-	-	-	-	-	-	-	y	y	y	y	y	y
Blue	332	794-32685	1998	HB		-	-	-	-	-	-	-	y	y	y	y	y	y
Blue	333	794-32686	1998	HB		-	-	-	-	-	-	-	y	y	y	0	y	y
Blue	334	794-32687	1998	HB		-	-	-	-	-	-	-	y	y	y	y	0	y
Blue	335	794-32688	1998	HB		-	-	-	-	-	-	-	y	y	y	y	y	y
Blue	338	794-32691	1998	RF		-	-	-	-	-	-	-	y	y	y	y	0	0
Blue	339	794-32692	1998	RF		-	-	-	-	-	-	-	y	y	y	y	y	y
Blue	340	794-32693	1998	HB		-	-	-	-	-	-	-	y	y	0	0	y	0
Blue	341	794-32694	1998	HB		-	-	-	-	-	-	-	y	y	y	0	0	0
Blue	342	794-32695	1998	HB		-	-	-	-	-	-	-	y	y	y	y	0	0
Blue	343	794-32696	1998	HB		-	-	-	-	-	-	-	y	y	y	y	y	y
Blue	344	794-32697	1998	HB		-	-	-	-	-	-	-	y	y	y	y	y	y
Blue	345	794-32698	1998	HB		-	-	-	-	-	-	-	y	y	y	y	y	y
Blue	347	794-32699	1998	HB		-	-	-	-	-	-	-	y	y	y	y	y	0
Blue	348	794-32700	1998	HB		-	-	-	-	-	-	-	y	y	0	y	0	0
Blue	349	794-32701	1998	HB		-	-	-	-	-	-	-	y	y	y	y	y	y
Blue	350	794-32713	1998	RF		-	-	-	-	-	-	-	y	y	y	y	y	0
Blue	351	794-32714	1998	RF		-	-	-	-	-	-	-	y	y	y	y	y	y
Blue	820	0794-32721	2014	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	667	794-32723	2012	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	633	794-32726	2009	HB		-	-	-	-	-	-	-	-	-	-	-	-	-

Table 69 (continued). Resight history of adult red-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include only birds banded with numeric color bands and not birds banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2008).

Codes:

Location
RF = Rosy Finch
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V = Village Plots

Notes
A = color band lost or removed (year)
B = rebanded from original color band number (original number; year rebanded)
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E = resighted at different location, on low cliffs (year first observed)
F = band partially broken or very worn (year observed)

Resight history
y = resighted at least once (# times unknown)
0 = not resighted
x = band no longer resightable (dead, removed, etc.)

Color band		Metal band #	Year banded	Location banded	Notes	Year resighted												
Color	Band #					05	06	07	08	09	10	11	12	13	14	15	16	17
Blue	312	794-32671	1998	HB		y	y	y	y	0	0	0	0	0	0	0	0	0
Blue	313	794-32672	1998	HB		y	y	0	0	0	0	0	0	0	0	0	0	0
Blue	315	794-32673	1998	HB		y	y	y	y	2	2	5	3	1	0	0	0	0
Blue	319	794-32675	1998	HB		0	y	y	0	0	0	0	0	0	0	0	0	0
Blue	326	794-32676	1998	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	321	794-32677	1998	HB		0	y	0	0	1	0	0	0	0	0	0	0	0
Blue	323	794-32678	1998	HB		y	y	y	y	5	4	3	2	6	5	15	5	3
Blue	324	794-32679	1998	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	327	794-32680	1998	HB		y	y	y	y	4	2	5	3	5	10	11	4	0
Blue	328	794-32681	1998	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	329	794-32682	1998	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	330	794-32683	1998	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	331	794-32684	1998	HB		0	y	y	y	3	1	5	0	0	0	1	0	0
Blue	332	794-32685	1998	HB		0	y	y	y	1	1	4	3	3	2	1	1	3
Blue	333	794-32686	1998	HB		0	y	0	y	0	0	0	3	0	2	1	0	0
Blue	334	794-32687	1998	HB		y	0	y	0	1	0	0	0	0	0	0	0	0
Blue	335	794-32688	1998	HB		y	y	y	y	1	4	1	8	2	8	0	0	0
Blue	338	794-32691	1998	RF		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	339	794-32692	1998	RF		y	0	0	0	0	0	0	0	0	0	0	0	0
Blue	340	794-32693	1998	HB		0	0	0	0	0	4	1	0	0	0	0	0	0
Blue	341	794-32694	1998	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	342	794-32695	1998	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	343	794-32696	1998	HB		y	y	y	y	4	0	0	0	0	0	0	0	0
Blue	344	794-32697	1998	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	345	794-32698	1998	HB		y	0	0	0	0	0	0	0	0	0	0	0	0
Blue	347	794-32699	1998	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	348	794-32700	1998	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	349	794-32701	1998	HB		y	y	y	y	1	1	3	6	6	3	1	0	0
Blue	350	794-32713	1998	RF		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	351	794-32714	1998	RF		y	0	y	y	4	5	0	1	1	0	0	0	0
Blue	820	0794-32721	2014	HB		-	-	-	-	-	-	-	-	-	-	4	4	2
Blue	667	794-32723	2012	HB		-	-	-	-	-	-	-	-	1	2	0	0	0
Blue	633	794-32726	2009	HB		-	-	-	-	-	0	0	0	0	0	0	0	0

Table 69 (continued). Resight history of adult red-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include only birds banded with numeric color bands and not birds banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2008).

Codes:

Location
RF = Rosy Finch
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Notes
A = color band lost or removed (year)
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Resight history
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x = band no longer resightable (dead, removed, etc.)

Color band		Metal band #	Year banded	Location banded	Notes	Year resighted												
Color	Band #					92	93	94	95	96	97	98	99	00	01	02	03	04
Blue	624	794-32785	2009	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	630	794-32792	2009	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	813	0794-32879	2014	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	397	794-32901	2000	HB		-	-	-	-	-	-	-	-	-	y	y	y	y
Blue	396	794-32902	2000	HB		-	-	-	-	-	-	-	-	-	y	y	y	y
Blue	371	794-32903	2000	HB		-	-	-	-	-	-	-	-	-	y	y	y	y
Blue	376	794-32904	2000	HB		-	-	-	-	-	-	-	-	-	y	y	y	y
Blue	378	794-32905	2000	HB		-	-	-	-	-	-	-	-	-	y	y	y	y
Blue	379	794-32906	2000	HB		-	-	-	-	-	-	-	-	-	y	y	y	y
Blue	383	794-32907	2000	RF		-	-	-	-	-	-	-	-	-	0	y	y	0
Blue	386	794-32908	2000	RF		-	-	-	-	-	-	-	-	-	0	y	y	y
Blue	858	794-32925	2016	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	404	794-32932	2000	HB		-	-	-	-	-	-	-	-	-	y	0	0	0
Blue	403	794-32933	2000	RF	E(09)F(16)	-	-	-	-	-	-	-	-	-	y	y	y	y
Blue	405	794-32934	2000	HB		-	-	-	-	-	-	-	-	-	y	y	y	y
Blue	409	794-32935	2000	HB		-	-	-	-	-	-	-	-	-	y	y	y	y
Blue	410	794-32936	2000	HB		-	-	-	-	-	-	-	-	-	y	y	y	y
Blue	413	794-32937	2000	RF		-	-	-	-	-	-	-	-	-	y	0	0	0
Blue	414	794-32938	2000	RF		-	-	-	-	-	-	-	-	-	y	y	0	0
Blue	417	794-32941	2000	RF		-	-	-	-	-	-	-	-	-	0	0	0	0
Blue	418	794-32942	2000	RF	F(08)	-	-	-	-	-	-	-	-	-	y	y	y	y
Blue	426	794-32946	2000	RF		-	-	-	-	-	-	-	-	-	y	y	y	y
Blue	427	794-32947	2000	RF		-	-	-	-	-	-	-	-	-	y	y	y	y
Blue	428	794-32948	2000	RF		-	-	-	-	-	-	-	-	-	y	y	y	y
Blue	429	794-32949	2000	RF		-	-	-	-	-	-	-	-	-	0	y	y	0
Blue	430	794-32950	2000	RF		-	-	-	-	-	-	-	-	-	0	0	0	0
Blue	365	794-32951	1999	HB		-	-	-	-	-	-	-	-	y	y	y	y	0
Blue	364	794-32953	1999	HB		-	-	-	-	-	-	-	-	y	y	y	y	y
Blue	362	794-32954	1999	HB		-	-	-	-	-	-	-	-	y	y	y	0	0
Blue	359	794-32955	1999	HB		-	-	-	-	-	-	-	-	y	y	y	y	0
Blue	360	794-32956	1999	HB		-	-	-	-	-	-	-	-	y	y	y	y	y
Blue	357	794-32957	1999	HB		-	-	-	-	-	-	-	-	y	y	y	y	y
Blue	355	794-32958	1999	HB		-	-	-	-	-	-	-	-	y	y	y	y	0

Table 69 (continued). Resight history of adult red-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include only birds banded with numeric color bands and not birds banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2008).

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Notes
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Color band		Metal band #	Year banded	Location banded	Notes	Year resighted												
Color	Band #					05	06	07	08	09	10	11	12	13	14	15	16	17
Blue	624	794-32785	2009	HB		-	-	-	-	-	2	0	5	4	8	0	2	0
Blue	630	794-32792	2009	HB		-	-	-	-	-	1	0	0	0	0	0	0	0
Blue	813	794-32879	2014	V58C		-	-	-	-	-	-	-	-	-	-	2	4	3
Blue	397	794-32901	2000	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	396	794-32902	2000	HB		y	y	y	y	0	0	0	0	0	0	0	0	0
Blue	371	794-32903	2000	HB		y	y	y	y	0	0	0	0	0	0	0	0	0
Blue	376	794-32904	2000	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	378	794-32905	2000	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	379	794-32906	2000	HB		y	y	y	y	3	6	5	2	3	3	0	0	0
Blue	383	794-32907	2000	RF		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	386	794-32908	2000	RF		y	y	0	0	0	0	0	0	0	0	0	0	0
Blue	858	794-32925	2016	V58A		-	-	-	-	-	-	-	-	-	-	-	-	1
Blue	404	794-32932	2000	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	403	794-32933	2000	RF	E(09)F(16)	y	y	y	y	1	0	1	1	2	8	3	8	0
Blue	405	794-32934	2000	HB		y	y	y	0	0	0	0	0	0	0	0	0	0
Blue	409	794-32935	2000	HB		y	y	y	y	7	4	5	8	4	9	5	0	0
Blue	410	794-32936	2000	HB		y	y	y	y	4	2	2	5	3	7	0	0	0
Blue	413	794-32937	2000	RF		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	414	794-32938	2000	RF		0	y	0	0	0	0	0	0	0	0	0	0	0
Blue	417	794-32941	2000	RF		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	418	794-32942	2000	RF	F(08)	y	y	y	y	0	0	0	0	0	0	0	0	0
Blue	426	794-32946	2000	RF		y	y	y	0	0	0	0	0	0	0	0	0	0
Blue	427	794-32947	2000	RF		y	y	y	y	0	0	0	0	0	0	0	0	0
Blue	428	794-32948	2000	RF		y	0	y	y	6	4	2	5	0	0	0	0	0
Blue	429	794-32949	2000	RF		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	430	794-32950	2000	RF		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	365	794-32951	1999	HB		y	y	y	0	0	1	0	3	2	0	0	0	0
Blue	364	794-32953	1999	HB		0	y	y	y	1	1	4	3	8	4	1	1	4
Blue	362	794-32954	1999	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	359	794-32955	1999	HB		0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	360	794-32956	1999	HB		y	y	y	y	1	3	0	0	0	0	0	0	0
Blue	357	794-32957	1999	HB		y	y	y	y	1	3	0	0	0	0	0	0	0
Blue	355	794-32958	1999	HB		0	y	0	0	0	0	0	0	0	0	0	0	0

Table 69 (continued). Resight history of adult red-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include only birds banded with numeric color bands and not birds banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2008).

Codes:

Location
RF = Rosy Finch
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V = Village Plots s

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A = color band lost or removed (year)
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y = resighted at least once (# times unknown)
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x = band no longer resightable (dead, removed, etc.)

Color band		Metal band #	Year banded	Location banded	Notes	Year resighted												
Color	Band #					92	93	94	95	96	97	98	99	00	01	02	03	04
Blue	354	794-32959	1999	HB		-	-	-	-	-	-	-	-	y	y	y	0	0
Blue	352	794-32960	1999	HB		-	-	-	-	-	-	-	-	y	y	y	y	y
Blue	845	794-34776	2015	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	646	794-35115	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	647	794-35116	2010	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	651	794-35117	2010	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	649	794-35118	2010	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	650	794-35119	2010	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	652	794-35120	2010	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	653	794-35121	2010	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	654	794-35122	2010	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	655	794-35123	2010	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	656	794-35124	2010	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	657	794-35125	2010	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	658	794-35126	2010	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	659	794-35127	2010	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	518	794-86788	2004	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	752	794-86789	2004	HB	B(625; 12)	-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	843	794-86812	2015	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	662	1034-11501	2012	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	664	1034-11502	2012	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	665	1034-11503	2012	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	670	1034-11504	2012	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	671	1034-11505	2012	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	676	1034-11506	2012	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	677	1034-11507	2012	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	678	1034-11508	2012	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	867	1034-11509	2012	HB	B(679, 17)	-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	680	1034-11510	2012	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	682	1034-11511	2012	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	683	1034-11512	2012	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	870	1034-11513	2012	HB	B(684, 17)	-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	685	1034-11514	2012	HB		-	-	-	-	-	-	-	-	-	-	-	-	-

Table 69 (continued). Resight history of adult red-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include only birds banded with numeric color bands and not birds banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2008).

Codes:

Location
RF = Rosy Finch
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V = Village Plots

Notes
A = color band lost or removed (year)
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F = band partially broken or very worn (year observed)

Resight history
y = resighted at least once (# times unknown)
0 = not resighted
x = band no longer resightable (dead, removed, etc.)

Color band		Metal band #	Year banded	Location banded	Notes	Year resighted												
Color	Band #					05	06	07	08	09	10	11	12	13	14	15	16	17
Blue	354	794-32959	1999	HB		0	0	0	0	0	0	0	0	1	1	1	0	0
Blue	352	794-32960	1999	HB		0	y	y	y	0	0	0	0	0	0	0	0	0
Blue	845	794-34776	2015	V58A		-	-	-	-	-	-	-	-	-	-	-	6	5
Blue	646	794-35115	2010	RF		-	-	-	-	-	-	0	0	0	0	0	0	0
Blue	647	794-35116	2010	RF		-	-	-	-	-	-	2	0	0	0	0	0	0
Blue	651	794-35117	2010	HB		-	-	-	-	-	-	0	1	4	7	0	0	0
Blue	649	794-35118	2010	HB		-	-	-	-	-	-	3	3	7	5	3	4	2
Blue	650	794-35119	2010	HB		-	-	-	-	-	-	3	5	6	2	3	2	5
Blue	652	794-35120	2010	HB		-	-	-	-	-	-	1	4	4	3	0	0	0
Blue	653	794-35121	2010	HB		-	-	-	-	-	-	3	1	0	0	0	1	0
Blue	654	794-35122	2010	HB		-	-	-	-	-	-	1	1	5	3	3	1	2
Blue	655	794-35123	2010	HB		-	-	-	-	-	-	7	4	7	5	0	0	0
Blue	656	794-35124	2010	HB		-	-	-	-	-	-	0	0	0	0	0	0	0
Blue	657	794-35125	2010	HB		-	-	-	-	-	-	7	7	7	4	5	6	0
Blue	658	794-35126	2010	HB		-	-	-	-	-	-	2	1	0	0	0	0	0
Blue	659	794-35127	2010	HB		-	-	-	-	-	-	0	0	0	0	0	0	0
Blue	518	794-86788	2004	HB		y	y	y	0	0	0	0	0	0	0	0	0	0
Blue	752	794-86789	2004	HB	B(625;12)	y	y	y	y	4	3	1	2	6	5	7	4	7
Blue	843	794-86812	2015	V58A		-	-	-	-	-	-	-	-	-	-	-	4	4
Blue	662	1034-11501	2012	RF		-	-	-	-	-	-	-	-	5	6	6	11	5
Blue	664	1034-11502	2012	RF		-	-	-	-	-	-	-	-	7	7	5	8	3
Blue	665	1034-11503	2012	HB		-	-	-	-	-	-	-	-	4	0	0	0	3
Blue	670	1034-11504	2012	HB		-	-	-	-	-	-	-	-	6	7	4	8	4
Blue	671	1034-11505	2012	HB		-	-	-	-	-	-	-	-	4	3	3	6	7
Blue	676	1034-11506	2012	HB		-	-	-	-	-	-	-	-	5	2	10	9	9
Blue	677	1034-11507	2012	HB		-	-	-	-	-	-	-	-	7	6	8	8	6
Blue	678	1034-11508	2012	HB		-	-	-	-	-	-	-	-	2	3	7	8	3
Blue	867	1034-11509	2012	HB	B(679;17)	-	-	-	-	-	-	-	-	7	7	8	12	9
Blue	680	1034-11510	2012	HB		-	-	-	-	-	-	-	-	6	6	4	6	2
Blue	682	1034-11511	2012	HB		-	-	-	-	-	-	-	-	7	8	8	6	4
Blue	683	1034-11512	2012	HB		-	-	-	-	-	-	-	-	9	5	3	4	0
Blue	870	1034-11513	2012	HB	B(684;17)	-	-	-	-	-	-	-	-	7	10	3	3	1
Blue	685	1034-11514	2012	HB		-	-	-	-	-	-	-	-	7	7	9	4	0

Table 69 (continued). Resight history of adult red-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include only birds banded with numeric color bands and not birds banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2008).

Codes:

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V = Village Plots

Notes
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F = band partially broken or very worn (year observed)

Resight history
y = resighted at least once (# times unknown)
0 = not resighted
x = band no longer resightable (dead, removed, etc.)

Color band		Metal band #	Year banded	Location banded	Notes	Year resighted												
Color	Band #					92	93	94	95	96	97	98	99	00	01	02	03	04
Blue	687	1034-11515	2012	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	689	1034-11516	2012	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	690	1034-11517	2012	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	691	1034-11518	2012	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	692	1034-11519	2012	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	693	1034-11520	2012	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	694	1034-11521	2012	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	695	1034-11522	2012	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	750	1034-11523	2012	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	751	1034-11533	2012	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	755	1034-11534	2012	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	756	1034-11535	2012	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	757	1034-11536	2012	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	758	1034-11537	2012	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	759	1034-11538	2012	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	760	1034-11539	2012	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	761	1034-11540	2012	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	762	1034-11541	2012	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	763	1034-11542	2012	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	765	1034-11543	2012	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	766	1034-11544	2012	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	767	1034-11545	2012	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	768	1034-11546	2012	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	769	1034-11547	2012	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	770	1034-11548	2012	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	771	1034-11549	2012	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	772	1034-11550	2012	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	773	1034-11552	2012	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	774	1034-11553	2012	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	776	1034-11557	2012	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	777	1034-11558	2012	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	778	1034-11560	2012	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	781	1034-11561	2012	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	782	1034-11562	2012	HB		-	-	-	-	-	-	-	-	-	-	-	-	-

Table 69 (continued). Resight history of adult red-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include only birds banded with numeric color bands and not birds banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2008).

Codes:

Location
RF = Rosy Finch
HB = High Bluff
V = Village Plots s

Notes
A = color band lost or removed (year)
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Resight history
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Color band		Metal band #	Year banded	Location banded	Notes	Year resighted												
Color	Band #					05	06	07	08	09	10	11	12	13	14	15	16	17
Blue	687	1034-11515	2012	HB		-	-	-	-	-	-	-	-	3	1	7	4	4
Blue	689	1034-11516	2012	HB		-	-	-	-	-	-	-	-	2	4	4	4	0
Blue	690	1034-11517	2012	HB		-	-	-	-	-	-	-	-	4	5	3	2	0
Blue	691	1034-11518	2012	HB		-	-	-	-	-	-	-	-	6	5	3	2	2
Blue	692	1034-11519	2012	HB		-	-	-	-	-	-	-	-	9	11	4	7	3
Blue	693	1034-11520	2012	HB		-	-	-	-	-	-	-	-	8	4	7	8	2
Blue	694	1034-11521	2012	HB		-	-	-	-	-	-	-	-	6	2	0	0	0
Blue	695	1034-11522	2012	HB		-	-	-	-	-	-	-	-	6	6	3	2	4
Blue	750	1034-11523	2012	HB		-	-	-	-	-	-	-	-	0	0	0	0	0
Blue	751	1034-11533	2012	HB		-	-	-	-	-	-	-	-	4	7	8	6	8
Blue	755	1034-11534	2012	HB		-	-	-	-	-	-	-	-	6	6	6	6	5
Blue	756	1034-11535	2012	HB		-	-	-	-	-	-	-	-	6	8	1	1	0
Blue	757	1034-11536	2012	HB		-	-	-	-	-	-	-	-	5	9	3	5	3
Blue	758	1034-11537	2012	HB		-	-	-	-	-	-	-	-	3	6	11	9	4
Blue	759	1034-11538	2012	HB		-	-	-	-	-	-	-	-	3	4	6	3	3
Blue	760	1034-11539	2012	HB		-	-	-	-	-	-	-	-	6	4	3	3	3
Blue	761	1034-11540	2012	HB		-	-	-	-	-	-	-	-	4	4	2	6	0
Blue	762	1034-11541	2012	HB		-	-	-	-	-	-	-	-	3	4	2	0	0
Blue	763	1034-11542	2012	HB		-	-	-	-	-	-	-	-	3	0	0	2	1
Blue	765	1034-11543	2012	HB		-	-	-	-	-	-	-	-	4	2	0	0	0
Blue	766	1034-11544	2012	HB		-	-	-	-	-	-	-	-	1	3	0	1	3
Blue	767	1034-11545	2012	HB		-	-	-	-	-	-	-	-	6	1	3	6	3
Blue	768	1034-11546	2012	HB		-	-	-	-	-	-	-	-	9	5	1	0	2
Blue	769	1034-11547	2012	HB		-	-	-	-	-	-	-	-	7	2	0	0	0
Blue	770	1034-11548	2012	HB		-	-	-	-	-	-	-	-	7	9	4	8	6
Blue	771	1034-11549	2012	HB		-	-	-	-	-	-	-	-	6	3	1	1	0
Blue	772	1034-11550	2012	HB		-	-	-	-	-	-	-	-	6	2	4	8	7
Blue	773	1034-11552	2012	HB		-	-	-	-	-	-	-	-	5	0	0	0	0
Blue	774	1034-11553	2012	HB		-	-	-	-	-	-	-	-	0	0	0	0	0
Blue	776	1034-11557	2012	HB		-	-	-	-	-	-	-	-	4	0	2	1	0
Blue	777	1034-11558	2012	HB		-	-	-	-	-	-	-	-	6	11	14	7	5
Blue	778	1034-11560	2012	HB		-	-	-	-	-	-	-	-	5	0	0	0	0
Blue	781	1034-11561	2012	HB		-	-	-	-	-	-	-	-	3	5	3	2	0
Blue	782	1034-11562	2012	HB		-	-	-	-	-	-	-	-	4	4	2	6	5

Table 69 (continued). Resight history of adult red-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include only birds banded with numeric color bands and not birds banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2008).

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Color band		Metal band #	Year banded	Location banded	Notes	Year resighted												
Color	Band #					92	93	94	95	96	97	98	99	00	01	02	03	04
Blue	783	1034-11563	2012	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	784	1034-11564	2012	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	785	1733-00701	2013	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	787	1733-00702	2013	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	789	1733-00703	2013	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	790	1733-00704	2013	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	791	1733-00705	2013	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	792	1733-00706	2013	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	793	1733-00707	2013	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	794	1733-00708	2013	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	795	1733-00709	2013	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	796	1733-00710	2013	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	797	1733-00711	2013	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	798	1733-00712	2013	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	800	1733-00713	2013	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	802	1733-00714	2013	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	803	1733-00715	2013	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	804	1733-00716	2013	RF		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	805	1733-00717	2013	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	807	1733-00718	2013	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	808	1733-00719	2013	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	810	1733-00729	2013	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	811	1733-00730	2014	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	812	1733-00731	2014	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	814	1733-00732	2014	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	815	1733-00733	2014	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	816	1733-00734	2014	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	817	1733-00735	2014	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	818	1733-00736	2014	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	822	1733-00737	2014	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	821	1733-00738	2014	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	819	1733-00739	2014	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	824	1733-00740	2014	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	825	1733-00741	2014	HB		-	-	-	-	-	-	-	-	-	-	-	-	-

Table 69 (continued). Resight history of adult red-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include only birds banded with numeric color bands and not birds banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2008).

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Color band		Metal band #	Year banded	Location banded	Notes	Year resighted												
Color	Band #					05	06	07	08	09	10	11	12	13	14	15	16	17
Blue	783	1034-11563	2012	HB		-	-	-	-	-	-	-	-	4	9	5	11	4
Blue	784	1034-11564	2012	HB		-	-	-	-	-	-	-	-	2	1	8	2	0
Blue	785	1733-00701	2013	RF		-	-	-	-	-	-	-	-	-	2	10	9	0
Blue	787	1733-00702	2013	RF		-	-	-	-	-	-	-	-	-	4	5	0	0
Blue	789	1733-00703	2013	HB		-	-	-	-	-	-	-	-	-	5	5	6	6
Blue	790	1733-00704	2013	HB		-	-	-	-	-	-	-	-	-	2	5	8	6
Blue	791	1733-00705	2013	HB		-	-	-	-	-	-	-	-	-	5	2	6	3
Blue	792	1733-00706	2013	HB		-	-	-	-	-	-	-	-	-	4	5	8	7
Blue	793	1733-00707	2013	HB		-	-	-	-	-	-	-	-	-	5	0	2	6
Blue	794	1733-00708	2013	HB		-	-	-	-	-	-	-	-	-	9	11	0	0
Blue	795	1733-00709	2013	HB		-	-	-	-	-	-	-	-	-	6	11	4	7
Blue	796	1733-00710	2013	HB		-	-	-	-	-	-	-	-	-	4	2	2	3
Blue	797	1733-00711	2013	HB		-	-	-	-	-	-	-	-	-	3	1	4	0
Blue	798	1733-00712	2013	HB		-	-	-	-	-	-	-	-	-	3	1	4	0
Blue	800	1733-00713	2013	HB		-	-	-	-	-	-	-	-	-	2	6	2	5
Blue	802	1733-00714	2013	HB		-	-	-	-	-	-	-	-	-	5	8	4	3
Blue	803	1733-00715	2013	HB		-	-	-	-	-	-	-	-	-	3	1	1	0
Blue	804	1733-00716	2013	RF		-	-	-	-	-	-	-	-	-	5	7	14	2
Blue	805	1733-00717	2013	HB		-	-	-	-	-	-	-	-	-	5	0	0	0
Blue	807	1733-00718	2013	HB		-	-	-	-	-	-	-	-	-	5	8	2	0
Blue	808	1733-00719	2013	HB		-	-	-	-	-	-	-	-	-	6	8	9	5
Blue	810	1733-00729	2013	HB		-	-	-	-	-	-	-	-	-	6	0	3	0
Blue	811	1733-00730	2014	V58C		-	-	-	-	-	-	-	-	-	-	3	0	0
Blue	812	1733-00731	2014	V58C		-	-	-	-	-	-	-	-	-	-	10	10	4
Blue	814	1733-00732	2014	V58C		-	-	-	-	-	-	-	-	-	-	5	6	2
Blue	815	1733-00733	2014	V58C		-	-	-	-	-	-	-	-	-	-	3	7	9
Blue	816	1733-00734	2014	V58C		-	-	-	-	-	-	-	-	-	-	3	7	3
Blue	817	1733-00735	2014	HB		-	-	-	-	-	-	-	-	-	-	0	0	0
Blue	818	1733-00736	2014	HB		-	-	-	-	-	-	-	-	-	-	3	2	1
Blue	822	1733-00737	2014	HB		-	-	-	-	-	-	-	-	-	-	1	4	2
Blue	821	1733-00738	2014	HB		-	-	-	-	-	-	-	-	-	-	2	2	1
Blue	819	1733-00739	2014	HB		-	-	-	-	-	-	-	-	-	-	1	2	3
Blue	824	1733-00740	2014	HB		-	-	-	-	-	-	-	-	-	-	1	0	0
Blue	825	1733-00741	2014	HB		-	-	-	-	-	-	-	-	-	-	2	2	3

Table 69 (continued). Resight history of adult red-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include only birds banded with numeric color bands and not birds banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2008).

Codes:

Location
RF = Rosy Finch
HB = High Bluffs
V = Village Plots

Notes
A = color band lost or removed (year)
B = rebanded from original color band number (original number; year rebanded)
C = shot by subsistence hunter (year)
D = band slipped above tibio-tarsus joint
E = resighted at different location, on low cliffs (year first observed)
F = band partially broken or very worn (year observed)

Resight history
y = resighted at least once (# times unknown)
0 = not resighted
x = band no longer resightable (dead, removed, etc.)

Color band		Metal band #	Year banded	Location banded	Notes	Year resighted												
Color	Band #					92	93	94	95	96	97	98	99	00	01	02	03	04
Blue	826	1733-00742	2014	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	827	1733-00743	2014	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	828	1733-00744	2014	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	829	1733-00745	2014	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	830	1733-00746	2014	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	831	1733-00747	2014	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	832	1733-00748	2014	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	833	1733-00749	2014	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	834	1733-00750	2014	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	835	1733-00751	2014	V58B		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	836	1733-00752	2014	V58B		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	837	1733-00753	2014	V58B		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	838	1733-00754	2014	V58B		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	839	1733-00755	2014	V58B		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	840	1733-00756	2014	V58B		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	841	1733-00757	2014	V58B		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	842	1733-00841	2015	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	844	1733-00842	2015	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	846	1733-00843	2015	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	849	1733-00844	2015	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	850	1733-00845	2015	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	851	1733-00846	2015	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	852	1733-00847	2015	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	853	1733-00848	2015	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	854	1733-00849	2015	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	856	1733-00851	2015	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	857	1733-00852	2015	V58C		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	859	1733-00904	2016	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	860	1733-00905	2016	V58A		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	862	1733-00907	2016	HB		-	-	-	-	-	-	-	-	-	-	-	-	-
Blue	864	1733-00908	2016	HB8		-	-	-	-	-	-	-	-	-	-	-	-	-
				Total birds resighted[b]		23	47	113	121	128	124	151	203	194	179	195	159	136

Table 69 (continued). Resight history of adult red-legged kittiwakes banded on survival plots at St. George Island, Alaska. Data include only birds banded with numeric color bands and not birds banded with color combinations 1970-1990's (see Kildaw 1997). Values represent number of times birds were resighted each year, except when actual numbers of resights are unknown (1993-2008).

Codes:

Location
RF = Rosy Finch
HB = High Bluffs
V = Village Plots

Notes
A = color band lost or removed (year)
B = rebanded from original color band number (original number; year rebanded)
C = shot by subsistence hunter (year)
D = band slipped above tibio-tarsus joint
E = resighted at different location, on low cliffs (year first observed)
F = band partially broken or very worn (year observed)

Resight history
y = resighted at least once (# times unknown)
0 = not resighted
x = band no longer resightable (dead, removed, etc.)

Color band		Metal band #	Year banded	Location banded	Notes	Year resighted												
Color	Band #					05	06	07	08	09	10	11	12	13	14	15	16	17
Blue	826	1733-00742	2014	HB		-	-	-	-	-	-	-	-	-	-	0	2	1
Blue	827	1733-00743	2014	HB		-	-	-	-	-	-	-	-	-	-	4	0	2
Blue	828	1733-00744	2014	HB		-	-	-	-	-	-	-	-	-	-	9	8	7
Blue	829	1733-00745	2014	HB		-	-	-	-	-	-	-	-	-	-	5	5	9
Blue	830	1733-00746	2014	HB		-	-	-	-	-	-	-	-	-	-	6	3	0
Blue	831	1733-00747	2014	HB		-	-	-	-	-	-	-	-	-	-	3	5	0
Blue	832	1733-00748	2014	HB		-	-	-	-	-	-	-	-	-	-	0	0	5
Blue	833	1733-00749	2014	HB		-	-	-	-	-	-	-	-	-	-	0	0	0
Blue	834	1733-00750	2014	HB		-	-	-	-	-	-	-	-	-	-	2	1	2
Blue	835	1733-00751	2014	V58B		-	-	-	-	-	-	-	-	-	-	8	3	0
Blue	836	1733-00752	2014	V58B		-	-	-	-	-	-	-	-	-	-	8	6	1
Blue	837	1733-00753	2014	V58B		-	-	-	-	-	-	-	-	-	-	6	8	2
Blue	838	1733-00754	2014	V58B		-	-	-	-	-	-	-	-	-	-	2	3	2
Blue	839	1733-00755	2014	V58B		-	-	-	-	-	-	-	-	-	-	5	0	0
Blue	840	1733-00756	2014	V58B		-	-	-	-	-	-	-	-	-	-	5	8	4
Blue	841	1733-00757	2014	V58B		-	-	-	-	-	-	-	-	-	-	3	2	0
Blue	842	1733-00841	2015	V58A		-	-	-	-	-	-	-	-	-	-	-	3	4
Blue	844	1733-00842	2015	V58A		-	-	-	-	-	-	-	-	-	-	-	11	4
Blue	846	1733-00843	2015	V58A		-	-	-	-	-	-	-	-	-	-	-	3	3
Blue	849	1733-00844	2015	HB		-	-	-	-	-	-	-	-	-	-	-	5	11
Blue	850	1733-00845	2015	HB		-	-	-	-	-	-	-	-	-	-	-	0	0
Blue	851	1733-00846	2015	HB		-	-	-	-	-	-	-	-	-	-	-	9	0
Blue	852	1733-00847	2015	HB		-	-	-	-	-	-	-	-	-	-	-	6	4
Blue	853	1733-00848	2015	HB		-	-	-	-	-	-	-	-	-	-	-	6	5
Blue	854	1733-00849	2015	HB		-	-	-	-	-	-	-	-	-	-	-	0	0
Blue	856	1733-00851	2015	V58C		-	-	-	-	-	-	-	-	-	-	-	12	2
Blue	857	1733-00852	2015	V58C		-	-	-	-	-	-	-	-	-	-	-	16	9
Blue	859	1733-00904	2016	V58A		-	-	-	-	-	-	-	-	-	-	-	-	1
Blue	860	1733-00905	2016	V58A		-	-	-	-	-	-	-	-	-	-	-	-	1
Blue	862	1733-00907	2016	HB		-	-	-	-	-	-	-	-	-	-	-	-	4
Blue	864	1733-00908	2016	HB		-	-	-	-	-	-	-	-	-	-	-	-	1
				Total birds resighted[b]		128	169	148	141	95	93	91	107	146	149	140	145	128

[a]Bird missing color band but identified by reading metal band.
[b]Total birds resighted does not include birds banded in the resight year or birds that had color bands lost or removed during the study (i.e. note "A").

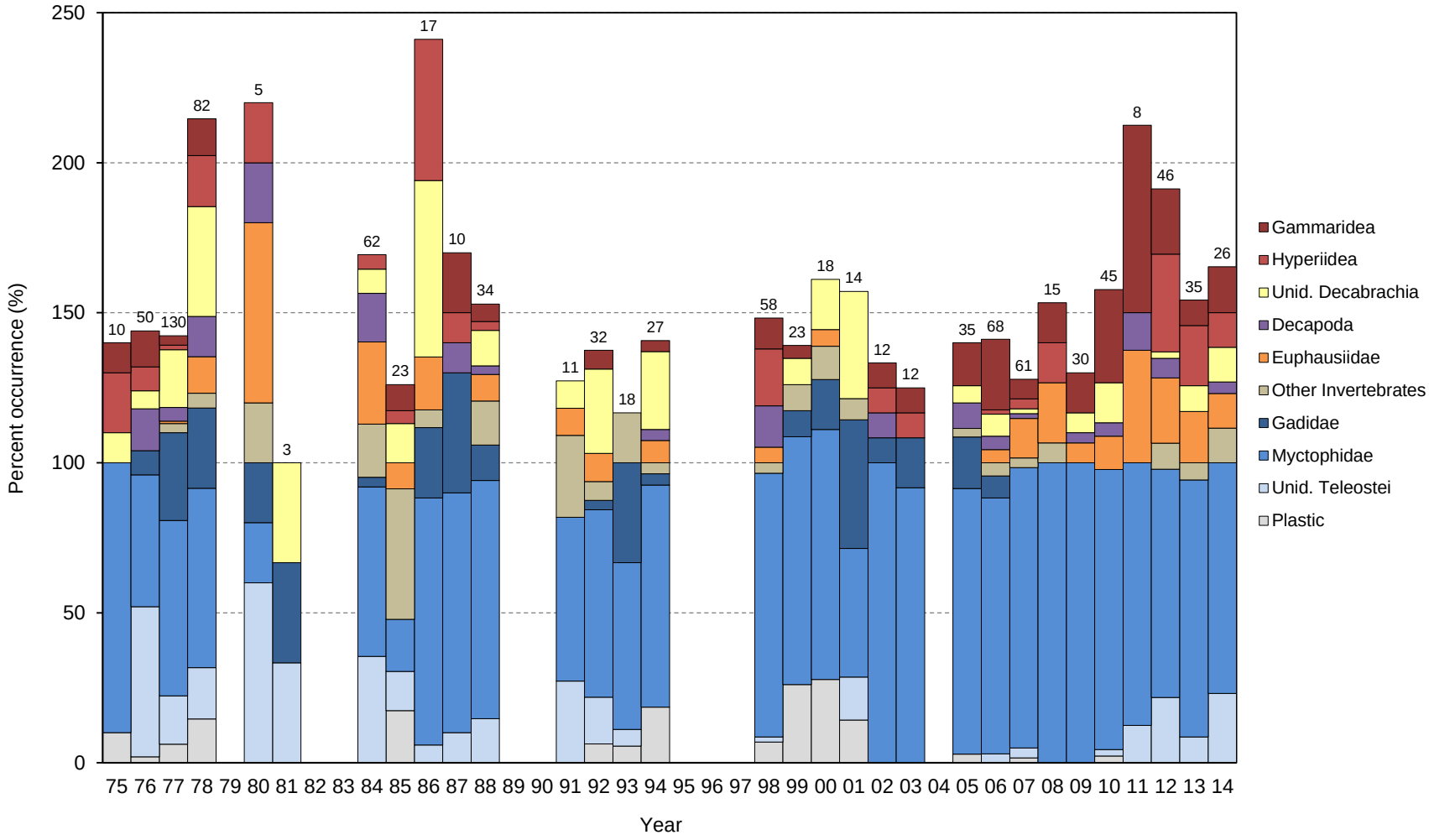

Figure 35. Frequency of occurrence of major prey items in diets of red-legged kittiwake adults and chicks at St. George Island, Alaska. Frequency is expressed as the percentage of food samples in which each prey item was present. Prey is grouped to family level or higher; only taxa with an among-year average occurrence of at least 5% are shown. Samples consist of stomach contents from adults and chicks collected at or near the colony, regurgitations from adults returning to the colony to feed chicks and regurgitations from chicks themselves. Numbers above columns indicate sample sizes. No diet samples were collected in 1979, 1982-1983, 1990, 1996-1997, or 2017; samples were collected in 1989, 1995, 2004, and 2015-2016 but raw data are missing (1989) or samples have not yet been analyzed (1995, 2004, and 2015-2016).

Table 70. Frequency of occurrence of major prey items in diets of red-legged kittiwake adults and chicks at St. George Island, Alaska. Frequency is expressed as the percentage of food samples in which each prey item was present. Prey was identified and measured in the laboratory to lowest taxon possible (some prey items were identified to species while others were only identified to genus, family, order, etc.). Any prey with an among-year average occurrence of at least 5% are shown to the lowest taxonomic level; others are lumped together as "others" in their respective taxonomic group with values in bold showing totals for those taxa. Samples consist of stomach contents from adults and chicks collected at or near the colony, regurgitations from adults returning to the colony to feed chicks and regurgitations from chicks themselves. No diet samples were collected in 1979, 1982-1983, 1990, 1996-1997, or 2017; samples were collected in 1989, 1995, 2004, and 2015-2016 but raw data are missing (1989) or samples have not yet been analyzed (1995, 2004, and 2015-2016). More detailed diet data and prey identifications are available, contact refuge biologists for details.

Prey	1975	1976	1977	1978	1980	1981	1984	1985	1986	1987	1988	1991	1992	1993	1994	1995	1998	1999
No. samples	10	50	130	82	5	3	62	23	17	10	34	11	32	18[a]	27[b]	56	58	23[c]
Invertebrates	**30.0**	**34.0**	**30.0**	**64.6**	**60.0**	**33.3**	**61.3**	**60.9**	**82.4**	**50.0**	**38.2**	**45.5**	**40.6**	**16.7**	**33.3**	*pending*	**53.4**	**21.7**
Amphipoda	**30.0**	**20.0**	**5.4**	**26.8**	**20.0**	**-**	**27.4**	**13.0**	**47.1**	**40.0**	**8.8**	**-**	**6.3**	**-**	**3.7**	**-**	**29.3**	**4.3**
Gammaridea	10.0	12.0	3.1	12.2	-	-	-	8.7	-	20.0	5.9	-	6.3	-	3.7	-	10.3	4.3
Hyperiidea	20.0	8.0	1.5	17.1	20.0	-	4.8	4.3	47.1	10.0	2.9	-	-	-	-	-	19.0	-
Other Amphipoda	-	-	0.8	1.2	-	-	22.6	-	-	10.0	-	-	-	-	-	-	-	-
Cephalopoda	**10.0**	**6.0**	**19.2**	**36.6**	**-**	**33.3**	**22.6**	**13.0**	**58.8**	**-**	**11.8**	**9.1**	**28.1**	**-**	**25.9**	**-**	**10.3**	**8.7**
Unid. Decabrachia	10.0	6.0	19.2	36.6	-	33.3	8.1	13.0	58.8	-	11.8	9.1	28.1	-	25.9	-	-	8.7
Other Cephalopoda	-	-	-	-	-	-	14.5	-	-	-	-	-	-	-	-	-	10.3	-
Decapoda	-	14.0	4.6	13.4	20.0	-	16.1	-	-	10.0	2.9	-	-	-	3.7	-	13.8	-
Euphausiacea	**-**	**-**	**0.8**	**12.2**	**60.0**	**-**	**27.4**	**8.7**	**17.6**	**-**	**8.8**	**9.1**	**9.4**	**-**	**7.4**	**-**	**5.2**	**-**
Euphausiidae	-	-	0.8	12.2	60.0	-	27.4	8.7	17.6	-	8.8	9.1	9.4	-	7.4	-	5.2	-
Other Invertebrates	-	-	3.1	4.9	20.0	-	17.7	43.5	5.9	-	14.7	27.3	6.3	16.7	3.7	-	3.4	8.7
Fish	**90.0**	**98.0**	**86.9**	**85.4**	**100.0**	**66.7**	**90.3**	**30.4**	**94.1**	**100.0**	**94.1**	**81.8**	**81.3**	**77.8**	**77.8**	**-**	**89.7**	**87.0**
Teleostei	**90.0**	**98.0**	**86.9**	**85.4**	**100.0**	**66.7**	**90.3**	**30.4**	**94.1**	**100.0**	**94.1**	**81.8**	**81.3**	**77.8**	**77.8**	**-**	**89.7**	**87.0**
Gadidae	**-**	**8.0**	**29.2**	**26.8**	**20.0**	**33.3**	**3.2**	**-**	**23.5**	**40.0**	**11.8**	**-**	**3.1**	**33.3**	**3.7**	**-**	**-**	**8.7**
Gadus chalcogrammus	-	6.0	17.7	24.4	20.0	-	1.6	-	23.5	30.0	8.8	-	3.1	33.3	3.7	-	-	8.7
Other Gadidae	-	2.0	11.5	2.4	20.0	33.3	3.2	-	-	10.0	2.9	-	-	5.6	-	-	-	-
Myctophidae	**90.0**	**44.0**	**58.5**	**59.8**	**20.0**	**-**	**56.5**	**17.4**	**82.4**	**80.0**	**79.4**	**54.5**	**62.5**	**55.6**	**74.1**	**-**	**87.9**	**82.6**
Lampanyctus spp.	-	-	-	-	-	-	-	-	-	70.0	79.4	-	-	-	-	-	-	-
Stenobrachius leucopsarus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	87.9	-
Unid. Myctophidae	90.0	42.0	58.5	59.8	20.0	-	56.5	17.4	82.4	10.0	-	54.5	62.5	55.6	74.1	-	3.4	82.6
Other Myctophidae	-	2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Unid. Teleostei	-	50.0	16.2	17.1	60.0	33.3	35.5	13.0	5.9	10.0	14.7	27.3	15.6	5.6	-	-	1.7	-
Other Teleostei	-	4.0	1.5	-	-	-	-	-	-	20.0	-	-	-	-	-	-	12.1	4.3
Other	**10.0**	**4.0**	**6.9**	**19.5**	**-**	**-**	**53.2**	**34.8**	**-**	**-**	**5.9**	**-**	**6.3**	**11.1**	**18.5**	**-**	**12.1**	**26.1**
Plastic	10.0	2.0	6.2	14.6	-	-	-	17.4	-	-	-	-	6.3	5.6	18.5	-	6.9	26.1
Other	-	2.0	0.8	4.9	-	-	53.2	17.4	-	-	5.9	-	-	5.6	-	-	5.2	-

Table 70 (continued). Frequency of occurrence of major prey items in diets of red-legged kittiwake adults and chicks at St. George Island, Alaska. Frequency is expressed as the percentage of food samples in which each prey item was present. Prey was identified and measured in the laboratory to lowest taxon possible (some prey items were identified to species while others were only identified to genus, family, order, etc.). Any prey with an among-year average occurrence of at least 5% are shown to the lowest taxonomic level; others are lumped together as "others" in their respective taxonomic group with values in bold showing totals for those taxa. Samples consist of stomach contents from adults and chicks collected at or near the colony, regurgitations from adults returning to the colony to feed chicks and regurgitations from chicks themselves. No diet samples were collected in 1979, 1982-1983, 1990, 1996-1997, or 2017; samples were collected in 1989, 1995, 2004, and 2015-2016 but raw data are missing (1989) or samples have not yet been analyzed (1995, 2004, and 2015-2016). More detailed diet data and prey identifications are available, contact refuge biologists for details.

Prey	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
No. samples	18[d]	14	12[e]	12[f]	8	35	68	61	15	30	45	8	46	35	26	6	4
Invertebrates	**27.8**	**42.9**	**25.0**	**16.7**	*pending*	**31.4**	**42.6**	**23.0**	**40.0**	**26.7**	**42.2**	**75.0**	**67.4**	**48.6**	**50.0**	*pending*	*pending*
Amphipoda	**-**	**-**	**16.7**	**16.7**	**-**	**14.3**	**25.0**	**9.8**	**26.7**	**13.3**	**31.1**	**62.5**	**47.8**	**25.7**	**23.1**	**-**	**-**
Gammaridea	-	-	8.3	8.3	-	14.3	23.5	6.6	13.3	13.3	31.1	62.5	21.7	8.6	15.4	-	-
Hyperiidea	-	-	8.3	8.3	-	-	1.5	3.3	13.3	-	-	-	32.6	20.0	11.5	-	-
Other Amphipoda	-	-	-	-	-	-	1.5	-	-	-	-	-	-	-	-	-	-
Cephalopoda	**16.7**	**42.9**	**-**	**-**	**-**	**11.4**	**7.4**	**1.6**	**-**	**6.7**	**13.3**	**-**	**6.5**	**11.4**	**19.2**	**-**	**-**
Unid. Decabrachia	16.7	35.7	-	-	-	5.7	7.4	1.6	-	6.7	13.3	-	2.2	8.6	11.5	-	-
Other Cephalopoda	-	7.1	-	-	-	5.7	-	-	-	-	-	-	4.3	2.9	7.7	-	-
Decapoda	-	-	8.3	-	-	8.6	4.4	1.6	-	3.3	4.4	12.5	6.5	-	3.8	-	-
Euphausiacea	**5.6**	**-**	**-**	**-**	**-**	**-**	**4.4**	**13.1**	**20.0**	**6.7**	**11.1**	**37.5**	**21.7**	**17.1**	**11.5**	**-**	**-**
Euphausiidae	5.6	-	-	-	-	-	4.4	13.1	20.0	6.7	11.1	37.5	21.7	17.1	11.5	-	-
Other Invertebrates	11.1	7.1	-	-	-	2.9	4.4	3.3	6.7	-	-	-	8.7	5.7	11.5	-	-
Fish	**88.9**	**85.7**	**100.0**	**100.0**	**-**	**94.3**	**98.5**	**100.0**	**100.0**	**100.0**	**95.6**	**100.0**	**97.8**	**94.3**	**100.0**	**-**	**-**
Teleostei	**88.9**	**85.7**	**100.0**	**100.0**	**-**	**94.3**	**98.5**	**100.0**	**100.0**	**100.0**	**95.6**	**100.0**	**97.8**	**94.3**	**100.0**	**-**	**-**
Gadidae	**16.7**	**42.9**	**8.3**	**16.7**	**-**	**17.1**	**7.4**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Gadus chalcogrammus	16.7	42.9	8.3	16.7	-	11.4	4.4	-	-	-	-	-	-	-	-	-	-
Other Gadidae	-	-	-	-	-	5.7	2.9	-	-	-	-	-	-	-	-	-	-
Myctophidae	**83.3**	**42.9**	**100.0**	**91.7**	**-**	**88.6**	**85.3**	**93.4**	**100.0**	**100.0**	**93.3**	**87.5**	**76.1**	**85.7**	**76.9**	**-**	**-**
Lampanyctus spp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stenobrachius leucopsarus	-	7.1	-	-	-	40.0	-	-	-	100.0	93.3	87.5	-	-	-	-	-
Unid. Myctophidae	83.3	35.7	100.0	91.7	-	42.9	85.3	93.4	100.0	-	-	-	73.9	85.7	76.9	-	-
Other Myctophidae	-	7.1	-	-	-	14.3	-	-	-	-	2.2	-	-	-	-	-	-
Unid. Teleostei	-	14.3	-	-	-	-	2.9	3.3	-	-	2.2	12.5	21.7	8.6	23.1	-	-
Other Teleostei	5.6	7.1	-	-	-	-	8.8	-	-	3.3	2.2	-	-	-	-	-	-
Other	**27.8**	**14.3**	**-**	**-**	**-**	**2.9**	**1.5**	**4.9**	**6.7**	**-**	**8.9**	**-**	**4.3**	**-**	**3.8**	**-**	**-**
Plastic	27.8	14.3	-	-	-	2.9	-	1.6	-	-	2.2	-	-	-	-	-	-
Other	-	-	-	-	-	-	1.5	3.3	6.7	-	6.7	-	4.3	-	3.8	-	-

[a]One hundred and four additional samples are still pending analysis.
[b]One hundred and two additional samples are still pending analysis.
[c]One hundred seventy-three additional samples are still pending analysis.
[d]Eighty-nine additional samples are still pending analysis.
[e]Fifteen additional samples are still pending analysis.
[f]Fifteen additional samples are still pending analysis.

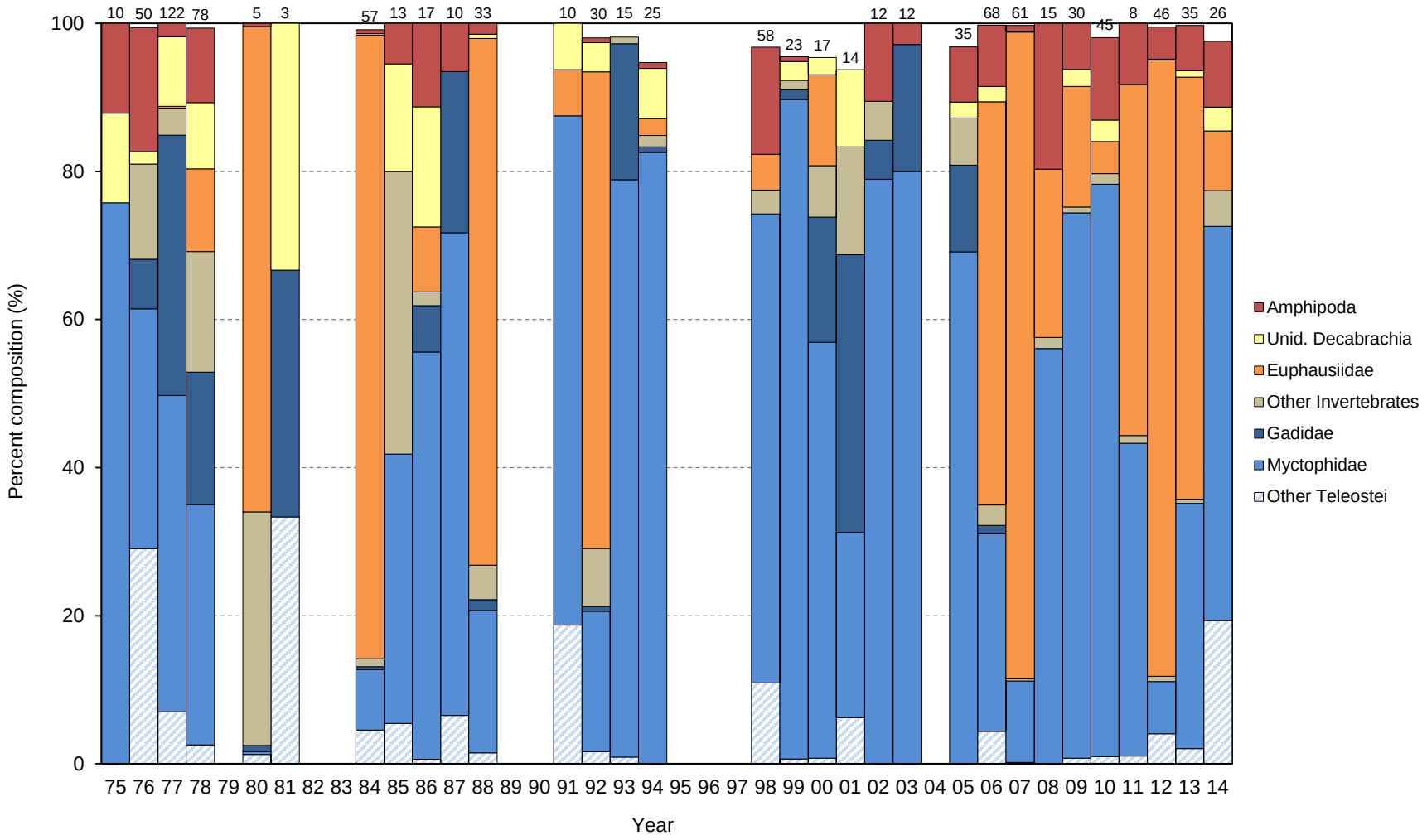

Figure 36. Percent composition of major prey items in diets of red-legged kittiwake adults and chicks at St. George Island, Alaska. Values are expressed as the percentage of total individual prey items comprised by each prey item. Prey is grouped to family level or higher; only taxa with an among-year average composition of at least 5% are shown. Samples consist of stomach contents from adults collected at or near the colony, regurgitations from adults returning to the colony to feed chicks and regurgitations from chicks themselves. Numbers above columns indicate sample sizes. No diet samples were collected in 1979, 1982-1983, 1990, 1996-1997, or 2017; samples were collected in 1989, 1995, 2004, and 2015-2016 but raw data are missing (1989) or samples have not yet been analyzed (1995, 2004, and 2015-2016).

Table 71. Percent composition of major prey items in diets of red-legged kittiwake adults and chicks at St. George Island, Alaska. Values are expressed as the percentage of total individual prey items comprised by each prey item. Prey was identified and measured in the laboratory to lowest taxon possible (some prey items were identified to species while others were only identified to genus, family, order, etc.). Any prey with an among-year average composition of at least 5% are shown to the lowest taxonomic level; others are lumped together as "others" in their respective taxonomic group with values in bold showing totals for those taxa. Samples consist of stomach contents from adults and chicks collected at or near the colony, regurgitations from adults returning to the colony to feed chicks and regurgitations from chicks themselves. No diet samples were collected in 1979, 1982-1983, 1990, 1996-1997, or 2017; samples were collected in 1989, 1995, 2004, and 2015-2016 but raw data are missing (1989) or samples have not yet been analyzed (1995, 2004, and 2015-2016). More detailed diet data and prey identifications are available, contact refuge biologists for details.

Prey	1975	1976	1977	1978	1980	1981	1984	1985	1986	1987	1988	1991	1992	1993	1994	1995	1998	1999
No. samples	10	50	122	78	5	3	57	13	17	10	33	10	30	15[a]	25[b]	56	58	23[c]
No. individuals	33	179	384	626	241	3	1516	55	160	46	343	16	306	306	132	*pending*	311	156
Invertebrates	**24.2**	**31.3**	**15.1**	**46.5**	**97.5**	**33.3**	**86.9**	**58.2**	**38.1**	**6.5**	**77.8**	**12.5**	**76.8**	**0.9**	**11.4**	**-**	**25.1**	**4.5**
Amphipoda	12.1	16.8	1.8	10.1	0.4	-	0.5	5.5	11.3	6.5	1.5	-	0.7	-	0.8	-	14.5	0.6
Cephalopoda	**12.1**	**1.7**	**9.4**	**8.9**	**-**	**33.3**	**1.1**	**14.5**	**16.3**	**-**	**0.6**	**6.3**	**3.9**	**-**	**6.8**	**-**	**2.6**	**2.6**
Unid. Decabrachia	12.1	1.7	9.4	8.9	-	33.3	0.2	14.5	16.3	-	0.6	6.3	3.9	-	6.8	-	-	2.6
Other Cephalopoda	-	-	-	-	-	-	0.9	-	-	-	-	-	-	-	-	-	2.6	-
Euphausiacea	**-**	**-**	**0.3**	**11.2**	**65.6**	**-**	**84.2**	**-**	**8.8**	**-**	**71.1**	**6.3**	**64.4**	**-**	**2.3**	**-**	**4.8**	**-**
Euphausiidae	**-**	**-**	**0.3**	**11.2**	**65.6**	**-**	**84.2**	**-**	**8.8**	**-**	**71.1**	**6.3**	**64.4**	**-**	**2.3**	**-**	**4.8**	**-**
Thysanoessa raschii	-	-	-	5.3	65.6	-	18.1	-	7.5	-	10.2	-	64.4	-	-	-	-	-
Thysanoessa spp.	-	-	-	0.3	-	-	47.1	-	-	-	2.3	6.3	-	-	-	-	-	-
Other Euphausiidae	-	-	0.3	5.6	-	-	19.1	-	1.3	-	58.6	-	-	-	2.3	-	4.8	-
Other Invertebrates	-	12.8	3.6	16.3	31.5	-	1.1	38.2	1.9	-	4.7	-	7.8	0.9	1.5	-	3.2	1.3
Fish	**75.8**	**68.2**	**84.9**	**52.9**	**2.5**	**66.7**	**13.1**	**41.8**	**61.9**	**93.5**	**22.2**	**87.5**	**21.2**	**97.2**	**83.3**	**-**	**74.3**	**91.0**
Teleostei	**75.8**	**68.2**	**84.9**	**52.9**	**2.5**	**66.7**	**13.1**	**41.8**	**61.9**	**93.5**	**22.2**	**87.5**	**21.2**	**97.2**	**83.3**	**-**	**74.3**	**91.0**
Gadidae	**-**	**6.7**	**35.2**	**17.9**	**0.8**	**33.3**	**0.4**	**-**	**6.3**	**21.7**	**1.5**	**-**	**0.7**	**18.3**	**0.8**	**-**	**-**	**1.3**
Gadus chalcogrammus	-	6.1	26.3	16.8	0.4	-	0.1	-	6.3	13.0	1.2	-	0.7	17.4	0.8	-	-	1.3
Other Gadidae	-	0.6	8.9	1.1	0.4	33.3	0.3	-	-	8.7	0.3	-	-	0.9	-	-	-	-
Myctophidae	**75.8**	**32.4**	**42.7**	**32.4**	**0.4**	**-**	**8.2**	**36.4**	**55.0**	**65.2**	**19.2**	**68.8**	**19.0**	**78.0**	**82.6**	**-**	**63.3**	**89.1**
Stenobrachius leucopsarus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	62.7	-
Unid. Myctophidae	75.8	30.7	42.7	32.4	0.4	-	8.2	36.4	55.0	2.2	-	68.8	19.0	78.0	82.6	-	0.6	89.1
Other Myctophidae	-	1.7	-	-	-	-	-	-	-	63.0	19.2	-	-	-	-	-	-	-
Other Teleostei	-	29.1	7.0	2.6	1.2	33.3	4.6	5.5	0.6	6.5	1.5	18.8	1.6	0.9	-	-	10.9	0.6
Other	-	0.6	-	0.6	-	-	-	-	-	-	-	-	1.3	1.8	3.8	-	0.6	4.5

Table 71 (continued). Percent composition of major prey items in diets of red-legged kittiwake adults and chicks at St. George Island, Alaska. Values are expressed as the percentage of total individual prey items comprised by each prey item. Prey was identified and measured in the laboratory to lowest taxon possible (some prey items were identified to species while others were only identified to genus, family, order, etc.). Any prey with an among-year average composition of at least 5% are shown to the lowest taxonomic level; others are lumped together as "others" in their respective taxonomic group with values in bold showing totals for those taxa. Samples consist of stomach contents from adults and chicks collected at or near the colony, regurgitations from adults returning to the colony to feed chicks and regurgitations from chicks themselves. No diet samples were collected in 1979, 1982-1983, 1990, 1996-1997, or 2017; samples were collected in 1989, 1995, 2004, and 2015-2016 but raw data are missing (1989) or samples have not yet been analyzed (1995, 2004, and 2015-2016). More detailed diet data and prey identifications are available, contact refuge biologists for details.

Prey	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
No. samples	17[d]	14	12[e]	12[f]	8	35	68	61	15	30	45	8	46	35	26	6	4
No. individuals	130	48	19	35	*pending*	94	435	1029	66	129	207	97	1016	344	124	*pending*	*pending*
Invertebrates	**21.5**	**27.1**	**15.8**	**2.9**	**-**	**18.1**	**67.6**	**88.5**	**43.9**	**25.6**	**19.8**	**56.7**	**88.7**	**64.8**	**26.6**	**-**	**-**
Amphipoda	-	-	10.5	2.9	-	7.4	8.3	0.8	19.7	6.2	11.1	8.2	4.3	6.1	8.9	-	-
Cephalopoda	**2.3**	**12.5**	**-**	**-**	**-**	**4.3**	**2.1**	**0.1**	**-**	**2.3**	**2.9**	**-**	**0.4**	**1.2**	**4.8**	**-**	**-**
Unid. Decabrachia	2.3	10.4	-	-	-	2.1	2.1	0.1	-	2.3	2.9	-	0.1	0.9	3.2	-	-
Other Cephalopoda	-	2.1	-	-	-	2.1	-	-	-	-	-	-	0.3	0.3	1.6	-	-
Euphausiacea	**12.3**	**-**	**-**	**-**	**-**	**-**	**54.5**	**87.4**	**22.7**	**16.3**	**4.3**	**47.4**	**83.3**	**57.0**	**8.1**	**-**	**-**
Euphausiidae	**12.3**	**-**	**-**	**-**	**-**	**-**	**54.5**	**87.4**	**22.7**	**16.3**	**4.3**	**47.4**	**83.3**	**57.0**	**8.1**	**-**	**-**
Thysanoessa raschii	-	-	-	-	-	-	0.2	1.4	-	5.4	0.5	33.0	0.6	-	-	-	-
Thysanoessa spp.	-	-	-	-	-	-	43.2	52.1	22.7	-	-	1.0	77.7	22.4	7.3	-	-
Other Euphausiidae	12.3	-	-	-	-	-	11.0	33.9	-	10.9	3.9	13.4	5.0	34.6	0.8	-	-
Other Invertebrates	6.9	14.6	5.3	-	-	6.4	2.8	0.3	1.5	0.8	1.4	1.0	0.7	0.6	4.8	-	-
Fish	**73.8**	**68.8**	**84.2**	**97.1**	**-**	**80.9**	**32.2**	**11.2**	**56.1**	**74.4**	**78.3**	**43.3**	**11.1**	**35.2**	**72.6**	**-**	**-**
Teleostei	**73.8**	**68.8**	**84.2**	**97.1**	**-**	**80.9**	**32.2**	**11.2**	**56.1**	**74.4**	**78.3**	**43.3**	**11.1**	**35.2**	**72.6**	**-**	**-**
Gadidae	**16.9**	**37.5**	**5.3**	**17.1**	**-**	**11.7**	**1.1**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Gadus chalcogrammus	16.9	37.5	5.3	17.1	-	5.3	0.7	-	-	-	-	-	-	-	-	-	-
Other Gadidae	-	-	-	-	-	6.4	0.5	-	-	-	-	-	-	-	-	-	-
Myctophidae	**56.2**	**25.0**	**78.9**	**80.0**	**-**	**69.1**	**26.7**	**11.0**	**56.1**	**73.6**	**77.3**	**42.3**	**7.1**	**33.1**	**53.2**	**-**	**-**
Stenobrachius leucopsarus	-	2.1	-	-	-	30.9	-	-	-	73.6	76.8	42.3	-	-	-	-	-
Unid. Myctophidae	56.2	14.6	78.9	80.0	-	24.5	26.7	11.0	56.1	-	-	-	7.0	33.1	53.2	-	-
Other Myctophidae	-	8.3	-	-	-	13.8	-	-	-	-	0.5	-	0.1	-	-	-	-
Other Teleostei	0.8	6.3	-	-	-	-	4.4	0.2	-	0.8	1.0	1.0	4.0	2.0	19.4	-	-
Other	4.6	4.2	-	-	-	1.1	0.2	0.3	-	-	1.9	-	0.2	-	0.8	-	-

[a]One hundred and four additional samples are still pending analysis.
[b]One hundred and two additional samples are still pending analysis.
[c]One hundred seventy-three additional samples are still pending analysis.
[d]Eighty-nine additional samples are still pending analysis.
[e]Fifteen additional samples are still pending analysis.
[f]Fifteen additional samples are still pending analysis.

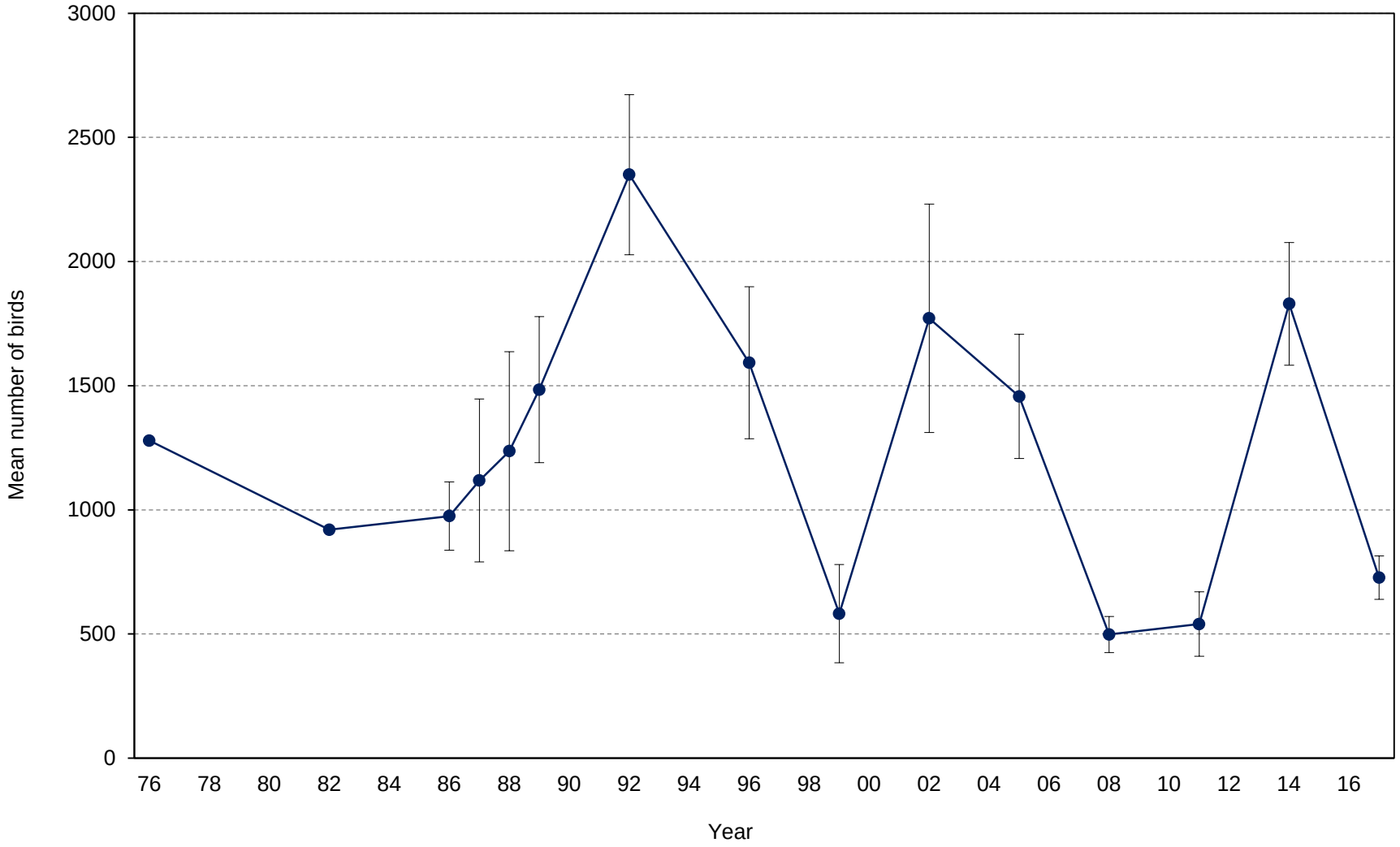

Figure 37. Mean numbers of northern fulmars counted on index plots at St. George Island, Alaska. Totals include all plots except 13N. Error bars represent standard deviation. No counts were conducted in years not shown except 1984 and 1985 when data are excluded because not all plots were counted.

Table 72. Numbers of northern fulmars counted on index plots at St. George Island, Alaska. Totals include all plots except 13N. No counts were conducted in years not listed except 1984 and 1985 when data are excluded because not all plots were counted.

Replicate	1976	1982	1986	1987	1988	1989	1992	1996	1999	2002	2005	2008	2011	2014	2017
1	1279	920	965	1604	777	1146	2546	1842	751	988	1149	551	567	1754	731
2	-	-	843	913	1033	1683	1978	1874	753	1808	1729	471	710	1513	812
3	-	-	1117	926	1191	1623	2526	1113	439	1745	1012	397	470	2036	638
4	-	-	-	1029	1328	-	-	1536	384	2289	1560	487	414	2017	-
5	-	-	-	-	1853	-	-	1596	-	1427	1468	584	-	-	-
6	-	-	-	-	-	-	-	-	-	2280	1496	-	-	-	-
7	-	-	-	-	-	-	-	-	-	1863	1670	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	1572	-	-	-	-
Mean	1279	920	975	1118	1236	1484	2350	1592	582	1771	1457	498	540	1830	727
n	1	1	3	4	5	3	3	5	4	7	8	5	4	4	3
SD	-	-	137	328	401	294	322	306	198	460	250	73	130	247	87
First count	9 Jul	23 Jul	8 Jul	11 Jul	19 Jul	13 Jul	11 Jul	12 Jul	9 Jul	5 Jul	4 Jul	7 Jul	6 Jul	3 Jul	5 Jul
Last count	5 Aug	3 Aug	12 Aug	9 Aug	11 Aug	10 Aug	6 Aug	6 Aug	8 Aug	3 Aug	30 Jul	30 Jul	4 Aug	1 Aug	7 Aug

Table 73. Numbers of northern fulmars counted on index plots at St. George Island, Alaska in 2017.

Plot	Replicate			Mean	SD
	1	2	3		
	5-22 Jul	13 Jul-4 Aug	21 Jul-7 Aug		
1A	1	0	0	-	-
1B	0	0	0	-	-
2	3	0	0	-	-
8	2	34	25	-	-
9	19	30	46	-	-
10	20	29	40	-	-
11	0	0	0	-	-
12	8	12	8	-	-
13O	-[a]	4	3	-	-
13N	1	2	1	-	-
14	0	10	12	-	-
15	3	6	0	-	-
16	5	13	2	-	-
17	2	3	1	-	-
18	5	12	8	-	-
19	0	0	0	-	-
20	0	0	0	-	-
21	0	0	0	-	-
22	0	0	0	-	-
23	50	32	19	-	-
24T	31	32	7	-	-
24B	28	7	10	-	-
25	0	26	13	-	-
26	24	2	1	-	-
27T	48	38	28	-	-
27B	18	17	8	-	-
28	-	40[b]	-	-	-
28L	39	-	9	-	-
28M	1	-	5	-	-
29	11	23	7	-	-
30R	7	18	0	-	-
30L	14	21	9	-	-
31	1	2	2	-	-
32U	7	14	6	-	-
32L	21	24	15	-	-
33	40[b]	-	-	-	-
33A	-	33	29	-	-
33B	-	3	1	-	-
33C	-	0	0	-	-
33D	-	1	1	-	-
34	0	0	0	-	-
35	63[b]	-	-	-	-
35U	-	16	16	-	-
35L	-	42	33	-	-
36	17	25	10	-	-
37U	6	7	6	-	-
37L	1	3	1	-	-
38T	15	11	7	-	-
38M	13	10	6	-	-
38B	11	13	15	-	-
39	66	52	39	-	-

Table 73 (continued). Numbers of northern fulmars counted on index plots at St. George Island, Alaska in 2017.

Plot	Replicate			Mean	SD
	1	2	3		
	5-22 Jul	13 Jul-4 Aug	21 Jul-7 Aug		
40	0	0	0	-	-
41T	1	0	0	-	-
41B	0	0	0	-	-
42A	0	0	0	-	-
42B	0	0	0	-	-
43	0	0	0	-	-
44	0	0	0	-	-
45	8	4	4	-	-
46	0	0	1	-	-
47	11	12	8	-	-
48	0	1	1	-	-
49	0	0	0	-	-
50	0	0	0	-	-
51	2	1	1	-	-
52	1	1	0	-	-
53	23	14	15	-	-
54A	0	0	0	-	-
54B	0	0	0	-	-
54C	0	0	0	-	-
55	6	8	4	-	-
58A	0	0	0	-	-
58B	0	0	0	-	-
58C	1	0	0	-	-
59A	21	29	30	-	-
59B	5	6	18	-	-
59C	26	44	71	-	-
75	3	7	0	-	-
81A	15	13	26	-	-
81B	8	7	11	-	-
81C	0	0	0	-	-
81D	0	0	0	-	-
Total[c]	731	812	638	727	87

[a]No count was conducted.
[b]Entire plot was included in a single count. No count of the subplots occurred.
[c]Total includes all plots except 13N.

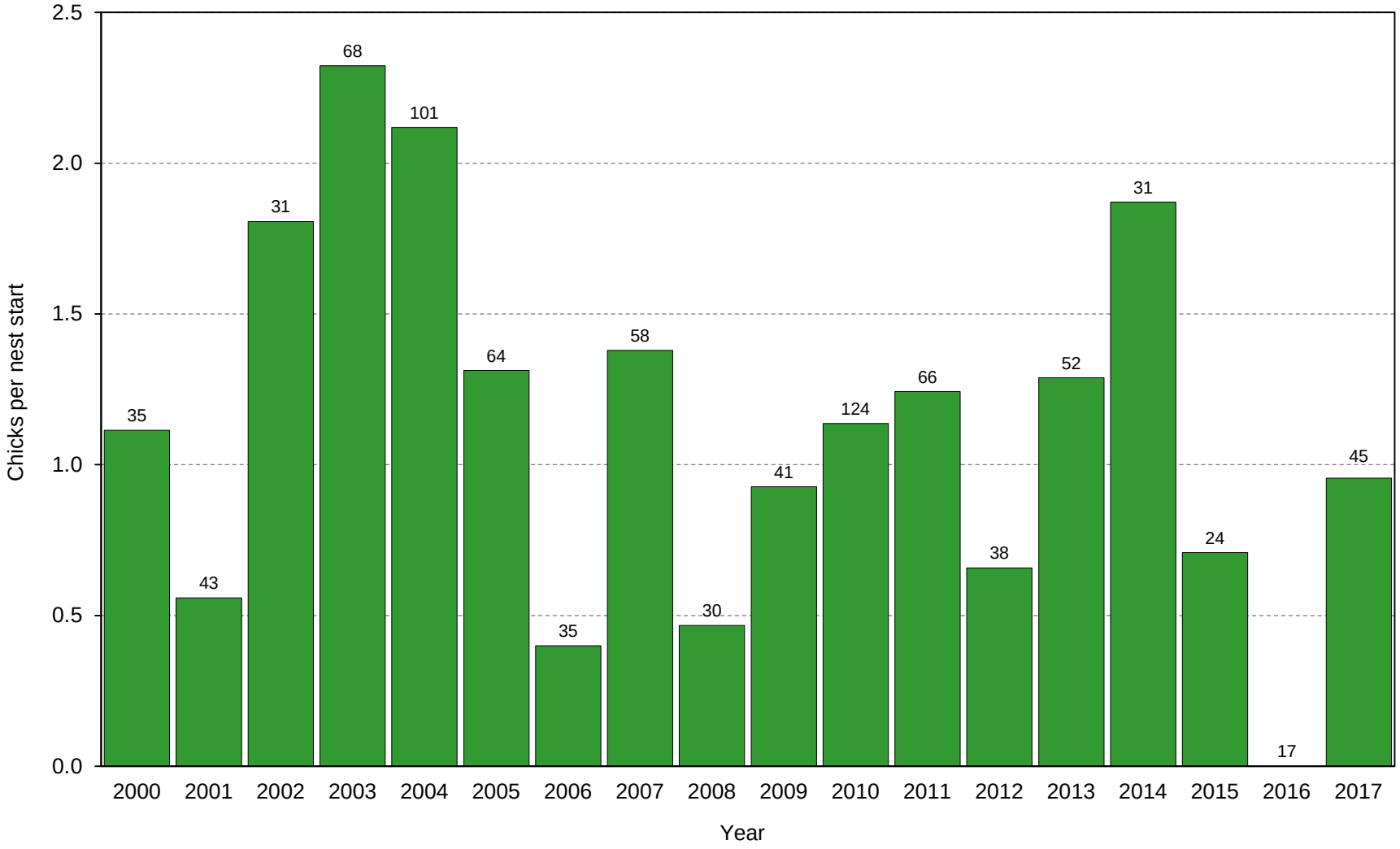

Figure 38. Reproductive performance of red-faced cormorants at St. George Island, Alaska, as determined by a Boom-or-Bust methodology. Success is measured by the number of chicks per nest start (E/A), where E=total chicks and A=total nest starts (including those without chicks). Numbers above columns indicate sample sizes (A).

Table 74. Reproductive performance of red-faced cormorants at St. George Island, Alaska, as determined by a Boom-or-Bust methodology. Measures of success are based on a count of nests (or maximum of several counts) conducted early in the nesting period and a count of large chicks (or maximum of several counts) conducted late in the nesting period.

Year	Total nest starts	Nest sites w/ x chicks[a]:					Nest sites w/ chicks	Total chicks	Mean brood size	Prop. nest sites w/ chicks	Chicks/ nest start	Date(s) of max. nest count	Date(s) of max. chick count
	(A)	1	2	3	4	5	(D)	(E)	(E/D)	(D/A)[b]	(E/A)[b]		
2000	35	4	10	5	0	0	19	39	2.1	0.54	1.11	14,28 Jun	1,18 Aug
2001	43	9	6	1	0	0	16	24	1.5	0.37	0.59	23 Jun,5 Jul	24,25 Aug
2002	31	4	11	6	3	0	24	56	2.3	0.77	1.81	25 Jun	7 Aug
2003	68	3	15	27	11	0	56	158	2.8	0.82	2.32	4-23 Jun	19-31 Aug
2004	101	15	23	29	14	2	83	214	2.6	0.82	2.12	28 Jun-2 Jul	18-28 Aug
2005	64	7	17	13	1	0	38	84	2.2	0.59	1.31	24 Jun-2 Sep	24 Jun-2 Sep
2006	35	1	5	1	0	0	7	14	2.0	0.20	0.40	14 Jun-24 Aug	14 Jun-24 Aug
2007	58	7	20	11	0	0	38	80	2.1	0.66	1.38	1-11 Jun	15 Aug-6 Sep
2008	30	3	4	1	0	0	8	14	1.8	0.27	0.47	10 Jun-29 Jul	8-11 Aug
2009	41	9	10	3	0	0	22	38	1.7	0.54	0.93	24,27 Jun	20 Aug
2010	124	9	33	22	0	0	64	141	2.2	0.52	1.10	8,14,18 Jun	16,20,27 Aug
2011	66	8	14	14	1	0	37	82	2.2	0.56	1.24	1-16 Jun	5-13 Aug
2012	38	5	4	4	0	0	13	25	1.9	0.34	0.66	17,18,29 Jun	28 Jul-20 Aug
2013	52	0	6	17	1	0	24	67	2.8	0.46	1.29	3,4,20 Jun	17,20 Aug
2014	31	4	5	12	2	0	23	58[c]	2.5	0.74	1.90	15 Jun	26 Jun,12 Aug
2015	24	2	3	3	0	0	8	17	2.1	0.33	0.71	4 Jun	11 Aug
2016	17	0	0	0	0	0	0	0	0.0	0.00	0.00	6 Jun	-
2017	45	2	11	5	1	0	19	43	2.3	0.42	0.96	7,8,10 Jun	2,8,15 Aug

[a]Numbers of chicks may represent a minimum count as not all may have been visible.

[b]Proportion of nest sites with chicks (D/A) and chicks/nest start (E/A) may be considered maximum potential values of productivity (F/A) and fledglings/nest start (G/A), respectively, based on the assumption that all chicks counted eventually fledge.

[C]Six chicks were known to have fledged, but were gone and not counted during the high chick counts.

Table 75. Reproductive performance of red-faced cormorants at St. George Island, Alaska in 2017, as determined by a Boom-or-Bust methodology.

Date	Total nest starts	Nest sites w/ x chicks[a]				Nest sites w/ chicks	Total chicks
	(A)	1	2	3	4	(D)	(E)
Rosy Finch (81)							
10 Jun	8	0	0	0	0	0	0
13 Jun	8	0	0	0	0	0	0
20 Jun	8	0	0	0	0	0	0
4 Aug	-	0	2	1	1	4	11
8 Aug	-	0	3	1	1	5	13
Village A (58A)							
7 Jun	29	0	0	0	0	0	0
8 Jun	24	0	0	0	0	0	0
20 Jun	21	0	0	0	0	0	0
4 Aug	-	4	5	4	0	26	13
8 Aug	-	1	6	4	0	25	11
15 Aug	-	1	8	4	0	29	13
Village C (58C)							
8 Jun	8	0	0	0	0	0	0
11 Jun	8	0	0	0	0	0	0
20 Jun	7	0	0	0	0	0	0
2 Aug	-	1	0	0	0	1	1

[a]Number of chicks may represent a minimum count as not all chicks may have been visible.

Table 76. Reproductive performance of red-faced cormorants at St. George Island, Alaska. Measures of success are based on frequent monitoring of individual nests (as opposed to Boom-or-Bust methodology presented in Table 74).

Year	Total nest starts (A)	Nests w/ eggs (B)	Total eggs[a] (C)	Nests w/ chicks (D)	Total chicks (E)	Nests w/ chicks fledged (F)	Total chicks fledged (G)	Laying success (B/A)	Mean clutch size (C/B)	Nesting success (D/B)	Hatching success (E/C)	Chick success (G/E)	Egg success (G/C)	Fledging success (F/D)	Reprod. success (F/B)	Fledglings/ nest start (G/A)	Prod. (F/A)
2015	20	10	26	6	13	6	13	0.50	2.6	0.60	0.50	1.00	0.50	1.00	0.60	0.65	0.30
2016	4	0	0	0	0	0	0	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2017	34	14	25	13	26	9	20	0.41	1.8	0.93	1.04[b]	0.77	0.80	0.69	0.64	0.59	0.26

[a]Numbers of eggs may represent a minimum count as not all may have been visible.
[b]Hatching success in excess of 1.00 as a result of total eggs representing a minimum count

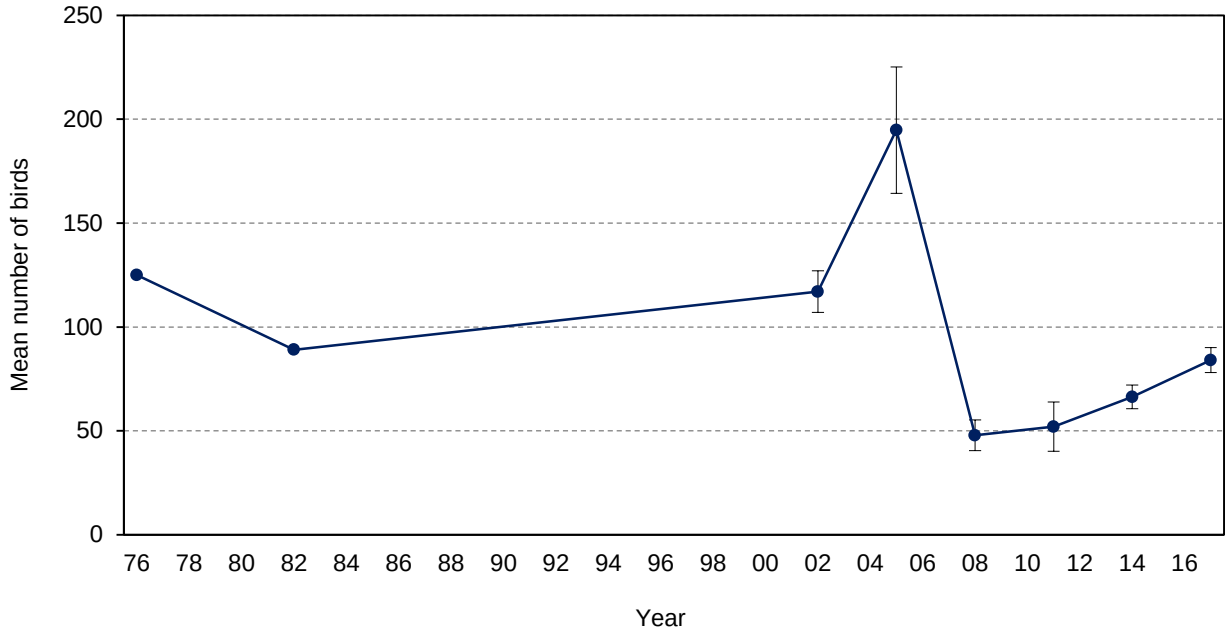

Figure 39. Mean numbers of red-faced cormorants counted on index plots at St. George Island, Alaska. Totals include all plots except 13N. Error bars represent standard deviation. No counts were conducted in years not shown except 1984 and 1985 when data are excluded because not all plots were counted; data potentially exist in 1986-1989, 1992, 1996, and 1999 but have not yet been summarized.

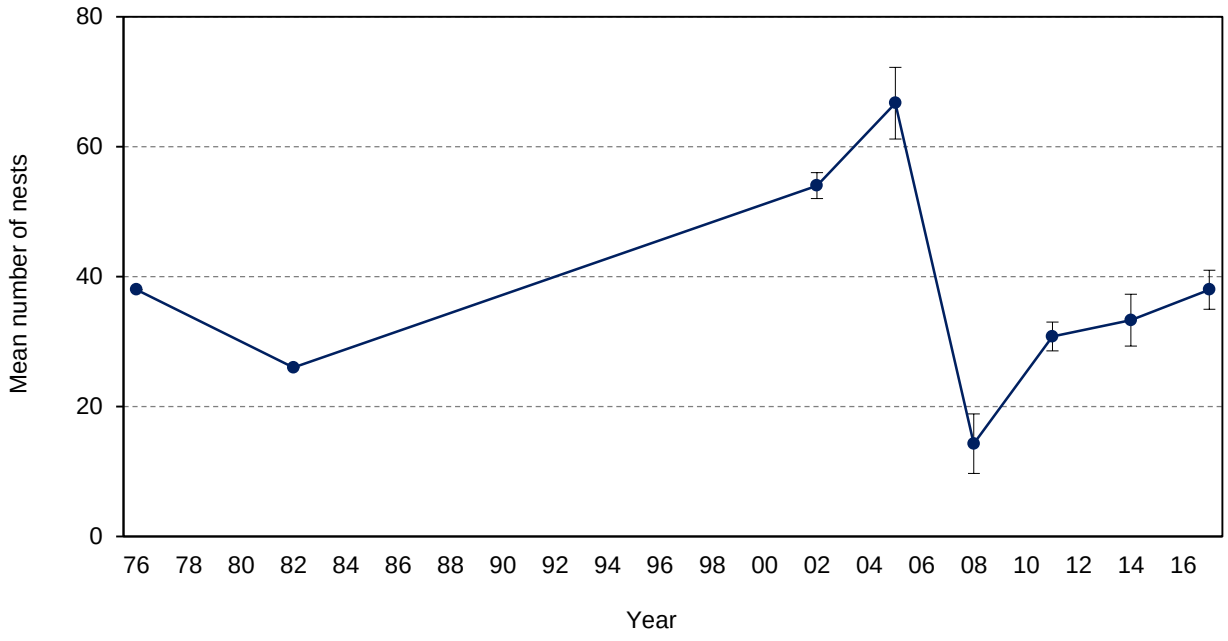

Figure 40. Mean numbers of red-faced cormorant nests counted on index plots at St. George Island, Alaska. Totals include all plots except 13N. Error bars represent standard deviation. No counts were conducted in years not shown except 1984 and 1985 when data are excluded because not all plots were counted; data potentially exist in 1986-1989, 1992, 1996, and 1999 but have not yet been summarized.

Table 77. Numbers of red-faced cormorants counted on index plots at St. George Island, Alaska. Totals include all plots except 13N. No counts were conducted in years not listed except 1984 and 1985 when data are excluded because not all plots were counted.

Replicate	1976	1982	1986	1987	1988	1989	1992	1996	1999	2002	2005	2008	2011	2014	2017
1	125	89	xx[a]	xx	xx	xx	xx	xx	xx	101	207	37	44	67	89
2	-	-	xx	xx	xx	xx	xx	xx	xx	118	156	49	59	58	78
3	-	-	xx	xx	xx	xx	xx	xx	xx	128	217	45	65	69	86
4	-	-	xx	xx	xx	xx	xx	xx	xx	130	217	51	40	71	-
5	-	-	xx	xx	xx	xx	xx	xx	xx	120	232	57	-	-	-
6	-	-	xx	xx	xx	xx	xx	xx	xx	108	186	-	-	-	-
7	-	-	xx	xx	xx	xx	xx	xx	xx	115	197	-	-	-	-
8	-	-	xx	xx	xx	xx	xx	xx	xx	-	146	-	-	-	-
Mean	125	89	xx	xx	xx	xx	xx	xx	xx	117	195	48	52	66	84
n	1	1	xx	xx	xx	xx	xx	xx	xx	7	8	5	4	4	3
SD	-	-	xx	xx	xx	xx	xx	xx	xx	10	30	7	12	6	6
First count	9 Jul	23 Jul	8 Jul	11 Jul	19 Jul	13 Jul	11 Jul	12Jul	9 Jul	5 Jul	4 Jul	7 Jul	6 Jul	3 Jul	5 Jul
Last count	5 Aug	3 Aug	12 Aug	9 Aug	11 Aug	10 Aug	6 Aug	6 Aug	8 Aug	3 Aug	30 Jul	30 Jul	4 Aug	1 Aug	29 Jul

[a]xx indicates data potentially exist but have not yet been summarized.

Table 78. Numbers of red-faced cormorant nests counted on index plots at St. George Island, Alaska. Totals include all plots except 13N. No counts were conducted in years not listed except 1984 and 1985 when data are excluded because not all plots were counted.

Replicate	1976	1982	1986	1987	1988	1989	1992	1996	1999	2002	2005	2008	2011	2014	2017
1	38	26	xx[a]	xx	xx	xx	xx	xx	xx	50	72	17	30	39	40
2	-	-	xx	xx	xx	xx	xx	xx	xx	48	67	9	32	30	34
3	-	-	xx	xx	xx	xx	xx	xx	xx	46	61	17	33	31	39
4	-	-	xx	xx	xx	xx	xx	xx	xx	-	-	4[b]	28	33	-
5	-	-	xx	xx	xx	xx	xx	xx	xx	-	-	-	-	-	-
6	-	-	xx	xx	xx	xx	xx	xx	xx	-	-	-	-	-	-
Mean	38	26	xx	xx	xx	xx	xx	xx	xx	48	67	14	31	33	38
Overall max.[c]	38	26	35	xx	xx	xx	xx	xx	xx	54	84	18	35	40	47
n	1	1	xx	xx	xx	xx	xx	xx	xx	3	3	3	4	4	3
SD	-	-	xx	xx	xx	xx	xx	xx	xx	2	6	5	2	4	3
First count	9 Jul	23 Jul	8 Jul	11 Jul	19 Jul	13 Jul	11 Jul	12 Jul	9Jul	5 Jul	4 Jul	7 Jul	6 Jul	3 Jul	5 Jul
Last count	5 Aug	3 Aug	12 Aug	9 Aug	11 Aug	10 Aug	6 Aug	6 Aug	8 Aug	3 Aug	13 Jul	29 Jul	4 Aug	1 Aug	23 Jul

[a]xx indicates data potentially exist but have not yet been summarized.
[b]Incomplete count used for maximum nest number but not included in calculation of mean.
[c]Overall maximum nest number is the highest nest count on each plot in a year, summed across all plots.

Table 79. Numbers of red-faced cormorants counted on index plots at St. George Island, Alaska in 2017.

Plot	Replicate			Mean	SD
	1	2	3		
	5-22 Jul	13 Jul-4 Aug	21 Jul-7 Aug		
1A	0	0	0	-	-
1B	0	0	0	-	-
2	0	0	0	-	-
8	0	0	0	-	-
9	0	0	0	-	-
10	2	2	3	-	-
11	1	0	0	-	-
12	0	0	0	-	-
13O	0	0	0	-	-
13N	0	0	0	-	-
14	0	0	0	-	-
15	0	0	0	-	-
16	0	0	0	-	-
17	0	0	0	-	-
18	3	4	7	-	-
19	1	0	1	-	-
20	0	0	0	-	-
21	0	0	0	-	-
22	0	0	0	-	-
23	0	0	0	-	-
24T	0	0	0	-	-
24B	0	0	0	-	-
25	3	0	0	-	-
26	0	5	0	-	-
27T	0	0	0	-	-
27B	0	0	0	-	-
28L	0	0	0	-	-
28M	0	0	0	-	-
29	0	0	0	-	-
30R	0	0	0	-	-
30L	0	0	0	-	-
31	0	0	0	-	-
32U	0	0	0	-	-
32L	0	0	0	-	-
33A	0	0	0	-	-
33B	0	0	0	-	-
33C	0	0	0	-	-
33D	0	0	0	-	-
34	0	0	0	-	-
35U	0	0	0	-	-
35L	0	0	0	-	-
36	0	0	0	-	-
37U	0	0	0	-	-
37L	0	0	0	-	-
38T	0	0	0	-	-
38M	0	0	0	-	-
38B	1	2	3	-	-
39	0	0	0	-	-
40	0	0	0	-	-
41T	0	0	0	-	-
41B	0	0	0	-	-

Table 79 (continued). Numbers of red-faced cormorants counted on index plots at St. George Island, Alaska in 2017.

Plot	Replicate			Mean	SD
	1	2	3		
	5-22 Jul	13 Jul-4 Aug	21 Jul-7 Aug		
42A	0	0	0	-	-
42B	0	0	0	-	-
43	0	0	0	-	-
44	0	0	0	-	-
45	0	0	0	-	-
46	0	0	0	-	-
47	10	8	9	-	-
48	0	0	0	-	-
49	0	0	0	-	-
50	0	0	0	-	-
51	0	0	0	-	-
52	0	0	0	-	-
53	0	0	0	-	-
54A	0	0	0	-	-
54B	0	0	0	-	-
54C	0	0	0	-	-
55	0	0	0	-	-
58A	29	18	29	-	-
58B	2	14	15	-	-
58C	7	5	1	-	-
59A	2	1	0	-	-
59B	0	0	0	-	-
59C	0	0	0	-	-
75	8	6	3	-	-
81A	2	0	0	-	-
81B	1	0	1	-	-
81C	0	0	0	-	-
81D	17	13	14	-	-
Total[a]	89	78	86	84	6

[a]Total includes all plots except 13N.

Table 80. Numbers of red-faced cormorant nests counted on index plots at St. George Island, Alaska in 2017.

Plot	Replicate			Mean	SD	Max.
	1	2	3			
	5-22 Jul	13 Jul-4 Aug	21-23 Jul			
1A	0	0	0	-	-	0
1B	0	0	0	-	-	0
2	0	0	0	-	-	0
8	0	0	0	-	-	0
9	0	0	0	-	-	0
10	1	1	1	-	-	1
11	0	0	0	-	-	0
12	0	0	0	-	-	0
13O	0	0	0	-	-	0
13N	0	0	0	-	-	0
14	0	0	0	-	-	0
15	0	0	0	-	-	0
16	0	0	0	-	-	0
17	0	0	0	-	-	0
18	2	2	2	-	-	2
19	0	0	0	-	-	0
20	0	0	0	-	-	0
21	0	0	0	-	-	0
22	0	0	0	-	-	0
23	0	0	0	-	-	0
24T	0	0	0	-	-	0
24B	0	0	0	-	-	0
25	0	0	0	-	-	0
26	0	0	0	-	-	0
27T	0	0	0	-	-	0
27B	0	0	0	-	-	0
28L	0	0	0	-	-	0
28M	0	0	0	-	-	0
29	0	0	0	-	-	0
30R	0	0	0	-	-	0
30L	0	0	0	-	-	0
31	0	0	0	-	-	0
32U	0	0	0	-	-	0
32L	0	0	0	-	-	0
33A	0	0	0	-	-	0
33B	0	0	0	-	-	0
33C	0	0	0	-	-	0
33D	0	0	0	-	-	0
34	0	0	0	-	-	0
35U	0	0	0	-	-	0
35L	0	0	0	-	-	0
36	0	0	0	-	-	0
37U	0	0	0	-	-	0
37L	0	0	0	-	-	0
38T	0	0	0	-	-	0
38M	0	0	0	-	-	0
38B	0	0	0	-	-	0
39	0	0	0	-	-	0
40	0	0	0	-	-	0
41T	0	0	0	-	-	0
41B	0	0	0	-	-	0

Table 81 (continued). Numbers of red-faced cormorant nests counted on index plots at St. George Island, Alaska i in 2017.

Plot	Replicate			Mean	SD	Max.
	1	2	3			
	5-22 Jul	13 Jul-4 Aug	21-23 Jul			
42A	0	0	0	-	-	0
42B	0	0	0	-	-	0
43	0	0	0	-	-	0
44	0	0	0	-	-	0
46	0	0	0	-	-	0
47	0	0	0	-	-	0
48	7	7	6	-	-	7
49	0	0	0	-	-	0
50	0	0	0	-	-	0
51	0	0	0	-	-	0
52	0	0	0	-	-	0
53	0	0	0	-	-	0
54A	0	0	0	-	-	0
54B	0	0	0	-	-	0
54C	0	0	0	-	-	0
55	0	0	0	-	-	0
58A	0	0	0	-	-	0
58B	20	9	16	-	-	20
58C	0	6	6	-	-	6
59A	2	2	1	-	-	2
59B	2	0	0	-	-	2
59C	0	0	0	-	-	0
75	0	0	0	-	-	0
81A	0	0	0	-	-	0
81B	0	0	0	-	-	0
81C	0	0	0	-	-	0
81D	0	0	0	-	-	0
Total[a]	40	34	39	38	3	47[b]

[a]Total includes all plots except 13N.
[b]Overall maximum nest number is the highest nest count on each plot, summed across all plots.

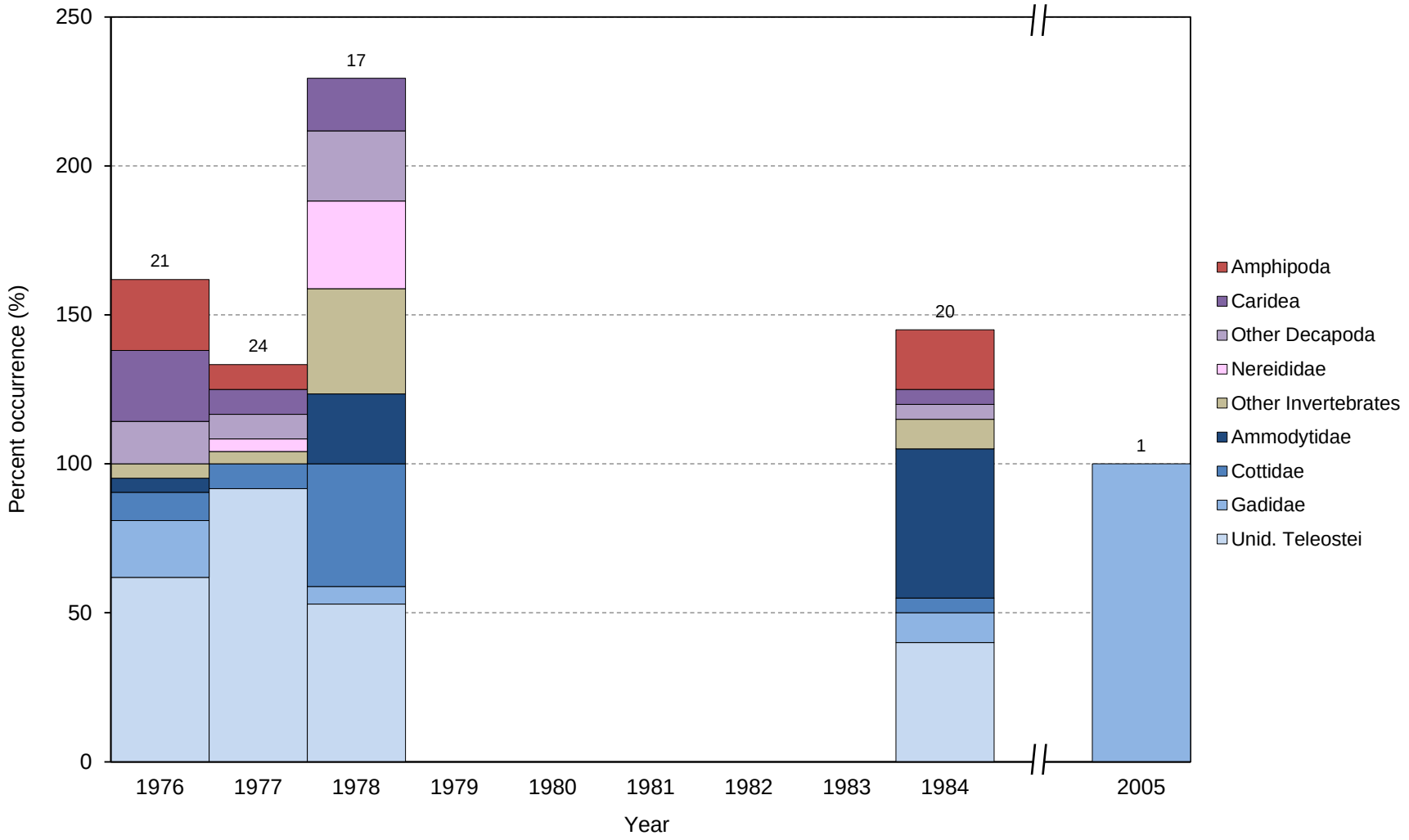

Figure 41. Frequency of occurrence of major prey items in diets of red-faced cormorant chicks at St. George Island, Alaska. Frequency is expressed as the percentage of food samples in which each prey item was present. Prey is grouped to family level or higher; only taxa with an among-year average occurrence of at least 5% are shown. Samples consist of regurgitations and boluses from adults returning to the colony to feed chicks and regurgitations from chicks themselves. Numbers above columns indicate sample sizes. No diet samples were collected in 1979-1983, 1985-2004, or after 2005.

Table 81. Frequency of occurrence of major prey items in diets of red-faced cormorant chicks at St. George Island, Alaska. Frequency is expressed as the percentage of food samples in which each prey item was present. Prey was identified and measured in the laboratory to lowest taxon possible (some prey items were identified to species while others were only identified to genus, family, order, etc.). Any prey with an among-year average occurrence of at least 5% are shown to the lowest taxonomic level; others are lumped together as "others" in their respective taxonomic group with values in bold showing totals for those taxa. Samples consist of regurgitations and boluses from adults returning to the colony to feed chicks and regurgitations from chicks themselves. No diet samples were collected in 1979-1983, 1985-2004, or after 2005. More detailed diet data and prey identifications are available, contact refuge biologists for details.

Prey	1976	1977	1978	1984	2005
No. samples	21	24	17	20	1
Invertebrates	**47.6**	**33.3**	**52.9**	**30.0**	**-**
Amphipoda	23.8	8.3	-	20.0	-
Decapoda	**33.3**	**16.7**	**35.3**	**10.0**	**-**
Caridea	**23.8**	**8.3**	**17.6**	**5.0**	**-**
Unid. Caridea	19.0	8.3	5.9	5.0	-
Other Caridea	9.5	-	11.8	-	-
Other Decapoda	14.3	8.3	23.5	5.0	-
Polychaeta	**-**	**4.2**	**29.4**	**-**	**-**
Nereididae	**-**	**4.2**	**29.4**	**-**	**-**
Nereis spp.	-	4.2	29.4	-	-
Other Polychaeta	-	-	5.9	-	-
Other Invertebrates	4.8	4.2	35.3	10.0	-
Fish	**95.2**	**100.0**	**100.0**	**100.0**	**100.0**
Teleostei	**95.2**	**100.0**	**100.0**	**100.0**	**100.0**
Ammodytidae	**4.8**	**-**	**23.5**	**50.0**	**-**
Ammodytes spp.	4.8	-	23.5	50.0	-
Cottidae	**9.5**	**8.3**	**41.2**	**5.0**	**-**
Unid. Cottidae	4.8	4.2	41.2	5.0	-
Other Cottidae	4.8	4.2	-	-	-
Gadidae	**19.0**	**-**	**5.9**	**10.0**	**100.0**
Gadus chalcogrammus	4.8	-	5.9	5.0	100.0
Other Gadidae	14.3	-	-	5.0	-
Unid. Teleostei	61.9	91.7	52.9	40.0	-
Other Teleostei	-	4.2	-	15.0	-
Other	-	-	-	20.0	-

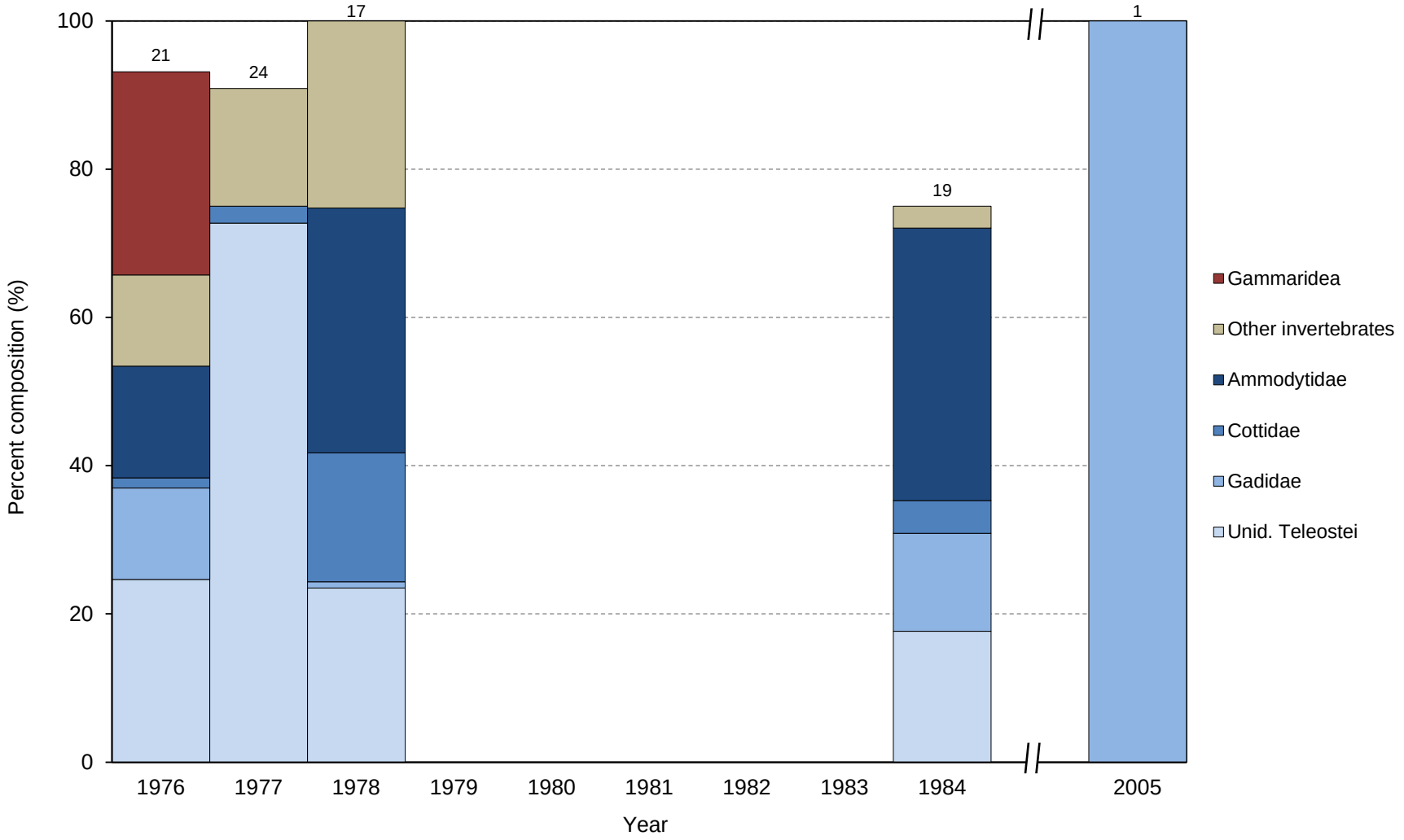

Figure 42. Percent composition of major prey items in diets of red-faced cormorant chicks at St. George Island, Alaska. Values are expressed as the percentage of total individual prey items comprised by each prey item. Prey is grouped to family level or higher; only taxa with an among-year average composition of at least 5% are shown. Samples consist of regurgitations and boluses from adults returning to the colony to feed chicks and regurgitations from chicks themselves. Numbers above columns indicate sample sizes. No diet samples were collected in 1979-1983, 1985-2004, or after 2005.

Table 82. Percent composition of major prey items in diets of red-faced cormorant chicks at St. George Island, Alaska. Values are expressed as the percentage of total individual prey items comprised by each prey item. Prey was identified and measured in the laboratory to lowest taxon possible (some prey items were identified to species while others were only identified to genus, family, order, etc.). Any prey with an among-year average composition of at least 5% are shown to the lowest taxonomic level; others are lumped together as "others" in their respective taxonomic group with values in bold showing totals for those taxa. Samples consist of regurgitations and boluses from adults returning to the colony to feed chicks and regurgitations from chicks themselves. No diet samples were collected in 1979-1983, 1985-2004, or after 2005. More detailed diet data and prey identifications are available, contact refuge biologists for details.

Prey	1976	1977	1978	1984	2005
No. samples	21	24	17	19	1
No. individuals	73	88	115	68	16
Invertebrates	**46.6**	**23.9**	**25.2**	**2.9**	**-**
Amphipoda	**34.2**	**8.0**	**-**	**-**	-
Gammaridea	27.4	-	-	-	-
Other Amphipoda	6.8	8.0	-	-	-
Other Invertebrates	12.3	15.9	25.2	2.9	-
Fish	**53.4**	**76.1**	**74.8**	**82.4**	**100.0**
Teleostei	**53.4**	**76.1**	**74.8**	**82.4**	**100.0**
Ammodytidae	**15.1**	**-**	**33.0**	**36.8**	**-**
Ammodytes spp.	15.1	-	33.0	36.8	-
Cottidae	**1.4**	**2.3**	**17.4**	**4.4**	**-**
Unid. Cottidae	-	1.1	17.4	4.4	-
Other Cottidae	1.4	1.1	-	-	-
Gadidae	**12.3**	**-**	**0.9**	**13.2**	**100.0**
Gadus chalcogrammus	1.4	-	0.9	1.5	100.0
Other Gadidae	11.0	-	-	11.8	-
Unid. Teleostei	24.7	72.7	23.5	17.6	-
Other Teleostei	-	1.1	-	10.3	-
Other	-	-	-	14.7	-

Table 83. Numbers of birds detected during off-road point count survey (route 312) at St. George Island, Alaska. Data represent only individuals observed from survey points and do not include birds flying over census area; asterisks indicate species observed between points along the route but not at actual survey points. No point count surveys were conducted in 1997-2001 or after 2003.

Species	1994	1995	1996	2002	2003
Canada goose	0	0	0*	0	0
Northern pintail	0	0	0*	0	0
Red-breasted merganser	0	0	0*	0	0
Red-necked phalarope	0	0	0*	0	0
Lesser sand-plover	0	0	0	1	0
Semipalmated plover	0	0	0	0	0*
Western sandpiper	0	0	0	1	0
Least sandpiper	0	0	0	0	1
Rock sandpiper	15	12	19	25	29
Murre spp.	0	0	0	0	0*
Least auklet	0	0	0	0*	0*
Parakeet auklet	0	0	0	0*	0
Black-legged kittiwake	0	0	0	3	0
Red-legged kittiwake	0	0	0	1	0
Kittiwake spp.	0	0	0*	~1550	0*
Pelagic cormorant	0	0	0	0	0*
Snowy owl	0	0	1	0	0*
Pacific wren	0	0	1	0	3
Lapland longspur	23	21	35	46	60
Snow bunting	4	1	6	5	15
Gray-crowned rosy-finch	10	13	9	16	17
Date	18 Jun	13 Jun	15 Jun	11 Jun	11 Jun
Survey design[a]	A	A	A	B	B

[a]A=5-minute counts, < and > 50m; B=8-minute counts, distance estimation to 400m.

Table 84. Mean numbers of birds detected on beach transect surveys along Village Cove, St. George Island, Alaska. Data represent species' presence but not necessarily absence in all years (dashes indicate species not recorded but whether individuals were present and not recorded or not present is unknown). No counts were conducted in 2004.

Species	2002	2003	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Wandering tattler	-	-	<1	-	-	-	-	-	-	-	-	0	0	0	0
Bar-tailed godwit	-	-	<1	-	-	-	-	-	-	-	-	<1	0	0	0
Ruddy turnstone	-	-	-	-	0	-	-	-	-	-	-	0	0	0	0
Rock sandpiper	<1	1	1	-	0	0	1	0	<1	0	0	6	11	3	2
Glaucous-winged gull	-	-	-	<1	-	-	-	-	-	-	-	-	0	0	0
Pacific wren	<1	2	2	2	2	3	3	0	0	0	0	1	1	3	0
Lapland longspur	2	1	1	1	1	1	1	2	<1	1	1	1	2	4	<1
Snow bunting	0	0	<1	0	0	0	0	0	<1	0	0	0	<1	0	0
Gray-crowned rosy-finch	8	9	6	4	4	7	8	6	7	2	3	5	8	9	4
n	5	5	5	5	3	4	5	5	5	5	5	5	5	5	5
First survey	3 Jun	12 Jun	10 Jun	10 Jun	11 Jun	18 Jun	16 Jun	18 Jun	13 Jun	10 Jun	12 Jun	10 Jun	10 Jun	10 Jun	12 Jun
Last survey	22 Jun	27 Jun	27 Jun	18 Jun	13 Jun	30 Jun	25 Jun	26 Jun	29 Jun	22 Jun	28 Jun	22 Jun	28 Jun	28 Jun	22 Jun

Table 85. Mean numbers of birds detected on beach transect surveys along Staraya Artil, St. George Island, Alaska. Data represent species' presence but not necessarily absence in all years (dashes indicate species not recorded but whether individuals were present and not recorded or not present is unknown). No counts were conducted in 2004.

Species	2002	2003	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Brant	-	-	<1	-	-	-	-	-	-	-	-	-	0	0	0
Mallard	-	-	-	-	<1	-	-	-	-	-	-	-	0	0	0
Semipalmated plover	-	1	-	-	-	-	-	-	-	-	-	1	0	0	0
Wandering tattler	-	-	-	-	<1	-	-	-	-	-	-	0	0	0	0
Wood sandpiper	-	-	-	1	-	-	-	-	-	-	-	0	0	0	0
Ruddy turnstone	-	-	-	-	0	-	<1	-	-	-	-	0	0	0	0
Rock sandpiper	2	2	1	1	<1	5	1	3	<1	1	2	4	2	2	<1
Long-toed stint	-	-	-	1	-	-	-	-	-	-	-	1	0	0	0
Red-necked stint	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	0
Least sandpiper	-	-	-	1	1	1	-	-	-	-	-	0	0	<1	0
Bank swallow	-	-	-	1	-	-	-	-	-	-	-	0	0	0	0
Pacific wren	0	1	2	<1	0	1	2	0	<1	1	1	2	2	2	<1
Lincoln's sparrow	-	-	-	<1	-	-	-	-	-	-	-	0	0	0	0
Lapland longspur	3	2	2	3	1	2	3	4	2	2	1	4	1	4	2
Snow bunting	0	1	0	<1	0	0	0	0	<1	0	0	0	0	0	0
Gray-crowned rosy-finch	1	0	2	1	4	2	3	4	3	2	1	1	<1	3	<1
n	5	5	5	5	3	4	5	5	5	5	5	5	5	5	5
First survey	3 Jun	18 Jun	10 Jun	10 Jun	11 Jun	18 Jun	16 Jun	18 Jun	13 Jun	10 Jun	12 Jun	10 Jun	10 Jun	10 Jun	13 Jun
Last survey	21 Jun	22 Jun	27 Jun	18 Jun	13 Jun	30 Jun	25 Jun	26 Jun	29 Jun	22 Jun	28 Jun	22 Jun	28 Jun	28 Jun	22 Jun

Table 86. Numbers of birds detected on beach transect surveys along Village Cove, St. George Island, Alaska in 2017.

Species	Date					Mean	SD
	12 Jun	13 Jun	16 Jun	21 Jun	22 Jun		
Rock sandpiper	1	1	4	1	4	2	1
Pacific wren	0	0	0	0	0	0	0
Lapland longspur	0	0	1	0	0	<1	<1
Snow bunting	0	0	0	0	0	0	0
Gray-crowned rosy-finch	6	2	3	3	7	4	2
Start time (AKDT)	0833	0818	0936	0907	0933	-	-
End time (AKDT)	0845	0830	0952	0919	0945	-	-

Table 87. Numbers of birds detected on beach transect surveys along Staraya Artil, St. George Island, Alaska in 2017.

Species	Date					Mean	SD
	13 Jun	14 Jun	15 Jun	16 Jun	22 Jun		
Rock sandpiper	0	0	0	1	1	<1	<1
Pacific wren	0	0	1	0	0	<1	<1
Lapland longspur	3	1	3	2	2	2	1
Snow bunting	0	0	0	0	0	0	0
Gray-crowned rosy-finch	1	0	0	0	1	<1	<1
Start time (AKDT)	0806	0940	0943	0922	0853	-	-
End time (AKDT)	0821	0955	0950	0929	0904	-	-

Table 88. Mean numbers of individuals found and encounter rates during COASST surveys along Staraya Artil Beach, St. George Island, Alaska. Mean number of individuals comprises the average number of new birds found per survey and does not include birds still present and re-encountered from previous surveys. Encounter rate is defined as the number of all birds (including both new individuals and re-encountered birds) found per km of beach surveyed (0.9 km for Staraya Artil Beach) divided by the number of surveys. Surveys were conducted in 2010-2017 but have not yet been summarized.

Species	2006		2007		2008		2009	
	Mean # ind.	Enc. rate	Mean # ind.	Enc. rate	Mean # ind.	Enc. rate	Mean # ind.	Enc. rate
Sandhill crane	0.2	0.6	-	-	-	-	-	-
Thick-billed murre	-	-	0.1	0.1	-	-	-	-
Crested auklet	-	-	-	-	0.1	0.1	-	-
Horned puffin	0.2	0.2	-	-	-	-	-	-
Unidentified alcid	0.2	0.2	-	-	0.1	0.2	-	-
Black-legged kittiwake	0.2	0.2	-	-	-	-	-	-
Northern fulmar	0.8	0.9	-	-	0.2	0.2	0.1	0.1
Unidentified bird	0.7	0.9	-	-	0.1	0.2	-	-
All species	2.2	3.0	0.1	0.1	0.6	0.6	0.1	0.1
n	6		9		14		15	
First survey	14 Jul		24 Feb		16 Jan		12 Jan	
Last survey	14 Nov		15 Dec		21 Dec		18 Dec	

Table 89. Mean numbers of individuals found and encounter rates during COASST surveys along Zapadni Beach, St. George Island, Alaska. Mean number of individuals comprises the average number of new birds found per survey and does not include birds still present and re-encountered from previous surveys. Encounter rate is defined as the number of all birds (including both new individuals and re-encountered birds) found per km of beach surveyed (0.9 km for Zapadni Beach) divided by the number of surveys. Surveys were conducted in 2010-2017 but have not yet been summarized.

Species	2006		2007		2008		2009	
	Mean # ind.	Enc. rate	Mean # ind.	Enc. rate	Mean # ind.	Enc. rate	Mean # ind.	Enc. rate
Common murre	-	-	0.1	0.1	0.1	0.2	-	-
Thick-billed murre	-	-	-	-	0.1	0.3	-	-
Crested auklet	-	-	-	-	0.1	0.1	-	-
Unidentified puffin	-	-	-	-	0.1	0.1	-	-
Unidentified alcid	-	-	0.1	0.1	0.4	0.5	-	-
Black-legged kittiwake	-	-	-	-	0.1	0.1	-	-
Northern fulmar	0.1	0.2	-	-	0.3	0.7	0.1	0.1
Short-tailed shearwater	0.3	0.5	-	-	-	-	-	-
Unidentified bird	0.1	0.2	-	-	0.1	0.3	-	-
All species	0.6	0.8	0.3	0.3	1.2	2.2	0.1	0.1
n	7		8		17		15	
First survey	15 Jul		24 Feb		10 Jan		12 Jan	
Last survey	15 Nov		16 Dec		21 Dec		18 Dec	

Annotated list of wildlife species observed at St. George Island, Alaska, in 2017 (19 May to 5 August).

Abundance categories were defined as follows:
- Abundant: annual, sure to see many
- Common: annual, sure to see some
- Uncommon: annual, likely to see some
- Rare: annual but not guaranteed to see any
- Irregular: not annual but numerous records
- Casual: not annual, only a few records
- Accidental: only one or two records ever

Status categories are defined as follows:
- Breeder: evidence breeding, either confirmed (observations of current nests, eggs, or chicks; adults carrying nesting materials or food to nests or chicks; recently fledged young; distraction displays) or probably (observations of pairs or territorial behavior)
- Resident non-breeder: occurs throughout season but does not breed at site
- Migrant: through-migrant, recorded regularly but only during migratory period
- Vagrant: recorded outside known breeding, wintering, and migrating range (category added in 2012)

BIRDS

Emperor goose (*Anser canagicus*). Rare migrant. One individual seen from 22 May-11 June usually on the dock in town. Another individual was seen on 5 September at Seal Lake.

Greater white-fronted goose (*Anser albifrons*). Irregular vagrant. Two adults were seen at Turtle Pond on 3 June.

Cackling goose (*Branta hutchinsii*). Rare vagrant. One individual was seen on Zapadni Ponds on 10 June.

Aleutian cackling goose (*Branta hutchinsii leucopareia*). Uncommon vagrant. Large groups were seen from May until mid-June. A high count of 52 was observed on 18 June. Two individuals were seen on the island from mid-June until the end of the season. They were usually at Seal Lake. No chicks or nesting attempts were observed.

Northern shoveler *(Spatula lypeata).* Irregular vagrant. Two to five adults were seen on ponds around the island from 19 May until 1 June.

Eurasian wigeon (*Mareca penelope).* Uncommon migrant. One to two individuals were seen a few times from 25 May until 10 June. A single female was seen on 5 September at Seal Lake.

American wigeon (*Mareca americana*). Irregular vagrant. Two adults were seen 22 May, and one to two adult males seen from 19-27 June on Govorushka Lake.

Mallard *(Anas platyrhynchos)*. Uncommon vagrant. One adult male was seen twice. The first sighting was 23 May at Govorushka Lake and the second sighting was at Atka Lake on 22 June.

Northern pintail (*Anas acuta*). Abundant migrant/breeder. Seen most days throughout the summer and across the island. Breeding confirmed (ducklings observed) on Upper, Seal, and Umanangula lakes. A high count of 21 was observed 2 September.

Eurasian green-winged teal (*Anas crecca crecca*). Abundant migrant/breeder. Seen throught the summer and across the island. Breeding confirmed (ducklings observed) on Upper, Govorushka, and Umanangula lakes.

Tufted duck (*Aythya fuligula*). Irregular vagrant. One male was seen at Govorushka Lake 25-29 May. A second male was seen on 11 August at Umanangula Lake.

Greater scaup *(Aythya marila)*. Common migrant. One to seven individuals were seen from 10 June until 20 July. A high count of seven was observed on 10 June.

King eider (*Somateria spectabilis*). Uncommon migrant/probable resident non-breeder. Seen frequently on island from 19 May until 5 September. Most individuals observed were non-breeding males seen at the dock in town or at the harbor. At least one female was seen. A high count of six individuals was observed on 19 July.

Common eider (*Somateria mollissima*). Uncommon vagrant. A lone male in breeding plumage was observed at the east village cliffs from 23-29 June.

Harlequin duck (*Histrionicus histrionicus*). Abundant resident non-breeder. Large groups of males and females were seen in the intertidal and offshore every day throughout the summer.

Surf scoter (*Melanitta perspicillata*). Accidental vagrant. Two individuals were seen in Village Cove on 3 June.

White-winged scoter (*Melanitta fusca).* Uncommon vagrant. From 25 May-22 July one to five adults were seen in Zapadni Bay, Village Cove, and Rosy Finch. A high count of five was seen 25 May. On 22 July an individual of the subspecies *sterengi* was observed in the harbor.

Long-tailed duck (*Clangula hyemalis*). Rare breeder. Up to five adults were seen on Umanangula Lake during the first half of the season. On 10 July a female was seen with five chicks at Umanangula. The female and chicks stayed on lake until the chicks were full grown and it is presumed that they fledged.

Bufflehead (*Bucephala albeola*). Rare migrant. Five adults were seen on 19 May in Zapadni Bay. A single male was seen on 25 May.

Common goldeneye (*Bucephala clangula*). Irregular migrant. An adult male was seen on Baby Lake and Govorushka Lake 23-27 May.

Red-breasted merganser (*Mergus serrator*). Irregular vagrant. Seen in a small group of one to three from 19-27 May.

Red-necked grebe (*Podiceps grisegena*). Common migrant. Seen regularly from 19 May-22 June usually in Zapadni Bay. A high count of six was observed on 20 June. Grebes started to return to the area in early September and were seen at Garden Cove.

Black oystercatcher (*Haematopus bachmani*). Casual vagrant. A single individual was seen 31 May in east village cove. This was the seventh record for the Pribilof Islands.

American golden-plover (*Pluvialis dominica*). Accidental vagrant. One individual was seen and heard near the Zapadni Ponds on 4 September.

Pacific golden-plover (*Pluvialis fulva*). Common migrant. Starting in late July groups were often seen near the road or on the tundra until departure in early September. On 28 August 37 individuals were observed.

Semipalmated plover (*Charadrius semipalmatus*). Common breeder. Birds were seen throughout the summer at various locations. Nests and chicks were observed.

Whimbrel (*Numenius phaeopus*). Uncommon migrant. One individual was seen near town 19-20 July.

Far Eastern curlew (*Numenius madagascariensis*). Accidental vagrant. One individual was observed 9 June at Bear Lake.

Bar-tailed godwit (*Limosa lapponica*). Common migrant. Adults seen early in the season from 20 May until 10 June. A high count of four adults was observed on 20 May.

Ruddy turnstone (*Arenaria interpres*). Abundant migrant. Two adults were seen 2 June in Village A. Groups were observed daily from 16 July until the end of the season. Large groups of 100+ birds roosted by the Wash House and throughout the island.

Ruff (*Calidris pugnax*). Irregular vagrant. Four observations, starting on 12 August with the last observation on 1 September. These birds were seen at Govorushka and Umanangula lakes and Turtle Pond. Most observations were juvenile birds.

Sharp-tailed sandpiper (*Calidris acuminate*). Common migrant. Fairly common starting in mid- August until departure in September. There were eight observations, with a high count of three individuals on 5 September.

Red-necked stint (*Calidris ruficollis*). Irregular vagrant. Individual adults were observed in early May with high counts of two on 24 and 25 May. Later in the season (14 August-4 September) most individuals observed were juveniles.

Sanderling (*Calidris alba*). Irregular vagrant. Five individuals were seen on the beach just east of the harbor on 24 August.

Dunlin (*Calidris alpine*). Irregular vagrant. One adult was seen at a Zapadni Ponds on 25 May. Another adult was seen near Umanangula Lake 14-20 June.

Pribilof rock sandpiper (*Calidris ptilocnemis ptilocnemis*). Abundant breeder. Many individuals were seen daily, island-wide. Adults were nesting upon arrival in May.

Baird's sandpiper (*Calidris bairdii*). Accidental vagrant. One juvenile was flushed from a puddle on the road to Staraya on 11 August.

Little stint (*Calidris minuta*). Accidental vagrant. One juvenile was seen on 16 August at Govorushka Lake.

Least sandpiper (*Calidris minutilla*). Common breeder. Individuals were observed throughout the season. A high count of three was observed on multiple days. Small chicks were seen in the marshlands between the harbor and Red Bluffs.

Buff-breasted sandpiper (*Calidris subruficollis*). Casual vagrant. One individual was seen at Turtle Pond on 22 August.

Pectoral sandpiper*(Calidris melanotos)*. Rare migrant. One individual was seen on 2 June. Sightings became much more common in August with a high count of five individuals on 20 August.

Semipalmated sandpiper (*Calidris pusilla*). Uncommon vagrant. Two individuals were observed on the Zapadni Ponds on 20 June.

Western sandpiper (*Calidris mauri*). Common migrant. Individuals were seen in low numbers from 2-10 June. Up to 36 individuals were seen foraging at Govorushka Lake throughout August and into September.

Short-billed dowitcher (*Limnodromus griseus*). Accidental vagrant. One individual was seen on 10 June at the Zapadni Ponds.

Long-billed dowitcher *(Limnodromus scolopaceus)*. Rare migrant. One to three adults were observed mid-August through early September. A high count of three was seen at the Zapadni Ponds.

Common snipe (*Gallinago gallinago*). Accidental vagrant. Two separate individuals were seen 29 May and 10 June adjacent to Upper Lake.

Terek sandpiper (*Xenus cinereus*). Casual vagrant. On 22 June two individuals were recorded on island. One was seen at Tolstoi beach and the other at Staraya Lake. The individual at Staraya was seen regularly until 24 July.

Gray-tailed tattler (*Heteroscelus brevipes*). Uncommon vagrant. One individual was seen on 25 May. Starting in mid-August sighting became much more common with observations occurring most days. A high count of four individuals was made on both 22 and 24 August.

Wandering tattler (*Tringa incana*). Common migrant. First seen 3 June. Frequently seen in small numbers starting in July with a high count of six on 16 August.

Common greenshank (*Tringa nebularia*). Rare vagrant. One adult was seen at a small pond near town on both 23 and 24 May.

Wood sandpiper (*Tringa glareola*). Irregular migrant. Adults were seen sporadically during the season. Two adults were seen at Govorushka Lake on 27 May and 24 June. There were a few other observations of lone individuals in late August and early September.

Red-necked phalarope (*Phalaropus lobatus*). Common breeder. Adults were seen frequently throughout the summer. Fledglings were observed in August.

Red phalarope (*Phalaropus fulicarius*). Abundant migrant. Adults were seen infrequently from May to July but large foraging flocks of up to 80 individuals were seen in August, primarily in Zapadni Bay.

Pomarine jaeger (*Stercorarius pomarinus*). Rare migrant. One individual was seen just offshore from the village on 12 August.

Parasitic jaeger (*Stercorarius parasiticus*). Uncommon migrant. A handful of individuals, both light and dark morphs, were seen throughout the season.

Long-tailed jaeger (*Stercorarius longicaudus*). Uncommon migrant. Seen sporadically, especially early in the season. Two adults were first seen on 13 June in the marshlands near the harbor and they were observed for the following two weeks.

Common murre (*Uria aalge*). Very abundant breeder. Nests on cliffs along the perimeter of the island in smaller numbers than thick-billed murres.

Thick-billed murre (*Uria lomvia*). Very abundant breeder. Nests on cliffs along the perimeter of the island. In the past five years, birds at Zapadni bred slightly earlier than those in other areas of the island and birds at Red Bluffs bred slightly later.

Pigeon guillemot (*Cepphus columba*). Casual vagrant. Single individuals were observed on 2 July and 11 August.

Marbled murrelet (*Brachyramphus marmoratus*). Accidental vagrant. One adult was seen offshore of the harbor on 19 and 20 July. On 1 August one individual was observed inside of the harbor.

Ancient murrelet (*Synthliboramphus antiquus*). Irregular migrant. Sightings of small groups were made in May and June with a high count of thirty-five on 25 May in Zapadni Bay.

Cassin's auklet (*Ptychoramphus aleuticus*). Casual vagrant. One individual was seen in East Village foraging just offshore 17 June.

Parakeet auklet (*Aethia psittacula*). Abundant breeder. Nests in rocky crevices on the perimeter of the island. Regular sightings ended on 26 August.

Least auklet (*Aethia pusilla*). Abundant breeder. Nests throughout the island in rocky crevices. Highest concentrations are Ulakaia Ridge and the harbor. Local residents commented that numbers seemed low, flocks flying to the colony were smaller than they remember, and they departed a couple of weeks early. Least auklets were not seen in the colony or in large numbers after 30 July.

Crested auklet (*Aethia cristatella*). Common breeder. Nest in rocky crevices on the perimeter of the island.

Rhinoceros auklet (*Cerorhinca monocerata*). Casual vagrant. One adult seen 3 June in East Village Cove.

Horned puffin (*Fratercula corniculata*). Common breeder. Nest in rocky crevices along the perimeter of the island.

Tufted puffin (*Fratercula cirrhata*). Common breeder. Nest in rocky crevices along the perimeter of the island.

Black-legged kittiwake (*Rissa tridactyla*). Abundant breeder. Nest along the island perimeter on rock ledges. One of the most abundant breeding birds on the island. Black-legged kittiwakes nesting in the village area had higher productivity than birds nesting in other areas of the island.

Red-legged kittiwake (*Rissa brevirostris*). Abundant breeder. Nest along the island perimeter on rock ledges. One of the most abundant breeding birds on the island.

Sabine's gull (*Xema sabini*). Casual migrant. One adult was observed in Zapadni Bay on 22 May.

Black-headed gull (*Larus ridibundus*). Rare vagrant. One to two individuals were seen 1-10 June at the dock in town or at Seal Lake.

Herring gull (*Larus argentatus*). Casual vagrant. One sub-adult was seen on 20 June in the Harbor and a second sub-adult was seen on the beach at Garden Cove on 22 August.

Slaty-backed gull (*Larus schistisagus*). Irregular migrant. One sub-adult was seen at Garden Cove on 26 May. There were a handful of other sightings of adult birds with the last one occurring on 29 August. Adults were often seen with large groups of glaucous-winged gulls near fur seal rookeries.

Glaucous-winged gull (*Larus glaucescens*). Common resident/probable breeder. Up to 79 individuals were seen every day throughout the season. Larger numbers likely did occur but were not counted.

Glaucous gull (*Larus hyperboreus*). Uncommon resident. At least one individual was seen early in the season 26 May-20 June.

Pacific loon *(Gavia pacifica)*. Casual vagrant. One adult was observed on 29 May on the north side of the island.

Common loon *(Gavia immer)*. Irregular vagrant. One adult was observed on 10 June on the western edge of the Staraya Artil rookery.

Yellow-billed loon *(Gavia adamsii)*. Casual vagrant. One adult seen from the Tolstoi cliffs on 11 July.

Laysan albatross *(Phoebastria immutabilis)*. Accidental migrant. A species probably overlooked and only visible from the south shore on strong winds. Two adults were seen 26 May from Garden Cove. Three were seen from Cascade Point on 22 August.

Northern fulmar (*Fulmarus glacialis*). Abundant breeder. Seen throughout the summer on rocky cliffs, and flying offshore. Carcasses of several individuals (mostly dark phase), were observed on Zapadni Beach from 2-5 August. A small number of representative sampels were collected and shipped to the U.S. geological Survey, National Wildlife Health Center for analysis.

Mottled petrel *(Pterodroma inexpectata)*. Accidental migrant. One individual was observed from Cascade Point on 22 August.

Short-tailed shearwater (*Puffinus tenuirostris*). Uncommon migrant. Usually visible from shore on days with strong winds. Individuals were observed throughout the season with a high count of 1700 on 22 August.

Fork-tailed storm-petrel (*Oceanodroma furcata*). Accidental migrant. One individual was seen foraging fairly close to shore from Cascade Point 18 July.

Double-crested cormorant (*Phalacrocorax auritus).* Irregular vagrant. One adult was observed in Zapadni Bay on 22 June, and another (possibly the same individual) was observed in the harbor on 28 July.

Red-faced cormorant (*Phalacrocorax urile*). Abundant breeder. Breeding adults nested in modest numbers around Village East, Zapadni, Tolstoi, Rosy Finch, and Garden Cove.

Pelagic cormorant (*Phalacrocorax pelagicus*). Common migrant/resident. Adults seen sporadically throughout the season with a high count of four on 6 July.

Bald eagle *(Haliaeetus leucocephalus).* Irregular vagrant. Seen infrequently flying or perched near the airport or the Tolstoi rookery. An adult and an immature were seen on the island but were never observed together.

Short-eared owl *(Asio flammeus)*. Casual vagrant. Individual was seen flying low over the field just east of Upper Lake on 13 June.

Peregrine falcon *(Falco peregrinus).* Uncommon migrant. One adult was seen irregularly during the season usually at High Bluffs or at Zapadni Cliffs where depredated carcasses of murres and puffins were found.

Eastern kingbird *(Tyrannus tyrannus)*. Accidental vagrant. One seen at Karin's Pond on 10 June. There was another sighting of an eastern kingbird in July by a resident that was most likely the same bird. This was the first record for eastern kingbird on St. George.

Common raven (*Corvus corax*). Uncommon migrant. Two adults were seen on an irregular basis at High Bluffs early in the season and across the island later in the season. On 28 August a high count of three ravens was observed.

Bank swallow (*Riparia riparia*). Rare vagrant. Two individuals were seen at Upper Lake on 31 May.

Barn swallow (*Hirundo rustica).* Common vagrant. One individual was seen at Upper Lake 4-10 July. This individual was likely a North American subspecies.

Common house-martin (*Delichon urbicum).* Accidental vagrant. One bird seen on two occasions in Garden Cove on 31 August and 2 September. This was the first record for this species on St. George.

Pacific wren (*Troglodytes pacificus*). Abundant breeder. Seen most days during the season but appeared to be in lower numbers than years past. Some fledglings were observed.

Arctic warbler (*Phylloscopus borealis).* Casual vagrant. Seen on two occasions during the season. One adult was seen 12 June at Staraya Lake and the second was seen at the airport quarry 27 August.

Gray-streaked flycatcher (*Muscicapa griseisticta).* Accidental vagrant. One individual seen 22-24 May at the quarry east of town.

Northern wheatear (*Oenanthe oenanthe*). Irregular migrant. Seen from 18-27 August with a high count of 12 on 26 August. Individuals were usually seen near roads or rock outcroppings.

Gray-cheeked thrush (*Catharus minimus*). Irregular vagrant. One individual was seen at Karin's Pond on 31 August and 1 September.

Hermit thrush (*Catharus guttatus*). Casual vagrant. One individual was observed near the East Village Cliffs on 5 September.

Eyebrowed thrush (*Turdus obscurus*). Casual vagrant. One individual was heard at the dump on 24 May and five individuals were observed on 26 May at Garden Cove.

Eastern yellow wagtail (*Motacilla tschutschensis*). Casual migrant. There were three sightings in 2017. The first sighting was on 26 May at Garden Cove. No other birds were seen until August when a high count of two was made on 22 August.

Gray wagtail (*Motacilla cinerea*). Accidental vagrant. Two individuals were seen on 24 May at Staraya Lake, one individual was an adult male in breeding plumage.

White wagtail (*Motacilla alba*). Accidental vagrant. One adult was seen at the dump quarry on 4 September. Individual was of the subspecies *ocularis*.

Olive-backed pipit (*Anthus hodgsoni*). Casual vagrant. A small flock of six individuals was encountered in Garden Cove on 26 May.

Red-thoated pipit (*Anthus cervinus*). Accidental vagrant. There were two sight records during the 2017 season. One record was at Umanangula Lake on 22 August. The high count for the season was a record of two observed on 4 September.

American pipit (*Anthus rubescens*). Common migrant. Seen early in the season and then much more common starting in August. It is likely that a pair bred on the island given a probable fledgling was observed midway through the season. A high count of two occured on 22 August.

Brambling (*Fringilla montifringilla*). Irregular vagrant. A flock of 11 individuals was observed at Garden Cove on 26 May. Other sightings consisted of an adult male that foraged near the crab pots in the harbor starting 24 July until at least 11 August.

Hawfinch (*Coccothraustes coccothraustes*). Casual vagrant. One individual was observed on 24 May in town. This bird was first observed by island resident Michael Chercasen. Two individuals were seen on 26 May at Garden Cove. A flock of 14 individuals was photographed the next day at Garden Cove by Nat Drumheller. A rare late season sighting of an individual occurred on 31 August at Garden Cove.

Gray-crowned rosy-finch (*Leucosticte tephrocotis*). Abundant breeder. Many individuals were seen daily throughout the season and across the island. A high count of 187 individuals was made at the airport quarry on 12 August.

Common redpoll *(Acanthis flammea)*. Rare migrant. Small flocks were seen starting in August. A high count of 18 was observed at the harbor on 28 August.

Hoary redpoll *(Acanthis hornemanni)*. Rare migrant. At least one individual was observed on 10 June.

Lapland longspur (*Calcarius lapponicus*). Abundant breeder. Common on the tundra and roadsides across the island.

Snow bunting (*Plectrophenax nivalis*). Abundant breeder. Commonly found on rocky, and upland tundra areas of the island, as well as on roadsides.

McKay's bunting (*Plectrophenax hyperboreus*). Casual migrant. One adult male was seen and photographed along the road on 12 August.

Savannah sparrow (*Passerculus sandwichensis*). Irregular migrant. There were three sightings of a lone individual on 10 and 15 June as well as a fall migrant on 4 September.

Fox sparrow (*Passerella iliaca*). Irregular migrant. A fall migrant that was sighted starting 27 August and seen most days until depature 5 September. A high count of five was observed on 4 September.

Lincoln's sparrow (*Melospiza lincolnii*). Accidental vagrant. A fall migrant found at Karin's Pond on 22 August.

White-crowned sparrow (*Zonotrichia leucophrys*). Irregular migrant. One juvenile seen at the scrapyard on 4 September and at Upper Lake on 5 September.

Golden-crowned sparrow (*Zonotrichia atricapilla*). Irregular migrant. The first sighting occurred on 16 August in town. Sightings were uncommon from then until the end of the season. A high count of seven individuals was made on 31 August.

Brewer's blackbird (*Euphagus cyanocephalus*). Accidental vagrant. A record first sighting for the island and the Pribilofs. One individual was seen for most of the season at the harbor crab pots from 10 July-4 September.

Northern waterthrush (*Parkesia noveboracensis*). Accidental vagrant. First record for this species on St. George. One individual was observed in Garden Cove on 31 August.

Orange-crowned warbler (*Oreothlypis celata*). Casual vagrant. Two individuals were seen on 31 August and a high count of four was observed on 2 September. Both sightings were at Garden Cove.

Yellow warbler (*Setophaga petechia*). Casual vagrant. One individual was seen on 31 August and a high count of three was observed on 2 September. Both sightings were at Garden Cove.

Wilson's warbler (*Cardellina pusilla*). Casual migrant. There were eight sight records of this species in 2017. The first record was on 20 August and individuals were uncommon until the end of the season. A high count of six was observed on 29 August.

MAMMALS

Nearctic brown lemming *(Lemmus trimucronatus)*. Common breeder. A few individuals were seen throughout the island especially in August and September.

Arctic fox (*Vulpes lagopus*). Abundant breeder. Individuals were observed across the island, but most frequently in the vicinity of seabird breeding areas. Predation on seabird eggs, and adults by this species was observed frequently.

Northern fur seal (*Callorhinus ursinus*). Abundant breeder. Large rookeries are established near the coasts.

Steller sea lion *(Eumetopias jubatus).* Common non-breeder. Infrequently seen offshore of Village Cove, High Bluffs, and Zapadni Bay. Small haul-outs were observed at Tolstoi beach.

Harbor seal (*Phoca vitulina*). Common non-breeder. Regularly seen in the waters of Village Cove and Staraya Artil. A small haul-out of 10 individuals was observed at Garden Cove.

Reindeer (Rangifer tarandus). Abundant breeder. Regularly seen across the island, though more common on the south and west sides.

Minke whale (*Balaenoptera acutorostrata*). Casual migrant. One individual was observed in Zapadni Bay on 14 July.

Fin whale (*Balaenoptera physalus*). Casual migrant. Two were observed from the north shore of the island on 9 August. During clear weather blows consistent with fin whales were observed on several other occasions.

Orca *(Orcinus orca)*. Rare migrant. Small pods of three to six individuals were seen during the season. They were first noted on 25 May with the last sighting on 18 August. All sightings were from the north shore of the island.

Table 90. Observations and breeding status of birds and selected mammals at St. George Island, Alaska. Data represent observations made during the monitoring season only (see dates at end of table) and may not include sightings made by other researchers or community members on the island. Information comes from annotated lists, which were not included in reports prior to 2002, although incidental observations of wildlife were undoubtedly made 1975-2001. Dashes indicate species not recorded that year but may not necessarily indicate absence from the island during the time period (e.g., species not observed although present, or species not recorded although observed).

Codes: B=confirmed breeder, P=probable/possible breeder, X=observed non-breeder
X/B?=bred in other years but not specified in current year

Species	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Emperor goose	X	X	-	X	X	X	-	X	-	-	X	X	X	-	-	X
Snow goose	-	-	-	-	-	-	-	-	-	X	X	-	X	X	X	-
Greater white-fronted goose	X	-	X	X	-	-	X	X	-	X	X	X	-	-	X	X
Taiga bean-goose	-	-	-	-	X	-	X	-	-	-	-	-	X	-	-	-
Brant	-	-	X	X	X	-	X	X	-	X	X	X	-	X	X	-
Cackling goose	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	X
Aleutian cackling goose	X	X	X	X	-	-	X	X	X	X	X	-	-	X	X	X
Trumpeter swan	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-
Tundra swan	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-
Whooper swan	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Garganey	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-
Blue-winged teal	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-
Northern shoveler	X	X	X	X	-	-	X	X	X	X	-	-	-	X	X	X
Gadwall	X	-	-	-	-	-	-	-	-	X	X	-	-	-	-	-
Eurasian wigeon	X	X	X	X	X	X	X	X	X	X	X	X	-	X	X	X
American wigeon	X	X	X	X	-		X		-	X	X	X	-	-	X	X
Mallard	X	X	X	-	-	X	X	X	-	X	X	X	X	X	X	X
Northern pintail	B	P	P	X/B?	-	-	X/B?	X/B?	X	X	X	X	B	B	B	B
Eurasian green-winged teal (*A. c.crecca*)	X	-	-	X	X	-	X	X	-	X	X	X	X	B	B	B
Aleutian green-winged teal (*A. c.nimia*)	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-
American green-winged teal (*A. c.carolinensis*)	-	X	X	-	-	-	-	-	-	X	X	B	-	X	P	-
Green-winged teal (unspecified subsp.)	-	-	X	-	-	-	X	X	X	X	X	X	X	X	B	B
Ring-necked duck	-	X	-	-	-	-	X	-	-	-	-	-	-	-	-	-
Tufted duck	-	-	X	-	X	-	-	-	-	-	X	-	-	-	-	X
Greater scaup	X	X	X	X	X	-	X	X	-	X	X	X	-	X	X	X
Lesser scaup	-	-	X	-	-	-	-	-	-	X	-	-	-	-	X	-
Steller's eider	X	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-
Spectacled eider	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-
King eider	X	-	X	X	-	-	-	X	-	X	X	-	X	-	X	X
Common eider	-	-	-	-	-	-	-	X	X	-	-	-	X	-	-	X
Harlequin duck	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Surf scoter	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X
White-winged scoter	X	X	X	-	-	-	X	X	-	X	X	X	-	X	X	X
American (formerly black) scoter	-	-	-	-	X	-	-	X	-	X	X	-	-	-	X	-
Long-tailed duck	X	-	-	-	-	-	X	X	-	P	X	X	B	-	X	B
Bufflehead	X	X	X	-	-	-	X	X	-	X	X	X	X	X	X	X
Common goldeneye	X	-	X	-	-	-	-	X	-	X	X	X	-	X	-	X
Barrow's goldeneye	-	X	X	-	-	-	-	-	-	-	-	X	-	-	-	-

Table 90 (continued). Observations and breeding status of birds and selected mammals at St. George Island, Alaska. Data represent observations made during the monitoring season only (see dates at end of table) and may not include sightings made by other researchers or community members on the island. Information comes from annotated lists, which were not included in reports prior to 2002, although incidental observations of wildlife were undoubtedly made 1975-2001. Dashes indicate species not recorded that year but may not necessarily indicate absence from the island during the time period (e.g., species not observed although present, or species not recorded although observed).

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Species	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Smew	-	-	-	-	-	-	-	-	-	X	-	-	-	-	X	-
Common merganser	-	-	-	-	-	-	-	-	-	-	-	-	X	-	X	-
Red-breasted merganser	X	-	-	X	-	-	X	X	-	X	-	X	X	X	X	X
Horned grebe	-	-	-	-	-	-	X	-	-	X	X	-	-	-	X	-
Red-necked grebe	X	X	X	X	-	-	X	X	-	X	X	X	-	X	X	X
Common cuckoo	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
Cuckoo (*Cuculus*) sp.	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-
Sandhill crane	-	X	X	X	X	-	X	-	-	-	-	X	-	-	X	-
Black oyster catcher	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X
American golden-plover	X	-	-	X	-	-	-	-	-	-	X	X	-	-	-	X
Pacific golden-plover	X	X	X	X	-	X	X	X	X	X	X	X	X	X	X	X
Lesser sand-(Mongolian) plover	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Semipalmated plover	X/B?	X/B?	B	B	-	-	B	B	B	B	B	X/B?	B	X/B?	B	B
Bristle-thighed curlew	-	-	-	-	-	-	-	-	-	-	-	X	-	-	X	-
Whimbrel	-	-	X	-	X	-	-	X	-	X	X	X	X	-	X	X
Far Eastern curlew	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X
Bar-tailed godwit	X	-	X	X	-	X	-	-	X	X	X	-	X	-	X	X
Black-tailed godwit	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-
Ruddy turnstone	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Ruff	X	X	X	-	-	X	X	X	-	-	-	-	-	-	X	X
Sharp-tailed sandpiper	X	X	X	-	-	-	X	X	-	X	-	X	-	-	X	X
Stilt sandpiper	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Long-toed stint	X	-	-	-	X	-	-	X	-	-	-	-	X	-	X	-
Red-necked stint	X	-	X	-	-	-	-	-	-	X	X	-	X	-	X	X
Sanderling	X	-	-	-	-	-	-	X	X	-	X	-	-	-	-	X
Dunlin	X	-	X	X	-	-	X	-	-	X	-	X	-	-	X	X
Pribilof rock sandpiper (*C.p.ptilocnemis)*	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Aleutian rock sandpiper (*C. p.couesi)*	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Baird's sandpiper	X	-	-	-	-	X	-	-	-	-	-	-	-	-	X	X
Little stint	X	-	-	-	-	-	-	-	X	-	-	-	-	-	X	X
Least sandpiper	B	B	P	X/B?	X/B?	X/B?	X/B?	X/B?	X	P	P	P	X	-	B	B
Buff-breasted sandpiper	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X
Pectoral sandpiper	X	X	-	-	X	X	X	X	X	X	X	X	X	X	X	X
Semipalmated sandpiper	X	X	-	-	-	-	-	X	-	X	-	-	X	-	X	X
Western sandpiper	X	X	X	X	-	X	X	X	X	X	X	-	X	X	X	X
Short-billed dowitcher	-	-	-	-	-	-	X	-	-	X	-	-	-	-	X	X
Long-billed dowitcher	X	X	-	X	-	-	-	-	X	X	X	-	X	X	X	X
Common snipe	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X
Wilson's snipe	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 90 (continued). Observations and breeding status of birds and selected mammals at St. George Island, Alaska. Data represent observations made during the monitoring season only (see dates at end of table) and may not include sightings made by other researchers or community members on the island. Information comes from annotated lists, which were not included in reports prior to 2002, although incidental observations of wildlife were undoubtedly made 1975-2001. Dashes indicate species not recorded that year but may not necessarily indicate absence from the island during the time period (e.g., species not observed although present, or species not recorded although observed).

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X/B?=bred in other years but not specified in current year

Species	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Snipe sp.	-	-	-	-	-	-	-	-	-	X	-	-	-	-	X	-
Terek sandpiper	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X
Common sandpiper	-	X	X	-	-	-	-	-	-	X	-	-	-	-	-	-
Spotted sandpiper	-	-	X	-	-	-	-	-	-	X	-	-	-	-	-	-
Solitary sandpiper	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-
Gray-tailed tattler	X	X	X	X	X	X	X	X	-	X	X	-	-	X	X	X
Wandering tattler	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Lesser yellowlegs	X	-	-	-	-	-	-	-	-	X	X	-	-	-	-	-
Common greenshank	-	X	X	X	X	-	-	X	-	-	-	-	-	-	X	X
Greater yellowlegs	-	-	-	-	-	-	X	-	-	X	-	-	-	-	X	-
Wood sandpiper	-	-	X	-	-	-	-	-	-	X	-	-	-	-	X	X
Red-necked phalarope	X	X	X	X	-	X	-	X	-	X	X	X	P	P	B	B
Red phalarope	X	X	X	X	-	-	X	X	X	X	X	X	X	X	X	X
Pomarine jaeger	X	-	-	-	-	-	-	X	-	-	-	-	-	-	-	X
Parasitic jaeger	X	-	-	P	-	-	-	X	-	X	X	X	X	X	X	X
Long-tailed jaeger	X	X	-	X	-	-	X	X	X	X	X	X	X	X	-	X
Dovekie	-	-	-	X	-	X	X	X	X	-	-	-	-	X	X	-
Common murre	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Thick-billed murre	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Black guillemot	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-
Pigeon guillemot	-	-	X	X	-	-	-	-	-	-	X	-	-	X	X	X
Marbled murrelet	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X
Ancient murrelet	-	X	X	-	-	-	-	-	X	X	X	X	X	-	X	X
Cassin's auklet	-	-	X	-	-	-	-	-	-	-	-	X	-	-	X	X
Parakeet auklet	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Least auklet	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Whiskered auklet	-	-	-	-	-	-	-	-	-	-	-	-	X	X	-	-
Crested auklet	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Rhinoceros auklet	-	-	X	X	-	-	-	-	-	-	-	-	-	-	X	X
Horned puffin	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Tufted puffin	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Black-legged kittiwake	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Red-legged kittiwake	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Bonaparte's gull	-	-	-	-	-	-	-	-	-	X	X	-	-	-	-	-
Sabine's gull	-	X	-		-	X		X	-	-	X	-	-	-	X	X
Black-headed gull	-	X	-	X	-	-	X	X	-	X	-	-	-	X	X	X
Herring gull	-	-	-	-	-	-	X	X	-	X	-	-	-	-	X	X
Slaty-backed gull	X	X	-	X	-	-	-	X	-	-	X	X	X	X	X	X
Glaucous-winged gull	B	B	X	X	X	X	X	B	X	X	B	X	B	B	X/B?	X/B?

Table 90 (continued). Observations and breeding status of birds and selected mammals at St. George Island, Alaska. Data represent observations made during the monitoring season only (see dates at end of table) and may not include sightings made by other researchers or community members on the island. Information comes from annotated lists, which were not included in reports prior to 2002, although incidental observations of wildlife were undoubtedly made 1975-2001. Dashes indicate species not recorded that year but may not necessarily indicate absence from the island during the time period (e.g., species not observed although present, or species not recorded although observed).

Codes: B=confirmed breeder, P=probable/possible breeder, X=observed non-breeder
X/B?=bred in other years but not specified in current year

Species	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Glaucous gull	X	X	-	X	-	X	X	X	-	X	X	X	X	X	X	X
White-winged tern	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-
Arctic tern	X	-	-	-	-	-	-	-	-	X	X	X	X	-	X	-
Tern (*Sterna*) sp.	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Red-throated loon	-	-	-	-	-	-	-	-	-	-	-	-	X	X	X	-
Pacific loon	X	-	-	X	-	-	-	-	-	-	X	X	X	X	X	X
Common loon	-	-	X	-	-	-	-	-	-	X	X	-	-	-	-	X
Yellow-billed loon	-	-	-	X	-	-	-	-	-	-	X	-	-	-	-	X
Laysan albatross	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X
Northern fulmar	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Mottled petrel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X
Short-tailed shearwater	X	-	X	X	-	-	-	X	-	X	X	-	-	X	X	X
Fork-tailed storm-petrel	-	X	-	-	-	-	-	-	-	X	-	-	-	-	-	X
Storm-petrel (*Oceanodroma* sp.)	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-
Double-crested cormorant	-	-	X	-	-	-	-	X	-	X	X	-	-	X	X	X
Red-faced cormorant	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Pelagic cormorant	X	X	X	B	-	-	X	X	-	X	X	X	X	-	X	X
Black-crowned night-heron	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
Bald eagle	X	-	-	-	-	-	X	X	X	X	X	X	X	X	X	X
Rough-legged hawk	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Snowy owl	X	X	X	X	X	X	X	-	-	-	-	-	-	-	X	-
Short-eared owl	-	-	-	-	X	-	X	X	-	-	-	-	-	-	-	X
Belted kingfisher	X	-	X	X	-	-	-	-	-	-	-	-	-	-	-	-
Gyrfalcon	-	-	X	-	-	-	-	-	-	-	-	-	X	-	-	-
Peregrine falcon	X	X	X	-	-	-	X	X	X	X	X	X	X	-	-	X
Eastern kingbird	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X
Common raven	P	P	P	X	X	P	X	X	X	P	P	X	X	X	X	X
Tree swallow	-	-	-	-	-	X	-	-	-	X	-	-	-	-	-	-
Bank swallow	X	X	X	X	X	-	X	X	X	X	X	X	-	X	X	X
Cliff swallow	-	X	-	X	-	-	X	X	-	-	X	-	-	-	-	-
Barn swallow	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	X
Common house-martin	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X
Pacific (formerly winter) wren	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Arctic warbler	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X
Gray-streaked flycatcher	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X
Siberian rubythroat	-	-	X	-	-	-	-	-	-	-	-	-	-	-	X	-
Northern wheatear	-	-	-	-	-	-	-	-	-	X	X	-	-	-	X	X
Gray-cheeked thrush	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X
Hermit thrush	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X

Table 90 (continued). Observations and breeding status of birds and selected mammals at St. George Island, Alaska. Data represent observations made during the monitoring season only (see dates at end of table) and may not include sightings made by other researchers or community members on the island. Information comes from annotated lists, which were not included in reports prior to 2002, although incidental observations of wildlife were undoubtedly made 1975-2001. Dashes indicate species not recorded that year but may not necessarily indicate absence from the island during the time period (e.g., species not observed although present or species not recorded although observed).

Codes: B=confirmed breeder, P=probable/possible breeder, X=observed non-breeder
X/B?=bred in other years but not specified in current year

Species	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Eyebrowed thrush	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X
Easern yellow wagtail	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X
Gray wagtail	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X
White wagtail	-	-	X	-	-	-	-	-	-	-	-	-	-	-	X	X
Wagtail sp.	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
Olive-backed pipit	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X
Red-throated pipit	-	X	-	-	-	-	-	-	-	-	-	-	-	-	X	X
American pipit	X	X	X	-	X	-	-	X	-	X	X	X	X	-	X	X
Brambling	-	X	X	-	-	-	-	-	-	-	-	-	-	-	-	X
Hawfinch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X
Pine grosbeak	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-
Gray-crowned rosy-finch	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Red crossbill	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-
White-winged crossbill	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-
Common redpoll	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X
Hoary redpoll	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X
Pine siskin	-	-	-	-	-	-	-	-	-	X	-	-	-	X	-	-
Lapland longspur	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Snow bunting	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
McKay's bunting	-	-	-	-	-	-	-	X	-	X	-	-	X	-	-	X
Rustic bunting	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-
Savannah sparrow	X	X	X	-	-	-	-	-	-	-	-	-	-	-	-	X
Fox sparrow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X
Lincoln's sparrow	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	X
White-crowned sparrow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X
Golden-crowned sparrow	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	X
Slate-colored dark-eyed junco	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
Brewer's blackbird	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X
Northern waterthrush	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X
Orange-crowned warbler	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X
Yellow warbler	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	X
Yellow-rumped warbler	-	-	X	-	-	-	-	-	-	-	-	-	-	-	X	-
Wilson's warbler	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X
Nearctic brown lemming	NR[a]	NR	NR	NR	NR	NR	NR	NR	B	B	B	B	B	B	B	B
Arctic fox	NR	NR	NR	NR	NR	NR	NR	NR	B	B	B	B	B	B	B	B
Sea otter	NR	NR	-	-	-	X	NR	NR	-	-	X	-	X	X	-	-
Northern fur seal	NR	NR	NR	B	B	B	NR	NR	B	B	B	B	B	B	B	B
Steller sea lion	NR	NR	X	X	X	X	NR	NR	X	X	X	X	X	X	X	X

Table 90 (continued). Observations and breeding status of birds and selected mammals at St. George Island, Alaska. Data represent observations made during the monitoring season only (see dates at end of table) and may not include sightings made by other researchers or community members on the island. Information comes from annotated lists, which were not included in reports prior to 2002, although incidental observations of wildlife were undoubtedly made 1975-2001. Dashes indicate species not recorded that year but may not necessarily indicate absence from the island during the time period (e.g., species not observed although present or species not recorded although observed).

Codes: B=confirmed breeder, P=probable/possible breeder, X=observed non-breeder
X/B?=bred in other years but not specified in current year

Species	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Harbor seal	NR	NR	-	X	-	-	NR	NR	P	X	X	X	X	X	X	X
Reindeer	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Minke whale	NR	NR	X	-	X	-	NR	NR	-	-	-	-	-	-	X	X
Fin whale	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X
Humpback whale	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	-	-	X	-
Orca	NR	NR	X	X	-	X	NR	NR	-	X	-	-	X	X	X	X
Observation dates	2 May-26 Aug	14 May-1 Sep	12 May-5 Sep	12 May-15 Sep	18 May-16 Sep	17 May-11 Sep	10 May-9 Sep	16 May-8 Sep	15 May-2 Sep	21 May-9 Sep	20 May-31 Aug	19 May-27 Aug	24 May-30 Aug	15 May-6 Sept	16 May-31 Aug	19 May-5 Sep

[a]Mammals not recorded (NR) in all years.

Table 91. First flowering dates of plants identified on St. George Island, Alaska. Data represent the day a fully-opened flower was first observed on the island each year. Dates may be poor indicators of actual phenology because observations of initial flowering events for uncommon or inconspicuous plants may be missed or depend on timing of field crew activities. Identifications are made by field personnel on-island and have not been confirmed by other authorities. No data were collected in 2005-2009.

Family	Species	Common name	2002	2003	2004	2010	2011	2012
Apiaceae	*Angelica lucida*	Wild celery, puutchki	late May	-	3 Jun	15 Jul	1 Jun	-
(Umbelliferae)	*Conioselinum chinense*	Hemlock parsley	13 Jul	-	28 Jun	28 Jul	-	-
Asteraceae	*Achillea borealis*	Yarrow	-	-	15 Jun	-	-	-
(Compositae)	*Artemisia arctica*	Arctic wormwood	6 Jul	-	13 Jul	1 Aug	-	2 Aug
	Artemisia globularia	Globular wormwood	12 Jun	13 Jun	11 Jun	28 Jun	-	-
	Artemisia tilesii	Alaska wormwood	3 Jul	-	18 Jul	9 Aug	-	2 Aug
	Chrysanthemum arcticum	Arctic daisy	27 Jun	26 May	25 Jun	17 Jul	-	27 Jul
	Petasites frigidus	Sweet coltsfoot	14 May	15 May	~22 May	28 May	-	12 Jun
	Senecio pseudo-arnica	False arnica	27 Jun	<15 July	1 Jul	9 Aug	-	-
	Taraxacum spp.	Dandelion	9 Jun	29 May	-	12 Jul	<23 Jun	<10 Jul
Boraginaceae	*Mertensia maritima*	Oysterleaf, Beach bluebell	18 Jun	20 Jun	≤26 Jun	24 Jul	-	-
	Myosotis alpestris	Forget-me-not	11 Jun	30 May	3 Jun	30 Jun	28 Jun	3 Jul
Brassicaceae	*Cardamine umbellata*	Bittercress	31 May	-	9 Jun	5 Jul	-	-
(Cruciferae)	*Cochlearia officinalis*	Scurvy grass	25 May	-	~2 Jun	20 Jun	2 Jun	-
	Draba hyperborea	Cliff hanger	31 May	30 May	28 Jun	31 May	-	-
	Draba borealis	Boreal draba	-	-	-	-	22 May	-
Campanulaceae	*Campanula lasiocarpa*	Mountain harebell	6 Jul	-	3 Jul	25 Jul	-	29 Jul
Caryophyllaceae	*Cerastium beeringianum*	Mouse-eared chickweed	11 Jun	12 Jun	9 Jun	24 Jun	-	-
	Honckenya peploides	Beach greens	19 Jun	-	≤25 Jun	late Jul	15 Jun	-
	Minuartia arctica	Arctic sandwort	12 Jun	-	22 Jun	5 Jul	-	-
	Silene acaulis	Moss campion	11 Jun	4 Jun	9 Jun	28 Jun	22 Jun	30 Jun
	Stellaria media	Chickweed	1 Jul	-	-	-	-	-
	Stellaria crassifolia	Fleshy starwort	-	-	-	31 Jul	-	-
Cornus	*Cornus suecica*	Swedish dwarf cornel	17 Jun	-	16 Jun	6 Jul	-	-
Cyperaceae	*Eriophorum russeolum*	Cotton grass	-	9 Jun	9 Jun	<1 Jul	-	29 Jun
Fabaceae	*Lathyrus spp.*	Beach pea	-	-	-	9 Aug	20 Jul	-
(Leguminosae)	*Lupinus nootkatensis*	Nootka lupine	-	25 May	27 May	19 Jun	22 May	21 Jun
Fumariaceae	*Corydalis pauciflora*	Fewflower fumewort	8 Jun	-	-	30 Jun	-	-
Gentianaceae	*Gentiana glauca*	Gentian	-	-	-	late Jul	-	-
Haloragaceae	*Hippuris vulgaris*	Mare's tail	-	-	28 Jun	-	-	-
Liliaceae	*Fritillaria camschatcensis*	Chocolate lily	4 Jun	6 Jun	14 Jun	7 Jul	20 Jun	6 Jul
	Streptopus amplexifolius	Watermelon berry	mid-Jul	-	28 Jun	20 Jul	-	2 Aug
Onagraceae	*Epilobium angustifolium*	Fireweed	lvs 4 Jun	lvs 5 Jun	-	lvs Aug	-	-
	Epilobium hornemannii	Hornemann's willowherb	16 Jun	-	25 Jun	7 Jul	-	-
Papaveraceae	*Papaver macounii*	Macoun's poppy	8 Jun	4 Jun	13 Jun	26 Jun	20 Jun	27 Jun
Poaceae	*Poa arctica*	Arctic bluegrass	-	-	29 Jun	-	-	-
Polemoniaceae	*Polemonium acutiflorum*	Tall Jacob's ladder	4 Jun	-	7 Jun	23 Jun	15 Jun	27 Jun
Polygonaceae	*Oxyria digyna*	Mountain sorrel	-	-	-	20 Jun	-	-
	Polygonum viviparum	Alpine meadow bistort	20 Jul	-	16 Jul	-	-	-

Table 91 (continued). First flowering dates of plants identified on St. George Island, Alaska. Data represent the day a fully-opened flower was first observed on the island each year. Dates may be poor indicators of actual phenology because observations of initial flowering events for uncommon or inconspicuous plants may be missed or depend on timing of field crew activities. Identifications are made by field personnel on-island and have not been confirmed by other authorities. No data were collected in 2005-2009.

Family	Species	Common name	2013	2014	2015	2016	2017
Apiaceae	*Angelica lucida*	Wild celery, puutchki	-	-	22 Jun	12 Jun	-
(Umbelliferae)	*Conioselinum chinense*	Hemlock parsley	-	-	9 Jul	30 Jun	-
Asteraceae	*Achillea borealis*	Yarrow	-	-	-	23 Jun	-
(Compositae)	*Artemisia arctica*	Arctic wormwood	-	-	15 Aug	12 Jun	-
	Artemisia globularia	Globular wormwood	-	-	22 Jun	5 Jun	11 Jun
	Artemisia tilesii	Alaska wormwood	-	-	mid-Jul	27 Jun	-
	Chrysanthemum arcticum	Arctic daisy	10 Jul	-	26 Jun	31 May	6 Jul
	Petasites frigidus	Sweet coltsfoot	28 May	-	-	16 May	20 May
	Senecio pseudo-arnica	False arnica	-	-	28 Jul	10 Jul	-
	Taraxacum spp.	Dandelion	18 Jun	6 Jun	29 May	19 May	-
Boraginaceae	*Mertensia maritima*	Oysterleaf, Beach bluebell	-	17 Jun	2 Jul	9 Jun	16 Jun
	Myosotis alpestris	Forget-me-not	28 Jun	8 Jun	18 Jun	3 Jun	8 Jun
Brassicaceae	*Cardamine umbellata*	Bittercress	-	7 Jun	2 Jun	1 Jun	19 Jun
(Cruciferae)	*Cochlearia officinalis*	Scurvy grass	-	-	31 May	17 May	22 May
	Draba hyperborea	Cliff hanger	-	-	16 May	17 May	30 May
	Draba borealis	Boreal draba	-	7 Jun	-	-	-
Campanulaceae	*Campanula lasiocarpa*	Mountain harebell	-	2 Jul	31 Jul	2 Jul	-
Caryophyllaceae	*Cerastium beeringianum*	Mouse-eared chickweed	-	-	-	1 Jun	13 Jun
	Honckenya peploides	Beach greens	-	-	3 Jul	9 Jun	-
	Minuartia arctica	Arctic sandwort	-	-	19 Jun	10 Jun	-
	Silene acaulis	Moss campion	23 Jun	8 Jun	16 Jun	4 Jun	13 Jun
	Stellaria media	Chickweed	-	-	8 Jun	-	-
	Stellaria crassifolia	Fleshy starwort	-	-	-	11 Jul	-
Cornaceae	*Cornus suecica*	Swedish dwarf cornel	-	22 Jun	23 Jun	4 Jun	13 Jun
Cyperaceae	*Eriophorum russeolum*	Cotton grass	23 Jun	-	-	-	-
Fabaceae	*Lathyrus spp.*	Beach pea	-	-	19 Jul	9 Jun	-
(Leguminosae)	*Lupinus nootkatensis*	Nootka lupine	6 Jun	23 May	29 May	19 May	22 May
Fumariaceae	*Corydalis pauciflora*	Fewflower fumewort	-	-	21 Jun	17 Jun	28 May
Gentianaceae	*Gentiana glauca*	Gentian	-	-	-	-	-
Geraniaceae	*Geraniaceae erianthum*	Crane’s bill	-	-	-	-	15 Jun
Haloragaceae	*Hippuris vulgaris*	Mare's tail	-	-	-	-	-
Liliaceae	*Fritillaria camschatcensis*	Chocolate lily	7 Jul	9 Jun	13 Jun	3 Jun	16 Jun
	Streptopus amplexifolius	Watermelon berry	-	-	29 Jun	8 Jul	-
Onagraceae	*Epilobium angustifolium*	Fireweed	-	-	19 Aug	7 Jul	-
	Epilobium hornemannii	Hornemann’s willowherb	-	-	2 Jul	12 Jun	-
Papaveraceae	*Papaver macounii*	Macoun's poppy	24 Jun	8 Jun	2 Jun	4 Jun	-
Poaceae	*Poa arctica*	Arctic bluegrass	-	-	-	-	-
Polemoniaceae	*Polemonium acutiflorum*	Tall Jacob's ladder	25 Jun	4 Jun	8 Jun	30 May	-
Polygonaceae	*Oxyria digyna*	Mountain sorrel	-	-	5 Jun	3 Jun	8 Jun
	Polygonum viviparum	Alpine meadow bistort	-	-	10 Jul	30 Jun	-

Table 91 (continued). First flowering dates of plants identified on St. George Island, Alaska. Data represent the day a fully-opened flower was first observed on the island each year. Dates may be poor indicators of actual phenology because observations of initial flowering events for uncommon or inconspicuous plants may be missed or depend on timing of field crew activities. Identifications are made by field personnel on-island and have not been confirmed by other authorities. No data were collected in 2005-2009.

Family	Species	Common name	2002	2003	2004	2010	2011	2012
Portulacaceae	*Claytonia sarmentosa*	Alaska spring beauty	17 May	22 May	≤27 May	10 Jun	-	-
Primulaceae	*Androsace chamaejasme*	Rock jasmine	23 Jun	-	23 Jun	16 Jul	-	-
	Primula tschuktschorum	Chukchi primrose	14 May	<15 May	<16 Jun	2 Jun	22 May	11 Jun
	Trientalis europaea	Starflower	19 Jun	12 Jun	25 Jun	12 Jul	11 Jun	11 Jul
Pyrolaceae	*Pyrola minor*	Lesser wintergreen	-	-	18 Jul	16 Aug	-	-
Ranunculaceae	*Aconitum delphinifolium*	Monkshood	2 Jul	6 Jul	1 Jul	22 Jul	18 Jul	29 Jul
	Anemone richardsonii	Richard's anemone	-	-	-	30 Jun	-	-
	Ranunculus eschscholtzii	Sulphur buttercup	19 May	20 May	<16 May	25 May	-	16 Jun
	Ranunculus occidentalis	Western buttercup	25 Jun	-	-	-	-	-
	Ranunculus pallasii	Pallas' buttercup	4 Jun	-	-	1 Jul	-	-
	Ranunculus reptans	Greater creeping spearwort	early Jul	-	-	3 Aug	-	-
Rosaceae	*Geum macrophylum*	Large-leafed avens	3 Jul	-	22 Jun	25 Jul	-	-
	Geum rossii	Ross avens	early Jul	-	31 May	10 Jun	18 Jun	26 Jun
	Potentilla egedii	Pacific silverweed	8 Jun	-	-	-	-	-
	Potentilla palustris	Marsh fivefinger	18 Jul	-	18 Jul	-	-	-
	Potentilla uniflora	Oneflower cinquefoil	4 Jun	20 May?	-	25 Jul	-	-
	Potentilla villosa	Villous cinquefoil	mid-Jun	-	4 Jun	9 Jun	15 Jun	23 Jun
	Rubus arcticus	Nagoonberry	8 Jun	6 Jun	16 Jun	16 Jul	-	11 Jul
	Rubus chamaemorus	Cloudberry	4 Jun	22 May	2 Jun	20 Jun	15 Jun	23 Jun
Salicaceae	*Salix arctica*	Arctic willow	-	-	-	2 Jun	-	-
	Salix reticulata orbicularis	Netleaf willow	-	-	-	28 Jun	-	-
Saxifragaceae	*Chrysoplenium tetrandrum*	Northern water carpet	19 May	-	8 Jun	-	-	27 Jun
	Chrysosplenium wrightii	North water carpet	-	-	-	1 Jun	-	-
	Saxifraga bracteata	Bracted saxifrage	4 Jun	-	10 Jun	<1 Jul	-	-
	Saxifraga hieracifolia	Stiff-stemmed saxifrage	8 Jun	-	-	16 Jun	-	-
	Saxifraga hirculus	Bog saxifrage	mid-Jul	-	-	-	-	-
	Saxifraga punctata	Cordate-leaved saxifrage	27 May	-	~25 May	14 Jun	15 Jun	-
	Saxifraga serpyillifolia	Thyme-leaved saxifrage	10 Jul	-	8 Jun	12 Jul	-	-
	Saxifraga unalaschcensis	Unalaska saxifrage	8 Jun	13 Jun	8 Jun	-	-	-
Scrophulariaceae	*Lagotis glauca*	Weasel snout	5 Jun	30 May	3 Jun	22 Jun	-	27 Jun
	Pedicularis kanei (P. lanta)	Wooly lousewort	27 May	24 May	3 Jun	18 Jun	-	-
	Pedicularis langsdorffii	Langsdorf's lousewort	-	-	-	1 Jul	-	-
	Pedicularis verticillata	Whorled lousewort	11 Jun	-	25 Jun	-	19 Jun	-
	Veronica serpyllifolia	Speedwell	3 Jul	-	-	-	-	-
Valerianaceae	*Valeriana capitata*	Capitate valerian	5 Jun	-	16 Jun	2 Jul	-	6 Jul
Violaceae	*Viola langsdorffii*	Alaska violet	4 Jun	25 May	3 Jun	23 Jun	-	27 Jun

Table 91 (continued). First flowering dates of plants identified on St. George Island, Alaska. Data represent the day a fully-opened flower was first observed on the island each year. Dates may be poor indicators of actual phenology because observations of initial flowering events for uncommon or inconspicuous plants may be missed or depend on timing of field crew activities. Identifications are made by field personnel on-island and have not been confirmed by other authorities. No data were collected in 2005-2009.

Family	Species	Common name	2013	2014	2015	2016	2017
Portulacaceae	*Claytonia sarmentosa*	Alaska spring beauty	-	31 May	21 May	23 May	6 Jun
Primulaceae	*Androsace chamaejasme*	Rock jasmine	-	-	19 Jun	5 Jun	12 Jun
	Primula tschuktschorum	Chukchi primrose	3 Jun	23 May	18 May	17 May	23 May
	Trientalis europaea	Starflower	-	29 Jun	22 Jun	mid Jun	19 Jul
Pyrolaceae	*Pyrola minor*	Lesser wintergreen	-	-	-	-	-
Ranunculaceae	*Aconitum delphinifolium*	Monkshood	-	29 Jun	7 Jul	5 Jul	14 Jul
	Anemone richardsonii	Richard's anemone	-	-	-	-	11 Jun
	Ranunculus eschscholtzii	Sulphur buttercup	6 Jun	27 May	10 Jun	19 May	-
	Ranunculus nivalis	Snow buttercup	-	-	-	-	24 May
	Ranunculus occidentalis	Western buttercup	-	-	-	-	-
	Ranunculus pallasii	Pallas' buttercup	-	-	-	-	-
	Ranunculus reptans	Greater creeping spearwort	-	-	-	-	-
Rosaceae	*Geum macrophylum*	Large-leafed avens	-	22 Jun	-	16 Jun	-
	Geum rossii	Ross avens	25 Jun	8 Jun	10 Jun	26 May	12 Jun
	Potentilla egedii	Pacific silverweed	-	-	-	26 May	16 Jun
	Potentilla palustris	Marsh fivefinger	-	-	-	-	-
	Potentilla uniflora	Oneflower cinquefoil	-	-	-	22 May	-
	Potentilla villosa	Villous cinquefoil	-	7 Jun	29 May	30 May	12 Jun
	Rubus arcticus	Nagoonberry	-	22 Jun	16 Jun	9 Jun	12 Jun
	Rubus chamaemorus	Cloudberry	-	4 Jun	3 Jun	25 May	6 Jun
Salicaceae	*Salix arctica*	Arctic willow	-	25 May	31 May	20 May	6 Jun
	Salix reticulata orbicularis	Netleaf willow	-	5 Jun	-	15 Jun	-
Saxifragaceae	*Chrysoplenium tetrandrum*	Northern water carpet	-	-	-	-	24 May
	Chrysosplenium wrightii	North water carpet	-	-	21 May	20 May	-
	Saxifraga bracteata	Bracted saxifrage	-	-	2 Jun	30 May	-
	Saxifraga hieracifolia	Stiff-stemmed saxifrage	-	-	2 Jun	3 Jun	-
	Saxifraga hirculus	Bog saxifrage	-	-	-	-	-
	Saxifraga punctata	Cordate-leaved saxifrage	12 Jun	2 Jun	2 Jun	26 May	6 Jun
	Saxifraga serpyillifolia	Thyme-leaved saxifrage	-	-	mid-Jul	5 Jun	9 Jun
	Saxifraga unalaschcensis	Unalaska saxifrage	-	-	-	-	-
Scrophulariaceae	*Lagotis glauca*	Weasel snout	25 Jun	7 Jun	15 Jun	2 Jun	10 Jun
	Pedicularis kanei (P. lanta)	Wooly lousewort	16 Jun	27 May	2 Jun	25 May	7 Jun
	Pedicularis langsdorffii	Langsdorf's lousewort	-	-	9 Jun	-	-
	Pedicularis verticillata	Whorled lousewort	-	-	20 Jun	14 Jun	-
	Veronica serpyllifolia	Speedwell	-	-	-	-	-
Valerianaceae	*Valeriana capitata*	Capitate valerian	-	11 Jun	14 Jun	2 Jun	-
Violaceae	*Viola langsdorffii*	Alaska violet	25 Jun	4 Jun	2 Jun	28 May	24 May

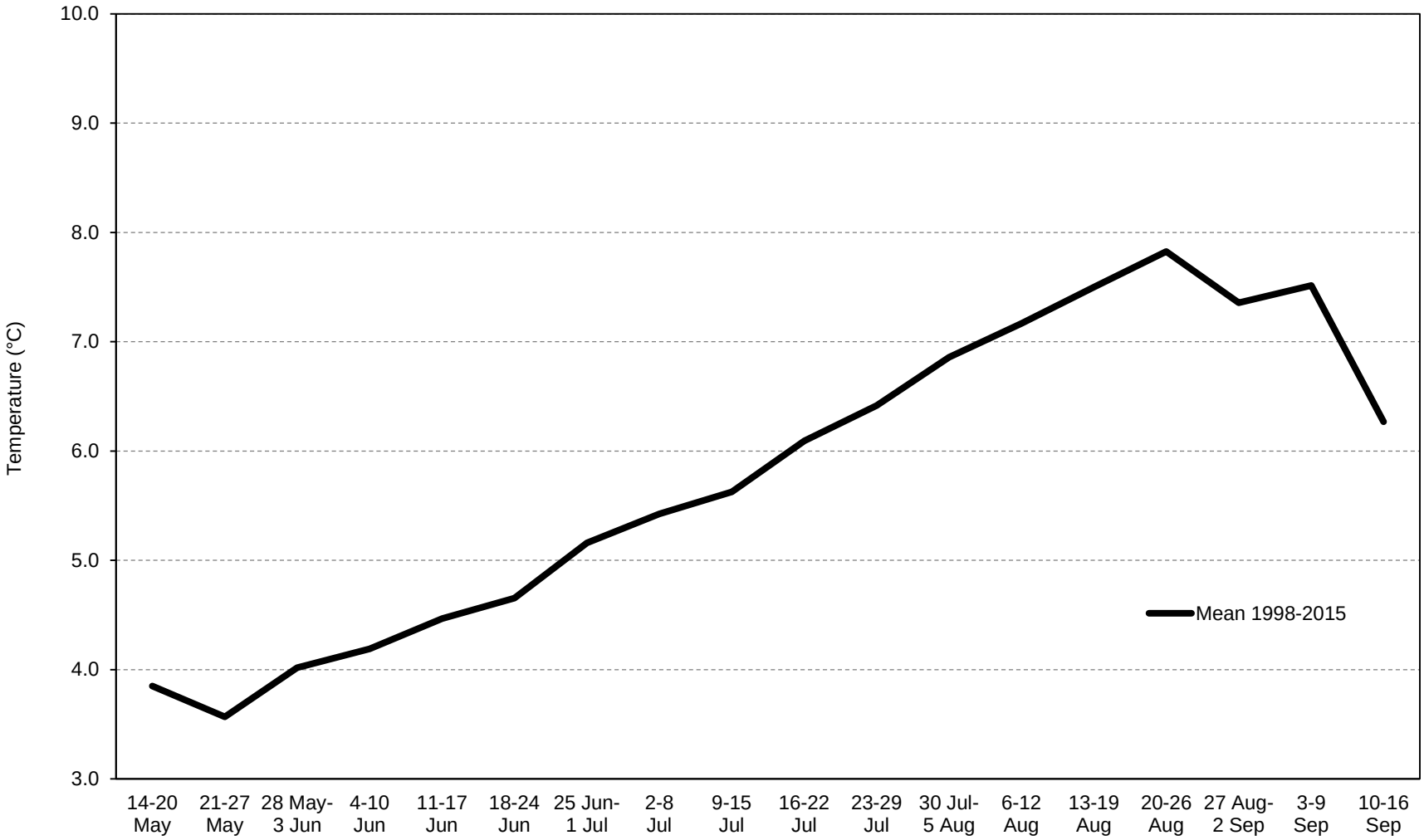

Figure 43. Mean weekly sea surface temperatures (°C) at St. George Island, Alaska. No data were collected in 2004, 2007, 2010, 2013, or 2016-2017.

Table 92. Mean weekly sea surface temperatures (°C) at St. George Island, Alaska. No data were collected in 2004, 2007, 2010, 2013, 2016, or 2017 (dataloggers were deployed in 2010 and 2013 but failed to record data [2010] or were not retrieved [2013]).

Week	00	01	02	03	05	06	08	09	11	12	14	15
14-20 May	-	-	3.6	-	4.1	-	-	-	-	-	-	-
21-27 May	-	-	4.0	-	4.6	-	-	-	-	-	-	-
28 May-3 Jun	-	3.8	4.1	5.5	4.9	3.4	-	2.1	-	-	-	-
4-10 Jun	-	3.9	4.9	6.0	5.2	3.9	2.9	2.4	5.1	3.0	-	-
11-17 Jun	-	4.3	5.4	5.9	6.0	4.3	2.4	2.8	5.0	3.0	-	-
18-24 Jun	4.9	4.7	5.4	6.2	5.8	4.7	3.0	3.9	4.3	2.5	-	6.0
25 Jun-1 Jul	5.3	4.6	5.6	6.6	6.3	4.7	3.5	3.7	4.8	3.7	5.5	6.8
2-8 Jul	5.1	5.3	6.2	7.0	6.8	6.5	3.7	4.5	5.0	3.0	5.7	6.6
9-15 Jul	5.4	5.5	6.3	6.9	7.1	5.8	4.3	4.2	5.0	3.4	6.8	7.1
16-22 Jul	6.7	5.7	6.5	7.3	7.6	6.0	4.6	3.9	5.3	5.4	6.6	7.4
23-29 Jul	7.2	6.0	6.6	7.8	7.3	6.2	5.3	4.0	5.6	4.9	7.6	8.2
30 Jul-5 Aug	6.6	6.5	8.0	8.7	8.0	6.3	5.6	4.3	6.2	4.6	8.6	8.1
6-12 Aug	7.2	6.9	8.1	8.9	8.7	6.4	6.2	5.1	6.3	4.5	9.0	8.2
13-19 Aug	8.3	7.2	8.6	8.4	8.7	6.4	7.0	5.6	6.8	6.1	8.5	8.4
20-26 Aug	8.2	6.6	8.1	8.6	10.0	6.9	7.6	5.6	7.3	6.0	8.0	9.6
27 Aug-2 Sep	7.1	7.1	-	9.0	-	7.5	6.8	7.0	7.2	5.8	-	8.5
3-9 Sep	-	9.3	-	9.0	-	6.9	7.1	7.2	7.1	5.0	-	8.2
10-16 Sep	-	-	-	-	-	6.4	-	-	6.8	5.6	-	-
17-23 Sep	-	-	-	-	-	6.8	-	-	-	5.3	-	-
24-30 Sep	-	-	-	-	-	6.7	-	-	-	-	-	-
1-7 Oct	-	-	-	-	-	5.3	-	-	-	-	-	-
8-14 Oct	-	-	-	-	-	5.3	-	-	-	-	-	-
15-21 Oct	-	-	-	-	-	5.2	-	-	-	-	-	-
22-28 Oct	-	-	-	-	-	4.2	-	-	-	-	-	-
29 Oct-4 Nov	-	-	-	-	-	2.3	-	-	-	-	-	-
5-11 Nov	-	-	-	-	-	0.6	-	-	-	-	-	-
12-18 Nov	-	-	-	-	-	1.2	-	-	-	-	-	-
19-25 Nov	-	-	-	-	-	4.0	-	-	-	-	-	-
26 Nov-2 Dec	-	-	-	-	-	2.8	-	-	-	-	-	-
3-9 Dec	-	-	-	-	-	0.2	-	-	-	-	-	-
10-16 Dec	-	-	-	-	-	-2.5	-	-	-	-	-	-
17-23 Dec	-	-	-	-	-	-3.6	-	-	-	-	-	-
24-30 Dec	-	-	-	-	-	-4.0	-	-	-	-	-	-
31 Dec	-	-	-	-	-	-4.7	-	-	-	-	-	-

[a]Datalogger deployed in 2010 but device failed to record data.
[b]Datalogger was deployed but not retrieved in 2013.

Appendix A. Details of historic dataset of black-legged kittiwake reproductive performance at St. George Island, Alaska.

Year	Details
Data summarized from original reports(i.e., data not resummarized by database because raw nest data unavailable)	
1976	Values reported here come from more recent Hunt et al. 1981 (which differ from values in Hunt et al. 1977,1978) Mean clutch size (C/B) based on smaller-than-reported sample size Hatching success (E/C) value is midpoint of range (0.70-0.93) presented in original source (Hunt et al. 1981) Chick success (G/E) value is midpoint of range (0.60-0.79) presented in original source (Hunt et al. 1981) Reproductive success (F/B) calculated from known-clutch-size nests only
1977	Values reported here come from more recent Hunt et al. 1981 (which differ from values in Hunt et al. 1978) Mean clutch size (C/B) based on smaller-than-reported sample size Hatching success (E/C) value is midpoint of range (0.73-0.94) presented in original source (Hunt et al. 1981) Chick success (G/E) value is midpoint of range (0.41-0.53) presented in original source (Hunt et al. 1981) Reproductive success (F/B) calculated from known-clutch-size nests only
1978	Mean clutch size (C/B) based on smaller-than-reported sample size Hatching success (E/C) value is midpoint of range (0.57-0.77) presented in original source (Hunt et al. 1981) Chick success (G/E) value is midpoint of range (0.51-0.72) presented in original source (Hunt et al. 1981) Reproductive success (F/B) calculated from known-clutch-size nests only
1979	Data based on short-term observations (a two-day visit on 17-18 August) and calculations with arbitrary survivorship rates (Lloyd 1985)
1980	Data based on short-term observations (a two-week visit 6-20 August) and calculations with arbitrary survivorship rates (Lloyd 1985)
1982	Qualitative estimate of success only, based on observations of just three chicks in hundreds of nests July-August (Craighead and Oppenheim 1985, Lloyd 1985)
1983	Qualitative estimate of success only, based on personal communication from A. Merculieff (St. George) to A. Springer (UAF) (Lloyd 1985)
1984	Original data presented as a range including nests of unknown fate and multiple ways of calculating success parameters (Johnson and Baker 1985) Values reported here were recalculated (B. Drummond, March 2010) from original report values but using only known-fate nests and not including chicks seen only at end of season
Data summarized from database (i.e., summary of original raw nest site data)	
1981, 1985-current	

Appendix B. Details of historic dataset of red-legged kittiwake reproductive performance at St. George Island, Alaska.

Year	Details
Data summarized from original reports (i.e., data not resummarized by database because raw nest data unavailable)	
1976	Values reported here come from more recent Hunt et al. 1981 (which differ from values in Hunt et al. 1977,1978) Hatching success (E/C) value is midpoint of range (0.79-0.87) presented in original source (Hunt et al. 1981) Chick success (G/E) value is midpoint of range (0.76-0.84) presented in original source (Hunt et al. 1981) Productivity (F/A) value is midpoint of range (0.30-0.45) presented in original source (Hunt et al. 1981)
1977	Values reported here come from more recent Hunt et al. 1981 (which differ from values in Hunt et al. 1978) Hatching success (E/C) value is midpoint of range (0.78-0.85) presented in original source (Hunt et al. 1981) Chick success (G/E) value is midpoint of range (0.79-0.86) presented in original source (Hunt et al. 1981)
1978	Hatching success (E/C) value is midpoint of range (0.57-0.81) presented in original source (Hunt et al. 1981) Chick success (G/E) value is midpoint of range (0.53-0.76) presented in original source (Hunt et al. 1981)
1979	Data based on short-term observations (a two-day visit on 17-18 August) and calculations with arbitrary survivorship rates (Lloyd 1985)
1980	Data based on short-term observations (a two-week visit 6-20 August) and calculations with arbitrary survivorship rates (Lloyd 1985)
1982	Qualitative estimate of success only, based on observations of just three chicks in hundreds of nests July-August (Craighead and Oppenheim 1985, Lloyd 1985)
1983	Qualitative estimate of success only, based on personal communication from A. Merculieff (St. George) to A. Springer (UAF) (Lloyd 1985)
1984	Original data presented as a range including nests of unknown fate and multiple ways of calculating success parameters (Johnson and Baker 1985) Values reported here were recalculated (B. Drummond, March 2010) from original report values but using only known-fate nests and not including chicks seen only at end of season
Data summarized from database (i.e., summary of original raw nest site data)	
1981, 1985-current	

Appendix C. Details of historic dataset of common murre reproductive performance (1975-1985) at St. George Island, Alaska.

Year	Details
Data summarized from original reports (i.e., data not resummarized by database because raw nest data unavailable)	
1976	No data to use (all nests monitored were high-disturbance sites; Hunt et al. 1981)
1977	No data to use (all nests monitored were high-disturbance sites; Hunt et al. 1981)
1978	Values reported include only minimal-disturbance sites (Hunt et al. 1981)
Data summarized from database (i.e., summary of original raw nest site data)	
1981-current	

Appendix D. Details of historic dataset of thick-billed murre reproductive performance at St. George Island, Alaska.

Year	Details
Data summarized from original reports (i.e., data not resummarized by database because raw nest data unavailable)	
1976	No data to use (all nests monitored were high-disturbance sites; Hunt et al. 1981)
1977	Values reported include only minimal-disturbance sites (Hunt et al. 1981)
	Values reported here come from more recent Hunt et al. 1981 (which differ from values in Hunt et al. 1978)
	Nesting success (D/B) value is midpoint of range (0.59-0.84) presented in original source (Hunt et al. 1981)
	Nests w/ chicks (D) value is midpoint of range (55-77) presented in original source (Lloyd 1985)
	Fledging success (F/B) value is midpoint of range (0.35-0.97) presented in original source (Hunt et al. 1981)
	Reproductive success (F/B) value is a midpoint of range (0.29-0.57) presented in original source (Hunt et al. 1981)
1978	Values reported include only minimal-disturbance sites (Hunt et al. 1981)
	Nesting success (D/B) value is midpoint of range (0.61-0.70) presented in original source (Hunt et al. 1981)
	Fledging success (F/B) value is midpoint of range (0.70-0.86) presented in original source (Hunt et al. 1981)
	Reproductive success (F/B) value is midpoint of range (0.49-0.52) presented in original source (Hunt et al. 1981)
Data summarized from database (i.e., summary of original raw nest site data)	
1981-current	

Appendix E. Adult black-legged kittiwakes banded with alphanumeric color bands or three color band combinations outside of survival plots at St. George Island, Alaska. Birds were banded as part of the BSIERP project (2008-2010) and are not included in any resight efforts for survival data; this list simply provides a record of these individuals. Color codes are recorded as color and # of band for birds banded with alphanumeric color bands, and as colors (in code) of bands on left (L) and right (R) legs for birds banded with three band combinations.

color combo codes: DB = dark blue, DG = dark green, R = red, O = orange, W = white, Y = yellow

Color band		Metal band #	Year banded	Location banded
Color on L leg	Band # on R leg			
DB/W	R	714-10464	2008	Plot 81A (just west from North rookery)
DB/Y	R	714-10462	2008	Plot 81A (just west from North rookery)
O[a]	R	714-10465	2008	Plot 81A (just west from North rookery)
W/DG	R	714-10460	2008	Plot 81A (just west from North rookery)
W/R	R	714-10463	2008	Plot 81A (just west from North rookery)
W/O	R	714-10461	2008	Plot 81A (just west from North rookery)
W/Y	R	714-10458	2008	Plot 81A (just west from North rookery)

[a]Bird banded with just one color band on left leg.

Appendix F. Adult red-legged kittiwakes banded with alphanumeric color bands or three color band combinations outside of survival plots at St. George Island, Alaska. Birds are not included in any resight efforts for survival data; this list simply provides a record of these individuals. Color codes are recorded as color and # of band for birds banded with alphanumeric color bands, and as colors (in code) of bands on left (L) and right (R) legs for birds banded with three band combinations.

color combo codes: DB = dark blue, DG = dark green, R = red, O = orange, W = white, Y = yellow

Color band				
Color on L leg	Band # on R leg	Metal band #	Year banded	Location banded
Blue	661	1273-07210	2011	Village 58A
Blue	666	954-12530	2011	Village 58A
Blue	672	954-12536	2011	Village 58A
Blue	673	1273-07212	2011	Village 58A
Blue	675	?	?	Village 58B
Blue	697	1273-07220	2011	Village 58A
Blue	700	954-12527	2011	Village 58A

Appendix G. Adult common murres banded with alphanumeric color bands or four color band combinations outside of survival plots at St. George Island, Alaska. Birds were banded as part of the BSIERP project (2008-2010) and are not included in any resight efforts for survival data; this list simply provides a record of these individuals. Color codes are recorded as color and # of band for birds banded with alphanumeric color bands, and as colors (in code) of bands on left (L) and right (R) legs for birds banded with four band combinations.

color combo codes: BK - black, DB = dark blue, DG = dark green, O = orange, R = red, W = white, Y = yellow, GY = gray

Color band				
Color on L leg	Band # or color on R leg	Metalband #	Year banded	Location banded
DB	DG/DB/DB	966-01810	2009	Rosy Finch
DB	R/DG/DG	895-12434	2009	Rosy Finch
DB	W/GY/W	895-12214	2009	Rosy Finch
DB	Y/GY/W	895-12432	2009	Rosy Finch
DB/DG/DB	DB	1186-05121	2008	Village 58A
DB/DG/O	DB	1186-05027	2008	Rosy Finch
DB/R/DB	W	1186-05119	2008	Village 58A
DB/Y/DG	DB	1186-05239	2009	Rosy Finch
DG/W/DG	DB	1186-05236	2009	Rosy Finch
O/DB/DG	DB	1186-05246	2009	Rosy Finch
O/DG/DB	DB	1186-05160	2009	Rosy Finch
R/GY/W	DB	1186-05196	2009	Rosy Finch
W/Y/W	DB	1186-05237	2009	Rosy Finch
Y	DB/DB/DG	895-12231	2009	Rosy Finch
Y/DG/DB	DB	1186-05233	2009	Rosy Finch
Y/DG/DG	DB	1186-05244	2009	Rosy Finch
Y/W/Y	DB	1186-05120	2008	Village 58A
Red	A8	1186-05131	2009	High Bluffs
Red	A9	1186-05132	2009	High Bluffs
Red	C0	1186-05133	2009	High Bluffs
Red	C1	1186-05134	2009	High Bluffs
Red	C2	1186-05135	2009	Rosy Finch
Red	C3	1186-05136	2009	Rosy Finch
Red	C4	1186-05137	2009	Rosy Finch
Red	C5	1186-05138	2009	Rosy Finch
Red	C6	1186-05140	2009	Rosy Finch
Red	C7	1186-05139	2009	Rosy Finch

Appendix H. Adult thick-billed murres banded with alphanumeric color bands or three color band combinations outside of survival plots at St. George Island, Alaska. Birds were banded as part of the BSIERP project (2008-2010) and are not included in any resight efforts for survival data; this list simply provides a record of these individuals. Color codes are recorded as color and # of band for birds banded with alphanumeric color bands, and as colors (in code) of bands on left (L) and right (R) legs for birds banded with four band combinations.

color combo codes: DB = dark blue, DG = dark green, R = red, O = orange, W = white, Y = yellow

Color band		Metal	Year	Location	Color band		Metal	Year	Location
Color or L leg	Band # or R leg	band #	banded	banded	Color or L leg	Band # or R leg	band #	banded	banded
DB/DG	O	1186-05117	2008	Red Bluffs	Red	A5	1186-05127	2009	Rosy Finch
DB/DG	W	1186-05114	2008	Red Bluffs	Red	A6	1186-05128	2009	Rosy Finch
DB/O	O	1186-05035	2008	First Bluffs	Red	A7	1186-05129	2009	Rosy Finch
DB/O	W	1186-05031	2008	Rosy Finch	Red	A0	1186-05124	2009	Rosy Finch
DB/R	W	1186-05028	2008	First Bluffs	Red	C8	1186-05143	2009	First Bluffs
DB/R	Y	1186-05086	2008	Zapadni	Red	C9	1186-05144	2009	First Bluffs
DB/W	O	1186-05118	2008	Red Bluffs	Red	E1	1186-05152	2009	First Bluffs
DB/W	R	1186-05071	2008	Zapadni	Red	E2	1186-05151	2009	First Bluffs
DB/W	W	1186-05111	2008	Red Bluffs	Red	E3	1186-05150	2009	Red Bluffs
DB/W	Y	1186-05084	2008	High Bluffs	Red	E4	1186-05148	2009	Red Bluffs
DB/Y	DG	1186-05054	2008	First Bluffs	Red	E6	1186-05149	2009	Red Bluffs
DB/Y	O	1186-05033	2008	Rosy Finch	Red	E7	1186-05153	2009	Red Bluffs
DB/Y	W	1186-05101	2008	Red Bluffs	Red	E8	1186-05155	2009	High Bluffs
DG/DB	DB	1186-05044	2008	Rosy Finch	Red	E9	1186-05009	2009	High Bluffs
DG/DB	O	1186-05030	2008	Red Bluffs	Red	E0	1186-05146	2009	Village
DG/DB	W	1186-05108	2008	Red Bluffs	Red	F1	1186-05200	2009	High Bluffs
DG/W	DG	1186-05085	2008	Zapadni	Red	F2	1186-05156	2009	High Bluffs
DG/W	O	1186-05039	2008	Red Bluffs	Red	F3	1186-05206	2009	High Bluffs
DG/W	W	1186-05104	2008	Red Bluffs	Red	F4	1186-05205	2009	High Bluffs
W/DB	DB	1186-05113	2008	Red Bluffs	Red	F5	1186-05202	2009	High Bluffs
W/DB	DG	1186-05052	2008	First Bluffs	Red	F6	1186-05204	2009	High Bluffs
W/DB	O	1186-05110	2008	Red Bluffs	Red	F7	1186-05209	2009	High Bluffs
W/DB	Y	1186-05080	2008	High Bluffs	Red	F8	1186-05234	2009	Rosy Finch
W/DG	O	1186-05116	2008	Red Bluffs	Red	F9	1186-05235	2009	Rosy Finch
W/DG	W	1186-05112	2008	Red Bluffs	Red	F0	1186-05159	2009	Red Bluffs
W/O	O	1186-05029	2008	First Bluffs	Red	H1	1186-05075	2009	Zapadni
W/O	W	1186-05105	2008	Red Bluffs	Red	J1	1186-05082	2009	First Bluffs
W/R	DG	1186-05051	2008	First Bluffs	Red	J2	1186-05171	2009	First Bluffs
W/R	O	1186-05109	2008	Red Bluffs	Red	J0	1186-05083	2009	First Bluffs
W/R	W	1186-05115	2008	Red Bluffs	Red	M1	1186-05238	2009	Rosy Finch
W/R	Y	1186-05053	2008	First Bluffs	Red	M2	1186-05207	2009	Red Bluffs
W/Y	DB	1186-05048	2008	Red Bluffs	Red	M3	1186-05240	2009	Red Bluffs
W/Y	O	1186-05040	2008	Red Bluffs	Red	M4	1186-05241	2009	Red Bluffs
W/Y	W	1186-05107	2008	Red Bluffs	Red	M5	1186-05242	2009	High Bluffs
Y/DB	DB	1186-05038	2008	Red Bluffs	Red	M6	1186-05232	2009	High Bluffs
Red	A1	1186-05125	2009	Rosy Finch	Red	M7	1186-05243	2009	Rosy Finch
Red	A2	1186-05130	2009	Rosy Finch	Red	M8	1186-05245	2009	Rosy Finch
Red	A3	1186-05126	2009	Rosy Finch	Red	M9	1186-05247	2009	Rosy Finch
Red	A4	966-01801	2009	Rosy Finch					

Appendix I. Diet datasets in the AMNWR diet dataset from St. George Island, Alaska. Years in parentheses are pending analysis.

Species	Recipient	Diet type	Years	In 2017 annual report
Common murre	Adult	Stomach, Lavage	1977-1978, 1981, 1984-1986, 1992, (1993), 1997-2001, (2002-2004), 2005-2006	Y
Common murre	Chick	Bill load, Regurgitation, Stomach	1976-1978, 1981, 1984, 1998-1999, 2001, 2003-2004, 2007, 2010	Y
Thick-billed murre	Adult	Stomach, Lavage	1977-1978, 1981, 1984-1988, 1992-1993, 1997-2001, (2002-2004), 2005-2010	Y
Thick-billed murre	Chick	Bill load, Regurgitation	1976-1978, 1981, 1984, 1987-1988, 1999, 2001, 2003-2004, 2006-2010	Y
Parakeet auklet	Adult	Stomach	1978, 1984	N
Parakeet auklet	Chick	Regurgitation, Gular pouch	1984, 2009	N
Least auklet	Adult	Stomach	1976, 1978, 1984	N
Least auklet	Chick	Regurgitation, Gular pouch	1975, 1977, 1984, 1986, 1996-2016, (2017)	Y
Crested auklet	Adult	Stomach	1984	N
Crested auklet	Chick	Gular pouch	1984	N
Horned puffin	Adult	Stomach	1978, 1984	N
Horned puffin	Chick	Bill load	1984	N
Tufted puffin	Adult	Stomach	1984	N
Black-legged kittiwake	Adult	Stomach	1977-1978, 1981, 1984-1986, 1992-1994, 1997-2005	Y
Black-legged kittiwake	Chick	Regurgitation	1976-1978, 1981, 1988, 1992-1994, 1998-2000, (2002), 2003, (2004), 2006, 2008-2014, (2016)	Y
Black-legged kittiwake	Adult+chick	Lavage	2008, 2009	Y
Red-legged kittiwake	Adult	Stomach	1976-1978, 1981, 1984-1986, 1992-1994, 1998-2005	Y
Red-legged kittiwake	Chick	Regurgitation, Stomach	1975-1978, 1980, 1984, 1987-1988, 1991-1994, (1995), 1998-2003, (2004), 2005-2014, (2015-2016)	Y
Northern fulmar	Adult	Stomach	1975, 1977-1978, 1984	N
Northern fulmar	Chick	Regurgitation	1976	N
Short-tailed shearwater	Adult	Stomach	1984	N
Red-faced cormorant	Adult	Stomach	1978, 1995	N
Red-faced cormorant	Chick	Regurgitation, Bolus	1976-1978, 1984, 2005	Y