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BIRDS OF MIDDLETON ISLAND, A UNIQUE LANDFALL FOR MIGRANTS IN THE GULF OF ALASKA[†]

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ABSTRACT: Migration studies at Middleton Island, Gulf of Alaska, over four decades (1974–2016) documented the regular autumn occurrences of over 100 species of birds (35+ passerines and 65+ nonpasserines), most of them apparently departing across the Gulf of Alaska for the Pacific coast to the east and south. With a focus on fall migration, we discuss here 261 species and 16 additional subspecies recorded at Middleton. We present much new information on the status of bird species and subspecies in the Gulf of Alaska and highlight the regular and predictable use of a route of migration across the Gulf of Alaska by large numbers of passerines, including species associated with the Central Flyway.

Isolated in the northern Gulf of Alaska, Middleton Island (59° 26' N, 146° 20' W) lies 115 km from the Alaska mainland, 75 km from the nearest island (Montague Island, Prince William Sound), and 19 km from the edge of the continental shelf to the southeast (Figure 1). Located between the Kodiak archipelago, 350 km to the southwest, and the Alexander Archipelago, 600 km to the east and south, Middleton provides the only possible landfall for 100+ species of migrant birds apparently striking out in fall from southwestern and south-central Alaska across the gulf for the Pacific coast to the east and south. Because of Middleton's isolation and limited diversity of breeding birds, the occurrence of migrants is conspicuous in timing and

[†]This paper is dedicated to the memory of MALCOLM E. "PETE" ISLEIB (14 December 1938–18 June 1993), our friend and colleague, for over three decades a peerless and tireless Alaskan field ornithologist.

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Figure 1. Middleton Island (with inset for perspective). Solid black line, the island's pre-1964 shoreline (enclosing the area to which we refer as the upper plateau). 1, north point; 2, northeast lagoon; 3, airstrip; 4, dilapidated military buildings; 5, FAA housing; 6, shipwreck; 7, mist net array; 8, southwest pond; 9, southwest spit. Satellite image taken 20 Jul 2013 (Google Earth).

species composition. At Middleton, directly south of the forested mainland, the array of regular migrants includes 35+ species of passerines and 65+ species of nonpasserines. In an effort to demonstrate the taxonomic breadth and geographic scope of migration across the gulf, we compare our data with those on waterfowl and shorebirds known to depart the Alaska Peninsula, 800–1100 km west-southwest of Middleton, on transoceanic passages to the eastern Pacific coast south of Alaska. We present much new information—especially for passerines—on fall migration off the Pacific coast of Alaska and describe for the first time the composition of the avifauna that crosses the Gulf of Alaska and the timing of this migration.

Previous and Continuing Studies

Middleton Island had received little attention from ornithologists before recent years. William Healey Dall and Charles H. Townsend stopped briefly on

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2 June 1874 (U.S. National Museum of Natural History [USNM] specimens) and 26 August 1888 (see Ridgway 1893), respectively, while en route to or from areas farther west. But no one published on the subject of Middleton's birds before Robert Rausch (1958) visited for 15 days in June 1956 and recorded 45 species, among them nesting Lapland Longspurs and Pacific Wrens, and several birds that appeared to be out of place—e.g., an Olive-sided Flycatcher, a Townsend's Warbler, and a Red-eyed Vireo—this last constituting a first Alaska record. Rausch wrote (1958:227) that Middleton “would appear to be of considerable ornithological interest.”

O'Farrell and Sheets (1962) were the first to publish on the wintering birds, including the Emperor Goose and Snowy Owl. A one-day sojourn in August 1974 by Pete Isleib and George E. Hall marked the first visit by field ornithologists specifically interested in migrants at this site. Also in the 1970s, the U.S. Fish and Wildlife Service (USFWS) began annual monitoring of the island's nesting seabirds. That effort was continued by the U.S. Geological Survey (USGS) from the 1990s to the 2010s, and it is currently being led by Scott A. Hatch (Institute for Seabird Research and Conservation). In addition to information on nesting seabirds (e.g., Hatch et al. 1979, 1993, 2011, Hatch 1983, 1987), this work has contributed many ancillary observations of other species in spring and summer. In fall 1980, we began focusing more seriously on assessing the species and subspecies involved in the migratory avifauna at Middleton, primarily in fall. This effort—22 trips and 381 field-days from 1974 to 2016 (Table 1)—produced most of the information we present here.

Table 1 Summary of Our 22 Surveys on Middleton Island

| Year | Dates | Participants ^a |
|---------|---------------|--|
| 1974 | 6 Aug | GEH, MEI |
| 1980 | 8–15 Oct | TGT |
| 1981 | 10–25 May | DDG, JSH, SRJ, JJ, BEL |
| 1981 | 9–22 Sep | TGT |
| 1982 | 1 Sep–6 Oct | DDG, PDM, DMT, TGT, GEH, JSH, LJO |
| 1982 | 6 Nov | RLS, DWS |
| 1983 | 14 May | RLS, Arctic Audubon Society |
| 1985 | 18 May | RLS, “Attu Group” |
| 1986 | 5–12 Nov | MEI |
| 1987 | 23 Sep–6 Oct | DDG, MEI, RLS |
| 1988 | 15–25 Sep | MEI |
| 1989 | 23–30 Sep | MEI, RLS |
| 1990 | 26 Sep–2 Oct | MEI |
| 1991 | 25 Sep–1 Oct | SCH, RAM, MEI |
| 1992/93 | 28 Dec–2 Jan | RLS |
| 1997 | 20–28 Sep | TGT, REG, TJD, GHR |
| 2005 | 21–29 Sep | SCH, RAM, GHR, TGT |
| 2011 | 24 Aug–28 Sep | LHD, NCD, CWW, HRG |
| 2012 | 10 Aug–10 Oct | LHD, CWW, NRH, JAJ, TGT, SCH+ |
| 2013 | 15 Aug–1 Oct | LHD, NRH, SMM, RLW, CWW |
| 2014 | 11 Aug–16 Oct | LHD, NRH, JAJ, CWW |
| 2016 | 19–29 Oct | NRH, LHD, JJB, EWC, CDE, JDL, RAM, BWR, JS |

^aSee acknowledgments for initials

STUDY AREA

Middleton Island was named in 1794 by George Vancouver, “probably after Sir Charles Middleton [1723–1813], a rear admiral and comptroller of the [Royal] navy” (Orth 1971:640). Bancroft (1886:268) identified the “Middleton Island of Vancouver” as Achakoo Island, or Ochek Island on Russian charts. In 1941 the Federal Aviation Administration (FAA) established a weather station at Middleton, still in operation and the only reason the island’s gravel runway continues to be maintained. A U.S. Air Force (USAF) Aircraft Control and Warning Squadron operated there from 1958 to 1963 and erected substantial infrastructure, most of which has since succumbed to the ravages of marine weather. Since 1980, coastal areas of Middleton have been managed by the Alaska Maritime National Wildlife Refuge.

The geologic history of Middleton, a 9×3 km (15 km^2) continental island at the seaward edge of the North American plate, has been investigated thoroughly (Plafker 1969, Plafker and Rubin 1978, Carver and Plafker 2008). The island owes its presence and terraced topography to a series of seismic events over the past 5000 years, most recently during the Great Alaska Earthquake, in March 1964, when the island rose 3.5 m. Wave action has eroded the terraces on the south and west sides of the island, producing steep seawalls that have, since the 1964 uplift, become overgrown and degraded. Unconsolidated rocky substrate has been deposited through longshore drift in peninsulas on the south and west coasts and at the north end of the island (Figure 1).

There are no land mammals native to Middleton Island. Arctic foxes (*Vulpes lagopus*) were introduced in about 1895 to be farmed for their pelts (see Eby 1912, Parker 1923, Johnson 1950). The foxes died out in the late 1930s and early 1940s (Rausch 1958), but European rabbits (*Oryctolagus cuniculus*), introduced in the early 1950s (ibid., O’Farrell 1965), continue to thrive.

Climate and Weather

The west-to-east movement of low-pressure systems dominates the regional weather from September through March and influences the abundance of fall migrants in the Gulf of Alaska. These cyclonic storms are produced or altered by the Aleutian Low, then follow the path of the Polar Jet Stream as they move across the Gulf of Alaska. The strength and intensity of these systems are influenced by the cycle of El Niño–La Niña and, further, by the Pacific Decadal Oscillation, in which cold and warm phases alternate in a 15- to 20-year cycle. When El Niño coincides with a warming trend of the Pacific Decadal Oscillation, these cycles merge to produce exceptionally strong storms. From at least June through August, a weak high-pressure system seasonally fills the North Pacific Ocean, yielding much milder summers with minimal development of low-pressure systems (Lethcoe 2003). Spring (April–May) is a transitional period.

Middleton has a maritime climate with a mean annual temperature of 5.7°C . Summers are typically dry and calm compared to the windy and wet winters. February is the coldest month, with a mean minimum of -0.8°C . The Polar High often extends over the Gulf of Alaska in winter, producing even colder temperatures and strong north or northeast winds; the lowest

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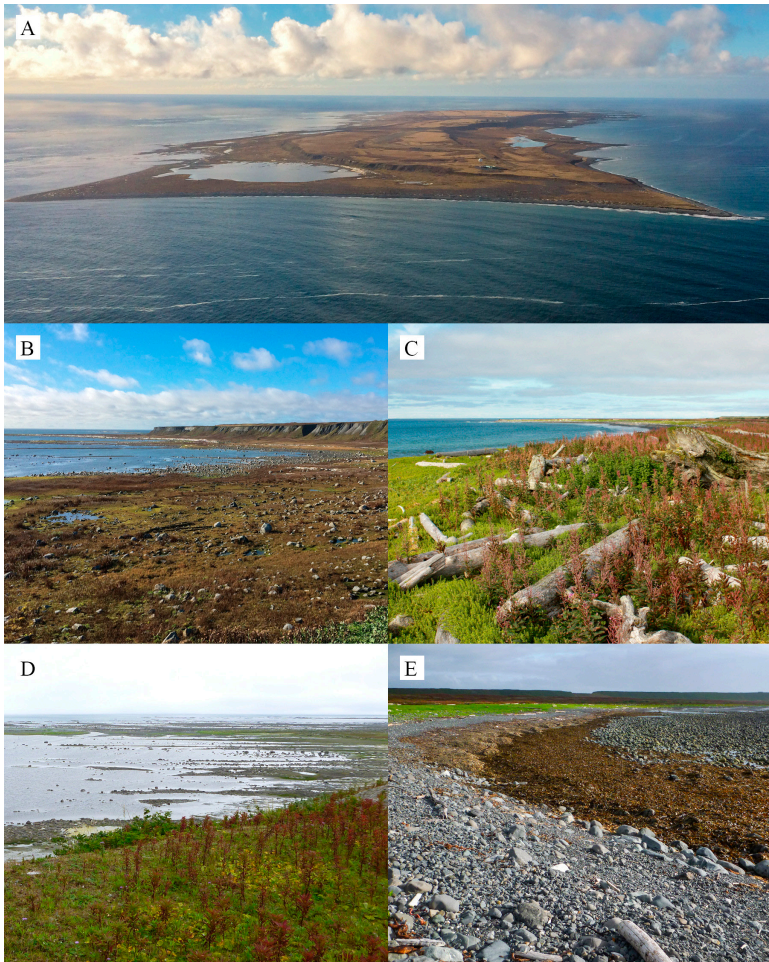


Figure 2. Coastal habitats of Middleton Island: (A) aerial overview looking south, (B) complex shoreline and intertidal on the southern coast, (C) overgrown driftwood windrows, (D) northeast lagoon with tidal flats, and (E) storm-deposited kelp wrack.

Photos by Lucas H. DeCicco and Rebecca L. Windsor/USFWS

temperature recorded at Middleton was -14.4°C , in February 1947. August is the warmest month, with a mean maximum of 14.4°C ; the highest temperature recorded was 22.2°C , in August 1957. Average annual precipitation is 1460 mm, with June the driest month (average rainfall 57 mm) and October the wettest (200 mm). Precipitation remains relatively high through January, when a drying trend begins. During winter, snow rarely accumulates for extended periods (Hogan 1995, Lethcoe 2003).

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Figure 3. Open vegetated habitats of Middleton Island: (A) vegetated freshwater pond on lower plateau, (B) mosaic of marsh and willow thickets typical on lower plateau, (C) meadow and overgrown historical sea cliffs, (C and D) meadows of the lower and upper plateaus respectively, (E and F) dilapidated military buildings.

Photos by Lucas H. DeCicco and Rebecca L. Windsor/USFWS

Avian Habitats

Following detailed descriptions of Middleton’s floristic communities completed over 50 years ago (Thomas 1957, Rausch 1958), profound changes—most notably those caused by the Great Alaska Earthquake, which increased the island’s size by 405 ha (>30%; Gill et al. 2004; Figure 1)—have shaped the island’s habitats. Now encircling the entire island is a belt up to 500 m wide of intertidal shoreline, wetlands, and thickets of shrubs

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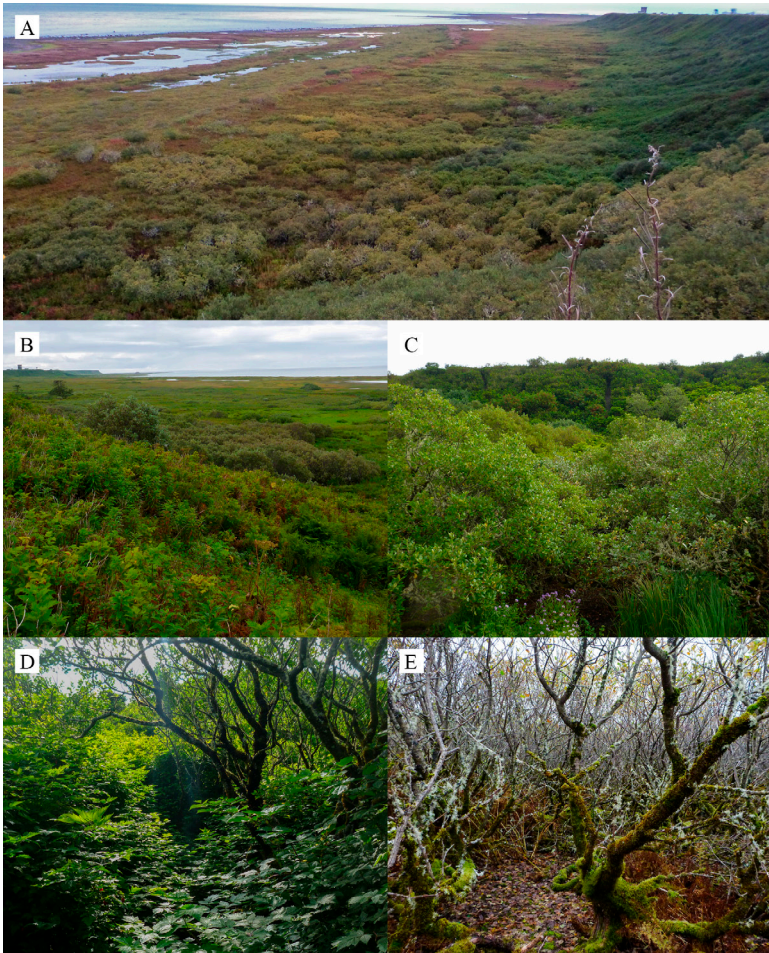


Figure 4. Woody vegetation of Middleton Island: (A) overview of the west willow thicket, (B) tall shrub thicket (willows) from base of west bluff, (C) low/medium shrub thickets (willow and *Rubus* sp.) with isolated Sitka spruces in background, (D and E) within tall shrub thickets at different seasons.

Photos by Lucas H. DeCicco/USFWS

(Figures 2–4), which supports the majority of the island’s nonpasserine avian diversity. Furthermore, this newly emerged land acts as a buffer between sea and cliffs, preventing coastal erosion. Surface runoff and sediment deposition have transformed once vertical and sparsely vegetated cliffs into slopes overgrown by dense shrubbery.

Here we present a modification of the detailed treatments of the island’s

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habitats and flora by Thomas (1957) and Rausch (1958). We refer to 13 prominent habitats, modified from Kessel (1979) and Gibson and Byrd (2007), important to the island's avifauna.

Lacustrine Waters and Shorelines.—Numerous vegetated shallow ponds and lakes 10–600 m in length occur on the lower plateau (Figures 2 and 3). Many of these waterbodies are inundated by extreme tides, producing brackish conditions.

Marsh.—Extensive wetlands dominated by moss (*Sphagnum* sp.), sedges (*Carex* spp.), grasses (*Calamagrostis nutkaensis*), and forbs (e.g., *Potentilla* sp.) occur on the lower plateau and the larger eastern terraces (Figure 3).

Nearshore Marine Waters.—A series of partially sheltered bays and tidal lagoons form the island's south coast, while at the northeastern corner uplift over the past decade has converted a shallow embayment to a brackish lagoon (Figure 2).

Inshore Marine Waters.—Coastal waters, ≤ 25 m in depth, extend to 3 km from shore (Figure 2) and support large beds of bull kelp (*Nereocystis lutkeana*) along the west shore.

Offshore Marine Waters.—Water depths increase to >1000 m ~ 20 km from shore and >4000 m within 45 km southeast of Middleton, beyond the continental shelf (Figure 2).

Reefs and Spits.—Ocean currents and longshore drift form cobble or sand spits that radiate from the island's south shoreline and off the north point. Rocky reefs extend off the northeast and east shorelines (Figure 2).

Beaches and Tidal Flats.—Beaches of cobble, gravel, and sand are the island's primary shoreline habitat. Tidal flats of finer sediment occur in the upper reaches of most shallow bays. Fall storms deposit thick mats of bull kelp along certain shorelines and extensive windrows of driftwood occur along all shorelines (Figure 2).

Grass Meadow.—The upper plateau and east terraces are blanketed in grass (*Calamagrostis nutkaensis*) and a variety of forbs (e.g., *Geranium erianthum*, *Maianthemum dilatatum*; Figure 3) reaching 1.5 m in height.

Tall Forb Meadow.—On well-drained sandy soils of the lower plateau, tall forb meadows dominated by *Heracleum lanatum*, *Angelica* spp., etc. are extensive.

Low/Medium Shrub Thicket.—Thickets of willow (*Salix barclayi*), salm-onberry (*Rubus spectabilis*), and elderberry (*Sambucus racemosa*) ≤ 2 m tall occur extensively on sloped terrain and in drier areas of the lower plateau adjacent to tall shrub thicket (see below; Figure 4).

Tall Shrub Thicket.—Thickets ≥ 2 m tall, dominated by willows interspersed with elderberry, occur extensively along the west bluff (Figure 4).

Coniferous Forest.—Sitka spruce (*Picea sitchensis*) trees 3–10 m tall are scattered across the island singly or in small stands (Figure 4).

Artificial.—A mixture of maintained and abandoned infrastructure (buildings, towers, dirt roads, and a gravel airstrip) is restricted primarily to the upper plateau and represents remnants of the former USAF and continuing FAA activities (Figure 3). A large shipwreck, of the S.S. *Coldbrook*, lies on the west shoreline (Figure 1).

METHODS

At intervals from 1974 through 2016, we conducted 19 surveys of varying duration to inventory the migrant avifauna of Middleton Island: 15 in fall, one in winter, and three in spring. These visits comprised 381 field days, 357 in fall (6 August–12 November), 18 in spring (10–25 May), and six in winter (28 December–6 January). Field work in the 1980s and 1990s was organized by Gibson, Isleib, and Tobish, and surveys from 2011 to 2016 were organized by DeCicco and Johnson. The information we present for summer, and occasionally for other seasons, came from unpublished US-FWS/USGS reports and camp field journals (compiled by Tim van Nus). We refer to this information by the observers' initials, all (but the writers) identified in Acknowledgments. Surveys prior to 2011 were focused on daily field observations and were restricted to September and October. From 2011 on, our field efforts were more structured, with coverage from mid-August to mid-October. During this period, in addition to daily field observations, we also operated an array of 13 mist nets for 6 hr/day, observed pelagic seabirds systematically from the north point, and surveyed the entire perimeter of the island to estimate seasonal patterns of shorebird abundance.

RESULTS

As of 31 December 2016, 261 species of birds (with an additional 16 subspecies) representing 51 families in 18 orders had been recorded at Middleton. Thirty-three species were recorded year round, 110 species in summer (two *only* in summer), and 54 in winter (three *only* in winter). Thirty-seven species, including 11 passerines, breed or likely do so at Middleton, a number much lower than the approximately 110 coastal and lowland species breeding on the nearby (forested) mainland coast (see Isleib and Kessel 1973). Absent certain evidence of nesting, we consider the Red-faced Cormorant, Common Raven, Orange-crowned Warbler, Yellow Warbler, and Song Sparrow to be probable breeders. Migrants (173 species in fall and 110 in spring), defined as species occurring regularly in consistent numbers en route between breeding and wintering grounds, make up the majority of the island's taxa. Eighty-one species represent extralimital visitants—away from known migration routes and not residents of the nearby mainland coast. Of these, 57 are of New World origin and 24 are of Old World origin and 71 are known at Middleton only in fall. Seasonally, fall is the most species-rich period (250 species recorded), the result of a combination of weather systems promoting migration off shore (see below), most intensive coverage by observers, and the presence of birds of the year increasing both overall numbers and diversity, a result of a proclivity of this age class for straying from course.

SPECIES ACCOUNTS

Conventions Used in Species Accounts

Nomenclature of subspecies follows Gibson and Withrow (2015), unless otherwise noted. Subspecies in parentheses are inferences based on field observations, photographs, phenology, zoogeography, or convey

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uncertainty due to subspecies being poorly differentiated; all others are substantiated by archived specimens (not *all* specimens are identifiable to subspecies, see Gibson and Byrd 2007:13). Middleton specimens—collected to provide a sound, scientific basis for this work—are deposited primarily at the University of Alaska Museum (UAM), Fairbanks; some are on deposit at the American Museum of Natural History (AMNH), New York City; the U.S. National Museum of Natural History (USNM), Washington, DC; the Museum of Vertebrate Zoology (MVZ), University of California, Berkeley; or the U.S. Geological Survey's Alaska Science Center (USGS), Anchorage. The amount of information provided with specimen citations varies with the importance and number of specimens summarized. Brackets denote that the sex of a specimen was inferred from plumage or measurements and was not determined by dissection. Museum catalog numbers are italicized if we have personally examined these specimens. Specimens are summarized at the end of the account if not already cited within it. All cited photographs and audio recordings are archived at Cornell University's Macaulay Library (ML; www.macaulaylibrary.org).

Because we include maximum daily counts, colony-survey counts, or the number of birds constituting a record, definitions of the relative-abundance terms *rare*, *uncommon*, *fairly common*, *common*, and *abundant* are implicit. We describe taxa of less-than-annual occurrence as *intermittent* (recorded in $\geq 30\%$ of years, but not annual) or *casual* (recorded in $< 30\%$ of years; Gibson and Byrd 2007:14). We specify extreme dates of occurrence and a species' pattern of abundance within this interval, if the data are adequate. We abbreviate references to five of the six biogeographic regions of Alaska (Gibson and Withrow 2015) as N (*northern*), W (*western*), SW (*southwestern*), S-C (*south-central*—within which Middleton lies), and SE (*southeastern*). The sixth, *interior* Alaska, is written out. We use the word “report” (versus “record”) for unique or unusual sightings without photo or specimen substantiation. Other abbreviations: HY, in year of hatching; AHY, after year of hatching; SY, second year; ASY, after second year; TY, third year; ATY, after third year.

Annotated List of Species and Subspecies

Anser albifrons (sponsa). Greater White-fronted Goose. Uncommon or fairly common in **FALL**, typically in flocks of 10–20 birds. Most regular 20 Sep–2 Oct; maxima 175 on 28 Sep 1991 and 340 on 26 Sep 2012. Recorded from 6 Sep (1982) to 20 Oct (2016), except for a late immature with Canada Geese on 10 Nov 1986 (MEI). Uncommon also in **SPRING**, on the basis of a flock of 15–20 on 24 Apr 1978 (SAH), flocks of up to 12 from 10 to 25 May 1981, three on 26 May 1985 (DRN+), and 130 on 10 May 2003 (CJG). Two birds on 15 June 2015 (AAA, photo ML45220921) provided the only **SUMMER** record. **NOTES**: In fall observed migrating NW to SE over the island, or foraging in lacustrine waters/meadows of the lower plateau. Common migrant in S-C Alaska in both fall and spring (Isleib and Kessel 1973). **SPECIMEN**: UAM 34508, HY σ , 26 Sep 2012, LHD.

Chen canagica. Emperor Goose. One report in **WINTER**: Five birds seen along west beach, 25–26 Feb 1961 (O'Farrell and Sheets 1962). **NOTES**: The Kodiak archipelago forms the eastern limit of this species' main winter range, but individuals and small groups occur intermittently beyond, as far east and south as California (Hamilton et al. 2007).

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Chen caerulescens caerulescens. Snow Goose. Uncommon to common in **FALL** from 23 Sep (2013) to 21 Oct (2016), occurring singly or in flocks of up to 75. Exceptionally numerous 24–28 Sep 2012, with from 50 to 1300 birds (on 27 Sep) per day. Twice in **SPRING**: One in Apr 2005 and one in early May 2005 (both TuN). **NOTES**: In autumn Snow Geese usually overfly Middleton, from NW to SE; exceptional were 270 (including 78 immatures) that stopped to forage in lacustrine waters, 26–28 Sep 2012. The species is a common spring and fall migrant in S-C Alaska (Isleib and Kessel 1973). **SPECIMEN**: UAM 37875, AHY ♀, 3 Oct 2014, JJB.

Branta bernicla (nigricans). Brant. Unknown in **FALL**. Common in **SPRING**, recorded 10–20 May 1981 and on 24 May 2014 (TD), maximum 150+ on 10 May 1981 (DDG). Intermittent in **SUMMER**: Up to three 11–14 Jun and one on 27 Jun 1956 (Rausch 1958); two on 19 Jul 2015 (AAA, photo ML33463501). **NOTES**: Staging from the tip of the Alaska Peninsula in late Oct/early Nov, Brant depart Alaska on a direct transoceanic passage to the Pacific coast east and south of Alaska, passing far south of Middleton (see Reed et al. 1989, Dau 1992, Lewis et al. 2013). They are rare in fall, fairly common in spring, and rare in summer on the mainland coast of S-C Alaska (Isleib and Kessel 1973).

Branta hutchinsii minima. Cackling Goose. Rare in **FALL**, from 17 Sep (2013) to 13 Oct (2014), singly or in flocks of up to 37. Maximum was 132 birds on 26 Sep 2012. Perhaps rare in **SPRING**, when intermittent sightings 10–22 May 1981 (DDG+). **NOTES**: In fall, as do Brant (q.v.), Cackling Geese depart from the Alaska Peninsula on a transoceanic passage to the eastern North Pacific coast south of Alaska (Gill et al. 1996). The species is an uncommon fall migrant on the coast of mainland S-C Alaska, most numerous in Oct, and present in small numbers in spring (Isleib and Kessel 1973). **SPECIMENS**: UAM, 2; AMNH, 1.

Branta canadensis occidentalis. Canada Goose. Common in **FALL**: Migrants occur from at least early Sep (when local family groups are still present) to as late as 12 Nov (1986, MEI). From 2010 to 2016 they typically numbered 1000–1500/day during Sep and early Oct, then decreased (e.g., maximum 500 on 27 Oct 2016). In the 1980s the maximum was 800 on 5 and 6 Nov 1986, in the 2010s 1700 on 4 Oct 2012. Common in **SPRING** from 10 to 25 May 1981. Common in **SUMMER** with **BREEDING** first noted in 1981 (pair with three young; PJG, AEZ); the breeding population had increased to 1000 pairs by 1998 (Talbot et al. 2003). **NOTES**: During early fall, family groups were seen away from the coast along roads or in grass and tall forb meadows, while later in the season the species concentrated in coastal habitat. Over two years, 1987 and 1988, the Alaska Department of Fish and Game introduced 193 birds (14 adults and 179 young) to Middleton from the Copper River delta (Rosenberg et al. 1996), joining the 40+ pairs naturally breeding at that time. This subspecies breeds along the north gulf coast of Alaska, primarily in the Copper River delta, and winters in the Willamette and lower Columbia river valleys of Oregon and Washington (Mowbray et al. 2002). **SPECIMENS**: AMNH, 4; UAM, 1.

B. c. (parvipes). Twice in **FALL**: Flocks of 70 birds on 7 Oct 2014 (photos ML33467731, 33467741, and 33467781—LHD, CWW+) and 42 on 14 Oct 2014 (NRH). **NOTES**: Subspecies *parvipes* nests throughout interior and N Alaska (Gibson and Withrow 2015), south into upper Cook Inlet (TGT). This taxon is rare in fall in southern SE Alaska (Heinl and Piston 2009).

Cygnus buccinator. Trumpeter Swan. Intermittent in **FALL**: Two immatures 7–10 Nov 1986, single adult on 30 Aug 2009, two adults 28 Aug–4 Sep 2011, single adults 20 Aug–13 Sep 2013 (photo ML33566201, 16 Sep 2013, JDL) and 3 Sep–2 Oct 2014, 10 on 22 Oct 2016 (adults and immatures; photo ML39344911, CDE), one adult 24–25 Oct 2016, and one immature 26–28 Oct 2016. Casual in **SPRING**: One bird on 16 May 1962 (USNM 480439, AHY unsexed, S. Waldrop), two on 20 May 1978 (SMP), and two with a Tundra Swan on 27 May 1978 (PJG).

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Cygnus columbianus (columbianus). Tundra Swan. Rare in **FALL**, 21 Aug (2013) to 25 Oct (2016), most after 20 Sep. Maxima 47 on northeast lagoon on 22 Oct 2016 and 67 in flight SE over inshore marine waters on 6 Oct 2014; most other records of single birds or of flocks of up to 11. Once in **WINTER**: Seven birds, 28 Dec 1992–1 Jan 1993 (RLS). Twice in **SPRING**: Four birds on 18 May 1985 (DRN); two immatures on 27 May 1978 (PJJG). Once in **SUMMER**: Two on 21 Jun 1976 (DAF, MH). **NOTES**: When first seen, an adult present 20 Aug–16 Sep 2013 (NRH+; photo ML33566201, 16 Sep 2013, JDL) was flightless because of active molt. Most Tundra Swans have been noted on ponds or northeast lagoon. The species is a common migrant, casual in summer and winter, on the S-C Alaska mainland (Isleib and Kessel 1973).

Cygnus cygnus. Whooper Swan. One report in **FALL**: Immature on 6 Nov 1982 (DWS, RLS). **NOTES**: This species is uncommon in fall, winter, and spring in the western and central Aleutian Islands (Gibson and Byrd 2007). Though there is only one other S-C Alaska report (23 Oct 1977, Cordova—Isleib and Kessel 1989), additional records are scattered as far east and south as Wyoming (Faulkner 2010) and California (Hamilton et al. 2007).

Anas strepera (strepera). Gadwall. Fairly common throughout **FALL**, typically <10/day from mid-Aug through mid-Sep, 10–20/day from mid-Sep through mid-Oct, and 100+/day from mid-Oct to mid-Nov. Maxima 85 from 12 to 16 Aug 1981 (exceptional for the early date; PAB, DJS), 200 from 5 to 12 Nov 1986 (MEI), and 244 on 27 Oct 2016 (NRH). Only once in **WINTER** (20+ on 1 Jan 1993, RLS) but perhaps more regular. Uncommon in **SPRING**: Up to six (on 11 May), 10–25 May 1981 (DDG+); two pairs on 14 May 1983 (RLS). Uncommon as a **BREEDER** in **SUMMER**: Three from 14 to 26 Jun 1981 (PJJG, AEZ); two from 14 to 24 Jun 1982 (PJJG, DRN); female with three young on 16 Jun 1985 (DRN); female with four young on 21 Jun 2006 (TvN). **NOTES**: Locally fairly common year round in S-C Alaska (Isleib and Kessel 1973). **SPECIMENS**: UAM, 6.

Anas penelope. Eurasian Wigeon. Rare or uncommon in **FALL**: Two males on 7 Sep 2011, one on 23 Sep 2013, one on 28 Sep 2012, and one female on 6 Oct 2012. Exceptionally numerous in 2014 (single individuals seen regularly, mid-Sep–4 Oct) and in 2016 (one to three daily, 19–29 Oct). Maxima five on 22 Oct 2016 and six on 11 Oct 2014. Rare in **SPRING**, with single birds from 20 Apr (1989) to 17 May (1996). **NOTES**: Rare or uncommon on migration and in winter in S-C and SE Alaska (Kessel and Gibson 1978). **SPECIMENS**: UAM 31414 (wing only), [HY ♀], 6 Oct 2012, BL; UAM 38108, AHY ♂, 18 Sep 2014, NRH.

Anas americana. American Wigeon. Common in **FALL**: Typically 20–50/day mid-Aug through early Sep, 100–200/day early Sep through late Oct. Latest were two on 6 Nov 1981 and 100 from 5 to 12 Nov 1986. Maxima 583 on 21 Sep 2012 and 920 on 11 Oct 2014. Uncommon in **SPRING**: Up to six from 10 to 25 May 1981 (DDG+). Uncommon in **SUMMER**: Four from 14 to 26 Jun 1981 (PJJG, AEZ); also recorded 15–24 Jun 1983 (PJJG, DRN). One **BREEDING** record: Female with three young on 12 Jul 2006 (TvN). **NOTES**: Most frequent in ponds on the lower plateau and in the northeast lagoon. A common migrant and breeder in S-C Alaska, where rare in winter (Isleib and Kessel 1973).

Anas platyrhynchos (platyrhynchos). Mallard. Common in **FALL**: <20/day in Aug—exceptionally, 242 from 12 to 16 Aug 1981 (PAB, DJS)—increasing to 50–100/day (occasionally to 500+) from late Sep through mid-Oct, then to 500–1500/day from late Oct to mid-Nov. Maxima 1200 on 20 Oct 2016 (NRH) and 1500 from 5 to 12 Nov 1986 (MEI). Uncommon in **WINTER**: 150+ from 30 Dec 1992 to 1 Jan 1993 (RLS); 250 from 18 to 20 Feb 1976 (KDW). Uncommon in **SPRING**: Up to 10 birds in mid-May 1981 (DDG). Little information in **SUMMER**, when an uncommon **BREEDER**: Eggs as early as 1 Apr (1979, SAH) and females with young as late as 21 Aug (2013, LHD+). **NOTES**: Most often in ponds on the lower plateau. Mallards are common year round in S-C Alaska (Isleib and Kessel 1973).

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Anas discors. Blue-winged Teal. Rare in **FALL**: Ones and twos from 1 Sep (2014) to 6 Nov (1982), most Sep–early Oct. Early was one on 2 Aug 2015 (AAA). Maximum four on 25 Sep 1991. Rare in **SPRING**: Up to five from 10 to 25 May 1981 (DDG+). Twice in **SUMMER**: One on 4 Jun 1978 (PJJ); one on 15 Jun 2015 (photo ML33463441, AAA). **NOTES**: Nearly all on freshwater ponds. A rare migrant and probable breeder in S-C Alaska (Isleib and Kessel 1973). **SPECIMEN**: UAM 36503, AHY ♂, 2 Sep 2014, NRH.

Anas cyanoptera (*septentrionalium*). Cinnamon Teal. One report in **SPRING**: Alternate-plumaged male with Blue-winged Teal on west ponds, 10–22 May 1981 (JSH, BEL, SRJ, DDG; Gibson 1981b). **NOTES**: Rare in spring in SE Alaska and casual in S-C Alaska west to Kodiak Island (Isleib and Kessel 1973, Kessel and Gibson 1978, Gibson and Withrow 2015).

Anas clypeata. Northern Shoveler. Common in **FALL**, when typically 20–50/day from mid-Aug (up to 108 on 28 Aug 2013) through mid-Sep, fewer later, to 6 Nov (one in 1983, RLS) and 5–12 Nov 1986 (an exceptional 100–125, MEI). Once in **WINTER**: One female, 30 Dec 1992–1 Jan 1993 (RLS). Likely common in **SPRING**: Seen in May 1981 and May 1983, maximum 24 on 11 May 1981 (DDG+). Present in **SUMMER** in small numbers: e.g., uncommon from 14 to 26 Jun 1981 (PJJ, AEZ), two or three in summer 2005 (TvN), and six on 15 Jun 2015 (AAA). Uncommon **BREEDER**: 25 pairs in 1979 (DAF, MH). **NOTES**: We found this species on freshwater ponds and tidal flats. It is a fairly common migrant and breeder in S-C Alaska (Isleib and Kessel 1973).

Anas acuta. Northern Pintail. Common in **FALL**: 100–500/day, mid-Aug through at least mid-Nov; maximum 1000 on 21 Sep 2012. Uncommon in **WINTER**; maximum 75+ on 1 Jan 1993 (RLS), latest three on 20 Feb 1976 (KDW). Common in **SPRING** and **SUMMER** and a common **BREEDER** (see Rausch 1958). **NOTES**: We found this species on beaches, tidal flats, ponds, and nearshore marine waters. In coastal S-C Alaska it is a common migrant and breeder, rare in winter (Isleib and Kessel 1973). **SPECIMEN**: UAM 2884, downy young ♀, 11 Jun 1956, R. Rausch.

Anas querquedula. Garganey. One report in **FALL**: A very wary basic-plumaged male on west ponds, alone and later with a flock of wigeon, on 29 Sep 1982 (DDG; Gibson 1983). **NOTES**: No other Alaska report on the Pacific coast east of the Aleutians, but to the east and south this species has reached British Columbia (Campbell et al. 1990a), Washington (Wahl et al. 2005), Oregon (Marshall et al. 2006), and California (Hamilton et al. 2007) in fall.

Anas crecca carolinensis. Green-winged Teal. Common in **FALL**, when 50–200/day, mid-Aug through mid-Nov. Maxima 750 on 22 Oct 2016 and 1000 on 7 Sep 2011. In **SPRING**, 20+/day during May 1981. Common in **SUMMER**, when found **BREEDING** in 1956 (Rausch 1958); also 30–50 pairs in 1979 (SAH) and broods through 21 Aug 2012 (LHD+). **NOTES**: Green-winged Teal frequented small ponds on the lower plateau, tidal flats, and shallow bays. In S-C Alaska the species is a common migrant, fairly common breeder, and rare winter visitor (Isleib and Kessel 1973). **SPECIMENS**: UAM 34016, HY unsexed, 1 Sep 2013; UAM 34017, HY ♂, 2 Sep 2013; and UAM 34018, AHY ♀, 2 Sep 2013—all JJW.

A. c. (*crecca*). One report in **SUMMER**: Male present 15–25 Jun 1982 (PJJ, DRN). **NOTES**: Nominate *crecca* is a migrant and a resident breeder in the Aleutian Islands (Gibson and Byrd 2007) and is casual in spring in S-C (TGT) and SE Alaska (see Heinl and Piston 2009).

Aythya valisineria. Canvasback. Casual or intermittent in **FALL** from late Sep through early Nov: Two birds on 5 Nov 1986 (one to 7 Nov), two on 25 Sep 1987, flock of 23 migrating E over inshore marine waters on 24 Sep 2012, two birds on 3 Oct 2014, one from 11 to 14 Oct 2014 (photo ML39343851, LHD), and one from 20 to 22 Oct 2016. Rare in **SPRING**: Up to three from 10 to 25 May 1981 (DDG+), present on 15 May 1978 (SAH), and one male in May 2005 (TvN). **NOTES**: Apart

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from the passing flock of 23, all birds were on the large ponds of the lower plateau. Canvasbacks are uncommon migrants and local breeders in s-c Alaska (Isleib and Kessel 1973).

Aythya americana. Redhead. Intermittent in **SPRING**: Up to two males and a female from 10 to 25 May 1981 (DDG+), one on 15 May 1982 (PDA, DWS), one at end May 2006 (TvN), and one from 19 to 24 May 2014 (TD). **NOTES**: Rare migrant, primarily in spring, in s-c Alaska (Kessel and Gibson 1978).

Aythya ferina. Common Pochard. Twice in **FALL**: One female or immature at southwest pond, 3 Sep (photos ML33565501, 33565511, and 33565521, NRH) and 7 Sep 2012 (UAM 31200, AHY ♀; NRH, LHD, CWW); two males in alternate plumage at northeast lagoon and southwest pond, 20–27 Oct 2016 (photo ML42752811, NRH, CWW, LHD). **NOTES**: Few Alaska records east of the Aleutians (see Gibson and Withrow 2015), but the species has been found as far east and south of Alaska as California (Patten 1993, Erickson and Hamilton 2001).

Aythya collaris. Ring-necked Duck. Uncommon in **FALL**, from 25 Aug (2012) to 12 Nov (1986). Seasonal maximum 12 (2012 and 2013), daily maximum nine (22 Sep 2013), except from 22 Sep to 14 Oct 2014, when maximum was 19 birds on 5 Oct. Twice in **SPRING**: One male 11–13 May 1981 (DDG+); up to six birds during May 2006 (TvN). **NOTES**: Found primarily on northeast lagoon. A rare migrant and summer visitant in s-c Alaska (Kessel and Gibson 1978).

Aythya marila nearctica. Greater Scaup. Uncommon or fairly common in **FALL** from 11 Aug (2014) to 8 Nov (1986). Typically <10/day through late Sep, then 20–40/day through late Oct. Maxima 60 on both 8 Oct 2012 and 11 Oct 2014, and 75 on 22 Oct 2016. Occasionally observed on passage, typically flying NW–SE over inshore marine waters (e.g., flocks of 30–35 on 27 and 28 Sep 1991). Rare in **WINTER**: Four birds on 30 Dec 1992 (RLS); 22 on 18 Feb 1976 (KDW). Uncommon in **SPRING**, when “regular” during Apr and May of 2005 and 2006 (TvN); five on 28 May 2015 (AAA); maximum was 18 birds on 21 May 1981. Rare in **SUMMER**, when single birds or pairs reported in June in multiple years (e.g., Rausch 1958). **NOTES**: Found primarily on northeast lagoon. A common migrant, breeder, and winter visitant in s-c Alaska (Isleib and Kessel 1973). **SPECIMEN**: UAM 4094, AHY ♂, 15 May 1981, DDG.

Aythya affinis. Lesser Scaup. Uncommon in **FALL**, 11 Aug (2014) to 28 Oct (2016), when typically one to four/day through late Sep, more numerous into late Oct when ≤10/day. Maximum 20 on 20 Oct 2016. Rare in **SPRING**: Up to three from 15 to 22 May 1981 (DDG+) and “both species [of scaup] regular” in Apr and May 2005 and 2006 (TvN). A female attending 17 young, 18 Aug–5 Sep 2012 (LHD+), represents the only **BREEDING** record. **NOTES**: Found primarily on northeast lagoon. A rare migrant in s-c Alaska (Isleib and Kessel 1973). **SPECIMENS**: UAM 4114, AHY ♂, 15 May 1981, DDG; and UAM 35559, HY ♀, and UAM 35560, HY ♂, both 2 Sep 2013, JJW.

Polysticta stelleri. Steller’s Eider. One report in **WINTER**: Two females or immature males on inshore marine waters on 6 Nov 1982 (DWS, RLS). **NOTES**: The Kodiak archipelago and lower Cook Inlet form the eastern limit of this species’ normal winter range (Fredrickson 2001), but extralimital individuals have occurred in winter as far as SE Alaska (see Heiln and Piston 2009) and on the eastern Pacific coast as far south as California (Fredrickson 2001, Hamilton et al. 2007).

Histrionicus histrionicus. Harlequin Duck. Common year round (nonbreeding). In **FALL** typically 100–200/day from mid-Aug through late Oct. Less numerous in Nov, when 10–50/day, 5–12 Nov 1986 (MEI). Maximum was 335 on 25 Sep 2014. In **WINTER** up to 50 on 1 Jan 1993 (RLS) and in small groups from 18 to 20 Feb 1976 (KDW). Present in **SPRING** on 14 May 1983 (RLS) and in 2005 and 2006 (TvN). In **SUMMER**, one on 27 Jun 1956 (Rausch 1958), three males on 12 Jul 1976 (DAF, MH), and 25 on 10 Jul and 50 on 19 Jul 2015 (AAA). **NOTES**: Found on nearshore

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and inshore marine waters, most often in bays and around reefs. Common year round in coastal S-C Alaska (Isleib and Kessel 1973). **SPECIMENS:** AMNH, 2.

Melanitta perspicillata. Surf Scoter. Common in **FALL**, occurring from mid-Aug (e.g., arrived 18 Aug in 2013 and 26 Aug in 2014) on. Sporadic with <10/day mid-Aug through mid-Sep, increasing to 20–40/day into late Oct and Nov (125+ on 6 Nov 1986, MEI). Maximum 200 on 26 Sep 2005. Common through **WINTER:** 40+ on 31 Dec 1992 (RLS), “small numbers” from 18 to 20 Feb 1976 (KDW), and recorded in Feb 2005 (TvN). Rare in **SPRING:** Male, 23 May 1981 (DDG), and observed in Apr and May of 2005 and 2006 (TvN). A flock of 20 on 10 Jun 1956 (Rausch 1958) represents the only **SUMMER** record. **NOTES:** Primarily on nearshore and inshore marine waters. Common year round in coastal S-C Alaska (Isleib and Kessel 1973).

Melanitta fusca deglandi. White-winged Scoter. Common in **FALL**, 14 Aug (2014) to 6 Nov (1986), typically <10/day from mid-Aug through early Sep, more numerous from mid-Sep to Nov, when 20–40/day. Maximum 130 on 26 Sep 2012. In **WINTER:** Three+ on 31 Dec 1992 (RLS). Uncommon in **SPRING:** Up to eight, 10–25 May 1981 (DDG+), and noted in Apr and May of 2005 and 2006 (TvN). Rare in **SUMMER:** Two from 14 to 26 Jun 1981 (PJJ, AEZ) and recorded in Jul and Aug 2005 (TvN). **NOTES:** Primarily on nearshore marine waters and on northeast lagoon. Common year round in S-C Alaska (Isleib and Kessel 1973). **SPECIMEN:** UAM 4281, AHY ♂, 17 Sep 1982, DDG.

Melanitta americana. Black Scoter. Uncommon in **FALL**, 8 Sep (1982 and 2011) to 12 Nov (1986), sporadic in small numbers (<10/day) in Sep, more regular and numerous later. Most numerous in Nov, with maximum of 160 from 5 to 12 Nov 1986 (MEI). Twice in **WINTER**, but likely more regular: 20+ on 1 Jan 1993 (RLS) and “small flock” on 20 Feb 2005 (TvN). Uncommon in **SPRING:** Pair on 23 May 1981 (DDG), single individuals in May of 2005 and 2006 (TvN), and nine birds from 19 to 24 May 2014 (TD). Once in **SUMMER:** One, late Jul 2006 (TvN). **NOTES:** Nearly all on nearshore and inshore marine waters. A fairly common fall migrant, uncommon summer visitant, and common winter visitant in S-C Alaska (Isleib and Kessel 1973).

Clangula hyemalis. Long-tailed Duck. Uncommon in **FALL:** Irregular prior to mid-Oct, when two, 13 Oct 1980; one, 21–25 Sep 1997; four, 24 Sep 2012; one, 20 Sep 2013; and one, 25 Sep 2014. More numerous in late Oct and Nov, when 20/day from 5 to 12 Nov and 50+ /day from 25 to 28 Oct 2016 (photo ML43850991, LHD). Maximum was 98 on 28 Oct 2016 (LHD). Uncommon in **WINTER:** 40+ on 1 Jan 1993 (RLS), “a few” from 18 to 20 Feb 1976 (KDW), and one on 20 Feb 2005 (TvN). Rare in **SPRING:** One on 13 May 1981, a pair on 19 May 1981 (DDG+), and one on 26 Apr 2006 (TvN). **NOTES:** Most birds on inshore marine waters. Present in S-C Alaska year round, most numerous in winter (Isleib and Kessel 1973).

Bucephala albeola. Bufflehead. Common in **FALL**, 19 Sep (2014) to at least 12 Nov (1986); one bird present 18 Aug–5 Sep 2014 was exceptionally early. Irregular in small numbers during Sep, more regular into mid-Oct (usually <10/day but 138 from 8 to 14 Oct 2014), and numerous in late Oct and Nov when 50–300/day from 19 to 29 Oct 2016 and up to 85 from 5 to 12 Nov 1986. Maximum 550 on 27 Oct 2016 (NRH). Common in **WINTER:** 40+ on 1 Jan 1993 (RLS) and up to 50 from 18 to 20 Feb 1976 (KDW). Uncommon in **SPRING:** In 1981, pair on 11 May and single female 13–14 May (DDG+); “present” in Apr and May 2006 (TvN). **NOTES:** Seen primarily on northeast lagoon but also irregularly on ponds of the lower plateau. A common migrant, rare in summer, and common in winter in S-C Alaska (Isleib and Kessel 1973).

Bucephala clangula (americana). Common Goldeneye. Uncommon in **FALL:** Earliest, two on 10 Sep 2012; more numerous in late Oct and Nov, when two to six/day from 19 to 29 Oct 2016, 11 birds daily 5–12 Nov 1986, and 15 on 6 Nov 1981. Uncommon in **WINTER:** Up to five from 28 Dec 1992 to 1 Jan 1993 (RLS) and up to eight from 18 to 20 Feb 1976 (KDW). Once in **SPRING:** One, 16 Apr 2005 (TvN). **NOTES:** Most regular on northeast lagoon, also on nearshore and inshore marine

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waters during winter. A common migrant and winter visitant, rare summer visitant and breeder in S-C Alaska (Isleib and Kessel 1973).

Bucephala islandica. Barrow's Goldeneye. Three records in **FALL**: Three females or immatures on 6 Nov 1982 (DWS, RLS); single males in alternate plumage from 1 Oct (LHD, photo ML39343371) to 7 Oct 2014 (NRH+) and on 20 Oct 2016 (LHD+). **NOTES**: In 2014 and 2016 seen usually at northeast lagoon. Common year round and breeding in S-C Alaska (Isleib and Kessel 1973).

Lophodytes cucullatus. Hooded Merganser. Twice in **FALL**: One female or immature male from 5 to 12 Nov 1986 (MEI); a male in alternate plumage on 11 Oct 2014 (LHD, photo ML39343491). **NOTES**: Both birds were on fresh water. Breeds in SE Alaska, but only a rare visitant (primarily in late summer and fall) in S-C Alaska (Kessel and Gibson 1978).

Mergus merganser (americanus). Common Merganser. Casual in **FALL**: One on 6 Nov 1982 (DWS, RLS), one on 14 Sep 2012 (LHD, photo ML26887871), two on 7 Sep 2013 (NRH), one on 25 Sep 2014 (CWW), and one each on 22 and 28 (JJB, photo ML39344641) Oct 2016 (NRH, JJB). **NOTES**: Most birds were in female or immature plumage and on nearshore marine waters. Common year round on the nearby mainland of S-C Alaska (Isleib and Kessel 1973).

Mergus serrator. Red-breasted Merganser. Common in **FALL**: Family groups present through end of Aug; species numerous through Sep and into mid-Oct with typically 20–50/day; latest in fall were 15 birds on 5 Nov 1986 (MEI). Maximum 121 on 6 Sep 2014. Uncommon in **WINTER**: Four on 30 Dec 1992 (RLS) and three on 18 Feb 1976 (KDW). Up to seven/day from 10 to 25 May 1981 (DDG+) represent our only **SPRING** record. Present through **SUMMER** in small numbers and **BREEDING** in 2006, when one nest was found (TvN); also family groups in early fall from 2011 to 2014. **NOTES**: Most birds on marine waters or northeast lagoon. Nests in S-C Alaska, where common year round (Isleib and Kessel 1973). **SPECIMEN**: AMNH, 1.

Oxyura jamaicensis (rubida). Ruddy Duck. Once in **FALL**: Adult male in transitional plumage, 18 Aug–21 Sep 2014 (photo ML33468631, LHD+). **NOTES**: A very wary bird in heavily vegetated margins of a freshwater pond and on northeast lagoon. Casual in fall and spring in S-C and SE Alaska (see Kessel and Gibson 1978).

Lagopus muta nelsoni. Rock Ptarmigan. Once in **FALL**: A lone bird, mostly white (still some body molt), was seen as it flew in from the NW at 60 m over the ocean and landed atop west bluff on 28 Sep 2005 (UAM 21885, AHY ♀; BMG, SCH, RAM, GHR, TGT). **NOTES**: Zimmerman et al. (2005) and Gibson and Byrd (2007) discussed movements of ptarmigan over the open sea. The Rock Ptarmigan is a fairly common resident of mountains throughout S-C Alaska, including those around Prince William Sound (see Isleib and Kessel 1973).

Podiceps auritus (cornutus). Horned Grebe. Uncommon in **FALL**, 27 Aug (2014) to 7 Nov (1986), generally irregular and <five/day before mid-Sep, more regular and numerous late Sep to late Oct (e.g., 10–36/day from 19 to 29 Oct 2016). Also in **WINTER**, when 20 on 1 Jan 1993 (RLS) and two in Feb 2005 (TvN). Three to six in Apr 2006 (TvN) were the only ones reported in **SPRING**, and an adult feeding a half-grown chick, 20–28 Sep 1997 (TGT+) was the only evidence of **BREEDING**. **NOTES**: Most birds were seen on nearshore marine waters or northeast lagoon. Uncommon year round and a local breeder in S-C Alaska (see Isleib and Kessel 1973).

Podiceps grisegena (holboellii). Red-necked Grebe. Uncommon or fairly common in **FALL**, 18 Aug (2013) to 7 Nov (1986); irregular and in small numbers (<10/day) during Aug, becoming more numerous in Sep, when typically 10–15/day. Maxima 40 birds on 8 Sep and 23 Sep 2012 and 200+ foraging off north point from 21 to 26 Sep 2005. Only one report in **WINTER** (40+ on 1 Jan 1993, RLS) but likely much more regular. **NOTES**: Most frequently found on nearshore and inshore marine waters; a common migrant, uncommon summer visitant, and a fairly common winter visitant in S-C Alaska (Isleib and Kessel 1973).

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Podiceps nigricollis californicus. Eared Grebe. Twice in **FALL**: One on 7 Oct 2014 (UAM 36350, HY ♀, LHD, NRH, CWW, JJB) and one from 22 to 27 Oct 2016 (UAM 39297, HY ♀, LHD, NRH, BWR, EWC+; LHD photos ML43851111 and 43851121, 24 Oct 2016; Figure 5). **NOTES**: Both birds were primarily at northeast lagoon. They represent two of the three fall records and the first specimens for Alaska, where the species is casual in spring and summer in SE and S-C, and in the Interior (Gibson and Withrow 2015).

Patagioenas fasciata (monilis). Band-tailed Pigeon. One report in **FALL**: One bird in west willow thickets, 13 Sep 1981 (TGT). **NOTES**: Occurs in summer on the southern mainland of SE Alaska and on some nearby islands of the Alexander Archipelago (Kessel and Gibson 1978). There has been just one additional report in S-C Alaska (31 Jul 1992, Cordova, Tobish and Isleib 1992b).

Chordeiles minor (minor). Common Nighthawk. One report in **SUMMER**: A single bird observed 30 Jun–1 Jul 1984 (BDR; Gibson 1984a). **NOTES**: A fall migrant in SE Alaska (where has nested locally since late 1990s), but only a casual visitant west of there, in S-C, W, N, and interior Alaska (Gibson and Withrow 2015).

Apus pacificus (pacificus). Fork-tailed Swift. Twice in **FALL**: One bird in flight over the (former) north housing area on 24 Sep 1989 (RLS, MEL); one foraging with swallows over northeast lagoon on 21 Aug 2014 (LHD, NRH; photos ML33567561, 33567581, and 33567591; Figure 6). **NOTES**: These are among the few Alaska reports of this Asiatic swift east of the Bering Sea and Aleutians, where it is casual (see Gibson and Byrd 2007, Tobish 2011a, Gibson and Withrow 2015).

Selasphorus rufus. Rufous Hummingbird. One report in **FALL**: A female or immature seen 26 Aug 2012 (NRH) was investigating a Yellow Warbler hanging in a mist net. **NOTES**: The species is a common migrant and breeder in S-C Alaska (Isleib and Kessel 1973).

Fulica americana (americana). American Coot. One report in **FALL**: Three or four birds with dabbling ducks on a freshwater pond, 8–15 Oct 1980 (TGT). **NOTES**: Rare in fall and winter in SE Alaska (SCH and A. W. Piston unpubl.) and a casual migrant in S-C Alaska (Kessel and Gibson 1978, Gibson and Withrow 2015).

Antigone canadensis (canadensis). Sandhill Crane. Twice in **FALL**: One juvenile, 26–27 Sep 2011, and separate flocks of seven and four on 24 Sep 2013 (all LHD+, photos ML33468021 and 33468031). Once in **SPRING**: One, 19 May 2006 (TvN). **NOTES**: A common migrant on the mainland of S-C Alaska, where it also nests (Isleib and Kessel 1973).

Haematopus bachmani. Black Oystercatcher. Common in **FALL**: Numbers grew from the 1980s (e.g., 25 on 24 Sep 1987) to the 2010s (e.g., maximum 767 on 27 Aug 2014). From 2011 to 2016 numbers were largest mid-Aug to mid-Sep, then decreased through mid- and late Oct. Noticeable departures typically in late Sep (e.g., decreased from 303 birds to 117 from 21 Sep to Oct 2012 and from 599 to 133 from 6 to 25 Sep 2014). Latest were 54 on 28 Oct 2016 (LHD). Status in **WINTER** uncertain, but at least 50 in winter 2015–2016 (van Nus 2017). Little information in **SPRING**, but present by 28 Apr (2005, TvN). Common in **SUMMER** and as a **BREEDER**, when status and abundance linked to nesting habitat exposed by seismic uplift in 1964 by the Great Alaska Earthquake (Gill et al. 2004). First pair noted in 1976 (DAF, MH); breeding population increased from the 1980s (e.g., 14+ birds in Jun 1981 and nine or 10 pairs in 1982, PJG) to 2002 (350+ pairs, Gill et al. 2004). **NOTES**: Middleton's breeding population represents 36–48% of the Black Oystercatchers in S-C Alaska (ibid.), where the species is fairly common year round (Isleib and Kessel 1973). On Middleton we observed this species in fall exclusively along beaches and spits, where large roosting flocks formed. **SPECIMENS**: AMNH 839784, HY unsexed, 8 Sep 2012, LHD; UAM 34486, HY ♀, 29 Aug 2013, JJW; UAM 36521, HY ♀, 25 Sep 2014, NRH.

Pluvialis squatarola. Black-bellied Plover. In **FALL**, adults rare from 30 Jul (four in

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1983, PJG) to late Aug (one late on 23 Sep 2012); juveniles uncommon from 27 Aug (2013), more regularly after early Sep, to 16 Oct (2014), usually <four/day. Maxima 11+ on 16 Sep 1981 and 40 on 25 Sep 1987. Rare in **SPRING**, from 25 Apr (one in 1979, SAH) through early May (2005 and 2006, TvN). Twice in **SUMMER**: Two from 14 to 24 Jun 1982 (PJG, DRN); “present” on 6 Jul 1976 (DAF, MH). **NOTES**: In fall, most regular on tidal flats, beaches, and kelp wrack. Black-bellied Plovers are fairly common fall migrants in S-C Alaska from Aug to early Oct (Isleib and Kessel 1973).

Pluvialis dominica. American Golden-Plover. Uncommon or rare in **FALL**, 18 Aug (2013) to 29 Sep (1991), most 20 Aug–8 Sep. Five to 22+ birds recorded per season, 2012–2014. Maxima three on 20 Aug 2012 and seven on 28 Aug 2013 (both LHD+). **NOTES**: All individuals observed well were juveniles. The American Golden-Plover most often foraged on tidal flats, beaches, and in kelp wrack, and often associated loosely with the Pacific. **SPECIMENS**: UAM 29192, HY ♀, 7 Sep 2011; UAM 34233, HY ♂, 12 Sep 2013; UAM 36309, HY ♀, 6 Sep 2014. All LHD.

Pluvialis fulva. Pacific Golden-Plover. Common in **FALL**, from 30 Jul (1983) through at least 15 Oct (2014). Numbers through early Oct typically 50–100/day. One on 5 and 6 Nov 1986 (MEI) was late. Maxima 300+ on 3 Oct 1987 and 400 on 28 Sep 1987; possibly more numerous in 1980s and 1990s than since (maximum since 2010, 80 individuals). On the basis of 2012 and 2013 data, adults predominated through the end of Aug, juveniles began arriving 20 Aug, the age classes were equal in number by about 25 Aug, and by early Sep juveniles were more numerous (e.g., 25 of 30 birds on 1 Sep 2013). Latest adult seen on 21 Sep (2012). Uncommon in **SPRING** from Apr (2006, TvN) to 15 May (15 in 1982). **NOTES**: Flocks were most numerous along the airstrip or in coastal tall forb meadows. The Pacific Golden-Plover is a common migrant in coastal S-C Alaska (Isleib and Kessel 1973) and annual in small numbers in spring and fall in SE Alaska (Heinl and Piston 2009). **SPECIMENS**: UAM, 9; USGS, 2.

Charadrius hiaticula (tundrae). Common Ringed Plover. Once in **FALL**: One bird (unknown age) in a flock of Semipalmated Plovers, 25 Aug 2013 (CWW, NRH, LHD; audio recording of diagnostic call ML4821811). **NOTES**: The Common Ringed Plover is a rare migrant in the Bering Sea and the Aleutians (Lehman 2005, Gibson and Byrd 2007), not previously reported in S-C or SE Alaska, but recorded east and south to Washington (Mlodinow et al. 2007, Mlodinow and Bartels 2016) and California (Sterling and Easterla 2012).

Charadrius semipalmatus. Semipalmated Plover. Common in **FALL**, from at least mid-Aug to 29 Sep (one in 2012), exceptionally to 15 Oct (one in 2014). Numbers largest during second half of Aug (40–80/day), then decreased in first half of Sep; species irregular after mid-Sep. Maxima 226 (including single flock of 80) on 22 Aug 2013 and 230 on 14 Aug 2014. Common in **SPRING**, present by 22 Apr (1979, SAH). Common as a **BREEDER** in **SUMMER** with nests by mid-May and young observed as late as 16 Aug (2013). **NOTES**: In fall seen foraging primarily on tidal flats at northeast lagoon and roosting in large flocks on the gravel airstrip. A leucistic bird was seen on 14 Aug 2014 (photo ML33565971, NRH). The species is a common migrant and breeder in S-C Alaska (Isleib and Kessel 1973). **SPECIMENS**: UAM, 4; AMNH, 2; MVZ, 1.

Charadrius vociferus vociferus. Killdeer. Twice in **FALL**: One on 25 Sep 1987 (DDG+); one on 1 Oct 1991 (SCH+). Once in **SPRING**: One bird, 11–13 May 1981 (UAM 4095, AHY ♂, JSH, DDG+). **NOTES**: A rare migrant and breeder in S-C, SE, and interior Alaska (see Kessel and Gibson 1978, Heinl and Piston 2009).

Bartramia longicauda. Upland Sandpiper. Rare in **FALL**, 12 Aug (2012) to 8 Sep (2013), exceptionally to 23 Sep (1982, DDG+), the latest record for Alaska by a week (Gibson et al. 1987). Annual from 2011 to 2014. Most records in second half of Aug. Maxima four on 14 Aug 2012 and six on 16 Aug 2013—all other observations of one or two birds. Maximum seasonal totals five in 2014 and 12 in 2013.

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All individuals seen well or photographed were juveniles (photos ML33465261 and ML33471361). Two reports in **SUMMER**: One on 19 Jul 1984 (PJG); one during first week of Jun 2006 (TvN). **NOTES**: We found this species most frequently in grass and tall forb meadows, particularly along roadways. The Upland Sandpiper is a casual migrant in S-C and SE Alaska, mostly in fall (Isleib and Kessel 1989; SCH and A. W. Piston unpubl.). **SPECIMEN**: UAM 35564, HY ♂, 20 Aug 2013, LHD.

Numenius phaeopus hudsonicus. Whimbrel. Uncommon in **FALL**, arriving in late Jul in peak numbers: e.g., 45+ from 31 Jul to 5 Aug 1982 (PJG, DRN) and 105 on 30 Jul 1983 (PJG). Less numerous mid-Aug to mid-Sep when typically 10/day. Latest were single birds on 10 Oct 2012 and 11 Oct 2014. The vast majority of fall Whimbrels were juveniles in Aug and Sep. Fairly common in **SPRING**, with up to 42 from 10 to 25 May 1981 (DDG+), at least one on 11 May 1979 (SAH), and 12 on 15 May 1982. **SUMMER** records from 11 Jun to early Jul, maximum 25–30 birds from 15 to 24 Jun 1983 (PJG, DRN). **NOTES**: Alaska-nesting Whimbrels depart staging areas in W Alaska in fall (Handel and Dau 1988) on direct transoceanic flights to the coast of western North America south of Alaska (see Skeel and Mallory 1996). The numbers and timing at Middleton suggest the island provides a brief stop for some of the easternmost of those migrants. At Middleton the Whimbrel preferred cobble beaches and spits, where it often gathered in loose groups. In coastal S-C Alaska it is a common migrant (Isleib and Kessel 1973). **SPECIMENS**: MVZ 134531, AHY ♀, 25 Jun 1956, R. Rausch; UAM 34507, AHY unsexed, 15 Aug 2013, LHD; UAM 34622, HY ♂, 31 Aug 2013, JJW; AMNH 840472, AHY ♂, 3 Sep 2014, NRH.

N. p. (variegatus). Once in **FALL**: Single adult present 29 Aug–5 Sep 2012 (CWW, NRH, LHD; photo ML26887381; Figure 7) with a small group of *hudsonicus*. **NOTES**: This Asiatic taxon breeds east to the Anadyr River basin (Portenko 1972) and winters in southeast Asia, the southwest Pacific, Australia, Tasmania, and New Zealand (AOU 1957). It is casual in fall at St. Lawrence Island (Lehman 2005) but a rare or uncommon migrant farther west, in the western Aleutian Islands (Gibson and Byrd 2007).

Numenius tahitiensis. Bristle-thighed Curlew. Twice in **FALL**: One on 4 Sep (NRH, photo ML33565741) and one on 21 Sep 2012 (NRH, CWW, LHD, FD; photo ML33566861). Rare in **SPRING**, when “in small numbers almost every other day” 11–22 May 1981, maximum three on 20 May (DDG+); two on 14 May 1983 (RLS); one on 18 May 1985 (RLS); one on 13 May 2005 (TvN). One report in **SUMMER**: One on 15 Jul 2006 (TvN) was out of place, perhaps a failed breeder from W Alaska. **NOTES**: In fall most Bristle-thighed Curlews depart coastal W Alaska on direct transoceanic flights to Hawaii and French Polynesia (see Handel and Dau 1988, Marks et al. 2002). The species is casual on the coast of mainland S-C Alaska (Isleib and Kessel 1989). **SPECIMEN**: UAM 4092, SY ♂, 11 May 1981, DDG.

Limosa haemastica. Hudsonian Godwit. Rare in **FALL**: Eight records, rather evenly spaced from 31 Jul (1982) to 8 Sep (2011), all of single birds except for two on 12 Aug 2014 and a flock of five on 20 Aug 2013 (photo ML33565261, NRH; Figure 8). One in May 2006 (TvN) represents the only report in **SPRING**, three on 9 Jul 1976 (DAF, MH) the only one in **SUMMER**. **NOTES**: In fall most Hudsonian Godwits departing Alaska head E, then S, ultimately to southern South America (see Senner et al. 2014). Thus the species is scarce at that season anywhere on the North Pacific coast (e.g., Campbell et al. 1990b, Wahl et al. 2005, Marshall et al. 2006, Hamilton et al. 2007). It is a fairly common spring migrant in S-C Alaska (Isleib and Kessel 1973), breeding as close to Middleton as upper Cook Inlet (Kessel and Gibson 1978).

Limosa lapponica baueri. Bar-tailed Godwit. Once in **FALL**: One juvenile, 3 Sep 2013 (UAM 34485, unsexed, JJW). **NOTES**: In fall most Bar-tailed Godwits departing Alaska do so from staging areas in W and SW Alaska on direct transoceanic flights to New Zealand (see Gill et al. 2009). The species is casual in coastal S-C and SE Alaska (Isleib and Kessel 1973; SCH unpubl.).

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Limosa fedoa (beringiae). Marbled Godwit. Casual in **FALL**: One on 29 Aug 2010 (TvN, photo ML33566301), one on 20 Sep 2011 (CWW, LHD), and two on 30 Sep 2012 (TJD). **NOTES**: This species occurs in small numbers in spring in SE (Heinl and Piston 2009) and coastal S-C Alaska but is casual in fall (Isleib and Kessel 1973), at which season most depart the Alaska Peninsula on a direct transoceanic passage to the northeastern Pacific coast south of Alaska (Gibson and Kessel 1989; D. R. Ruthrauff, in litt., 2016).

Arenaria interpres (interpres). Ruddy Turnstone. Uncommon in **FALL**, arriving by 30 Jul (13 in 1983, PJG) and at intervals through early Oct with \leq five/day; latest were single birds on 12 Oct 1980 and 23 Oct 2016 (NRH+). Numbers largest in late Aug and early Sep; maxima 19 on 27 Aug 2014 and 20 on 17 Sep 2012 (late for this number); we watched a flock of 12 on 26 Aug 2014 arriving from the N. Adults more numerous in mid-Aug (e.g., 13 of 18 birds on 13 Aug), while juveniles outnumbered adults by the end of Aug (e.g., five of seven on 27 Aug), after which adults were few (all 2014 data). Uncommon in **SPRING**: Up to 10/day from 10 to 25 May 1981 (DDG). **NOTES**: Both turnstone species foraged together in kelp wrack and roosted on spits or cobble beaches. The Ruddy is a common spring migrant and fairly common fall migrant in coastal S-C Alaska (Isleib and Kessel 1973). **SPECIMENS**: AMNH, 1; UAM, 1.

Arenaria melanocephala. Black Turnstone. Common in **FALL**, arriving by 10 Jul (50 in 2015, AAA), then increasing to typically 700–1000/day from mid-Aug through late-Oct, with little pattern of variation in abundance within a season. Maximum 1200 on 11 Oct 2014. Over 150 from 5 to 12 Nov 1987. Uncommon to common in **WINTER**: 50+ on 1 Jan 1993 (RLS); 250 on 18 Feb 1976 (KDW, JSH). Few in **SPRING**: Six to 11+/day from 10 to 25 May 1981 (DDG+). Three records from **SUMMER**: Three birds on 25 Jun 1956 (Rausch 1958); one from 15 to 24 Jun 1982; two from 15 to 24 Jun 1983 (both PJG, DRN). **NOTES**: At Middleton we found the Black Turnstone to prefer cobble beaches, foraging and roosting in flocks with Black Oystercatchers, Rock Sandpipers, and Surfbirds. It is present in coastal S-C Alaska year round (Isleib and Kessel 1973). **SPECIMENS**: UAM, 5; AMNH, 3; MVZ, 1.

Calidris canutus (roselaari). Red Knot. Casual in **FALL** from 12 Aug (2013) to 5 Sep (2012, photo ML26887511, LHD), with seven records (of 12 birds, both juveniles and adults) concentrated between 22 Aug and 4 Sep. Maxima two juveniles on 4 Sep 2011 (photo ML33566961, LHD) and four adults 12–22 Aug 2013. **NOTES**: We observed most knots foraging on tidal flats or in kelp wrack. Isleib and Kessel (1973) considered this species a (locally) common migrant on the Copper River delta in spring but rare in fall from 10 Aug to 8 Sep. **SPECIMENS**: UAM 34231, HY ♀, 23 Aug 2013; and UAM 34716, HY ♂, 4 Sep 2013 (both LHD).

Calidris virgata. Surfbird. Common in **FALL**, from 10 Jul (two in 2015, AAA) through late Oct, most numerous during Aug and early Sep (typically 100–200/day). Maxima 305 on 6 Sep 2014 and 492 on 4 Sep 2013. Regular through mid- and late Oct, e.g., 111 on 11 Oct 2014 and 50 on 21 Oct 2016. Latest was one on 7 Nov 1986. **NOTES**: Through the fall, we recorded no clear pattern in the ratio of adults to juveniles. Although common, Surfbirds made up only a small component of the flocks of “rock shorebirds.” Species occurs year round in coastal S-C Alaska (Isleib and Kessel 1973). **SPECIMENS**: UAM 34002 and UAM 34003, both HY ♀♀, 2 Sep 2013, JJW.

Calidris pugnax. Ruff. Casual in **FALL**: Single juveniles on 23 Sep 1982 (UAM 4727, ♀, TGT, DDG), 26 Aug 2012 (LHD, NRH+, photo ML26886961), and 20–27 Aug 2013 (LHD+, photo ML33465731). **NOTES**: Species is casual in fall in S-C and SE Alaska (see Isleib and Kessel 1989, Heinl and Piston 2009).

Calidris acuminata. Sharp-tailed Sandpiper. Uncommon in **FALL**, from 20 Aug (2013) to 22 Oct (2016) and 6 Nov (one in 1982, DWS, RLS). Typically $<$ five/day, but absent some days. Maxima eight on 3 Sep 2012 and 11 on 7 Sep 2013. All were juveniles except for one adult on 26 and 31 Aug 2012 (photo ML33566751

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and 33566761; Figure 9). **NOTES:** We observed this species foraging primarily in kelp wrack, tidal flats, and marsh. It is a generally rare fall migrant in coastal S-C and SE Alaska (Isleib and Kessel 1973, Handel and Gill 2010; SCH and A. W. Piston unpubl.). **SPECIMENS:** UAM 5422, HY ♂, 28 Sep 1987, MEI; UAM 30827, AHY ♀, 31 Aug 2012, LHD; UAM 34411 and UAM 34412, both HY ♀♀, 4 Sep 2013, LHD.

Calidris himantopus. Stilt Sandpiper. Rare in **FALL**, with one to four/day from 15 Aug (2014) to 12 Sep (1982), most regular in last 10 days of Aug. Maxima five on 20 Aug 2014 (NRH, photo ML33566181) and six on 25 Aug 2012. Four to 10 records annually from 2012 to 2014. All birds seen well were juveniles. **NOTES:** We observed this species almost exclusively on tidal flats at northeast lagoon. It is a less-than-annual fall migrant in other areas of coastal S-C Alaska (Isleib and Kessel 1989, MacIntosh 2009). **SPECIMENS:** UAM 4268, HY unsexed, 12 Sep 1982, TGT; UAM 34236, HY ♀, 31 Aug 2013, LHD; UAM 34234 and UAM 34235, both HY ♂♂, 1 Sep 2013, JJW.

Calidris ferruginea. Curlew Sandpiper. Once in **FALL**. One juvenile with Western Sandpipers at northeast lagoon on 27 Aug 2013 (CWW, photo ML33470961). **NOTES:** No other fall records in S-C Alaska and just one from SE Alaska in fall (see Tobish 2005).

Calidris ruficollis. Red-necked Stint. Two records, one each in **FALL** and **SUMMER**: One juvenile on 29 and 30 Aug 2014 (UAM 37600, ♂, CWW, LHD; photo ML33566741); one adult on 3 Jul 2010 (photo ML39343021, CDF, KHE). **NOTES:** There is one prior record each in S-C and SE Alaska (Isleib and Kessel 1989, Tobish 2013a; SCH and A. W. Piston unpubl.). The Red-necked Stint nests in W Alaska on the Seward Peninsula (DeCicco et al. 2013), is a rare fall migrant at St. Lawrence Island from 12 Aug to 4 Sep (Lehman 2005), and is intermittent in the western Aleutians from third week of Aug to second week of Sep, exceptionally as early as 16 Jul (Gibson and Byrd 2007).

Calidris alba. Sanderling. Common in **FALL** from at least mid-Aug through winter. Numbers largest during Aug and Sep, maxima 350 on 20 Aug 2013 and 507 on 3 Sep 2012. Adults more numerous than juveniles from mid-Aug (e.g., 100:1 on 13 Aug 2014) through mid-Sep, after which age ratio generally 1:1. Numbers as high as 240 as late as 28 Oct 2016, 75+ from 5 to 12 Nov 1986, and 30+ in **WINTER** on 1 Jan 1993 (RLS). Fairly common in **SPRING**, with maxima of 41 and 46 on 21 and 22 May 1981 (DDG); “present” in spring 2005 and 2006 (TvN). Rare in **SUMMER**: Five (fall migrants) on 30 Jul 1983 (PJJ) and “present” in 2005 and 2006 (TvN). **NOTES:** We saw the Sanderling almost exclusively on cobble beaches and sandy spits, often in mixed flocks of turnstones, Rock Sandpipers, Surfbirds, and Black Oystercatchers. It is a common migrant in coastal S-C Alaska (Isleib and Kessel 1973) and winters locally on Alaska’s Pacific coast (see Gibson and Byrd 2007, MacIntosh 2009; SCH and A. W. Piston unpubl.). **SPECIMENS:** UAM, 9.

Calidris alpina (pacific). Dunlin. Uncommon in **FALL**, 28 Aug (2013) to early winter. Only three records prior to 9 Sep. Most regular mid-Sep through early Oct, with much variation in numbers from year to year. Maxima 15 on 3 Oct 1987 and 19 on 30 Sep 1982. Numbers remaining through late fall were small: seven on both 21 and 28 Oct 2016 and six from 5 to 12 Nov 1986. Once in **WINTER**: Eight on 1 Jan 1993 (RLS). Information in **SPRING** sparse: Two on 17 May 1981; observed in May 2005 (TvN). Few records in **SUMMER**: Multiple individuals (possibly fall migrants) on 28 Jun and 7 Jul 1976 (DAF, MH). **NOTES:** In fall, except for one juvenile on 28 Aug 2013, all of Middleton’s Dunlins were in basic plumage. Most flocked with Rock Sandpipers on cobble beaches. The species is a locally common migrant and summer and winter visitant in coastal S-C Alaska (Isleib and Kessel 1973). **SPECIMEN:** AMNH, 1.

Calidris ptilocnemis tschuktschorum. Rock Sandpiper. Common in **FALL** from mid-Jul on; little fluctuation in numbers from the end of Jul through at least late Oct. Earliest were two on 18 Jul 2014 (AAA) and 743 on 30 Jul 1983 (PJJ). During Oct and Nov island-wide counts of 500–900 were typical (e.g., 654 on 10 Oct 1980,

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500–900/day from 19 to 29 Oct 2016, and 600–759/day from 5 to 12 Nov 1986). Adults preceded juveniles, for which our earliest dates were 18 Aug 2014 and 3 Sep 2013. Common in **WINTER**: 600+ on 1 Jan 1993 (RLS); present 18–20 Feb 1976 (KDW, JSH). In **SPRING**, five on 10 May 1981, a few still present 25 May (DDG+). **NOTES**: Adults arrived in alternate plumage and most attained basic plumage by late Sep. We observed Rock Sandpipers exclusively on cobble beaches, where they congregated on spits and peninsulas, often with mixed flocks of turnstones, Sanderlings, and Surfbirds. The Rock Sandpiper is common on migration and in winter elsewhere in coastal S-C Alaska (Isleib and Kessel 1973). It was rarely possible to assess the subspecific composition of flocks at Middleton thoroughly, but *tshuktschorum* appeared to be the most numerous of the three subspecies reaching the island, as are most of the 22 specimens. Criteria for separating *tshuktschorum* from *couesi* in basic plumage are still largely qualitative; we identified as *tshuktschorum* those birds with extensive gray fringes to mantle, back, and scapular feathers, moderately marked underparts, and moderately extensive white wing stripes. All comparisons made with specimens at UAM (JJW, LHD, and DDG). **SPECIMENS**: UAM, 10; USGS, 7.

C. p. couesi. Uncommon in **FALL**, representing about 10% of the Rock Sandpipers observed closely at Middleton in late Oct 2016 (LHD). **NOTES**: Mostly resident in the Aleutians (Gibson and Withrow 2015), this subspecies had been found previously in winter only as far east as Cook Inlet (Gill et al. 2002), so Middleton Island represents a further extension of the range. We identified as examples of *couesi* birds in basic plumage with less extensive gray fringes to mantle, back, and scapular feathers, heavily marked underparts, and minimally extensive white wing stripes. **SPECIMENS**: e.g., UAM 31114, UAM 36660, UAM 39634, and UAM 39635.

C. p. ptilocnemis. Casual in **FALL**, when up to four birds observed in late Oct 2016 (BWR, RAM, LHD), but our understanding of this taxon's status at Middleton may be incomplete, as systematic searches of large flocks of Rock Sandpipers were rarely undertaken. **NOTES**: Nominate *ptilocnemis*—larger and paler than the other subspecies, with bolder wing stripe—winters primarily in Cook Inlet (see Gill 1997, Gill and Tibbitts 1999, Ruthrauff et al. 2013) and has been recorded in winter at Kodiak Island (UAM specimens) and Homer (A. J. Lang, in litt., 2009). Beyond Alaska it has been recorded as far east and south as Washington (Aversa 2001). **SPECIMEN**: UAM 39629, AHY ♀, 29 Oct 2016, LHD.

Calidris bairdii. Baird's Sandpiper. Rare or uncommon in **FALL**, 30 Jul (1983) to 2 Oct (1987), most regular mid-Aug through early or mid-Sep. Casual after 15 Sep, with four records, the latest of one on 2 Oct 1987. Numbers varied greatly from year to year; in some years the species was all but absent (e.g., only three in 2012), while in others (2013 and 2014) it occurred regularly in small numbers (<10/day) from mid-Aug through early Sep. Maximum 33 on 13 Aug 2014; in other years 14 on 28 Aug 2013 and 15+ from 31 Jul to 5 Aug 1982 (PJG, DRN). Once in **SPRING**: One, 15 May 1982 (PDA, DWS). **NOTES**: We found Baird's Sandpiper most regularly in mixed flocks of *Calidris* foraging in kelp wrack. All seen in fall were juveniles. Uncommon in spring and fall (early Aug–early Sep) in coastal S-C Alaska (Isleib and Kessel 1973), rare in SE Alaska (Gabrielson and Lincoln 1959). **SPECIMENS**: UAM 5435, HY ♀, 2 Oct 1987, MEI; UAM 34435, HY ♂, 20 Aug 2013, LHD; UAM 33999, HY ♂, 3 Sep 2013, JJW.

Calidris minutilla. Least Sandpiper. Common in **FALL**, as early as 30 Jul (187 in 1983, PJG). Most numerous in Aug, but peak likely prior to our arrival in mid-month. Maxima 2000 on 13 Aug 2014 and 2022 from 12 to 16 Aug 1981 (JLT). Numbers decreased notably through late Aug, e.g., from 1560 on 20 Aug 2013 to 671 eight days later. Uncommon after early Sep and sporadic by mid-Sep; five records after 20 Sep. Latest were single birds on 4 Oct 2012 and 5 Oct 2014. Juveniles were much more numerous than adults from mid-Aug on (e.g., ratio 40:1 on 13 Aug 2014). Latest adults recorded were 27 Aug 2014 and 8 Sep 2013. In **SPRING**: Common

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from 10 through 25 May 1981 (DDG+). Common in **SUMMER**, as in 2005 and 2006 (TvN); **BREEDS** (Rausch 1958). **NOTES**: Migrants most numerous in kelp wrack. The Least Sandpiper is a common migrant and breeder in coastal S-C Alaska (Isleib and Kessel 1973). **SPECIMENS**: MVZ 134746, AHY ♀, 6 Jun 1956, R. Rausch; MVZ 134747 and MVZ 134748, both AHY ♂♂, 7 Jun 1956, R. Rausch; UAM 37602, HY unsexed, 30 Aug 2014, LHD.

Calidris subruficollis. Buff-breasted Sandpiper. Rare in **FALL**, 20 Aug (2013 and 2014) to 30 Sep (1987), with most records in Aug and early Sep. All records of single birds except for two on 17 Sep 1981, 28–29 Sep 1987, and 20 Aug 2014. Seasonal totals three or four from 2012 to 2014. **NOTES**: All individuals observed well were juveniles. The species was typically seen in kelp wrack and short vegetation along the gravel airstrip. It is a casual fall migrant in S-C (Isleib and Kessel 1973) and SE Alaska (Heinl and Piston 2009). **SPECIMENS**: UAM 5421, HY [♀], 28 Sep 1987, MEI; and UAM 34249, HY ♂, 8 Sep 2013, LHD.

Calidris melanotos. Pectoral Sandpiper. Common in **FALL**, 10 Aug (2012)–6 Nov (1986), varying widely from year to year in abundance and timing of occurrence. Although a consistent pattern is not clear from our data, peak numbers appeared to extend from late Aug through late Sep. Maximum 793 on 28 Aug 2013 but in 2014 peak no more than 135/day. Latest were one on 27 and 28 Oct 2016 (RAM, LHD) and three on 6 Nov 1982 (RLS, DWS). No pattern discerned in seasonal occurrence of adults versus juveniles. Uncommon in **SPRING**: Present in small numbers 10–25 May 1981 with maximum three on 11th and 22nd; seven on 15 May 1982; present in May 1989. Rare in **SUMMER**: One from 15 to 24 Jun 1983 (PJJ, DRN); one in “mid-Jul” 1976 (DAF, MH). **NOTES**: Found almost exclusively in kelp wrack, with largest concentrations in patches of rotting kelp. Fairly common spring and fall migrant in S-C Alaska (Isleib and Kessel 1973). **SPECIMENS**: AMNH, 2; USGS, 1.

Calidris pusilla. Semipalmated Sandpiper. Rare or uncommon in **FALL**, 12 Aug (2014)–5 Sep (2013), with peak numbers 12–23 Aug. Much variation in abundance from year to year, e.g., seven birds from 17 to 29 Aug 2012 versus typically 10/day from 12 to 16 Aug 2014. Maximum 36 on 13 Aug 2014. Latest dates 1 Sep 2014, 5 Sep 2013, and 16 Sep 1981. All individuals seen well were juveniles. Twice in **SUMMER**: One, 15–24 Jun 1983 (PJJ, DRN); one on 25 Jun 1956 (MVZ 134750, Rausch 1958). **NOTES**: Occurred primarily in mixed-species flocks of *Calidris* foraging in kelp wrack and on tidal flats at northeast lagoon. An uncommon spring and fall migrant in coastal S-C Alaska (Isleib and Kessel 1973) and rare in fall in SE Alaska (SCH and A. W. Piston unpubl.). **SPECIMENS**: MVZ 134750, AHY ♀, 25 Jun 1956, R. Rausch; UAM 34413, HY ♂, 20 Aug 2013, LHD; UAM 37599, HY ♂, 30 Aug 2014, LHD.

Calidris mauri. Western Sandpiper. Common or abundant in **FALL**, arriving by mid-Jun: e.g., seven from 14 to 26 Jun 1981 (PJJ, AEZ) and 250–300 from 15 to 24 Jun 1983 (PJJ, DRN). Fall migrants can peak in Jul, e.g., “thousands” in Jul 1976 (DAF, MH) and about 10,000 during the first week of Jul 1979 (SAH), but we found them common through mid-Aug: 1100 on 13 Aug 2014 and 1200+ on 20 Aug 2013—almost all juveniles. Numbers notably lower in late Aug, e.g., 315 on 28 Aug 2013, down from 1221 on 20 Aug. Low hundreds still present in early Sep (e.g., 282 on 3 Sep 2012, 173 on 8 Sep 2013, and 194 on 10 Sep 1981), exceptionally until late Sep (206 on 21 Sep 2012). Latest records 3 Oct 2014 (one) and 4 Oct 2012 (five) but last on 22 Sep in 2013. The low proportion of adults during Aug suggested they move through in late Jun and Jul (see Butler et al. 1987). Limited information in **SPRING**: Single birds on 11 and 24 May 1981; five on 15 May 1982. **NOTES**: We saw this species most frequently on kelp wrack and on tidal flats at northeast lagoon. It is a common fall migrant in coastal S-C Alaska from late Jun through Sep (Isleib and Kessel 1973). **SPECIMENS**: MVZ, 7; AMNH, 4; UAM, 1.

Limnodromus griseus caurinus. Short-billed Dowitcher. Uncommon (typically



Figure 5. Immature Eared Grebe (*Podiceps nigricollis*) on 24 Oct 2016, one of two recorded at Middleton Island and one of only three recorded in fall in Alaska.

Photo by Lucas H. DeCicco

≤four/day) and irregular in **FALL** from 14 Jun (five in 1981, PJG, AEZ) and 25 Jun (eight in 1956, Rausch 1958) to 25 Sep (two in 1987) and 1 Oct (one in 2012). Most frequent in late Aug; maxima nine on 26 Aug 2012 and 10 on 22 Aug 2013. In some years, such as 2014, the numbers recorded were as few as a single individual. Maxima nine on 26 Aug 2012 and 10 on 22 Aug 2013. We observed only juveniles in fall. Uncommon in **SPRING**: Both dowitchers were uncommon in mid-May 1981 with a maximum of 13 (species combined) on 11 May; “a few” observed on 7 May 2005 (TvN). **NOTES**: Habitat use broad, the species being noted in kelp wrack, on tidal flats, in marshes, and along the shorelines of ponds. It is a common migrant and locally common breeder in coastal S-C Alaska (Isleib and Kessel 1973). **SPECIMEN**: MVZ 134749, ASY ♀, 25 Jun 1956, R. Rausch.



Figure 6. Fork-tailed Swift (*Apus pacificus*) on 21 Aug 2014 foraging with swallows over the northeast lagoon—one of our two autumn records.

Photo by Nicholas R. Hajdukovich/USFWS

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Limnodromus scolopaceus. Long-billed Dowitcher. Common in **FALL**, from 3 Jul (1976, DAF, MH) and 19 Jul (2005, 20+ in 2005, TvN) to 8 Oct (2016). Numbers typically peaked at 40–100/day during the latter half of Sep, but maxima 251 on 13 Sep 1981 and 290 on 7 Sep 2013. By early Oct numbers usually decreased to <10/day, so 14 on 21 Oct 2016 (NRH+) were noteworthy. Adults outnumbered juveniles in early Aug, then the age ratio reached 1:1 by mid- to late Aug, after which juveniles outnumbered adults (latest adult recorded on 8 Sep in 2013). **NOTES:** At Middleton the Long-billed Dowitcher concentrated on tidal flats at northeast lagoon but occurred also in marshes and along pond shorelines. It is a common migrant in coastal S-C Alaska (Isleib and Kessel 1973).

Gallinago delicata. Wilson's Snipe. Common in **FALL** from mid-Aug through late Oct, when we found 20–60/day typical and over 100/day repeatedly, peak numbers often coinciding with inclement weather. Maxima 250/day 1–3 Sep 2013 and 300 on 5 Sep 2014. Later in the season numbers dropped to around four to 15/day, as from 5 to 12 Nov 1986. In **WINTER:** Two on 25 Feb 1961 (O'Farrell and Sheets 1962); two on 31 Dec 1992 (RLS). Common in **SPRING** and **SUMMER** as a **BREEDER:** In 1981 ubiquitous in courtship flights on 10 May, first nests found (already 4 eggs each) on 12 May (DDG+). "Common but widely spaced" (DAF, MH) and "abundant" (TvN) during summers 2005 and 2006. **NOTES:** In fall snipe occurred primarily in marshes and along the wet edges of shrub thickets but during peak movement were ubiquitous wherever standing fresh water was available (including puddles on flat roofs). In S-C Alaska they are common during migration and in summer, rare in winter (Isleib and Kessel 1973). **SPECIMEN:** MVZ 134745, AHY ♂, 6 Jun 1956, R. Rausch.

Actitis macularius. Spotted Sandpiper. Common in **FALL**, recorded from 22 Jul (2006) to 5 Oct (1983; TvN, PJG). Most numerous in second half of Aug and early Sep; maximum 59 on 28 Aug 2013. Rare after 10 Sep; only two records in early Oct. One bird on 13 May 2004 (TvN) represents the only **SPRING** report. **NOTES:** Nearly all Spotted Sandpipers were seen along cobble beaches. The species is a common migrant in coastal S-C Alaska (Isleib and Kessel 1973).

Tringa solitaria cinnamomea. Solitary Sandpiper. Uncommon in **FALL** from 31 Jul (1982) to 23 Sep (1982) and, exceptionally, 4 Oct (2012). Most regular (one or two/day) in Aug and early Sep. Maxima four on 18 Aug 2012 and six on 23 Aug 2013. **NOTES:** All seen well were juveniles and most were in marshes, often adjacent to willow thickets. Fairly common migrant in Aug and early Sep in coastal S-C Alaska (Isleib and Kessel 1973). **SPECIMENS:** UAM 29150, HY ♀; UAM 29177, HY ♂, both 25 Aug 2011, LHD.

Tringa brevipes. Gray-tailed Tattler. Casual in **FALL:** One juvenile on 24 Sep 1982 (UAM 4273, ♂, TGT, DDG), one juvenile on 22 Sep and 24 Sep 2005 (BMG; photos ML33567021 and 33567031), and one adult on 18 Aug 2014 (UAM 36311, ♀, NRH, LHD; photos ML33566081 and 33566101; Figure 10). **NOTES:** All were observed on cobble beaches and spits. These are the only records on Alaska's Pacific coast east of the Aleutian Islands (see Gibson and Withrow 2015), but farther east and south there are records from Washington (Tweitt and Paulson 1994) and California (see Hamilton et al. 2007).

Tringa incana. Wandering Tattler. Common in **FALL** from 30 Jul (1983) to 12 Oct (1980), most numerous (20–40/day) Jul–Sep; maxima 397 on 30 Jul 1983 (PJG) and 450+ from 31 Jul to 5 Aug 1982 (PJG, DRN). Maximum in Aug 168 on 13 Aug 2014. Numbers declined in late Sep; only three records in Oct. Adults outnumbered juveniles in mid-Aug (e.g., 60:1 on 12 Aug 2014), by 25 Aug the age classes were equal in abundance, and juveniles outnumbered adults by the end of Aug (10:1). Fairly common in **SPRING:** Up to 10+/day from 10 to 25 May 1981, "present" in May 2005 and 2006 (TvN). In **SUMMER,** one from 14 to 26 Jun 1981 (PJG, AEZ); two from 15 to 24 Jun 1983 (PJG, DRN). **NOTES:** Most tattlers were seen on cobble beaches,

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often with turnstones and Surfbirds. This species is a common migrant in coastal S-C Alaska (Isleib and Kessel 1973). **SPECIMENS:** AMNH, 4; UAM, 3.

Tringa melanoleuca. Greater Yellowlegs. Common in **FALL**, 30 Jul (1983) to 28 Oct (two in 2016). Typically 20–40/day in Aug and Sep, peaking in mid-Sep (maximum 179 on 11 Sep 2014). Less numerous in Oct but 30 on 21 Oct 2016. Adults observed in Aug but fewer than juveniles. Rare in **SPRING:** One on 11 May 1981 (DDG+) and present during May 2005 (TvN). In **SUMMER**, four from 14 to 26 Jun 1981 (PJG, AEZ), present on 24 Jun 1976 (DAF, MH), and present in Jun 2005 (TvN). **NOTES:** Roosted in large flocks at high tide on inland ponds; foraged primarily along edges of ponds, on tidal flats, and at northeast lagoon. Common migrant and breeder in coastal S-C Alaska (Isleib and Kessel 1973).

Tringa flavipes. Lesser Yellowlegs. Uncommon to common in **FALL**, from 19 Jul (2015) to 9 Oct (1980). Numbers peaked mid-Aug–early Sep, but variation in abundance from year to year was wide (e.g., 15/day in 2012 versus 100+/day in 2014). Maximum 194 on 13 Aug 2014. Less than daily in mid- and late Sep; only three records of single individuals in Oct. Rare in **SPRING:** One each on 11 May 1981 (DDG+) and 15 May 1982. Rare in **SUMMER:** Single birds on 5 Jun and 9 Jun 1956 (Rausch 1958) and from 15 to 24 Jun 1983 (PJG, DRN). **NOTES:** Seen almost exclusively at northeast lagoon. Fairly common migrant and locally uncommon breeder in coastal S-C Alaska (Isleib and Kessel 1973).

Phalaropus lobatus. Red-necked Phalarope. Common in **FALL:** Small flocks over inshore marine waters from at least mid-Aug, probably mid-Jul (1976; DAF, MH) through 28 Sep (1991 and 2012). Peak numbers typically 20–50, mid-Aug to early Sep; maxima 800+ on 6 Sep 2011 and 1000 on 30 Aug 2013. Common in **SPRING:** Present 10–25 May 1981 with maximum of 50 on the 11th. Present in low numbers in **SUMMERS** of 2005 and 2006 (TvN); a common **BREEDER** in 1956 (Rausch 1958). **NOTES:** Occasional on ponds in fall, but most numerous on inshore and nearshore marine waters. In coastal S-C Alaska a common breeder and migrant, common in fall through Sep, rare in Oct, and absent by 1 Nov (Isleib and Kessel 1973). **SPECIMEN:** MVZ 134760, AHY ♀, 25 Jun 1956, R. Rausch.

Phalaropus fulicarius. Red Phalarope. Rare in **FALL:** Irregular onshore 18 Aug (2013)–12 Oct (2014), with three to six records per season (2012–2014), generally in ones or twos. Maxima 12 on 23 Sep 2012 and 20 on 17 and 20 Sep 2013. Once in **SUMMER:** One on 26 Jun 1956 (Rausch 1958). **NOTES:** Nearly all seen over inshore or nearshore marine waters, often foraging along foam lines created by surf. Common migrant and uncommon summer visitant in coastal S-C Alaska (Isleib and Kessel 1973). Day (2006) considered the species rare in fall on pelagic waters of the northern Gulf of Alaska. **SPECIMENS:** MVZ 134759, AHY ♂, 26 Jun 1956, R. Rausch; UAM 5430, HY ♀, 30 Sep 1987, MEI; UAM 36610, HY ♂, 12 Oct 2014, LHD.

Stercorarius macconnicki. South Polar Skua. Casual in **FALL**, with eight records, all but one between 13 Sep and 24 Sep, and all of single birds except for two on 17 Sep 2013, 21 Sep 2012, and 24 Sep 2014. One skua was found dead aboard a ship “off Middleton Island,” 1 Nov 1977 (UAM 3635, SY ♂, PDA—Alaska’s first specimen of the species). **NOTES:** Casual in Alaska waters (Gibson and Withrow 2015), most records being from the northern Gulf of Alaska (Kessel and Gibson 1978, Gibson 1983, Tobish 2013c).

Stercorarius pomarinus. Pomarine Jaeger. Uncommon in **FALL**, typically one to 10/day (<six birds/hour from north point) from mid-Aug to mid-Oct. Numbers larger in Sep, when often 10–20/day (12 birds/hour from north point). Maxima 60 on 17 Sep 2013 and 90 on 16 Aug 2012 (23 birds/hour from north point). Numbers declined through Oct; 20 on 12 Oct 2014 were exceptional. Latest was one on 28 Oct 2016 (CDE), but species undoubtedly occurred later, when our data are sparse. **NOTES:** These data underestimate this species’ numbers, as ≥25% of jaegers were

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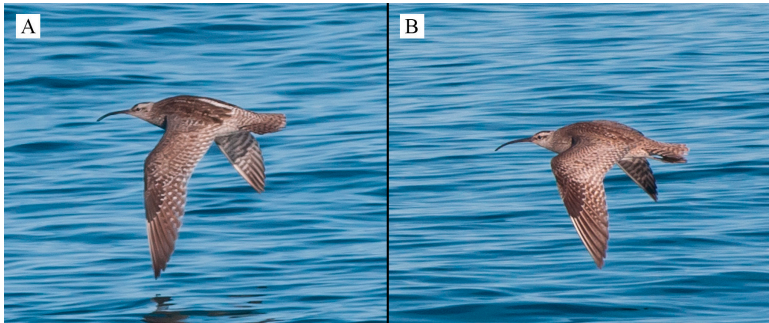


Figure 7. Comparison of Asiatic (A; subspecies *variegatus*) and North American (B; subspecies *hudsonicus*) Whimbrels (*Numenius phaeopus*) on 29 Aug 2012. Note the difference in back patterning between the two taxa.

Photos by Lucas H. DeCicco/USFWS

not identified to species. We noted a variety of age classes and color morphs. Likely occurs also during spring, as Day (2006) reported the species in the northern Gulf of Alaska in about equal numbers in spring and fall. **SPECIMENS:** UAM 34246, AHY ♀, and UAM 35557, AHY ♂, both 17 Sep 2013, LHD and NRH.

Stercorarius parasiticus. Parasitic Jaeger. Uncommon in **FALL**, mid-Aug through mid-Oct, regularly one to eight/day (typically <four birds/hour from north point)—slightly less numerous than the Pomarine Jaeger but seasonal patterns of abundance similar. Numbers largest in Sep when often six to 12 birds/hour from north point. Maximum daily counts 45 on 12 Sep 2011 and 90 on 16 Aug 2012 (30 birds/hour from north point). Rare or uncommon in **SPRING** and **SUMMER**: One on 21 May 1981 (DDG), one on 10 Jun 1956 (Rausch 1958), and “present” on 10 Jun 1984 (PJG). **NOTES:** Day (2006) also found the Parasitic to be less common than the Pomarine in the northern Gulf of Alaska. The Parasitic is likely more numerous in spring and summer than our data suggest, as Isleib and Kessel (1973) found it to



Figure 8. Flock of five juvenile Hudsonian Godwits (*Limosa haemastica*) on 20 Aug 2013, our maximum count in fall, when annual in small numbers.

Photo by Nicholas R. Hajdukovich/USFWS



Figure 9. Juvenile Sharp-tailed Sandpipers (*Calidris acuminata*) are generally uncommon in autumn along the Bering and Pacific coasts of Alaska, but adults, such as this bird on 31 Aug 2012, are scarce.

Photo by Charles W. Wright/USFWS

be an uncommon spring migrant and locally common breeder in coastal S-C Alaska. **SPECIMENS:** UAM 2877, AHY ♂, 10 Jun 1956, R. Rausch; UAM 36306, HY ♀, 8 Sep 2014, LHD and NRH.

Stercorarius longicaudus (pallascens). Long-tailed Jaeger. Casual in **FALL**, 25 Aug–16 Sep: One adult, 25 Aug 2011; one juvenile, 26 Aug 2014; one adult, 31 Aug 2014; one adult, 5 Sep 2012; one adult, 9 Sep 2012; and one juvenile, 16 Sep 2011. Once in **SPRING**: One, 20 May 1981 (DDG). **NOTES:** We saw this species over inshore and offshore marine waters. The Long-tailed Jaeger is quite rare over shelf waters in the northern Gulf of Alaska in fall; Day (2006) did not record it in nearby pelagic waters, and Isleib and Kessel (1973) considered it a rare fall migrant in coastal S-C Alaska.

Uria aalge inornata. Common Murre. Common in **FALL**, most numerous in Aug when typically 30–50 birds/day (eight to 15 birds/hour from north point) over marine waters. Departed breeding sites by end of Aug–early Sep (e.g., last birds observed on nesting sites on 5 Sep in 2014). Maximum from north point was 60 birds/hour on 17 Aug 2014. Numbers over inshore waters decreased through Sep (e.g., <10/day by mid-Sep and <five/day after mid-Sep); irregular from late Sep through mid-Oct. Latest were three on 28 Oct 2016 and “small groups” on 10 Nov 1986. Rare in **WINTER**: Three on 31 Dec 1992 and 1 Jan 1993 (RLS) and 17 beached birds found from 18 to 20 Feb 1976 (KDW). Common in **SUMMER** as a **BREEDER**. The species’ local population has fluctuated drastically since 1956, when Rausch (1958:240) estimated 400 murre, both species combined, and stated that “Thick-billed Murres were several times more abundant than the Common Murres.” The breeding population subsequently increased, peaking at over 10,000 birds in 1978 (SAH), then diminished to 820 birds in 2013 (SAH). **NOTES:** The continuing erosion of natural cliffs has likely contributed to this local population decline. As of 2014 the breeding population on Middleton Island was split between small remnant areas of natural cliff and man-made structures erected for

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it. The Common Murre is fairly common in coastal S-C Alaska year round (Isleib and Kessel 1973). **SPECIMENS:** UAM 2880, AHY ♀, 14 Jun 1956, R. Rausch; USGS 0016, SY ♀, 19 Feb 1976, MRP.

Uria lomvia arra. Thick-billed Murre. Two records in **FALL:** One on 25 Sep 1987 (DDG) and one on 2 Oct 2014 (CWW). Present in **SPRING** from 10 to 25 May 1981 (DDG). As a **BREEDER** in **SUMMER** the population has dwindled to zero since Rausch (1958:240) reported that, of the 400 breeding murrelets in 1956, the Thick-billed was “several times more abundant” than the Common. Hatch (1983) estimated 350 Thick-billeds in 1978 (versus 10,000 Commons). One and two adults were noted incubating eggs in 2003 and 2005, respectively (CJG, TvN). We found no evidence of breeding during the 2011–2014 surveys. **NOTES:** This species nests east of the Aleutian and Bering Sea islands at Marmot Bay, Cape St. Elias, and at Afognak, Baren, and St. Lazaria islands (Gaston and Hipfner 2000). **SPECIMEN:** UAM 2881, AHY ♂, 10 Jun 1956, R. Rausch.

Cepphus columba (columba). Pigeon Guillemot. One report in **FALL:** One bird seen 14 Aug 2012 (CWW, LHD). **NOTES:** Common year round in coastal S-C Alaska (Isleib and Kessel 1973), but rare on pelagic waters of the northern Gulf of Alaska in March and May of 1998 (Day 2006).

Brachyramphus marmoratus. Marbled Murrelet. Uncommon in **FALL**, 10 Aug (2012) to 28 Oct (2016), most regular from mid-Aug to mid-Sep. Numbers usually peaked during mid-Aug, when 20–35 birds/hour from north point (largest counts 30–50/day). Daily maxima 55 on 15 Aug 2014 and, exceptionally for so late in the fall, 200 on 23 Sep 2012 and 50 on 25 Oct 2016. Occurrence after mid-Sep typically less than daily. Once in **WINTER:** One, 31 Dec 1992 (RLS). Twice in **SUMMER:** Two, 16–21 Jun 1988 (KO) and one in Jun 1985 (DRN)—all beached birds (none preserved). **NOTES:** The majority in fall, particularly early in the season, were still in breeding plumage. Widespread in coastal S-C and SE Alaska, where known to breed from Kodiak Island to the southern Alexander Archipelago (Piatt and Ford 1993).

Brachyramphus brevirostris. Kittlitz’s Murrelet. Casual in **FALL**, mid-Aug to late Sep: One beached bird, Aug 1984 (DRN); two birds, one in alternate and one in basic plumage, 27 Sep 1987; one, 21 Sep 1997; one, 8 Sep 2011; one, 12 Aug 2012; and two, 17 Aug 2012. Once in **SUMMER:** Two beached birds (not preserved) in Jun 1985 (DRN). **NOTES:** Breeds in coastal Alaska from N Alaska (Cape Beaufort) south to the Aleutian Islands and east to SE Alaska (Day et al. 1999), with nesting documented in coastal S-C Alaska at Kodiak Island and in Icy Bay (Kendall and Agler 1998, Day et al. 1999, Kissling et al. 2015). Birds nesting in S-C Alaska move west across the Gulf of Alaska and north across the Alaska Peninsula in the fall (Madison et al. 2012).

Synthliboramphus antiquus. Ancient Murrelet. Uncommon in **FALL**, 21 Aug (2014)–28 Oct (four in 2016). Much variation in abundance from year to year, e.g., three from 21 Aug to 8 Oct 2014 versus 40 from 11 Aug to 24 Sep 2012. Most regular mid-Aug through mid-Sep, when typically one or two/day on about half the days. Maximum 20 on 27 Sep and 1 Oct 1987. Rare in **SUMMER:** A few in late Jun 1956 (Rausch 1958); three on 22 Jul and two on 23 Jul 2003 (CJG). **NOTES:** Nearly all over inshore marine waters. Uncommon in coastal S-C Alaska year round (Isleib and Kessel 1973) and rare in fall and spring in the mid-shelf waters of the northern Gulf of Alaska (Day 2006). **SPECIMEN:** MVZ 134761, AHY ♀, 27 Jun 1956, R. Rausch.

Ptychoramphus aleuticus aleuticus. Cassin’s Auklet. Rare to common in **FALL**, from 14 Aug (2012) to 28 Oct (four in 2016). Annual variability in numbers extremely wide: e.g., noted only once in 2013 (four, 17 Sep) and twice in 2012 (one, 14 Aug; two, 16 Aug) versus multiple daily counts of >1000 individuals in 2014. Also numerous in 1987, when recorded from 23 Sep to 6 Oct. Maximum 1419 on 23 Aug 2014. **NOTES:** Isleib and Kessel (1973) considered this species casual in coastal S-C Alaska, and Day (2006) found it rare in fall, winter, and spring in the northern Gulf of Alaska. Nearest breeding colonies are in the Semidi Islands, 700 km to the southwest, and at Forrester Island, 900 km to the southeast (<http://axiom.seabirds>).

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net/maps/north-pacific-seabirds). **SPECIMENS:** UAM 38131, HY ♀, 22 Aug 2014, LHD; UAM 38130, AHY ♀, 11 Sep 2014, NRH.

Aethia psittacula. Parakeet Auklet. Uncommon in **FALL**, 18 Aug (2012)–27 Oct (2016), with little pattern of abundance within this interval. Maximum daily counts 25 on 17 Sep 2013 and 25–30 on multiple days between 11 and 22 Sep 2012. All other observations of one or two birds only. Rare in some years (e.g., only two in 2014), in other years more regular (e.g., seen daily 8 Sep–9 Oct in 2012). Latest were two on 27 Oct 2016. **NOTES:** This species breeds nearest to Middleton on islands along the Pacific coast of the Kenai Peninsula (Jones et al. 2001); elsewhere in coastal S-C Alaska it is an uncommon local breeder (Isleib and Kessel 1973).

Aethia cristatella. Crested Auklet. One report in **FALL**: One flying over inshore marine waters, 24 Sep 2014 (CWW). **NOTES:** The species breeds from the Aleutian Islands (Gibson and Byrd 2007) east to Prince William Sound, where uncommon and local (Isleib and Kessel 1973). Rare from fall through spring in the northern Gulf of Alaska (Day 2006).

Cerorhinca monocerata. Rhinoceros Auklet. Common in **FALL**: Ubiquitous on inshore and nearshore marine waters through early Sep. Numbers peaked from mid-through late Aug, when 300 birds/hour regular from north point. Maximum 1100/hour on 18 Aug 2013. Numbers decreased through mid-Sep, when passage rates were typically 50–100 birds/hour (200 birds/day). After mid-Sep, <10/day, becoming irregular. Latest were single birds on 6 Oct 1987 and 12 Oct 2014. Once in **WINTER**: One, freshly dead (not preserved) on the beach, 18 Feb 1976 (KDW, JSH). Arrived in **SPRING** 1981 between 10 and 21 May. Abundant in **SUMMER** as a **BREEDER**, with a nesting population of over 10,000 pairs in 2009 (SAH), up from 684 pairs in 1976 (DAF, MH). **NOTES:** A rare visitant elsewhere in S-C Alaska (Isleib and Kessel 1973), with small numbers nesting in the Wooded Islands in Prince William Sound (<http://axiom.seabirds.net/maps/north-pacific-seabirds>). Rare in fall and spring on pelagic waters of the northern Gulf of Alaska (Day 2006). **SPECIMENS:** UAM, 8; USGS, 1.

Fatercula corniculata. Horned Puffin. Common in **FALL**, mid-Aug through at least mid-Oct; irregular in small numbers prior to early Sep. Peak 10 Sep–early Oct, when typically 12 birds/hour from north point (regularly 20–30/day). Maxima 110 on 19 Sep 2014 and 200 on 1 Oct 1991 and on 21 Sep 2005. First noted in **SUMMER** and confirmed as a **BREEDER** in 2005, when confined to the southwest spit (TvN). We estimated 25 individuals perched on logs or flying about that breeding site through 27 Aug in 2014 but only two on 6 Sep 2014, suggesting departure during early Sep that year. **NOTES:** Fairly common year round in coastal S-C Alaska (Isleib and Kessel 1973); rare in fall and spring and casual in winter in the northern Gulf of Alaska (Day 2006).

Fatercula cirrhata. Tufted Puffin. Common in **FALL**. Peak 14–23 Aug, when maximum was 80 birds/hour from north point on 18 Aug 2013. More typical was a rate of 10–30 birds/hour (regularly 20–60/day) from north point through 1 Sep 2013, diminishing to <10/hour (<20/day) through 10 Sep. The species was regular only to mid-Sep; latest were one each on 28 Sep 1982 and 29 Sep 2012. Post-breeders continued visiting nest sites in large numbers (600+/day) through late Aug, after which numbers diminished precipitously (e.g., 600+ on 20 Aug to none by 27 Aug in 2014). Once in **WINTER**: Three, 18–20 Feb 1976 (KDW, JSH). Had arrived in **SPRING** 1981 by 10 May. Common in **SUMMER** with **BREEDING** population 1500–2500 pairs in 1978 (Hatch et al. 1979). **NOTES:** Common year round in coastal S-C Alaska (Isleib and Kessel 1973). **SPECIMENS:** USNM 18439 (skeleton), USNM 18440 (skull), and USNM 18441 (skull), all 26 Aug 1888, C. H. Townsend; UAM 34613, HY ♀, 1 Sep 2013, JJW.

Rissa tridactyla pollicaris. Black-legged Kittiwake. Common in **FALL**: Large numbers remained at nesting sites through Aug (departed by 3 Sep in 2014), then over nearshore and inshore marine waters, often loafing in flocks of 1000s, through mid-Oct.



Figure 10. Of the three Gray-tailed Tattlers (*Tringa brevipes*) recorded at Middleton in fall, this one on 18 Aug 2014 was the only adult.

Photo by Nicholas R. Hajdukovich/USFWS

Hundreds per day still seen during late Oct 2016 and 5–12 Nov 1986 (MEI). Present throughout **WINTER**: “many” seen far offshore, 28 Dec 1992–2 Jan 1993 (RLS), and four with Glaucous-winged Gulls, 18 Feb 1976 (KDW, JSH). In **SPRING**, first arrival at nesting sites on 9 Apr (1999, Hatch et al. 2009). Common in **SUMMER** as a **BREEDER**, first reported in 1956 (Rausch 1958), although C. H. Townsend collected two birds in Aug 1888 (Ridgway 1893). Maximum breeding population was 82,885 pairs in 1981; subsequently the number declined to 3500–4500 pairs in 2010s (SAH). **NOTES**: Today most birds nest in colonies on dilapidated buildings or man-made structures altered deliberately to provide nesting substrate. The decline in the breeding population is likely linked to the natural erosion of rocky cliffs. The Black-legged Kittiwake is uncommon to common year round in the northern Gulf of Alaska (Day 2006); it is abundant as a migrant and breeder, uncommon in winter, in coastal S-C Alaska (Isleib and Kessel 1973). **SPECIMENS**: USNM 115832, AHY unsexed and USNM 115833, HY unsexed, both 26 Aug 1888, C. H. Townsend; USGS 1090, unsexed chick, Jul 1998, VAG; UAM 5223, AHY ♂, 30 May 1984, BDR; and UAM 34244, HY unsexed, 30 Aug 2013, JJW. We did not locate a specimen collected in 1956 by Rausch (1958).

Rissa brevirostris. Red-legged Kittiwake. Casual in **FALL**: Single birds on 13 Sep 1981 (TGT), 29 Sep 1991 (SCH+), 24 Sep 2011 (LHD+), and 21 Sep 2012 (CWW). **NOTES**: The one in 1981 was an immature, the others adults. Nonbreeding birds are casual in the northeastern Pacific in winter, with coastal records scattered from S-C Alaska (Isleib and Kessel 1989) to Washington (Wahl et al. 2005), Oregon (Marshall et al. 2006), and California (Hamilton et al. 2007).

Xema sabini. Sabine’s Gull. Rare in **FALL**, when 10 records between 29 Aug (2014, NRH, photo ML33471171) and 29 Sep (1991). Maxima three on 27 Sep 1991 and four on 26 Sep 1991. All were juvenile except for one adult on 29 Aug 2014 (NRH). **NOTES**: We observed most birds from north point over inshore waters. Sabine’s Gull is rare in spring and uncommon in fall in coastal S-C Alaska (Isleib and Kessel 1973).

Chroicocephalus philadelphia. Bonaparte’s Gull. Uncommon in **FALL**: One to three/day from 10 Aug (2012) through 29 Sep (1982), most regular mid-Aug to early Sep. Maxima five on 3 Sep and 9 Sep 2013 and six on 13 and 27 Aug 2012. All seen well were immatures. Three records in **SUMMER**: One, 15–24 Jun 1983 (PJJ, DRN); one, 31 Jul–5 Aug 1982 (PJJ, DRN); two, 21 Jul 2003 (CJG). **NOTES**: The

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species is a common migrant and local breeder in coastal S-C Alaska (Isleib and Kessel 1973). **SPECIMEN:** UAM 34623, HY ♂, 9 Sep 2013, LHD.

Larus canus (brachyrhynchus). Mew Gull. Uncommon in **FALL**, from 10 Aug (2012) to 7 Nov (1986, MEI). Juveniles arrived first; adults followed in mid-Sep. From 2001 to 2014 arrival of adults varied from 9 to 24 Sep. We found the species most numerous in late Sep and early Oct, maxima 14 on 5 Oct 2014 and 20 on 4 Oct 2014. Once in **SPRING**: One, 24 Apr 1979 (SAH). Casual in **SUMMER**: One found dead (not preserved) on beach between 16 and 21 Jun 1988 (KO); single birds on 8 Jul and 25 Jul 1976 (DAF, MH); two on 10 Jul 2015 (AAA). **NOTES:** Common year round in coastal S-C Alaska, less numerous in winter (Isleib and Kessel 1973).

Larus delawarensis. Ring-billed Gull. One report in **FALL**: One in its second cycle on 28 Sep 1987 (MEI). **NOTES:** Rare in SE and casual in S-C Alaska (see Heinl and Piston 2009, Gibson and Withrow 2015).

Larus californicus (ssp.). California Gull. Once in **FALL**: A third-cycle bird, 23 Sep 2005 (SCH+, GHR photo ML33565141). **NOTES:** Common fall migrant north to southern SE Alaska, where both subspecies *californicus* and *albertaensis* are known (Heinl and Piston 2009); intermittent or casual in fall as far north and west as S-C Alaska (Gibson and Withrow 2015).

Larus argentatus (smithsonianus). Herring Gull. Common in **FALL**, when generally <20/day, mid-Aug through mid-Sep. The timing of the first large influx varied from 27 Aug in 2014 (145 versus <five on previous days) to 14 Sep in 2013 (210 versus <20 on previous days). From the end of Sep through mid-Oct numbers peaked consistently at 600–800/day, approximately equaling those of the Glaucous-winged Gull. Large numbers also into mid-Nov (500+ from 5 to 12 Nov 1986, MEI). Numbers reduced in **WINTER**: Eight with Glaucous-winged Gulls on 1 Jan 1993 (RLS). Present throughout **SPRING** and **SUMMER**: A few at intervals in May 1981 (DDG); six from 14 to 26 Jun 1981 (PJG, AEZ); one, 8 Jul 1976 (DAF, MH). **NOTES:** We observed 10–20 *L. argentatus* × *L. glaucescens* hybrids, all after mid-Sep. Interbreeding of these taxa is widespread from Cook Inlet (see Williamson and Peyton 1963) east in the Gulf of Alaska to Glacier Bay (see Patten 1974, 1980, Patten and Weisbrod 1974, Patten and Patten 1976, 1983). This species is uncommon to common in coastal S-C Alaska year round (Isleib and Kessel 1973). **SPECIMENS:** *L. argentatus*—UAM 38041, SY ♀; *L. argentatus* × *L. glaucescens*—UAM 37888, TY ♂, both 27 Sep 2014, LHD.

Larus glaucooides thayeri. Iceland Gull. Uncommon in **FALL**, from 21 Aug (2012) through at least mid-Nov (1986). In some years arrival was much later (e.g., 18 Sep 2013). Numbers were typically low prior to mid-Sep, then increased (e.g., three on 11 Sep 2014 increased to 70 four days later). Regularly 20–50/day from mid-Sep on. Maxima 100 on 26 Sep 2014 and 100+ on 1 Oct 1991. Adults were the most numerous age class, but in 2014 we did note a few birds in each cycle from first through third. Rare in **WINTER**: At least two on 1 Jan 1993 (RLS). **NOTES:** A color-banded adult (engraved band reading “G7”) observed at Middleton on 25 Oct 2016 (RAM, JDL, CDE; photos ML43851231 and 43851241) had been banded and satellite-tagged at St. Helena Island off Ellesmere Island, Nunavut, in Jul 2016 (M. Maftai, in litt., 2016). As a winter visitor, this taxon is uncommon or rare in S-C Alaska (see Isleib and Kessel 1973) and common in southern SE Alaska (Heinl and Piston 2009). **SPECIMENS:** UAM, 6.

L. g. (kumlieni). Once in **FALL**: One adult on 28 Oct 2016 (LHD, photos ML43851051 and 43851061) associated with a flock of *L. g. thayeri*. **NOTES:** Subspecies *kumlieni* nests in the eastern Canadian Arctic (see Snell 2002) and is casual in SE, S-C, and N Alaska (see Gibson and Withrow 2015; R. A. MacIntosh unpubl., TGT).

Larus schistisagus. Slaty-backed Gull. Twice in **FALL**: Second-year bird, 15 Sep 1988 (MEI); adult 8 km east of Middleton Island on 8 Aug 2010 (UAM 27089, ♀,

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DWS). **NOTES:** Since the early 1990s, this species has been reported nearly annually in S-C Alaska and at all seasons (Tobish and Isleib 1992a, Tobish 2013b).

Larus glaucescens. Glaucous-winged Gull. Common year round. Ubiquitous in **FALL** with 500–1000/day, mid-Aug through mid-Nov, and into **WINTER**: 100 on 1 Jan 1993 (RLS) and 630+ on 18 Feb 1976 (KDW); see Hatch et al. (2011). Common in **SPRING** and **SUMMER** as a **BREEDER**: Maximum nesting population was 6000+ pairs in both 1993 and 2013 (SAH). **NOTES:** For comments on hybridization within S-C and SE Alaska, see NOTES under *L. argentatus*. The Glaucous-winged Gull is common in coastal S-C Alaska year round (Isleib and Kessel 1973). **SPECIMENS:** MVZ, 20. We did not locate four specimens collected in Jun 1956 by Rausch (1958).

Larus hyperboreus (barrovianus). Glaucous Gull. Rare in **FALL**, with 14 records, 23 Sep (1997) through 8 Nov (1986), all of single birds except for two in their first cycle on 11 Oct 2014 (LHD, photo ML33469351). **NOTES:** Uncommon as a nonbreeding visitor in coastal S-C Alaska year round (see Isleib and Kessel 1973).

Onychoprion aleuticus. Aleutian Tern. One report in **SPRING**: Up to three birds over the island at intervals, on foggy days, from 10 to 22 May 1981 (DDG+). **NOTES:** It is characteristic spring behavior for Aleutian Terns to prospect potential nesting localities, whether or not they remain to nest (see Gibson and Byrd 2007). Uncommon local breeder on the coasts of the northern Gulf of Alaska (Isleib and Kessel 1973; see also Gibson and Withrow 2015).

Hydroprogne caspia. Caspian Tern. One report each in **SPRING** and **SUMMER**: One seen and heard calling directly south of the shipwreck on 18 May 2006 and one flying over the north end of the island, 4 Jul 2005 (both TvN). **NOTES:** Found nesting on the Copper River delta 125 km northeast of Middleton in 2005 (Lohse et al. 2008); rare in coastal SE, S-C, and W Alaska (see Isleib and Kessel 1989, Gibson and Kessel 1992, Gill 2008).

Sterna paradisaea. Arctic Tern. Normally rare in **FALL**—except in 2013—with 18 records relatively evenly spaced from 13 Aug (2013 and 2014) to 1 Oct (1987). In 2013 occurred from 13 Aug to 20 Sep: <10/day 15–22 Aug, 30–60/day 23 Aug–10 Sep, only single individuals thereafter. Immatures were more numerous than adults. In other years seen in ones or twos except for five on 27 Sep 1987. Two records in **SPRING**: Two, 15 May 1982 (PDA, DWS+); flock of eight, 23 May 1981 (DDG+). In **SUMMER**: One on 2 Jun 1978 (PJJ), one on 6 Jun 1999 (VAG). Two on 26 Jul 1976 (DAF, MH) may have been fall migrants. **NOTES:** The Arctic Tern is an uncommon local breeder in coastal S-C Alaska (Isleib and Kessel 1973). **SPECIMENS:** USGS 1068, AHY ♀, 6 Jun 1999, VAG; UAM 33965, HY ♀, 3 Sep 2013, JJW.

Gavia stellata. Red-throated Loon. Uncommon year round. In **FALL** regularly one or two per day from mid-Aug through 10 Nov (1986) with little seasonal pattern in abundance. Maximum 10 on 23 Sep 2013. Once in **WINTER**: One on 1 Jan 1993 (RLS). Scattered records in **SPRING** and **SUMMER** include one on 6 Jun 1956 (Rausch 1958). A pair **NESTED** in 2005 and 2006 (TvN). **NOTES:** We found most Red-throated Loons at Middleton Island on nearshore or inshore marine waters. The species breeds in S-C Alaska and occurs year round (Isleib and Kessel 1973).

Gavia arctica (viridigularis). Arctic Loon. Once in **FALL**: One immature on inshore marine waters on 31 Aug 2012 (CWW, photos ML39343181 and 39343191). **NOTES:** The only previous Alaska record east of the Aleutians is of one at Cordova on 20 and 21 Jan 2002 (Tobish 2002b). The species is rare in W Alaska (see Gibson and Withrow 2015) but has been recorded on the Pacific coast as far south as Baja California (Erickson and Howell 2001).

Gavia pacifica. Pacific Loon. Common in **FALL** from 14 Aug (2012) into winter. Generally <five/day during Aug and first half of Sep, then ~10/day through mid-Oct. Maxima 50+ on 1 Oct 1987 and 200+ from 2 to 12 Oct 2014 and on 19 Oct 2016. Only **WINTER** record, one on 1 Jan 1993 (RLS); only **SPRING** records, one on 23 May 1981 (DDG+), species present in Apr 2006 (TvN), and two on 18 May

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1985 (DRN). In **SUMMER**, scattered reports of ones or twos in Jul and Aug. **NOTES:** Found on both nearshore and inshore marine waters, often feeding in numbers off north point. A common migrant, uncommon summer visitant, and common winter visitant in S-C Alaska (Isleib and Kessel 1973).

Gavia immer. Common Loon. Uncommon in **FALL**, 12 Aug (2012) to 29 Oct (2016), occurring in ones or twos in Aug and Sep, then becoming more numerous and regular from late Sep through mid-Oct. Maxima 17 on 27 Sep 2014 and 20 on 21 Oct 2016. Once in **WINTER**: Three, 31 Dec 1992 (RLS). Probably uncommon in **SPRING**: Up to six from 10 to 25 May 1981. In **SUMMER**, one from 14 to 26 Jun 1981 (PJG, AEZ), one found dead (not preserved) in Jul 1984 (PJG), and three seen 16 Jul 2006 (TvN). **NOTES:** Most were on nearshore waters or in flight past north point. The Common Loon is common in S-C Alaska year round (Isleib and Kessel 1973).

Gavia adamsii. Yellow-billed Loon. Rare in **FALL** from 13 Aug (2012) through 28 Oct (2016) with about 10 records. All records of single birds except for two on 28 Sep 1991 (SCH+) and 26 Oct 2016 (BWR+) and 14 on 8 Oct 2014 (CWW, NRH). **NOTES:** Sightings are of both adults and immatures, seen primarily on inshore and nearshore waters. In S-C Alaska the species is a rare migrant and summer visitant and fairly common in winter (Isleib and Kessel 1973).

Phoebastria immutabilis. Laysan Albatross. Rare in **FALL**, 26 Aug (2013) to 29 Oct (2016). All records of single birds except for two on 4 Sep 2012 and 1 Oct 1991 and 12 on 27 Oct 2016. **NOTES:** All were observed over offshore waters. Uncommon or fairly common in the northern Gulf of Alaska throughout the year (Day 2006).

Phoebastria nigripes. Black-footed Albatross. Uncommon or fairly common in **FALL** with one to three/day at intervals from 15 Aug (2014) through at least 12 Oct (2014), primarily 25 Aug–25 Sep. Maxima 12 on 27 Aug 2013 and 28 on 3 Sep 2013. Rare in **SUMMER**: Five in Jul 1984 (PJG) and one in mid-summer 2005 (TvN)—all beached birds (none preserved). **NOTES:** Most over offshore waters, where fairly common from May to October and uncommon in winter in the northern Gulf of Alaska (Isleib and Kessel 1973, Day 2006).

Phoebastria albatrus. Short-tailed Albatross. Twice in **FALL**: Immature drowned on a long-line set “off Middleton Island” in Oct 1987 (UAM 5723, unsexed, PDA); an all-brown immature seen from north point on 19 Oct 2016 (LHD, NRH+). **NOTES:** Suryan et al. (2006) reported radio-tagged individuals foraging along the continental shelf in the Gulf of Alaska. In North American waters the species is most numerous in the western and central Aleutians and southern Bering Sea, uncommon off British Columbia, and casual farther south (see Gruchy et al. 1972, Kenyon et al. 2009, Howell 2012, Singer et al. 2016).

Fulmarus glacialis (rodgersii). Northern Fulmar. Uncommon to common in **FALL**, when typically 20–40/day. Consistently most numerous mid-Aug through late Sep. Latest were 10+ on 10 Nov 1986 (MEI). Maxima were 480 on 23 Sep 2013 and 1200 on 19 Oct 2016. Scattered records of beached birds (none preserved) through **WINTER** and **SPRING** (PJG). The few reports in **SUMMER** included one in 2006 (TvN). **NOTES:** Dark-morph birds predominated in fall, when all fulmars were seen over inshore and offshore marine waters. The species is common on offshore waters of the northern Gulf of Alaska year round (Isleib and Kessel 1973).

Pterodroma inexpectata. Mottled Petrel. Rare to common in **FALL**, 17 Aug (2012) to 6 Oct (2012), most after early Sep. Inshore occurrence erratic: observed on <20 days but in numbers as high as 45 in 1.5 hours on 2 Oct 2014, 200 in 2 hours on 23 Sep 2012, and 400 in 1 hour on 19 Sep 2014. Characteristically absent before and after such pulses. **NOTES:** All seen over inshore and offshore marine waters. Nonbreeding range includes the southern Bering Sea and Gulf of Alaska from Jun to Oct, while occurrence farther south along the Pacific coast of North America is restricted to late Oct through mid-Dec (Howell 2012).

Ardenna bulleri. Buller's Shearwater. Common in **FALL**, 17 Aug (2014) to 29 Oct

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(2016). Numbers in Aug <10/day, in first week of Sep typically 100–400/day, peak from 10 Sep through early Oct with 500+/day, then decline (e.g., maximum of two from 19 to 29 Oct 2016). Maxima 1100 (including flock of 250+) on 11 Sep 2013, 1280 on 9 Sep 2011 (50-minute count, birds passing in one direction), and 1800 on 29 Sep 2013. **NOTES:** These numbers far exceed previous counts reported from Alaska. All birds were observed over inshore and offshore marine waters. The first Middleton reports were of one each on 26 and 27 Sep 1987, but hundreds were seen from 21 to 28 Sep 2005. This species was not substantiated in Alaska waters until 1997 (see Gibson et al. 2003). Buller's Shearwaters reach the offshore waters of the Pacific coast of North America in Jun or Jul and are most numerous from mid-Sep to mid-Oct (Howell 2012). **SPECIMENS:** UAM, 15.

Ardenna tenuirostris/grisea. Short-tailed/Sooty Shearwater. The difficulty of distinguishing these two species from shore obscured the status of each at Middleton Island, so we treat them together. Common in **FALL** (mid-Aug/mid-Nov), counts from north point increasing from <15 birds/minute in late Aug to typically 50–100 birds/minute from 1 Sep to 5 Oct. Maximum rate of passage 146/minute on 1 Sep 2012. Short-tailed recorded in **SPRING** (May 1981, DDG+), both species in **SUMMER** (PJG, TvN). **NOTES:** We observed these species over both inshore and offshore marine waters, where they often formed foraging flocks of thousands of birds. Sooty Shearwaters arrive along the Pacific coast of North America in Mar and are common north to the Gulf of Alaska through late Oct (Howell 2012). In Alaska waters, Short-tailed Shearwaters are most numerous along the Aleutian Islands and in the southern Bering Sea from May through Oct; they range north to the Chukchi Sea and east and south to northwestern Mexico (ibid.). Isleib and Kessel (1973:34–44) wrote of *A. tenuirostris*, “summer, a few, possibly several, 1,000’s,” of *A. grisea*, “summer, 100,000’s—in some years, 1,000,000’s.” **SPECIMENS:** *A. tenuirostris* (1)—UAM 34511. *A. grisea* (4)—AMNH, 3; UAM 37667.

Ardenna creatopus. Pink-footed Shearwater. Rare or uncommon in **FALL**, 14 Aug (2014) to 1 Oct (one in 1991, SCH) and 19 Oct (one in 2016, NRH). Most regular prior to 20 Sep, when one to three/day seen on about half the days. Maximum daily count 18 on 31 Aug 2012; maximum rates of passage from north point eight/hour (15 in just under 2 hours) on 1 Sep 2014 and 10/hour (six in just over 30 minutes) on 16 Sep 2012. Abundance by year varied (e.g., seen on six days from 16 Aug to 16 Sep 2013 versus nearly daily from 24 Aug to 24 Sep in 2012). **NOTES:** These numbers far exceed previous counts reported from Alaska. We observed Pink-footed Shearwaters over inshore and offshore marine waters, primarily from north point. Though common offshore from California to British Columbia, Apr–Oct (Howell 2012), the species was first substantiated in Alaska waters only in 2000 (see Gibson et al. 2003).

Ardenna carneipes. Flesh-footed Shearwater. Rare to fairly common in **FALL**, 14 Aug (2014) to 14 Oct (2014). Most regular and numerous mid-Aug to late Sep; peak in mid-Sep, when since 2010 counts of one to eight/day have been regular. Most numerous in 2014, when 10–20/day were seen from 1 Sep to 14 Oct (e.g., Figure 11) and maxima were 36 on 7 Sep, 60 on 27 Sep, and 100+ on 26 Sep. The count on 7 Sep was result of one scan of the eastern inshore and offshore waters (CWW); the 100+ on 26 Sep included 50 counted passing the north point in one direction over 30 minutes (LHD, NRH). Maximum daily count for other years was 14 on 14 Sep 2012. **NOTES:** These numbers far exceed any previous counts of the species in Alaska. It was first substantiated (by photo) in Alaska in 2013 (Gibson and Withrow 2015) but has an unsubstantiated history dating back to the 1960s (Kessel and Gibson 1978). In the northeastern Pacific south of Alaska, it is uncommon from northwestern Mexico to British Columbia, most numerous Sep–Nov (Howell 2012). **SPECIMEN:** UAM 36300, AHY ♂, 8 Sep 2014, LHD and NRH—first Alaska specimen.

Puffinus puffinus. Manx Shearwater. Rare in **FALL**, 10 Aug (2012)–26 Sep (2005),

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generally in ones or twos. Maxima four on both 30 Aug 2013 and 9 Sep 2011, five on 17 Sep 2013 (photos ML33566141, 33566131, and 33467671; Figure 12), and six on 12 Sep 2013. Most regular in 2013, when seen daily 18 Aug–20 Sep, versus on only seven days from 16 Aug to 16 Sep 2014. In **SPRING** and **SUMMER**: The actions of the two birds together on 12 May 2005 suggested “a pair prospecting for a possible nest site” (Gibson et al. 2008:191), and when observers returned later that year, two birds were seen again from 3 to 24 Jul (loc. cit.). **NOTES**: We saw most Manx Shearwaters on inshore marine waters, often associated (in fall) with loafing or foraging flocks of other shearwaters. There exists a history of sight reports in the northeastern Pacific (see Howell et al. 1994, Wahl et al. 2005, Hamilton et al. 2007, Heindel and Garrett 2008), including Alaska, but the photos of birds at Middleton in spring 2005 provided the first substantiation for Alaska (Gibson et al. 2008). In the western North Pacific this species was first recorded in Japan (Honshu) in Jun and Jul 2004 (OSJ 2012). **SPECIMENS**: UAM 34000, AHY ♀, 30 Aug 2013, JJW, LHD, and NRH; UAM 34001, AHY ♂, 17 Sep 2013, LHD and NRH—first Alaska specimens. A specimen salvaged in Washington (Univ. Wash. Burke Mus. 80162, ♀, 14 May 2003) might be the only other specimen of this species (*sensu stricto*) archived from the North Pacific.

Oceanodroma furcata (ssp.). Fork-tailed Storm-Petrel. Uncommon in **FALL** from 14 Aug (2012) to 6 Oct (2014). Very few in some seasons (e.g., seen on only three days in fall 2012). Maxima 10 on 9 Sep 2012 and 60 on 26 Aug 2014. Single individuals in **SUMMER** in Jul of 1976 and 2006 (DAF, MH, TvN) and 14 birds found beached (none preserved) in Jul and Aug of 1985 (DRN). **NOTES**: In the northern Gulf of Alaska common from spring through fall and rare in winter (Isleib and Kessel 1973). Nests nearest Middleton on the Wooded Islands in Prince William Sound (Baird et al. 1983, Denlinger 2006). Nominant *furcata* nests in the Aleutian and Sanak islands, subspecies *plumbea* from the Alexander Archipelago south (see AOU 1957).

Oceanodroma leucorhoa (*leucorhoa*). Leach’s Storm-Petrel. Casual in **FALL**: Single birds on 24 Sep 2005, 16 and 22 Aug 2012 (heard calling at night), 27 Sep 2012, and 12 Oct 2014. **NOTES**: In Alaska this species breeds on islands from the western Aleutians through the southern Alexander Archipelago, those nearest Middleton being the Wooded Islands in Prince William Sound (Huntington et al. 1996).

Phalacrocorax auritus (*cincinatus*). Double-crested Cormorant. Common in **FALL**, 27 Aug (2014) to at least 12 Nov (1986). Of less than daily occurrence before mid-Sep; after that numbers increased to 10–40/day in mid-Sep, peaking in late Oct. Counts from 19 to 29 Oct 2016 generally 30–60/day; maximum 90 on 26 Oct 2016. Once in **WINTER**: 15 on 1 Jan 1993 (RLS). Uncommon in **SPRING**: Three on 20 and 21 May 1981; present in Apr and early May 2005 and 2006 (TvN). **NOTES**: We found this species most regularly on nearshore marine waters but also on freshwater ponds and northeast lagoon. Double-crested Cormorants nest widely in coastal S-C Alaska, where they are common year round (Isleib and Kessel 1973, Carter et al. 1995).

Phalacrocorax urile. Red-faced Cormorant. Casual year round. In **FALL**, one adult on 13 Oct 1980 (TGT), two immatures on 6 Nov and 10 Nov 1986 (MEI), and one on 16 Sep and 24 Sep 2011 (CWW). Two birds in **WINTER** on 31 Dec 1992 and 1 Jan 1993 (RLS). Twice in **SPRING**: One in May 1981 (DDG+); one on 23 Apr 2006 (TvN). A possible **BREEDER** in **SUMMER** with single birds noted on nests during six years between 1976 and 1985: Pair suggested but not confirmed in 1976 (DAF, MH); two individuals at different nests, courting Pelagic Cormorants, in 1983 (DRN). **NOTES**: Nests commonly from the Pribilof and Aleutian islands east to the Semidi Islands, with small, isolated colonies as far east as Kayak Island (Isleib and Kessel 1973, Kessel and Gibson 1978), 102 km northeast of Middleton.

Phalacrocorax pelagicus. Pelagic Cormorant. Common year round. In **FALL**, maximum 649 on 27 Aug 2014. Less numerous by mid-Sep, when typically <100/day, decreasing to <60/day from the end of Sep through mid-Nov (1986), except for

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90 on 26 Oct 2016. In **WINTER**, 20+ on 1 Jan; up to 50 from 18 to 20 Feb 1976 (KDW). Common in **SPRING** and **SUMMER**: The number of nests peaked at 1000–4000 in the late 1980s but since 2010 has been only 400–800 (SAH). **NOTES**: At Middleton this species has nested in varied situations, including abandoned buildings, remnant cliffs, and the shipwreck. During fall we observed it roosting on reefs and spits and in flight over nearshore and inshore marine waters. It also nests and is common year round in coastal S-C Alaska (Isleib and Kessel 1973). **SPECIMENS**: UAM 5232, AHY ♀, 2 Jun 1984, BDR; USGS 1883, AHY ♂, 27 Jun 2002; USGS 1892, AHY ♀, 5 Jul 2002; UAM 34245, HY unsexed, and UAM 35734, AHY ♂, both 30 Aug 2013, JJW.

Ardea herodias (fannini). Great Blue Heron. Intermittent in **FALL**, 27 Aug (2014, NRH, photo ML33470861) to 12 Nov (1986), usually singly, occasionally in twos. Maxima three together on 14 Oct 2014 and four on both 26 (LHD, photo ML43851451) and 28 Oct 2016. Individuals often remained for extended periods (e.g., 27 Aug–12 Sep and 25 Sep–16 Oct 2014). Maximum seasonal total five in 2014. Once in **SUMMER**: One, 1 Jul–5 Aug 1982 (PJJ, DRN). **NOTES**: All but one in fall were immatures. We noted this species exclusively along beaches and tidal flats. It is uncommon year round in S-C Alaska (Isleib and Kessel 1973), ranging west as far as Kodiak, where intermittent in fall (see Gibson 1983).

Pandion haliaetus (carolinensis). Osprey. Rare in **FALL**, 7 Sep (2013) to 7 Oct (2014). Usually occurred singly, with two/day on multiple occasions during latter half of Sep. Two to four birds annually from 2011 to 2014. Some individuals stayed at least eight (23–30 Sep 2012) and 15 days (14–28 Sep 2014). **NOTES**: On multiple occasions we observed individuals arrive from the NW, circle only briefly over the island, and continue SE and out to sea. All those aged were juveniles. Only rarely did we note individuals attempting to hunt over ponds or northeast lagoon. The Osprey is an uncommon migrant in coastal S-C Alaska (Isleib and Kessel 1973).

Haliaeetus leucocephalus. Bald Eagle. Since 1992 common in **FALL**, mid-Aug through at least mid-Nov, typically 10–15/day. In **WINTER**, 10–15/day, 28 Dec 1992–1 Jan 1993 (RLS). Uncommon in **SPRING**: No more than two, 11–16 May 1981, but 35 in Apr 2006 (TvN). Uncommon in **SUMMER**, colonizing as a **BREEDER** by 2005, with five active nests that year and six in 2006 (TvN)—nests built on the ground, on log bundles, in Sitka spruce stands, and on a man-made platform. **NOTES**: Previously, this species was far less numerous, with no reports at all by Rausch (1958), O'Farrell and Sheets (1962), nor during the falls of 1981, 1982, and 1987. We observed this species perched on driftwood logs along beaches or riding updrafts along the west bluff. It is common year round on the mainland coast of S-C Alaska (Isleib and Kessel 1973).

Circus cyaneus (hudsonius). Northern Harrier. Uncommon in **FALL** from 20 Aug (2012, 2013) to 12 Nov (1986), when typically one to four/day. Most regular in latter half of Sep, maximum 12 on 20 and 21 Sep 2014 (including seven in thermals on 20th). In fall most were juveniles save for an adult male on 23 Oct 2016 (BWR). Twice in **WINTER**: One on 28 Dec 1992 and 1 Jan 1993 (RLS) and one on 19 Feb 1976 (KDW). Rare in **SPRING**: Single female from 11 to 20 May 1981 (DDG) and one or two from 10 to 29 Apr 2006 (TvN). Status in **SUMMER** represented by one **BREEDING** record: Nest with young, 23 Jun 2005 (TvN). **NOTES**: On Middleton we observed most harriers hunting along beaches or over grass and tall forb meadows. On multiple occasions during fall, birds were seen arriving from the N and NW. This species is a common migrant, uncommon local breeder, and a rare winter visitant in coastal S-C Alaska (Isleib and Kessel 1973).

Accipiter striatus (velox). Sharp-shinned Hawk. Rare in **FALL**, with sporadic single birds from 9 Sep (1982, 2012; LHD, photo ML26887801) to 6 Oct (1987). Maximum three on multiple dates. From 2011 to 2014 we recorded a maximum of four birds per season. **NOTES**: All birds aged were juveniles. Species routinely patrolled the

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tall shrub thickets for prey. In coastal S-C Alaska it is uncommon year round, slightly more numerous in migration (Isleib and Kessel 1973).

Accipiter gentilis (atricapillus). Northern Goshawk. Two reports in **FALL**: Adult on 6 Nov 1982 (DWS, RLS); a juvenile from 5 to 12 Nov 1986 (feeding on a rabbit, MEI). **NOTES**: This species is fairly common year round in forested S-C Alaska (Isleib and Kessel 1973).

Buteo lagopus (sanctijohannis). Rough-legged Hawk. Casual in **FALL**: two or three, 25 Sep–1 Oct 1991; two, 20 Sep 1997 (one continued through the 27th); one light morph, 19 Sep 2013 (LHD, photo ML33467911); one dark morph, 19–20 Sep 2014 (photo ML33466471, LHD). Once in **WINTER**: Two (one light and one dark morph) on 18 Feb 1976, one remaining through the 20th, KDW, JSH). **NOTES**: In 1991 the birds perched in spruces above the south bluffs, from which they surveyed the beaches. We observed other individuals hunting over meadows. The Rough-legged Hawk is a rare migrant and casual summer and winter visitant in coastal S-C Alaska (Isleib and Kessel 1973).

Bubo scandiacus. Snowy Owl. Casual in **FALL**: Two, 21–29 Sep 2005 (SCH+; photos ML48071521 and ML48071511, RAM); one, 6 Nov and 10 Nov 1986 (MEI); eight to 10 birds in late Nov 1957 (Rausch 1958). Intermittent in **WINTER**: Typically four to six/winter, but absent in some years and more numerous in others (e.g., “high numbers” in winter 1977–1978—MEI [in Gibson 1978]; 25–30 birds during winter 2005–2006; DB, TvN). A few remained into **SPRING**: One on 19 May 1978 (PJG), one from 22 Apr to 20 May 1979 (SAH), remains found (not preserved) in May 1981 (DDG), two on 16 May 2003 (CJG), and two to six from 10 Apr to 7 May 2006 (TvN). Single individuals spent the **SUMMERS** of 2003, 2004, and 2006 (TvN). **NOTES**: There is no record at UAM of the specimen referred to by O’Farrell and Sheets (1962). Available information (see Isleib and Kessel 1973, Andres and Browne 2004, Lang 2008) suggests that this species winters more regularly and in much higher numbers at Middleton than anywhere else in S-C Alaska.

Asio flammeus flammeus. Short-eared Owl. Uncommon in **FALL**, 15 Aug (2013) to 27 Oct (2016). Most records 18 Sep–6 Oct, generally of ones or twos. Annual variation great: e.g., none in 2011, 10 in 2013 (Figure 13), and >10 in both 1987 and late Oct 2016 (three found dead and emaciated, specimens UAM). Maxima four on 22 and 23 Aug 2013, six on 22 Oct 2016, and eight on 28 Sep 1987. At least two reports in **SPRING**: One on 21 May 1978 (PJG); one on 30 Apr 2006 (TvN). One report in **SUMMER**: One on 22 Jun 1976 (DAF, MH). **NOTES**: We noted the species hunting over meadows and roosting in driftwood along beach ridge. It occurs throughout Alaska (Gabrielson and Lincoln 1959) and is a fairly common migrant, uncommon local breeder, and rare winter visitant in coastal S-C Alaska (Isleib and Kessel 1973). Its long-distance transoceanic passages are well known (see Gibson and Byrd 2007). Johnson et al. (2017) tracked one bird through an 800-km passage across the Gulf of Alaska in mid-Oct from the Kenai Peninsula to the Stikine River.

Megaceryle alcyon. Belted Kingfisher. Rare in **FALL**, with about 16 records of 20+ birds, 12 Aug (2014) to 30 Sep (2011 and 2014). Within that period most occurred from 5 to 20 Sep. Occurred singly except for two on 10 and 11 Sep 1981, 15 Sep 2013, and from 27 Aug to 1 Sep 2014. One report in **SPRING**: One, 17 May 2006 (TvN). **NOTES**: Occurs year round in coastal S-C Alaska, where a fairly common breeder and uncommon in winter (Isleib and Kessel 1973).

Sphyrapicus varius. Yellow-bellied Sapsucker. Once in **FALL**: One juvenile male on 18 Sep 2013 (UAM 34182, [♂], LHD+). **NOTES**: Species is rare in summer and has nested in eastern interior Alaska (see Erwin et al. 2004). There are at least three other (fall) records for S-C Alaska (see Tobish 1995; A. J. Lang, in litt., 2015).

Sphyrapicus ruber ruber. Red-breasted Sapsucker. Casual in **FALL**: Up to three from 19 to 21 Sep 1981 (TGT), one on 25 Sep 1997 (TGT+), and one on 26 Sep

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2013 (UAM 34183, AHY ♂; LHD+, photos ML33471261 and 33471271). **NOTES:** On our arrival in fall 2014 we found sap wells, suggesting at least one additional bird on the island in late fall 2013. In Alaska this species is restricted to SE as a breeder (Gabrielson and Lincoln 1959); it is casual in coastal S-C Alaska, west to the Kodiak archipelago, where records are concentrated in Oct (see Gibson 1979; R. A. MacIntosh unpubl.).

Picoides pubescens nelsoni. Downy Woodpecker. Rare in **FALL**: Typically one or two/day, 5 Sep (2014) to 8 Nov (1986). Maximum three on 12 Sep 2011, 29 Sep 2014, and 4 Oct 2014. Individuals often stayed for extended periods, e.g., one banded female, 7 Sep–4 Oct 2014. Once in **WINTER**: A male and female present 30 Dec 1992–1 Jan 1993 (RLS). **NOTES:** Two subspecies occur in Alaska: *nelsoni* is widespread in interior and S-C Alaska (see Isleib and Kessel 1973, Gibson and Withrow 2015); *glacialis* is known only as a fall visitant on the Gulf of Alaska coast (see Gibson and Withrow 2015), whence described. **NOTES:** Subspecies *glacialis* has no understood breeding range (Gibson and Withrow 2015), and our understanding of phenotypic variation of this taxon is incomplete because of a dearth of specimens. At least one individual taken at Middleton (UAM 39616, 23 Oct 2016) has plumage characters pointing toward *glacialis* (which has a smoky venter and boldly barred undertail). **SPECIMENS:** UAM, 6.

Colaptes auratus luteus. Northern Flicker. Uncommon in **FALL** from 29 Aug (2012) to 13 Oct (1980), one or two/day. More numerous after early Sep, maxima five on 11, 16, and 18 Sep 2011 and on 5 Oct 1987; six on 11 and 12 Sep 1982. Twice in **SPRING**: One male *luteus* on 14 May 1981 (UAM 4096, DDG+) and one flicker in “late” May 2006 (TvN). **NOTES:** Subspecies *luteus* is the widespread breeder in Alaska (Gibson and Withrow 2015) and a rare fall migrant in S-C Alaska (Isleib and Kessel 1973). Three individuals at Middleton in fall have been identified as *luteus* × *cafer* intergrades (e.g., photo ML33566621, 14 Sep 2011, LHD, and UAM 36609, 6 Oct 2014, NRH and LHD). Such flickers are known to nest in Alaska in the southern Alexander Archipelago and on the nearby mainland (Gibson and Withrow 2015).

Falco sparverius (*sparverius*). American Kestrel. Casual in **FALL**: Male on 8 Oct 1980 (TGT); male, 10–17 Sep 1981 (TGT); female, 19–20 Sep 1982 (DDG+); female, 6 Oct 1982 (DDG+); and female on 28 Sep 2012 (LHD+, photo ML26888171). **NOTES:** The species is a rare fall migrant in coastal S-C (Isleib and Kessel 1973) and SE Alaska (Heinl and Piston 2009; SCH and A. W. Piston unpubl.).

Falco columbarius (*columbarius*). Merlin. Uncommon in **FALL**, 19 Aug (2014) to 21 Oct (2016). In 2013 arrived as late as 1 Sep. Generally one to three/day but often >five/day in mid-Sep (e.g., 15–19 Sep 2013 and 30 Aug–21 Sep 2014). Maxima six on multiple dates and 12 on 15 Sep 2013. In some seasons less numerous (e.g., only two from 25 Sep to 1 Oct 1991). Rare in **SPRING**: Two in May 2005 and two to four from 21 Apr to 4 May 2006 (TvN). **NOTES:** We identified both adults and immatures in fall, when they usually hunted by patrolling the willow thickets or coastlines. Elsewhere in coastal S-C Alaska, the Merlin is uncommon during migration and rare the rest of the year (Isleib and Kessel 1973). All individuals seen well appeared to be subspecies *columbarius* (e.g., photos ML43852131, ML43852141, ML43851841, ML43852261).

Falco subbuteo (*subbuteo*). Eurasian Hobby. Once in **FALL**: One followed the cruise ship *Zaandam* for nearly 11 hours on 12 Aug 2013 (WL, photos ML33469621, 33469631, and 33469641), traveling within 20 km of Middleton Island. **NOTES:** This Old World species is casual in the western Aleutians and in the Bering Sea region and accidental elsewhere in Alaska (Gibson and Withrow 2015).

Falco rusticolus. Gyrfalcon. Casual in **FALL**, with seven records, 1 Sep (1982) through 9 Nov (1986). Maximum two on 6 Nov 1981 (RLS, DWS) and on 29 Sep 2005 (SCH+). Twice in **WINTER**: One present 28 Dec 1992–1 Jan 1993 (RLS); one during winter 2004–2005 (TvN). In **SPRING**, one, 11–25 Apr and another Apr through

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Figure 11. The suite of regularly occurring pelagic species included the Flesh-footed Shearwater (*Ardenna carneipes*), such as the bird on the left, photographed with Sooty Shearwaters (*A. grisea*) on 8 Sep 2014.

Photo by Nicholas R. Hajdukovich/USFWS

mid-May 2006 (TvN). **NOTES:** This species is a rare migrant and winter visitant in coastal S-C Alaska (Isleib and Kessel 1973).

Falco peregrinus pealei and *F. p. (anatum/tundrius)*. Peregrine Falcon. Uncommon in **FALL**, mid-Aug through mid-Nov, regularly one to three/day. Peak numbers mid-Sep through mid-Oct, when five to 10/day frequent. Maximum 11 on 29 Sep and 6 Oct 2014; up to six remained as late as 5–12 Nov 1986. Rare in **WINTER**: Two present 29 Dec 1992–1 Jan 1993 (RLS). Twice in **SPRING**: One, mid-Apr 2006, and a summering individual arrived on 21 May 2006 (both TvN). Present in **SUMMER**, but



Figure 12. The Manx Shearwater (*Puffinus puffinus*) was annual in fall in small numbers on nearshore waters around Middleton. This bird, photographed with a Sooty Shearwater (*Ardenna grisea*), was one of five on 17 Sep 2013.

Photo by Nicholas R. Hajdukovich/USFWS

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no suggestion of nesting: “common” 8 Jul 1976 (DAF, MH), pair throughout summer 2005 (TvN), one bird throughout summer 2006 (TvN), and an adult *pealei* was salvaged on 10 Jun 2010 (USGS 1475, ♀, TvN). **NOTES:** Both adults and immatures occurred during migration, but immatures outnumbered adults during the peak. Most birds were dark and heavily streaked, like subspecies *pealei* (photos ML43852191, ML43851621), but a few were paler, as in *anatum* or *tundrius* (25 Sep 2014, NRH, photo ML43852301; Figure 14). Lewis and Kissling (2015) reported subspecies *anatum* nesting locally on the eastern coast of the Gulf of Alaska, within the coastal nesting range of *pealei* (see AOU 1957).

Contopus cooperi cooperi. Olive-sided Flycatcher. Uncommon in **FALL**: Earliest, one on 7 Aug 2010 (TvN), typically one or two/day in second half of Aug, only four records after early Sep, latest ones on 19 and 20 Sep 2014. Maxima six on 7 Aug 2010 and 12–14 from 18 to 20 Aug 2012. Twice in **SUMMER**: One, 26 Jun 1956 (USNM 470761, ♂, Rausch 1958); one, “end of” Jul 2006 (TvN). **NOTES:** Nests commonly on the western Kenai Peninsula (Gabrielson and Lincoln 1959) but rare as a fall migrant along the coast from there east to Yakutat (Andres and Browne 2004) and south to southern SE Alaska, where it also breeds (Heinl and Piston 2009). **SPECIMENS:** USNM 470761, AHY ♂, 26 Jun 1956, R. Rausch; UAM 34423, HY [♀], 23 Aug 2013, LHD.

Contopus sordidulus (ueliei). Western Wood-Pewee. Uncommon in **FALL**. Arrival dates varied from 18 to 21 Aug. Numbers generally ≤five/day; maxima nine on 23 Aug 2013 and 25+ on 24 Aug 2013. Only five records after early Sep; latest were one on 15 Sep 2013 and one on 25 Sep 2011. **NOTES:** All 16 birds captured (2011–2014) were immatures. The species breeds nearby around upper Cook Inlet, on the western Kenai Peninsula, and in the upper Copper River valley but is otherwise rare in coastal S-C Alaska (Isleib and Kessel 1989). At Yakutat Andres and Browne (2004) reported it casual in summer, with no fall records. Uncommon as a migrant and breeder in mainland SE Alaska (Kessel and Gibson 1978). **SPECIMENS:** UAM 31130, HY ♀, 10 Sep 2012, LHD; UAM 34180, HY ♂, 31 Aug 2013, JJW and LHD.

Empidonax flaviventris. Yellow-bellied Flycatcher. Twice in **FALL**: Single immatures netted on 30 Aug 2013 (UAM 34187, ♂) and 30 Aug 2014 (UAM 36338, unsexed, both LHD+). **NOTES:** There is only one previous S-C Alaska record (Yakutat, 10 Aug 1996, Andres and Browne 2004). The species is rare in eastern interior Alaska (Benson et al. 2000), where Martin et al. (2006) discovered it nesting in 2004. Casual in summer in SE Alaska (Johnson et al. 2008).

Empidonax alnorum. Alder Flycatcher. Uncommon in **FALL**. Earliest 18 Aug (2012 and 2014). Regularly one to five/day; maximum eight on 29 Aug 2014 and 12 on 19 Aug 2012. Sporadic after early Sep (nine records); latest one each on 19 Sep 1981 and 30 Sep 2014. **NOTES:** All 43 birds captured (2011–2014) were immatures. The Alder Flycatcher is a fairly common local breeder in S-C Alaska (Isleib and Kessel 1989) but no more than a rare coastal migrant to the east, at Yakutat (Andres and Browne 2004) and an uncommon or rare migrant and local breeder in SE Alaska (see Kessel and Gibson 1978). Since this species is unknown in coastal Washington (Wahl et al. 2005) or Oregon (Marshall et al. 2006), and there were only six records for California as of 2017 (Tietz and McCaskie 2017), it seems likely that our migrants proceed from Middleton east into interior British Columbia, in which province they are very rare coastally (Campbell et al. 1997). **SPECIMENS:** UAM 4266, HY ♂, 11 Sep 1982, TGT; UAM 29189, HY unsexed, 9 Sep 2011, LHD; and UAM 36339, HY ♂, 1 Sep 2014, LHD.

Empidonax traillii brewsteri. Willow Flycatcher. Once in **FALL**: One on 21 Aug 2012 (UAM 31000, AHY ♂, LHD+, photo ML33566781). **NOTES:** Species is casual in Alaska with most records (10+) from SE Alaska in summer (see Gibson and Withrow 2015). There are just three records for S-C Alaska (including one in fall). Our specimen was identified as *brewsteri* by P. Pyle (in litt., 2016), in comparison with series at MVZ.

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Empidonax minimus. Least Flycatcher. Casual in **FALL**, when six records 8–22 Sep: One each on 23 Sep 1988 (UAM 5550, HY ♀, MEI); 10 Sep (LHD, CWW; Figure 15), 12 Sep (LHD, photos ML33566561 and 33566581), and 14 Sep (UAM 29161, HY ♀, LHD) 2011 (LHD, CWW); 8 Sep 2014 (CWW+, photo ML33465571); and 22 Sep 2014 (LHD, NRH, photos ML33466791 and 33471641). **NOTES:** The species is casual in Alaska in summer, primarily in the eastern Interior and SE (see Gibson and Kessel 1992, Gibson and Withrow 2015). The 1988 Middleton record was the first for Alaska in fall (Gibson and Kessel 1992), and there are still but two fall records in Alaska away from Middleton (Tobish 1997, 2002a).

Empidonax hammondii. Hammond's Flycatcher. Casual in **FALL**: One each on 19 Aug 2009 (photos ML72194301 and 72194311, TvN), 1 Sep 2013 (photo ML33566061, NRH+), and 11 and 12 Sep 2014 (UAM 36340, HY ♂, NRH, LHD+). **NOTES:** There is only one other fall record in coastal S-C Alaska (Tobish 2010). As a breeder, the species is restricted in Alaska to the Interior and to the SE mainland (Kessel and Gibson 1978).

Empidonax oberholseri. Dusky Flycatcher. Twice in **FALL**: One on 11 Sep 2014 (photos ML33465641 and 33465801) and one on 4 Oct 2014 (UAM 36000, HY ♂, both LHD+). **NOTES:** Species is casual in Alaska, with most of the <10 records from SE (see Gibson and Withrow 2015). It nests regularly as close as western British Columbia (Campbell et al. 1997) and southern Yukon Territory (Sinclair et al. 2003).

Sayornis saya (yukonensis). Say's Phoebe. Rare in **FALL** with 11 records, 10 Aug (1984)–9 Sep (1982), seven of them from 16 to 28 Aug. Maximum four birds on 20 Aug 2014. **NOTES:** Casual visitant in coastal S-C Alaska, including single records at Kodiak Island in fall and Icy Bay in late summer (see Gabrielson and Lincoln 1959, Tobish 2003). At Middleton most birds were attracted to the FAA buildings. **SPECIMEN:** UAM 35616, HY unsexed, 27 Aug 2013, LHD.

Myiarchus crinitus. Great Crested Flycatcher. Once in **FALL**: One in west thicket, 29 Sep 1990 (UAM 5710, MEI). **NOTES:** The Middleton bird furnished the first Alaska record of a *Myiarchus* flycatcher (Gibson and Kessel 1992). Since 1990 there have been two additional Alaska records of this species, both from SE, in fall (see Gibson and Withrow 2015).

Tyrannus tyrannus. Eastern Kingbird. One report in **FALL**: One, 19 Sep 1981 (TGT). **NOTES:** Casual in Alaska (Gibson and Withrow 2015), with summer and fall records from many far-flung corners of the state (see Kessel and Gibson 1978).

Lanius excubitor (borealis). Northern Shrike. Rare or uncommon in **FALL**, 21 Sep (one in 1981) to 28 Oct (one in 2016) and 11 Nov (one in 1986). Maxima four on 28 Sep 1997 and eight on 27 Sep 1987. Once in **WINTER**: One immature from 30 Dec 1992 to 1 Jan 1993 (first seen on the ground at a rabbit carcass, RLS). **NOTES:** Some individuals remained at Middleton for extended periods (e.g., 24+ days in 2014). The species is uncommon in S-C Alaska year round (Isleib and Kessel 1973). **SPECIMEN:** UAM 4278, HY ♂, 2 Oct 1982, DDG.

Vireo solitarius (solitarius). Blue-headed Vireo. Once in **FALL**: One bird, 30 Sep and 2 Oct 2012 (SCH, TGT+), representing a first substantiated record for Alaska (photo, Gibson et al. 2013). **NOTES:** Species nests as close to Alaska as southeastern Yukon Territory (Sinclair et al. 2003) and northeastern British Columbia (Campbell et al. 1997).

Vireo philadelphicus. Philadelphia Vireo. Casual in **FALL**: One on 14 Sep 1982 (TGT), one on 29 Sep 1987 (UAM 5428, AHY ♂, MEI, RLS), and one on 24 Sep 2013 (UAM 34438, HY ♀, RLW, NRH+; Figure 16). **NOTES:** There are only two records elsewhere in Alaska (see Moldenhauer and Tobish 1984, Gibson and Kessel 1992, Tobish 2007). The two specimens from Middleton are the first for Alaska.

Vireo gilvus swainsoni. Warbling Vireo. Rare in **FALL**, when 13 records 11 Sep (2011)–1 Oct (2012 and 2014). Maxima two birds on 15 Sep 2013 and 16 Sep 2011 and three on 23 Sep 2013. Seasonal totals varied from one in 2014 to four in



Figure 13. Uncommon fall migrants at Middleton, Short-eared Owls (*Asio flammeus*) are renowned for their long-distance ocean crossings. This individual was photographed on 7 Sep 2013.

Photo by Lucas H. DeCicco/USFWS

2013. **NOTES:** Species breeds on the SE Alaska mainland and some nearby islands (Gibson and Withrow 2015) but is a casual summer and fall visitant in S-C Alaska (see Tobish and Isleib 1991, Andres and Browne 2004). **SPECIMENS:** UAM 5653, HY unsexed, 27 Sep 1989, MEI; UAM 5718, AHY σ , 30 Sep 1990, MEI; UAM 29172, HY φ , 11 Sep 2011, LHD; UAM 34437, HY σ , 16 Sep 2013, LHD; UAM 34436, HY φ , 23 Sep 2013, LHD.

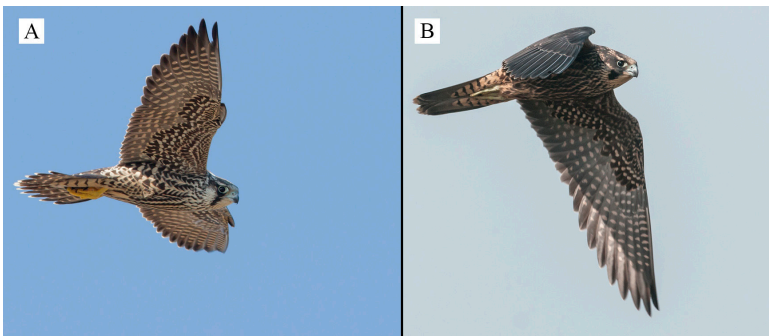


Figure 14. A minority of Peregrine Falcons (*Falco peregrinus*) in fall were light and finely marked with a barred tail consistent with subspecies *anatum* or *tundrius* (e.g., A), while the majority were dark and heavily marked, characteristics consistent with the coastal subspecies *pealei* (e.g., B).

Photos by Nicholas R. Hajdukovich and Lucas H. DeCicco/USFWS

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Figure 15. We recorded six species of *Empidonax* (of seven known in Alaska) in autumn. This Least Flycatcher (*E. minimus*) on 10 Sep 2011 provided the second of the six fall records at Middleton.

Photo by Lucas H. DeCicco/USFWS



Figure 16. This Philadelphia Vireo (*Vireo philadelphicus*) on 24 Sep 2013 furnished the third record at Middleton.

Photo by Nicholas R. Hajdukovich/USFWS

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Vireo olivaceus olivaceus. Red-eyed Vireo. Two reports in **FALL**: One on 20 Sep 1981 (TGT) and at least one on 4 Sep and 6 Sep 1982 (DMT, PDM). Once in **SUMMER**: One on 26 Jun 1956 (USNM 470762, ♀, Rausch 1958). **NOTES**: The record in 1956 is Alaska's first (Gabrielson and Lincoln 1959). Casual in S-C Alaska and a rare and local probable breeder on the SE mainland (Kessel and Gibson 1978, Gibson and Withrow 2015).

Corvus corax (principalis). Common Raven. Rare year round (recently). Four records in **FALL**: One, 30 Sep 2013; one, 12–14 Aug 2014 (photo ML33468581); one, 1–6 Sep 2014; up to two, 20 Sep–14 Oct 2014 (photo ML33467081). Once in **WINTER**: “handful,” mid-Jan 2014 (DB). Three **SPRING** records: Two on 16 Apr 2010 (TvN), two from 20 May to 4 Jun 2013 (KHE), two from 19 to 24 May 2014 (TD). Up to two pairs present during **SUMMER** 2014 (SAH)—at least one pair likely continuing from that spring—and up to three birds, 10 Jul–2 Aug 2015 (photo ML33464091, AAA). A single juvenile on 2 Aug 2015 (AAA) suggests **BREEDING** on the island. **NOTES**: This conspicuous species occurs widely in Alaska, including many other island localities on the Pacific coast, from Dixon Entrance to Attu Island (Gabrielson and Lincoln 1959), so it is of interest that it was unknown at Middleton until 2010.

Alauda arvensis (pekinensis). Eurasian Skylark. One report in **FALL**: One, 28 Sep 2014 (LHD), in tall forb meadow along the coast. **NOTES**: The species is a migrant in the western Aleutians and casual in W Alaska (Gibson and Withrow 2015); it has nested in the Pribilofs (Baicich et al. 1996), possibly the Aleutians (Gibson and Byrd 2007). There are two prior records for S-C Alaska, both in fall on the Kenai Peninsula, one in Oct 2012 (Tobish 2013b), one the same day as the skylark at Middleton (Tobish 2015).

Eremophila alpestris arctica. Horned Lark. Uncommon in **FALL**: Typically <10/day from 16 Aug (2013) to 27 Oct (2016). Maximum 17 on 14 Sep 1982. Once in **SUMMER**: One female on 9 Jun 1956 (MVZ 134762, Rausch 1958). **NOTES**: A rare migrant and local breeder in S-C Alaska (Isleib and Kessel 1973) and a rare or uncommon migrant in SE Alaska (Heinl and Piston 2009). Subspecies *arctica* nests throughout the alpine zone of mainland Alaska (Gabrielson and Lincoln 1959) and east to the Mackenzie River delta (AOU 1957). **SPECIMENS**: MVZ 134762, AHY ♀, 9 Jun 1956, R. Rausch; UAM 5649, AHY ♂, 25 Sep 1989, MEI; and UAM 39628, AHY unsexed, 24 Oct 2016, LHD.

E. a. flava. Casual in **FALL**: Two on 24 Sep 1987 (one collected, UAM 5407, ♂, DDG and RLS), one male on 5 Oct 1987 (UAM 5439, DDG and MEI), and one from 25 to 27 Sep 1991 (SCH+)—all associated with *E. a. arctica*. **NOTES**: This subspecies from northern Eurasia is casual in fall in the Aleutians (Gibson and Byrd 2007) and perhaps intermittent on Bering Sea islands (Sealy 1968, Sealy et al. 1971, Lehman 2005). Two other records in S-C Alaska comprise one at Kodiak in fall and one at Homer in winter (Gibson 1981a, Tobish 2011b).

Tachycineta bicolor. Tree Swallow. Casual in **FALL**, but local breeders remain into early Aug (e.g., 30+ from 31 Jul to 5 Aug 1983; PJG, DRN). One was notably late on 9 Sep 2012 (photos ML26887741 and 26887751, LHD, CWW) and the only one recorded after early Aug. The species' occurrence as a migrant in late Jul and early Aug was difficult to assess because of its status as a local breeder. Uncommon in **SPRING**: Earliest dates 12 May (one, 2012; KHE) and 14 May (eight, 1981; DDG). Uncommon as a **BREEDER** in **SUMMER**, when first reported nesting in “cavities in an old building” by Rausch (1958:237); nesting continued into the 2010s (TvN). As of spring 2009 the species had successfully bred in a small number of artificial nest boxes (TvN). **NOTES**: Tree Swallows breed commonly in coastal S-C Alaska, typically departing there by mid-Aug (Isleib and Kessel 1973).

Tachycineta thalassina (thalassina). Violet-green Swallow. Four records in **FALL**: Two on 15 Aug 2013, up to two on 20 and 21 Aug 2014 (photos ML33567641, LHD), four to six on 22 and 23 Aug 2013, and one exceptionally late on 9 Sep 2012 (photos ML33566791 and 33566801, LHD, CWW). The species might be

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more regular earlier in Aug than these records suggest. Rare in **SPRING**: Up to 12 birds from 17 to 23 May 1981; one on 15 May 1982. **NOTES**: A fairly common migrant and locally common breeder in coastal S-C Alaska (Isleib and Kessel 1973).

Riparia riparia (*riparia*). Bank Swallow. Uncommon in **FALL**: Numbers in early Aug generally one to five/day; maximum eight on 12 and 13 Aug 2012. Latest records 17 Aug 2012, 22 Aug 2014, 28 Aug 2013, and, exceptionally, 20 Sep 2013 (LHD+). This species' status as a migrant is difficult to assess because of its presence as a local breeder. Uncommon in **SPRING**: Present by end of May, as early as 20–21 May in 1999. Common as a **BREEDER** in **SUMMER**: “a few pairs ... had burrows in a small gravel pit” in Jun 1956 (Rausch 1958:237), and the species continued to breed through at least 2010. Maximum summer counts 65–112 pairs in 2005 and 2010 (TvN) and 100 pairs on 12 Jul 2006 (CJG). **NOTES**: Isleib and Kessel (1973) considered the species a rare migrant and uncommon local breeder in coastal S-C Alaska, departing by early Aug. We did not locate a specimen collected in 1956 by Rausch (1958).

Petrochelidon pyrrhonota (*pyrrhonota*). Cliff Swallow. Likely rare in **SPRING**: Up to three daily from 17 to 23 May 1981 (DDG). Rausch (1958:238) noted “a few” feeding over ponds on 12 Jun 1956, the only **SUMMER** record. **NOTES**: The Cliff Swallow is a rare migrant and local breeder in coastal S-C Alaska (Isleib and Kessel 1973).

Hirundo rustica (*erythrogaster*). Barn Swallow. Once in **FALL**: One on 29 Aug 2011 (photos ML, LHD+)—apart from lingering local breeders, e.g., family group through 5 Aug 2010 (TvN). Rare in **SPRING** and **SUMMER**: Up to two birds, 16–22 May 1981 (DDG); a pair on 22 May 2010 (TvN) later **NESTED** in an abandoned building and fledged five young, the family last seen 5 Aug. Also one on 13 Jun 1995; pair on 25 Jun 2009. **NOTES**: The Barn Swallow is an uncommon migrant and breeder in coastal S-C Alaska (Isleib and Kessel 1973).

Poecile atricapillus (*turneri*). Black-capped Chickadee. One report in **WINTER**: Three birds together in willow thickets on 30 Dec 1992; two on 1 Jan 1993 (RLS). **NOTES**: An uncommon resident of S-C Alaska (Isleib and Kessel 1973), this species is known from autumn/early winter irruptions at other localities in Alaska outside its breeding range, e.g., Nunivak Island, Cape Prince of Wales, and Point Barrow (see Swarth 1934, Bailey 1948, Kessel and Gibson 1978).

Sitta canadensis. Red-breasted Nuthatch. Intermittent in **FALL**: Nine records rather evenly spaced from 12 Aug (1984) to 11 Oct (2012). Generally seen singly; maxima three from 11 to 14 Sep 2011 and four from 9 to 22 Sep 1981. Not recorded in 2014. One during May 2006 (TvN) was the only one reported in **SPRING**. **NOTES**: In Oct 1987 the birds were noted in beached logs at the north point; other observations were in willow thickets, about dilapidated buildings, and in isolated conifer stands. Species occurs year round in S-C Alaska, most numerous in fall and winter, when occasionally irruptive (Isleib and Kessel 1973); it is casual in fall on islands in the Bering Sea (see Sealy et al. 1971, Lehman 2005). **SPECIMENS**: UAM 5434, HY ♂, 2 Oct 1987, DDG; UAM 34421, HY ♂, 31 Aug 2013, LHD.

Certhia americana alascensis. Brown Creeper. Intermittent in **FALL**. Numbers in fall 2011 exceptional, when seen daily 11–27 Sep with maximum of nine on 27 Sep. During that period we captured 20, of which only one was an adult. Just four records outside of 2011: Up to three birds, 9–12 Sep 1981, one on 7 Aug 2007 (TvN), and single birds on 1 Sep and 5 Sep 2014. **NOTES**: One banded bird stayed for at least nine days in fall 2011 (17–25 Sep). Species is uncommon year round in S-C Alaska (Isleib and Kessel 1973). **SPECIMENS**: UAM 29169, HY [♀], 8 Sep 2011; UAM 29168, HY ♂, 11 Sep 2011—both LHD.

Troglodytes pacificus helleri. Pacific Wren. Common resident and breeder. Numbers in **FALL** varied widely from year to year, from one or two/day in 1982 to 50+ / day in 1987, 2014, and 2016, probably as a function of the severity of the previous winter. Maximum in **WINTER** 20+ on 1 Jan 1993 (RLS). First reported in **SUMMER**

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Figure 17. This Wood Warbler (*Phylloscopus sibilatrix*) on 7 Oct 2014 represented one of three species of *Phylloscopus* recorded in fall and constituted one of the most extralimital species recorded at Middleton.

Photo by Charles W. Wright/USFWS



Figure 18. This vocal Yellow-browed Warbler (*Phylloscopus inornatus*) discovered on 19 Sep 2014 is the only one recorded in Alaska east of the Aleutian and Bering Sea islands.

Photo by Nicholas R. Hajdukovich/USFWS

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Figure 19. This Northern Mockingbird (*Mimus polyglottos*) photographed on 28 Aug 2013 was one of four recorded in fall at Middleton Island.

Photo by Lucas H. DeCicco/USFWS



Figure 20. We recorded two Olive-backed Pipits (*Anthus hodgsoni*) in fall at Middleton Island. This individual was the first, photographed on 26 Sep 2013.

Photo by James D. Levison/USFWS

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in 1956 by Rausch (1958). Little information on timing of breeding, but young in full juvenal plumage present through late Aug. **NOTES:** Probably the only resident species at Middleton, most numerous in willow thickets, dilapidated buildings, and drift logs along shore. Population fluctuations in response to hard winters have been observed in other areas of Alaska such as Kodiak (R. A. MacIntosh, in litt., 2015). Through comparison with topotype series (UAM) from Kodiak Island, we identified the Middleton specimens as *T. p. helleri*, which we suggest is more widespread in S-C Alaska than currently recognized (e.g., see AOU 1957, Gibson and Withrow 2015). Pacific Wrens in S-C and SE Alaska need more study (see Gibson and Withrow 2015). **SPECIMENS:** UAM, 37; AMNH, 7. We did not locate two specimens collected in 1956 by Rausch (1958).

Regulus satrapa (amoenus). Golden-crowned Kinglet. Uncommon and irruptive in **FALL**, 27 Aug (2014)–12 Nov (1986), with highest numbers from mid-Sep through late Oct, when regularly five to 10/day. Occurred in ones or twos prior to mid-Sep. Maximum daily counts 30 on 25 Sep 2011 and 42 in west thicket on 25 Oct 2016. Annual variation in numbers wide: e.g., unrecorded from 1 Sep to 6 Oct 1982 but daily from 1 Sep to 14 Oct 2014 and from 19 to 29 Oct 2016. Once in **WINTER**: One with Black-capped Chickadees on 30 Dec 1992 (RLS). **NOTES:** Of the 69 birds captured (2011–2014), only two were adults. Multiple banded individuals remained for extended periods (at least 18 days, 10–27 Sep 2011). On two occasions in Oct 1980, birds were observed arriving from the W. The Golden-crowned Kinglet is common to uncommon year round in coastal S-C Alaska (Isleib and Kessel 1973). **SPECIMENS:** UAM 29184, HY ♀, 9 Sep 2011; UAM 29151, HY unsexed, 10 Sep 2011—both LHD.

Regulus calendula (grinnelli). Ruby-crowned Kinglet. Uncommon in **FALL**, from 26 Aug (2014) to 27 Oct (2016). Birds typically arrived in numbers in mid-Sep—9 Sep 2012 (20 individuals) and 15 Sep 2013 (six). Numbers peaked (usually ≤10/day) from mid-Sep through early Oct, maxima 53 on 28 Sep 2013 and 75+ on 29 Sep 1987. **NOTES:** Of the 78 birds captured, only six (8%) were adults. In coastal S-C Alaska this species is a common migrant and breeder (Isleib and Kessel 1973), the fourth most numerous species captured at Yakutat (Andres and Browne 2004). Subspecies *grinnelli* nests from SE Alaska west at least to Cook Inlet (Gibson and Withrow 2015). **SPECIMENS:** UAM 38924, HY ♂, 14 Sep 2012; UAM 40813, HY ♀, 30 Aug 2014; UAM 38923, [♀], 22 Sep 2014; UAM 40814, HY ♀, 7 Oct 2014. All LHD.

Phylloscopus sibilatrix. Wood Warbler. Once in **FALL**: One very vocal bird loosely associated with Golden-crowned Kinglets in west willow thicket, 7–8 Oct 2014 (UAM 36493, AHY ♂, NRH+; photos ML33565191 and 33565181; Figure 17). **NOTES:** This was the seventh Wood Warbler recorded in Alaska but the first east of the Bering Sea (see Gibson and Kessel 1992, Tobish 2005, 2011b). So far as known the eastern edge of the species' breeding range lies in Siberia (Clement 2006), 6500 km west of Middleton.

Phylloscopus fuscatus fuscatus. Dusky Warbler. Once in **FALL**: One immature, in west willow thickets, 26–27 Sep 1997 (UAM 7065, HY unsexed, TGT+; photos ML45220411 and 45220421). **NOTES:** This Old World warbler is casual in fall on the islands of the Bering Sea and the Aleutians (see Gibson and Kessel 1992, Lehman 2005, Gibson and Byrd 2007, Gibson and Withrow 2015). East and south of Alaska it has been recorded along the Pacific coast as far south as California and Baja California (Hamilton et al. 2007).

Phylloscopus inornatus. Yellow-browed Warbler. Once in **FALL**: One in southwest willow thickets on 19 Sep 2014 (UAM 36492, HY unsexed, NRH+; photos ML33466411, 33471581, and 33471591; Figure 18). **NOTES:** The first record of this Asiatic species for Alaska east of the Aleutian and Bering Sea islands (see Gibson and Withrow 2015), but in 2007 there was an occurrence in Baja California Sur (Mlodinow and Rademaker 2007). The specimen is the first for North America.

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Ficedula albicilla. Taiga Flycatcher. One report in **FALL**: One, 7 Oct 2012 (JAJ). **NOTES**: There has been no other Alaska report east of the Aleutian and Bering Sea islands, where the species is casual (Gibson and Withrow 2015), but there has been one for California, 25 Oct 2006 (Hamilton et al. 2007).

Saxicola torquatus stejnegeri. Stonechat. Once in **FALL**: One in *Elymus* near south point on 28 Sep 1990 (UAM 5709, HY ♂, MEI). **NOTES**: This Stonechat was the second recorded in Alaska in fall (see Osborne and Osborne 1987). Since then the species has been recorded in fall at St. Lawrence Island (see Lehman 2005) and at Anchorage (see Tobish 2014), and there has been one record as far east and south as California (Sullivan and Patton 2006).

Oenanthe oenanthe oenanthe. Northern Wheatear. Casual in **FALL**: One on 28 Sep 1987 (UAM 5420, AHY ♀, DDG and MEI), one on 14 Sep 2012 (photo ML33566021, NRH+), and one on 25 Sep 2014 (photo ML33471751, NRH+). **NOTES**: All were along the coast where driftwood and other debris provided exposed perches. Although a probable breeder in the Kenai and Chugach mountains (Williamson et al. 1965, Isleib and Kessel 1973, Kessel and Gibson 1978), the species is known at sea level elsewhere in S-C Alaska from only a few prior records (see Kessel and Gibson 1978). In SE Alaska it is a very rare fall migrant (Kessel and Gibson 1978), but there have been multiple records at this season elsewhere in western North America (e.g., see Campbell et al. 1997, Marshall et al. 2006), as far south as California (see Hamilton et al. 2007). In fall, most of Alaska's wheatears migrate to Asia across the Bering Strait (see Lehman 2005).

Sialia currucoides. Mountain Bluebird. Twice in **FALL**: Single birds on 1 Oct 1987 (UAM 5431, HY ♂, DDG and MEI) and 21 Sep 2014 (LHD, photo ML33566661). A lone male at the north housing area on 20 and 21 May 1984 (ECM, photos ML33462851 and 33463051) provided the only **SPRING** record. **NOTES**: The one in 2014 was observed along the northeast lagoon's shoreline where it foraged from perches on driftwood. This species has occurred extraliminally at other peripheral localities in Alaska in fall and spring, from Nunivak Island (Swarth 1934) to Point Barrow (Bailey 1948). It nests in the eastern Interior but occurs only casually in S-C Alaska (Gibson and Withrow 2015).

Myadestes townsendi townsendi. Townsend's Solitaire. Rare in **FALL**, with 10 records (of 14 birds) from 25 Aug (2010) to 9 Oct (2012), most from mid-Sep to early Oct. Maximum daily count three on 7 Oct 2014. Maximum seasonal total five in 2014; otherwise one or two per season. **NOTES**: All birds observed well retained some juvenal feathering, with the exception of one adult on 8 Sep 2014 (UAM 36325, AHY ♀). The species is rare year round in S-C Alaska (Kessel and Gibson 1978), casual on migration at Yakutat (Andres and Browne 2004), and rare in SE Alaska (Kessel and Gibson 1978). **SPECIMENS**: UAM 4267, HY ♂, 11 Sep 1982, TGT; UAM 5441, HY ♀, 6 Oct 1987, DDG and MEI; UAM 36326, HY ♂, 7 Oct 2014, LHD.

Catharus minimus aliciae. Gray-cheeked Thrush. Rare in **FALL**, 25 Aug (2012) to 23 Sep (2013, 2014), except for stragglers on 7 Oct 2014 (CWW) and 20 Oct 2016 (LHD, CDE). Over 70% occurred between 29 Aug and 10 Sep. Seasonal total six in 2014 (30 Aug–7 Oct), nine in 2013 (27 Aug–18 Sep). Maximum daily count two, on multiple occasions. One bird netted on 26 Jun 1994 (TDE) was the only one encountered in **SUMMER**. **NOTES**: Of 18 birds captured in fall, five were adult. The species is a rare migrant and local breeder in much of coastal S-C Alaska (Isleib and Kessel 1973), but common on the Kenai Peninsula and Kodiak Island (Kessel and Gibson 1978). There is only one fall record for Yakutat (Andres and Browne 2004) and one for the outer islands of southern SE Alaska (one, 13 and 15 Sep 1992 at Lowrie Island, MEI). Like the Alder Flycatcher, the Gray-cheeked Thrush probably migrates across the Gulf of Alaska and continues east into interior British Columbia, as it is casual along the Pacific coast south of SE Alaska (see Dunn and Alderfer 2017). **SPECIMEN**: UAM 35618, HY ♂, 5 Sep 2013, LHD.

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Figure 21. The only Middleton occurrence of the Asian subspecies of the American Pipit, *Anthus rubescens japonicus* (including *haermsi*), was documented on 20 Oct 2016.

Photo by Lucas H. DeCicco/USFWS



Figure 22. This immature Smith's Longspur (*Calcarius pictus*) resided along the airstrip from 18 to 21 Aug 2012, providing the second record of the species for coastal S-C Alaska.

Photo by Lucas H. DeCicco/USFWS



Figure 23. Orange-crowned Warbler (*Oreothlypis celata*) specimens representing the phenotypic variation we observed within fall migrants at Middleton Island. Subspecies *celata* (top; UAM 30737), *lutescens* (as traditionally defined, bottom; UAM 29175), and intergrade *celata* × *lutescens* (middle; UAM 30731). See species account for taxonomic discussion.



Figure 24. This Nashville Warbler (*Oreothlypis ruficapilla*) on 5 Oct 2014 furnished the second record for Middleton Island and the first Alaska record of nominate *ruficapilla*.

Photo by Lucas H. DeCicco/USFWS

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Catharus ustulatus incanus. Swainson's Thrush. Rare in **FALL**, 21 Aug (2012)–28 Sep (2005); nine of the 19 birds were recorded from 24 to 27 Aug. Seasonal totals varied from two in 2014 (both on 27 Aug) to seven in 2013 (24 Aug–19 Sep). Maximum daily count three on 25 Aug 2013. **NOTES:** Of the 11 birds captured in fall three were adult. This species is a rare migrant and local breeder in coastal S-C Alaska (Isleib and Kessel 1973); Andres and Browne (2004) had only two fall records for Yakutat. **SPECIMEN:** UAM 29160, HY ♀, 3 Sep 2011, LHD.

Catharus guttatus guttatus. Hermit Thrush. Common in **FALL**, 19 Aug (2014)–27 Oct (2016), except for one on 12 Nov 1986 (MEI). Latest arrival was 4 Sep in 2012. Generally <10/day until the influx of migrants between 30 Aug and 15 Sep. Peak numbers during latter half of Sep and early Oct typically 20–50/day but much variation from year to year. Daily maxima 500+ on 9 Sep 1981 and a remarkable 3500+ on 15 Sep 2013. Typically <five/day after early Oct but 15 on both 21 and 23 Oct 2016. On the basis of banded birds (2011–2014), the median date of passage was 15 Sep (same for both immatures and adults), 90% passed between 30 Aug and 30 Sep (30 Aug to 30 Sep for immatures and 10 Sep to 28 Sep for adults), 50% of them between 11 Sep and 24 Sep (11 Sep to 24 Sep for immatures and 15 Sep to 24 Sep for adults). Of 720 birds captured in fall, 93 (13%) were adults. Uncommon in **SPRING**, with records on 14 May 1981 (DDG) and from late Apr through May 2006 (TvN). **NOTES:** A common migrant and breeder throughout S-C Alaska (see Isleib and Kessel 1973). **SPECIMENS:** UAM, 15; AMNH, 4.

Turdus migratorius (migratorius). American Robin. Uncommon in **FALL**, 25 Aug (2013) to 28 Oct (2016), except for one on 7 Nov 1986 (MEI). Typically <five/day prior to mid-Sep. Numbers peaked in latter half of Sep, when often 10–20/day. Maxima 63 on 28 Sep 2013 and 65 on 27 Sep 1997. Less numerous in Oct, with maxima of 17 on 1 Oct 1982 and on 25 Oct 2016. Two from 11 to 14 May 1981 (DDG) were the only ones we recorded in **SPRING**; one on 5 Jun 1956 (Rausch 1958) represents the only **SUMMER** record. **NOTES:** In S-C Alaska the robin is a fairly common migrant and breeder and rare in winter (Isleib and Kessel 1973, Andres and Browne 2004).

Ixoreus naevius meruloides. Varied Thrush. Common in **FALL**, 25 Aug (arrival as late as 1 Sep in 2011) to 6 Nov (1982) and 11 Nov (1986). At the peak from mid-Sep through early Oct numbers typically 15–20/day; otherwise <10/day. Maxima 175 on 27 Sep 1997, 500+ on 9 Sep 1981, and exceptionally 2500+ on 15 Sep 2013—the last two counts also corresponded with major influxes of other migrants. A count of 17 on 25 Oct 2016 was high for so late. Uncommon in **SPRING**: One on 12 May 1979, small numbers in spring 1981 (maximum six on 14 May), and up to four from 30 Apr to 5 Jun 2006 (TvN). **NOTES:** Of the 156 captured in fall, 11 (7%) were adult. The Varied Thrush is a common fall migrant throughout coastal S-C Alaska (Isleib and Kessel 1973, Andres and Browne 2004). **SPECIMENS:** UAM 5558, AHY ♂, 22 Sep 1988, MEI; UAM 34614, HY ♀, 11 Sep 2012, LHD; UAM 31123, AHY ♀, 28 Sep 2012, LHD; UAM 36495, HY ♀, 30 Aug 2014, LHD; UAM 36603, HY ♂, 26 Sep 2014, LHD.

Dumetella carolinensis. Gray Catbird. Once in **FALL**: One in west willow thickets, 14 Sep 2014 (UAM 36494, AHY ♀, LHD, NRH, CWW). **NOTES:** This bird was observed foraging on *Sambucus* berries. The specimen is the first for Alaska. The species is casual in Alaska, with most previous records from SE (see Gibson and Withrow 2015).

Mimus polyglottos polyglottos. Northern Mockingbird. Casual in **FALL**, late Aug through late Sep: One, 8–16 Sep 1982 (TGT+); one, 29–30 Sep 1991 (MEI); one, 28 Aug 2013 (UAM 34185, AHY ♂, NRH, CWW, LHD; Figure 19); one, 14 Sep 2014 (LHD+, photos ML33465911 and 33465921). **NOTES:** Most mockingbirds were found in west willow thickets, foraging on *Sambucus* berries. The species is casual anywhere in SE and S-C Alaska and accidental in interior, SW, and W Alaska (Tobish 2011a, 2015, Gibson and Withrow 2015).

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Sturnus vulgaris (vulgaris). European Starling. One report in **SPRING**: One, 26 Apr–5 May 1978 “and again in late May” (SAH). **NOTES**: This species is locally established in SE and S-C Alaska and occurs annually in the Interior. It is casual at Cordova and on the Copper River delta (Lang 2008), and there have been far-flung extralimital records in SW, W, and N Alaska (Gibson and Withrow 2015).

Bombycilla garrulus pallidiceps. Bohemian Waxwing. Rare in **FALL**, when nearly 20 records, 19 Aug (2014)–7 Nov (1986), 60% in Aug, three in Sep, five in Oct. All of single birds except for three on 25 and 29 Oct 2016 and four on 22 Aug 2014. One report in **WINTER**, 29 Dec 1992 (RLS), one in **SUMMER**, of eight on 5 and 6 Jul 1976 (DAF, MH). **NOTES**: One captured on 25 Aug 2013 was identified as being in its second year and older adults were identified on 19 Aug and 22 Aug 2014. The Bohemian Waxwing is a rare visitant to the coast of S-C Alaska (Isleib and Kessel 1973), where more regular in fall than at other seasons (Lang 2008). **SPECIMEN**: UAM 39357, HY [♂], 28 Oct 2016, LHD.

Bombycilla cedrorum. Cedar Waxwing. Rare in **FALL**, with 23 records (of 54 birds), 17 Aug (2012)–10 Oct (2012). Most from 15 Sep to 4 Oct, usually singly or in groups of up to four. Maximum daily count 12 in one flock on 4 Oct 2012. **NOTES**: Most commonly detected by call in flight along the west bluff; also seen foraging on *Sambucus* berries and in association with flocks of American Robins. We noted single adults on 16 Sep 2011 and 28 Sep 2012; all others seen well were streaked immatures. This species nests in SE Alaska and has become rare or intermittent since the early 2000s in S-C, as far west as Kodiak Island (see Tobish and Isleib 1991, MacIntosh 2009, Gibson and Withrow 2015), primarily in fall and winter. **SPECIMEN**: UAM 34181, HY ♀, 27 Aug 2013, LHD.

Motacilla tschutschensis (tschutschensis). Eastern Yellow Wagtail. Casual in **FALL**, with single individuals on 9 Sep 1982 (TGT), 22 Sep 1997 (TGT), 3 and 4 Sep 2011 (LHD, CWW), and 28 and 30 Aug 2014 (LHD+, photo ML33464471). **NOTES**: This Beringian species is a common migrant and breeder in much of mainland W Alaska and the western Brooks Range. Most Alaska yellow wagtails migrate to Asia in fall, and the species is no more than casual in S-C and SE Alaska (see Kessel and Gibson 1978, Heint and Piston 2009, Gibson and Withrow 2015).

Anthus hodgsoni yunnanensis. Olive-backed Pipit. Twice in **FALL**: One immature on 26 Sep 2013 (UAM 34429, [♀], LHD, JDL, NRH; Figure 20); one on 24 Sep 2014 (LHD+, photos ML33466921 and 33466931). **NOTES**: Both birds foraged along the mossy edge of the east bluff at the transition zone between *Rubus* and *Salix* thickets; the one in 2013 also associated with a Red-throated Pipit. One netted on the Alaska Peninsula in 1998 (Tobish 1999) was the only Olive-backed Pipit previously recorded in Alaska east of the Bering Sea and Aleutian Islands, but the species has been recorded east and south of Alaska in Nevada (Burleigh 1968), California (Capitolo et al. 2000, Hamilton et al. 2007, Singer et al. 2016), and Baja California (Hamilton et al. 2000).

Anthus cervinus. Red-throated Pipit. Rare in **FALL** from 23 Aug (2013) to 6 Oct (1987, 2014), most in second half Sep, usually singly or in twos. Maximum daily counts four on 24 Sep 2014 and six on 26 Sep 2013. Typical seasonal totals <eight individuals; a total of 30 in 2013 was unparalleled. **NOTES**: Discovered to be a fall migrant at Middleton in Sep 1981 (TGT): Single birds on 12 and 17 Sep, two on 19th, and at least three on 21st represented the first records of this bird between its W Alaska breeding range and the Lower 48. At Middleton Red-throated Pipits foraged in open willow thickets along the east and west bluffs and often perched in willows. Although they occasionally associated with American Pipits, most were observed alone. Since the species' discovery at Middleton, it has been recorded a few other times in fall elsewhere in S-C Alaska, as well as in SE Alaska (see Heint and Piston 2009, Gibson and Withrow 2015). Farther south, it is casual on the Pacific coast south to Baja California (AOU 1998). The peak of fall migration at St. Lawrence Island, on the



Figure 25. We documented two phenotypes of the Yellow Warbler (*Setophaga petechia*) as fall migrants at Middleton Island. The paler birds (top in each pair of views; UAM 36905) match a specimen of subspecies *rubiginosa* at MVZ, while the more richly colored birds (bottom in each pair of views; UAM 36906) may represent subspecies *banksi*. Both specimens pictured here are immature females.

species' Asia–North America migration route, takes place in late Aug, with maximum daily counts between 23 and 31 Aug (P. E. Lehman, in litt., 2015). Middleton Island remains the only known locality of annual occurrence between this species' w Alaska breeding range and records in the lower 48 states. **SPECIMENS:** UAM 34416, HY ♂, 24 Sep 2013; UAM 34417, HY [♀], 25 Sep 2013; UAM 34418, HY ♂, and UAM 34419, HY unsexed, both 26 Sep 2013. All LHD.

Anthus rubescens pacificus. American Pipit. Common in **FALL**, recorded from 18 Aug (2012 and 2014) to 28 Oct (2016) and 10 Nov (1986, MEI). Consistently ≥ 10 /day from Aug to Oct. Peak numbers from end of Aug through mid- or late Sep, when 20–50/day. Numbers diminished through mid-Oct but 22 on 22 Oct 2016. Maxima 105 on 19 Sep 2013 and 150+ on 9 Sep 1981. Once in **WINTER**: Two,

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29 Dec 1992 (RLS). Likely uncommon in **SPRING**: Up to four from 10 to 25 May 1981 and 10 on 15 May 1982. **NOTES**: We noted this species using a variety of open habitats including pond shorelines, beaches, kelp wrack, forb meadow, and along the airstrip. It is a common migrant and breeder in S-C Alaska (Isleib and Kessel 1973). **SPECIMEN**: UAM 5417, HY ♀, 26 Sep 1987, MEI and RLS.

A. r. japonicus (including *haermsi*). Once in **FALL**: One in openings in southwest willow thicket, 20 Oct 2016 (UAM 39615, HY unsexed, LHD, RAM, CDE+; photos ML43852011 and ML43852021; Figure 21). **NOTES**: In identifying this bird in this fashion, we follow Gibson and Byrd (2007:190–191), who discussed the history, taxonomic complexity, and contemporary assessment of American Pipits in SW and W Alaska. One recent record in fall in SE Alaska (at Ketchikan, SCH+). Identification and occurrence of this phenotype farther south in North America has been discussed by Lee and Birch (2002).

Fringilla montifringilla. Brambling. Casual in **FALL**: Immature male, 29–30 Sep 1991 (UAM 5947, SCH, MEI, RAM); one, 26 Sep 2005 (TGT+); one, 29 Sep 2012 (photo ML45218571, TGT, AJL); two together, 11 Oct 2012 (LHD); immature female, 20 Sep 2014 (UAM 36332, LHD+). **NOTES**: All birds in willow thickets. The Brambling is a casual migrant and winter visitant in S-C and SE Alaska (see Heinl and Piston 2009, Gibson and Withrow 2015).

Leucosticte tephrocotis littoralis. Gray-crowned Rosy-Finch. Casual in **FALL** from late Sep to late Oct: One immature, 25 Sep 1987 (UAM 5409, [σ], DDG, MEI, RLS); one immature, 21 Sep 2014 (UAM 36341, unsexed, CWW+); flock of six, 1 Oct 2014 (NRH+); one, 4 Oct 2014 (JJB); one, 26 Oct (UAM 39356, HY ♀, LHD); one, 29 Oct 2016 (photo ML43852321, NRH+). Once in **SPRING**: One, 25 May 2003 (photo ML33567081, CJG). **NOTES**: Subspecies *littoralis* nests in alpine areas of the Alaska Range and S-C and SE Alaska (Gibson and Withrow 2015); it has been recorded twice in midwinter in the central Aleutians (Gibson and Byrd 2007).

Haemorrhous purpureus purpureus. Purple Finch. Casual in **FALL**: One immature with redpolls, 4 Oct 1982 (UAM 4280, σ, the first specimen of the Purple Finch for Alaska, DDG); one female or immature male, 30 Sep 1991 (SCH, RAM); one, 22 Sep 2014 (CWW+). **NOTES**: The Purple Finch is casual in Alaska, with most records from SE (Gibson and Withrow 2015). Rutt et al. (2014) identified the specimen as this subspecies, which breeds as close as northern and central British Columbia (Campbell et al. 2001). The calls of the bird in 2014 were not recorded but suggested subspecies *californicus* (CWW; see Rutt et al. 2014), which nests as close as southwestern British Columbia (AOU 1957, Campbell et al. 2001). Both of these subspecies are known from Alaska (Rutt et al. 2014).

Loxia curvirostra minor. Red Crossbill. Intermittent in **FALL**, from 6 Aug (1974) to 10 Sep (2012). One record each in 1974 (one, 6 Aug, MEI, GEH) and 2013 (three, 24 Aug, CWW+). Up to three/day irregularly from 10 Aug to 10 Sep 2012; up to 24/day irregularly from 19 Aug to 7 Sep 2014. Four Red Crossbills associated with White-winged Crossbills on 20 Jul 1984 (PJG) provided the only **SUMMER** record. **NOTES**: Subspecies *minor* breeds in SE and coastal S-C Alaska (Gibson and Withrow 2015). One audio-recorded on 24 Aug 2013 (audio ML524242) gave calls of type 3, which corresponds in part to subspecies *minor* (including *sitkensis*) and *reai* (see Groth 1993); further study is needed. **SPECIMEN**: UAM 36626, HY σ, 19 Aug 2014, LHD.

Loxia leucoptera leucoptera. White-winged Crossbill. Intermittent in **FALL** from 10 Aug (2012) to 12 Nov (1986, MEI). Numbers varied widely, from zero from 15 Aug to 1 Oct 2013 to 14 on 12 Aug 2012 and 37 on 7 Oct 2014. Three reports in **SUMMER**: Three birds on 22 or 23 Jun 1981 (PJG), present on 14 and 20 Jul 1984 (PJG), and present from 14 to 20 Jul 1985 (DRN). **NOTES**: The White-winged Crossbill is widespread in forested Alaska (Kessel and Gibson 1978) including S-C (Isleib and Kessel 1973). **SPECIMEN**: UAM 30835, AHY σ, 12 Aug 2012, LHD.

Acanthis flammea flammea. Common Redpoll. Intermittent year round. In **FALL**

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typically one to eight/day, most numerous mid-Sep to mid-Oct. Maxima 60 on 25 Sep 2011 and 100+ on 22 Sep 1982. Nearly absent in some years (e.g., only three from 15 Aug to 1 Oct 2013) but 10+/day in others (e.g., 15 Aug–14 Oct 2014). In **WINTER** flocks of 20–25 from 24 to 26 Feb 1961 (O'Farrell and Sheets 1962) but absent from 28 Dec 1992 to 2 Jan 1993 (RLS). Data for **SPRING** sparse: One or two from 16 to 18 May 2010 (TvN) and two on 13 May 1981 (DDG). In **SUMMER**: Two on 8 Jul 1976 (DAF, MH), 33 captured 22 Jun–6 Aug 2010 (TvN), and one each on 15 Jun and 12 Jul 2015 (AAA). **NOTES**: Of the 19 birds captured in fall from 2011 to 2014 only one was adult. This nomadic species occurs in highly variable numbers year round throughout S-C Alaska (Kessel and Gibson 1978). **SPECIMEN**: UAM 29162, HY ♂, 29 Aug 2011, LHD.

Spinus pinus pinus. Pine Siskin. Intermittent in **FALL**, 11 Aug (2012) to 28 Oct (2016). Numbers varied greatly from year to year: in some seasons daily with occasionally up to 30+/day (e.g., 8–15 Oct 1980, 2–27 Sep 2011, 11 Aug–8 Oct 2012, 21 Sep–15 Oct 2014), exceptionally 190 on 1 Oct 2014 (LHD+), while in other years few (e.g., only three from 1 Sep to 6 Oct 1982, one from 25 Sep to 1 Oct 1991) or none (21–29 Sep 2005). Once in **SPRING**: Up to three on 22 May in 1981 (DDG). Twice in **SUMMER**: Four on 11 Jul 2009; one on 15 and 16 Jul 2010 (both TvN). **NOTES**: Of the 93 birds captured (2011–2014), 31 (35%) were adult. This species is common but irruptive in S-C Alaska year round (Isleib and Kessel 1973). **SPECIMEN**: UAM 36629, HY ♀, 19 Aug 2014, LHD.

Calcarius lapponicus alascensis. Lapland Longspur. Common in **FALL**. Onset of migration difficult to assess, as the species breeds in numbers. Typically 20–60/day through Aug and Sep, maxima 220 on 26 Aug and 29 Aug 2014 and 300–575 from 7 to 10 Sep 2013. Seventy still present on 21 Oct 2016. Single birds on 6 Nov and 10 Nov 1986 were the latest recorded. Arrived in **SPRING** as early as 22 Apr (1978, SAH). Common in **SUMMER** as a **BREEDER**, as first documented by Rausch (1958) in 1956. Young retained full juvenal plumage through mid-Aug. **NOTES**: Middleton Island and the eastern Copper River delta (see Mickelson et al. 1980) represent the Lapland Longspur's easternmost nesting sites on Alaska's Pacific coast. Farther east, the species is an uncommon migrant in coastal S-C and SE Alaska (Isleib and Kessel 1973, Heisl and Piston 2009). **SPECIMENS**: UAM, 3; AMNH, 1; MVZ, 1. We did not locate two additional specimens collected in 1956 by Rausch (1958).

Calcarius pictus. Smith's Longspur. Once in **FALL**: One immature, 18–21 Aug 2012 (NRH+; photo ML26886801; Figure 22). **NOTES**: In Alaska this species nests in the Brooks Range and in uplands on the south slope of the Alaska Range (Kessel and Gibson 1978). We know of only one other record for coastal S-C Alaska, also in the Gulf of Alaska in fall (Tobish 2013b), but of two in SE Alaska (Tobish 2009; SCH and A. W. Piston unpubl.).

Plectrophenax nivalis (nivalis). Snow Bunting. Rare in **FALL**. Earliest record, one on 27 Sep (1991). Maximum, up to 55 from 19 to 29 Oct 2016. Latest, up to six from 5 to 7 Nov 1986 (ME). Other records of single birds on 29 Sep 1982, 29 and 30 Sep 2013, and from 7 to 15 Oct 2014. Rare in **WINTER**: Five on 31 Dec 1992; one on 25 and 26 Feb 1961 (O'Farrell and Sheets 1962). One on 11 May 2003 (CJG) was the only one recorded in **SPRING**. **NOTES**: There is no record at UAM of the specimen mentioned by O'Farrell and Sheets (1962). The species is uncommon locally in winter in coastal S-C Alaska (TGT). **SPECIMEN**: UAM 34516, HY ♂, 30 Sep 2013, LHD.

Parkesia noveboracensis. Northern Waterthrush. Rare in **FALL** with 16 records, 12 Aug (2010)–28 Sep (1997). Nine of the 16 are from 18 Aug to 6 Sep. Maximum daily count two on 21 and 22 Aug 2012; maximum seasonal total six in 2013 (25 Aug–25 Sep). **NOTES**: The nine birds captured at Middleton were all immature. Some individuals banded from 2011 to 2014 stayed on the island at least six days (25–30 Aug 2014) and 10 days (18–27 Aug 2012). Nearest Middleton, this species breeds

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on the western Kenai Peninsula (Gabrielson and Lincoln 1959) and locally around Prince William Sound (Isleib and Kessel 1973). Andres and Browne (2004) found it rare in fall at Yakutat, where they captured just seven birds in six seasons. Farther east, in SE Alaska the species breeds locally but is only casual as a fall migrant (see Kessel and Gibson 1978).

Oreothlypis peregrina. Tennessee Warbler. Rare in **FALL** with 16 records, 13 Sep (2012)–1 Oct (2012), except one late on 20 Oct 2016 (photo ML43852001, LHD, RAM, CDE). Most 20 Sep–1 Oct. Maximum daily counts included two on 20 Sep 1981 and 26 Sep 2011 and three on 1 Oct 2012. Seasonal totals included four birds in 2012 and five in 2013. **NOTES:** All Tennessee Warblers captured or collected were immature. The species is rare in Alaska (see Gibson and Withrow 2015), breeding along rivers of the SE mainland (Kessel and Gibson 1978, Johnson et al. 2008) and rare or intermittent in summer in the eastern Interior (Benson et al. 2000). There are few records in S-C Alaska away from Middleton (e.g., see Tobish 2009). **SPECIMENS:** UAM 5427, HY unsexed, 29 Sep 1987, MEI and RLS; UAM 5433, HY ♀, 1 Oct 1987, DDG; UAM 5551, HY ♀, 23 Sep 1988, MEI; UAM 29149, HY ♀, 26 Sep 2011, LHD; and UAM 30838, HY ♂, 13 Sep 2012, LHD.

Oreothlypis celata celata and *O. c. lutescens*. Orange-crowned Warbler. Common in **FALL**. Migrants began arriving in latter half of Aug (e.g., 19 Aug in 2012 and 2014, 24 Aug in 2011 and 2013), and numbers peaked from late Aug through mid-Sep (e.g., on the basis of captures in 2013, peaks 25–27 Aug and 15–18 Sep). Maxima 60 on 24 Sep 2012 and 200 on 15 Sep 2013. Numbers varied with weather but typically <20/day outside of migratory influxes and diminished by early Oct, after which the species was irregular. Latest were one on 14 Oct 2014 and three from 20 to 23 Oct 2016. On the basis of birds banded from 2011 to 2014, the median passage date was 30 Aug (29 Aug for immatures; 11 Sep for adults), 90% passed between 18 Aug and 24 Sep (18 Aug and 24 Sep for immatures; 19 Aug and 28 Sep for adults), and 50% between 24 Aug and 15 Sep (24 Aug and 14 Sep for immatures; 30 Aug and 14 Sep for adults). Scattered records during **SPRING** and **SUMMER:** Singing males on 16 May 1981, 3 Jun 1978, 14–26 Jun 1981 (PJJ, AEZ), and three birds on 17 Jul 2010 (TvN) all suggested local **BREEDING**, as did the recapture on 27 Aug 2011 of a bird originally banded at Middleton on 23 Jun 2010 (TvN). **NOTES:** Of the 365 birds captured in fall (2011–2014), 30 (8%) were adult. In coastal S-C Alaska this species is a common migrant and breeder (Isleib and Kessel 1973, Andres and Browne 2004). **TAXONOMIC NOTES:** We found much phenotypic variation in fall migrants at Middleton Island (Figure 23). Gilbert and West (2015:29) examined phenotypic variation of Orange-crowned Warblers from the Kenai Peninsula and concluded that “south-central Alaska may be a zone of secondary contact between *O. c. celata* and *O. c. lutescens*.” We agree that S-C Alaska assuredly encompasses a zone of contact between these forms. A series (UAM) of topotype specimens of *lutescens* {type locality “Fort Kenai, Alaska” [AOU 1957:483]} collected in Jun 1991 comprises only the intergrade phenotype discussed by Gilbert and West (2015). Since its publication by Ridgway in 1872, however, the name *lutescens* has always been considered to represent the bright yellow-green birds nesting from SE Alaska south, west of the Cascade Range and Sierra Nevada, to southern California. The intergrade phenotype of S-C Alaska resembles subspecies *orestera* {type locality Willis, New Mexico}, a Rocky Mountain taxon commonly described as “intermediate in plumage between *celata* and *lutescens*” (Dunn and Garrett 1997:162). The conflict between the current nomenclature and the identity of the birds at the type locality might demand the names be shifted, but the subject requires further study. Of 19 fall specimens from Middleton Island, we identified 13 as intergrade phenotypes, three (UAM 30730, 30737, and 31135) as nominate *celata* (which nests in interior, N, W, and SW Alaska, including Kodiak Island; Gibson and Withrow 2015), and three (UAM 29175, 30724, and 30725) as *lutescens* as traditionally defined. In an effort to gain

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a rough idea of the ratio of phenotypes of birds captured in fall (2012–2014), we identified in hand 125 (50%) as *lutescens*, 93 (35%) as intergrade phenotypes, and 37 (15%) as nominate *celata*. We noted no differences among these three groups in seasonal patterns in abundance. **SPECIMENS:** UAM, 20; AMNH, 6.

Oreothlypis ruficapilla ruficapilla. Nashville Warbler. Casual in **FALL:** Likely two birds on 20 and 21 Sep 1981 (TGT); one photographed, audio-recorded (audio, ML48280921), and collected on 5 Oct 2014 (UAM 36700, HY ♀, LHD+; Figure 24). **NOTES:** The specimen was identified as nominate *ruficapilla* by P. Pyle (in litt., 2016), in comparison with series at MVZ—the first Alaska specimen of the eastern subspecies. The western subspecies, *ridgwayi*, has also been collected in fall in Alaska (see Gibson et al. 2013). The subspecies of the Nashville Warblers at Middleton in 1981 is uncertain. The species is casual in Alaska, with most records from SE and S-C (see Gibson and Withrow 2015).

Geothlypis tolmiei tolmiei. MacGillivray's Warbler. One report in **FALL:** One in willow thickets, 26 Sep 1997 (GHR). **NOTES:** This species breeds on the mainland of SE Alaska north to the Chilkat River (Gabrielson and Lincoln 1959, Johnson et al. 2008, Heintz and Piston 2009). There are just two other fall records from S-C Alaska (see Gibson 1981a, 1985).

Geothlypis philadelphia. Mourning Warbler. Once in **FALL:** One with *Zonotrichia* sparrows in roadside salmonberry thickets, 29 Sep 1987 (UAM 5429, HY ♀, RLS and MEI). **NOTES:** This bird provided the first Alaska record of the species (Gibson and Kessel 1992). There have been additional records since, all but one in fall, and the Mourning Warbler is now regarded as casual in Alaska (see Gibson and Withrow 2015).

Geothlypis trichas campicola. Common Yellowthroat. Casual in **FALL** during latter half of Sep: One each on 15 Sep 1981 (joined by a second on the 21st, TGT), 30 Sep 2012 (photos ML33464361 and 33464371; TGT, AJL), and 23 Sep 2013 (NRH, JDL). **NOTES:** In Alaska the Common Yellowthroat is largely restricted as a breeder to the SE mainland (see Kessel and Gibson 1978, Heintz and Piston 2009). It occurs rarely west to Yakutat (see Kessel and Gibson 1978, Andres and Browne 2004) and casually in summer and fall to S-C Alaska (see Isleib and Kessel 1973, Kessel and Gibson 1978); in the eastern Interior it has been rare in summer since the early 2000s.

Setophaga ruticilla. American Redstart. Casual in **FALL** in late Sep: One each on 27 Sep 1989 (UAM 5650, HY ♂, MEI), 20 Sep 1997 (TGT+), 24 Sep 2012 (TGT+), and 30 Sep 2013 (UAM 34422, HY ♀, LHD+). **NOTES:** Breeds on the SE Alaska mainland north to the Chilkat River (Kessel and Gibson 1978, Johnson et al. 2008). There is but one other fall record from S-C Alaska.

Setophaga tigrina. Cape May Warbler. Casual in **FALL:** Immatures on 29 Sep 1990 (UAM 5716, ♂) and 1 Oct 1990 (UAM 5711, ♂, both MEI); immatures on 18 Sep 2011 (UAM 29170, ♀) and 21 Sep 2011 (UAM 29171, ♂, both LHD+). **NOTES:** Recorded in S-C Alaska in fall also at Seward in 2014 (Tobish 2015) and nesting near McCarthy in 2013 (Tobish 2014a), the Cape May Warbler is a casual migrant in Alaska generally (Kessel and Gibson 1978, Gibson and Withrow 2015).

Setophaga americana. Northern Parula. One report in **FALL:** One immature in west willow thickets, 23–24 Sep 1987 (MEI, RLS, DDG) provided the first sighting in Alaska. **NOTES:** The species was not substantiated in the state until Jun 2017, when a singing male was photographed at Ketchikan (SCH). It occurs regularly in autumn on the Pacific coast of North America as far north as British Columbia (Dunn and Garrett 1997), but nests regularly no closer to Alaska than southeastern Manitoba (see Dunn and Garrett 1997, Taylor 2010).

Setophaga magnolia. Magnolia Warbler. Casual in **FALL:** One (possibly two), 26–29 Sep 1987 (MEI, RLS); one immature, 23 Sep 1988 (UAM 5552, ♂, MEI); one, 28 Sep 2013, (LHD+); and one on 4 and 6 Oct 2014 (UAM 36328, unsexed, NRH+). **NOTES:** The species is rare in SE Alaska, occurring primarily in summer along the

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mainland rivers, where it has nested (see Johnson et al. 2008). Elsewhere in Alaska it is casual or accidental, primarily in fall (see Gibson and Withrow 2015).

Setophaga petechia rubiginosa and *S. p. banksi*. Yellow Warbler. Common in **FALL**. Earliest were two on 2 Aug 2015 (AAA). Numbers peaked mid-Aug through mid-Sep, when 10–20/day outside of influxes such as maxima of 300 on 15 Sep 2013 and 680 on 24 Aug 2013. Numbers then decreased, typically to <10/day by late Sep. Irregular in early Oct, with latest records of one each on 7 Oct 2014 and 9 Oct 2012. On the basis of banding from 2011 to 2014, the median date of passage was 30 Aug (28 Aug for immatures; 7 Sep for adults), 90% of birds passed between 18 Aug and 18 Sep (18 Aug and 18 Sep for immatures; 19 Aug and 16 Sep for adults), 50% between 24 Aug and 7 Sep (24 Aug and 4 Sep for immatures; 27 Aug and 4 Sep for adults). These data suggest that adults tend to migrate later than immatures. Once in **SPRING**: Singing male on 14 May 1981 (SRJ). Rausch (1958) considered the species abundant in **SUMMER**, with many singing males during Jun 1956; less numerous subsequently: only occasionally noted from Jun to Aug 1978 (PJJ), “present” on 4 Jun 1998 (SS), “present” on 24 Jun 1999 (SES), and five on 1 Jul 2012 (GT). **BREEDING** has not been confirmed, but Rausch (1958) thought the species probably nested in 1956, given males in breeding condition throughout Jun. We noted birds in partial juvenal plumage in mid-Aug, but we are unsure if these were locals or birds beginning migration before completing molt. **NOTES**: Of 2332 birds captured, 230 (10%) were adult. One bird banded 30 Aug 2011 was recaptured 29 May 2014 on Vancouver Island, British Columbia. The Yellow Warbler is a fairly common migrant and breeder in coastal S-C Alaska (Isleib and Kessel 1973) and a common fall migrant at Yakutat (Andres and Browne 2004). **TAXONOMIC NOTES**: Two phenotypes, most obvious in immature females, occurred in fall (Figure 25): pale yellow-gray birds and rich yellow-brown birds. The spring male of *S. p. banksi*, which nests in interior Alaska, is paler and yellower, while that of *rubiginosa*, which nests coastally from SE to SW Alaska, is darker and more extensively green (Gibson and Withrow 2015). Therefore, one might expect the more heavily pigmented (richer, browner) females to be *rubiginosa*, the paler, grayer ones to be *banksi*. But comparison of three Middleton specimens of each category with series at MVZ by P. Pyle (in litt., 2016) suggests the opposite. Because of a lack at UAM and MVZ of immature females of *banksi* from interior Alaska and the subspecies’ type locality, the village of Old Crow in northern Yukon Territory, further study is needed. Although we did not record specific data on abundance of each phenotype, the richer, browner one (e.g., UAM 29186, 31252, and 36906) was slightly less numerous than the paler, grayer one (e.g., UAM 29185, 31250, and 36906). **SPECIMENS** (40): UAM, 27; USNM, 11; AMNH, 2.

Setophaga pensylvanica. Chestnut-sided Warbler. Twice in **FALL**: One on 21 Sep 1981, the first Alaska report of the species (TGT; Gibson 1982); one immature on 7 Oct 2012 (UAM 30837, ♀, LHD+). **NOTES**: Both birds were found in the west willow thickets. The only other Alaska record is from SE in summer (Heinl and Piston 2009). The species is casual or rare on the west coast north to southern British Columbia (Dunn and Garrett 1997). In 1998 it bred as far west as 122.9° W in central British Columbia (Davidson 2007).

Setophaga striata. Blackpoll Warbler. Rare in **FALL**: 20 records (of 30 birds), 19 Aug (2012)–30 Sep (2014). No apparent pattern of occurrence within the date range. Multiple records of two; maxima three on 22 Sep 1982 and six on 30 Aug 2014. From 2012 to 2014, seasonal totals were three, five, and 10, respectively. **NOTES**: All six individuals captured in fall were immature. The species breeds widely in interior, S-C, SW, and W Alaska (Kessel and Gibson 1978). In six falls Andres et al. (2005) captured only two at Yakutat. **SPECIMENS**: UAM 5426, HY unsexed, 29 Sep 1987, RLS; UAM 5555, HY ♂, 17 Sep 1988, MEI.

Setophaga palmarum palmarum. Palm Warbler. Casual in **FALL** with seven

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records comprising 13 birds, from 22 Sep (2014, NRH) to 25–28 Oct (2016, photo ML43851971, LHD+); others were of one on 2 Oct 1990 (UAM 5719, HY [♀], MEI), one on 1 Oct 2012 (TGT+), one on 23 Sep 2013 (NRH), one on 27 Sep 2014 (UAM 36327, HY ♀, NRH), six on 1 Oct 2014 (three remaining through 4 Oct, CWW+, photo ML33566721—the only Alaska record of *multiple* Palm Warblers), and one from 20 to 23 Oct 2016 (photo ML43851541, LHD+). Once in **SUMMER**: One on 24 Jun and 28 Jun 2010 (photo ML33566701, TvN, CDF). **NOTES**: At Middleton, the Palm Warbler has been found in both tall willow and in low/medium shrub thickets. It is casual in Alaska, with most records in fall, in SE and S-C (see Gibson and Kessel 1992). It breeds as close as northeastern British Columbia (see Campbell et al. 2001).

Setophaga coronata (hooveri). Yellow-rumped Warbler. Uncommon in **FALL**, from 15 Aug (2014) to 15 Oct (2014), sporadically as late as 26 Oct (one in 2016). Most numerous 8 Sep–1 Oct, when 10–15 birds/day. Outside of this period generally <five/day. Maxima 35 on 28 Sep 2012 and 58 on 9 Sep 2014. Rare in **SPRING**: Singing male on 15 May 1981 (BEL) and single female on 20 May 1981 (DDG). **NOTES**: Of the 93 birds captured in fall, only seven (8%) were adult. We noted single birds in juvenal plumage on 27 Aug 2011 and 4 Sep 2013. We saw no birds resembling subspecies *auduboni* or intergrades at Middleton. The Yellow-rumped Warbler (and subspecies *hooveri*) is widely distributed in Alaska and a locally common breeder in S-C (see Gabrielson and Lincoln 1959, Isleib and Kessel 1973). At Yakutat, this species is a common migrant and breeder with peak of fall migration in latter half of Aug (Andres and Browne 2004). **SPECIMEN**: UAM 40812, HY [♀], 4 Sep 2013, LHD.

Setophaga discolor (discolor). Prairie Warbler. Once in **FALL**: One immature on 22 Sep 1988 (UAM 5549, unsexed, MEI). **NOTES**: First Alaska record of the species (Gibson and Kessel 1992). There has been just one subsequent observation, in southern SE Alaska (see Heil and Piston 2009). The species breeds no closer than Ontario, and it is a rare vagrant anywhere on the west coast of North America (see Dunn and Garrett 1997, Hamilton et al. 2007).

Setophaga townsendi. Townsend's Warbler. Uncommon in **FALL**. Earliest record 6 Aug 2010 (TvN). From mid-Aug through mid-Sep typically ≤five/day; maxima 32 on 2 Sep 2011 and 36 on 24 Aug 2013. Irregular after mid-Sep and in reduced numbers. Latest were one each on 29 Sep 2013 and 1 Oct 1982 and 2012. Once each in **SPRING** ("present," 23 May 1985, DRN) and **SUMMER** (male seen 11 Jun 1956, Rausch 1958). **NOTES**: Of the 78 birds captured, only two (3%) were adult. Townsend's Warbler is a fairly common breeder coastally from SE Alaska west to Prince William Sound and the Kenai Peninsula (see Gabrielson and Lincoln 1959, Isleib and Kessel 1973, Kessel and Gibson 1978). But at Yakutat it is only an occasional migrant from Aug to late Sep, when Andres and Browne (2004) captured 16 over six years of migration monitoring. **SPECIMEN**: UAM 34431, HY ♀, 30 Aug 2013, LHD and JJW.

Cardellina pusilla pileolata. Wilson's Warbler. Uncommon in **FALL**, 7 Aug (one in 2010, TvN) to 28 Sep (2013), 1 Oct (2012), and 12 Oct (2014). Typically ≤four/day. Maxima 15 on 11 Sep 2011 and 26 on 9 Sep 2012. Less numerous after mid-Sep. Rare in **SPRING**: Single singing males, 16 May and 21 May 1981 (DDG), and one each on 21 and 28 May 2010 (TvN). Twice in **SUMMER**: Male, 26 Jun 1956 (Rausch 1958); one, 28 Jun 2010 (TvN). **NOTES**: Of the 93 birds captured, only two (2%) were adults. Wilson's Warbler breeds in most forested regions of mainland Alaska including coastal S-C, where common (see Gabrielson and Lincoln 1959, Isleib and Kessel 1973). It is a common fall migrant at Yakutat (Andres and Browne 2004), where more numerous as a migrant than at Middleton Island, suggesting an aversion to over-water flights in this region. **SPECIMENS**: UAM, 5; MVZ, 1.

Spizelloides arborea (ochracea). American Tree Sparrow. Uncommon in **FALL**, 9 Sep (1981) to 28 Oct (2016); latest arrival 20 Sep 2014. Most consistent from late Sep through mid- or late Oct when one or two/day. Maximum daily counts 10 on 6 Oct 1987 and 13 on 1 Oct 1982. Two on 28 Jun 1956 (Rausch 1958) provided

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the only **SUMMER** record. **NOTES:** The species appeared to be more numerous in the 1980s than since 2010. We found most individuals at the interface between medium/low shrub thicket and grass meadow. The species is generally rare in fall and winter in coastal S-C Alaska (Isleib and Kessel 1973; A. J. Lang, in litt., 2014) and southern SE Alaska (Heinl and Piston 2009). **SPECIMENS:** MVZ 134763 and MVZ 134764, both AHY ♂♂, 28 Jun 1956, R. Rausch; UAM 39613, HY [?], 28 Oct 2016, LHD.

Spizella passerina (arizonae). Chipping Sparrow. Rare in **FALL**, with 11 records (14 birds) from 13 Aug (2012) to 30 Sep (2014). Most frequent in Aug, e.g., two from 31 Aug to 5 Sep 2013 and on 19 Aug 2014; three on 13 Aug 2012 and 20 Aug 2014 (photo ML33566121, NRH). **NOTES:** We found this species primarily in short grass along roadways and the airstrip. All were in full juvenal plumage. In Alaska the Chipping Sparrow is generally uncommon and with a limited breeding range (on the SE mainland and in the eastern Interior—Kessel and Gibson 1978, Johnson et al. 2008, Gibson and Withrow 2015). In fall, it is casual in coastal S-C Alaska (Kessel and Gibson 1978, Andres and Brown 2004) and SE Alaska (Heinl and Piston 2009), but it has been recorded with remarkable regularity at the Alaska periphery, at St. Lawrence Island (see Lehman 2005) and at Middleton. **SPECIMENS:** UAM 5406, HY ♂, 24 Sep 1987, DDG; UAM 5416, HY ♂, 26 Sep 1987, DDG; UAM 34430, HY unsexed, 3 Sep 2013, JJW.

Spizella pallida. Clay-colored Sparrow. Once in **FALL**: One along southwest bluff and in willow thickets, 20 Sep 2014 (CWW, photo ML33463581), a first record for S-C Alaska. **NOTES:** This species is casual in SE Alaska, with about 12 records, most in fall, and accidental elsewhere (see Gibson and Withrow 2015). Clay-colored Sparrows nest no closer than northeastern British Columbia (Campbell et al. 2001).

Passerculus sandwichensis sandwichensis. Savannah Sparrow. Common in **FALL** through late Oct. Numbers peaked in the latter half of Aug; maximum daily counts 625 on 20 Aug 2013 and 1600+ on 13 Aug 2014. Counts of 100–300/day were routine through mid-Sep. Some 300+ on 1 Oct 1991 were exceptional, as numbers typically dropped to 20–50/day by late Sep and <10/day by Oct. Latest were ones on 25, 26, and 27 Oct 2016. In **SPRING**, earliest were 10 on 5 May 2012 (MB) and five on 7 May 2005 (RW). In **SUMMER**, **BREEDS** abundantly (Rausch 1958; TvN). **NOTES:** Of 185 birds captured in fall, 31 (17%) were adult. This species was ubiquitous in all open habitats on Middleton. It is a common migrant and breeder throughout S-C Alaska (see Isleib and Kessel 1973). We follow Rising (2007) in merging the four other Savannah Sparrow subspecies described from Alaska—*chrysops*, *anthinus*, *xanthophrys*, and *crassus*—in nominate *sandwichensis* (see Gibson et al. 2008). **SPECIMENS:** UAM, 17; USNM, 6. We did not locate two specimens collected in 1888 by C. H. Townsend (Ridgway 1893) or 21 specimens collected in 1956 by Rausch (1958).

Passerella iliaca sinuosa. Fox Sparrow. Common in **FALL**: Migrants supplanted local breeders by mid-Sep, when numbers increased (as did phenotypic variation) after a slump in early Sep. Abundance peaked in mid-Aug (primarily local breeders, typically 50–100/day) and mid-Sep (50–150/day). Maxima in Aug (primarily local breeders) 200 on 30 Aug 2014 and 235 on 24 Aug 2013; in Sep (primarily migrants) 227 on 14 Sep 2014 and, exceptionally, 2000+ on 15 Sep 2013. At times this subspecies remained numerous through late Sep (e.g., 100+ on 26 Sep 1987), when 10–30/day were more typical. Scarce and irregular in Oct with <five/day if any; latest were four on 6 and 7 Nov 1986 (MEI). Common in **SPRING** as early as 26 Apr (1979, SAH). As a **BREEDER** in **SUMMER** second in abundance only to the Savannah Sparrow in summer 1956 (Rausch 1958:235) and “abundant” during summers 2005 and 2006 (TvN). **NOTES:** Of 4179 individuals captured in fall (2011–2014), 356 (9%) were adult. Subspecies *sinuosa* breeds commonly in coastal S-C Alaska from Cook Inlet to Cape Yakataga (Gibson and Withrow 2015; UAM specimens). One bird banded 21 Aug 2012 was recovered 14 Oct 2012 at Eureka, California, one banded 22 Aug 2012 was recovered 26 Mar 2013 at Lake Oswego, Oregon, and one banded

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15 Sep 2013 was recovered 24 Mar 2016 on Vancouver Island, British Columbia.

TAXONOMIC NOTES: We identified most of our Fox Sparrow specimens as *sinuosa*, and most migrants seen in the field appeared to be *sinuosa* as well (Figure 26). We were unable to distinguish between specimens of *sinuosa* and *insularis* (of Kodiak Island) at UAM, so *insularis*, which entirely vacates the Kodiak archipelago for the winter, might easily be overlooked as a migrant at Middleton. Few of our specimens had plumage characters suggesting subspecies *unalaschcensis*, but adequate comparative material was not available, so our failure to confidently identify specimens of *unalaschcensis* from Middleton might not represent a true absence. Ridgway (1893) identified as *unalaschcensis* two specimens (USNM) collected on Middleton on 26 Aug 1888; these specimens were *not* studied by Grinnell (1910—cf. Rausch 1958) in describing subspecies *sinuosa*, but in any case they apparently no longer exist at USNM (<http://vertebrates.si.edu/birds/> [accessed Oct 2016]). **SPECIMENS** (all subspecies pooled): UAM, 29; AMNH, 7; USNM, 2—most *P. i. sinuosa*.

P. i. townsendi/chilcatensis. Casual in **FALL**, on the basis of four **SPECIMENS**: UAM 30903, HY ♂, 30 Sep 2012; UAM 34538, HY ♂, 16 Sep 2013; UAM 34539, HY ♂, 18 Sep 2013; and UAM 36501, HY [♂], 11 Sep 2014—all LHD. These two dark, heavily spotted subspecies breed in SE Alaska; we have not distinguished them on the basis of the collection at UAM. Middleton is far to the west of their presumed path of migration along the Pacific coast, and our four specimens represent the only records of such dark Fox Sparrows west of their breeding range.

P. i. zaboria. Casual in **FALL** during Sep: One each on 26 Sep 1997 (TGT), 28–29 Sep 2005 (SCH+), 9 Sep 2012 (UAM 30886, HY ♂, LHD), 10 Sep 2012 (UAM 30887, HY ♀, LHD), 12 Sep 2012 (CWW), 28–29 Sep 2012 (UAM 30888, HY ♀, LHD), 15 Sep 2013 (LHD+), and 18 Sep 2013 (LHD+). **NOTES:** This “red” Fox Sparrow nests throughout interior Alaska and into northern S-C Alaska, where it comes in contact with coastal taxa (see Williamson and Peyton 1962, Gibson and Withrow 2015; UAM specimens).

P. i. sinuosa × *zaboria*. Casual in **FALL** during latter half of Sep: One each on 28 Sep 2012 (UAM 30889, HY ♀), 15 Sep 2013 (UAM 34529, AHY ♂), and 18 Sep 2013 (UAM 34530, HY ♂, all LHD). **NOTES:** The subspecies of interior Alaska, *zaboria*, comes in contact with coastal subspecies in S-C and SW Alaska (see Williamson and Peyton 1962, Gibson and Withrow 2015; UAM specimens). These specimens closely resemble *P. i. altivagans*, which breeds in interior British Columbia.

Melospiza melodia insignis/kenaiensis and *M. m. caurina/kenaiensis*. Song Sparrow. Rare in **FALL**. Earliest probable migrants 19 Aug (2014); two on 16 Aug 2012 had likely hatched locally. First arrival as late as 8 Sep (2011). From 2011 to 2014 the species' frequency was about one or two/day from mid-Aug through late Sep. Maximum four on 16 Sep and 22 Sep 2011 and on 3 Oct and 6 Oct 2012. Irregular into late Oct; latest were up to three on 21 Oct 2016 and one on 29 Oct 2016. From 2011 to 2014 the species occurred annually in fall but previously was intermittent, with only eight fall records (1 Sep–11 Oct). Twice in **SPRING**: One on 11 May 1981 (DDG); one on 26 May 1978 or 1979 (PJJ, SMP). In **SUMMER**: One on 12 Jun 1978 or 1979; two from 31 Jul to 5 Aug 1982 (PJJ, DRN). **BREEDING** was suggested by the two in full juvenal plumage—no sign of body molt—on 16 Aug 2012; banded, at least one of them remained through 10 Oct. **NOTES:** Because the Song Sparrow (in several subspecies) is a characteristic bird of Alaska's Pacific coast from Dixon Entrance to Attu Island, Rausch (1958:239) wrote that it “was unexpectedly absent from Middleton Island.” Although it may breed sporadically, his statement still applies in essence. **TAXONOMIC NOTES:** Geographic partitioning of Song Sparrow subspecies in S-C Alaska is complex, and additional study and specimens (e.g., topotypes) will be needed for clarity. Plumage and morphological variation in specimens (UAM) from the described range of *kenaiensis* is wide, with larger and grayer birds in the west (e.g., Kachemak Bay, southwestern Kenai Peninsula) and smaller and browner birds in the

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east (e.g., eastern Prince William Sound). Fall specimens from Middleton divided roughly into three phenotypic groups (Figure 27). We identified most as examples of *caurina/kenaiensis*. They are smaller and shorter-tailed, with a slightly lighter, warmer, and more clearly defined plumage aspect than the following group and presumably originate from the Prince William Sound area. We identified three specimens as examples of *insignis/kenaiensis* (Kodiak Island, Kenai Peninsula, and islands of Prince William Sound [?])—Gibson and Withrow 2015). These birds are large, long-tailed, long-billed, and dark, very similar to comparable specimens from Kodiak Island. **SPECIMENS (12):** *M. m. insignis/kenaiensis*—e.g., UAM 30839 and UAM 30840. *M. m. caurina/kenaiensis*—e.g., UAM 29167, UAM 36632, and UAM 38194.

M. m. merrilli. Once in **FALL**: One immature on 23 and 24 Sep 2011 (UAM 29166, ♀, LHD+) was clearly smaller and more rufescent than other Song Sparrows

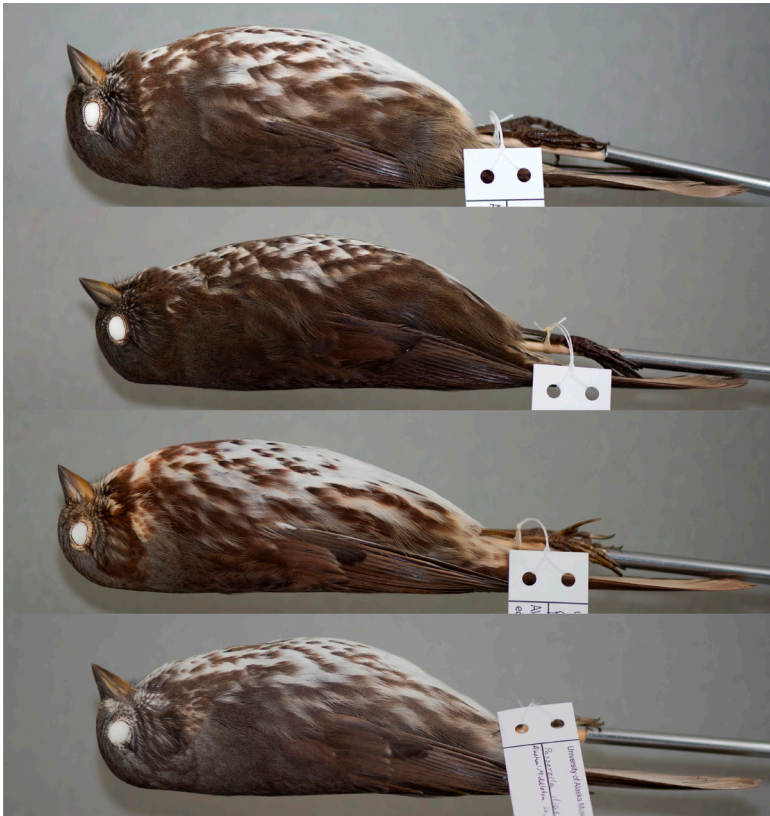


Figure 26. Fox Sparrow (*Passerella iliaca*) specimens from Middleton Island representing phenotypic variation in fall migrants. From top to bottom, subspecies *sinuosa* (UAM 30891), by far the most numerous taxon and the local breeder; subspecies *townsendi* or *chilcatensis* (UAM 36501), of the Alexander Archipelago or mainland SE Alaska, respectively; subspecies *zaboria* (UAM 30886), of interior Alaska; and intergrade *sinuosa* × *zaboria* (UAM 34532), likely from contact zones within S-C Alaska.

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on Middleton, and we identified it as an example of *merrilli*, which breeds from the SE Alaska mainland and inner islands of the Alexander Archipelago (Gibson and Withrow 2015) east across the Coast Ranges to eastern British Columbia and south to southeastern Washington and Montana (Patten and Pruett 2009). **NOTES:** An example of *merrilli* collected in fall in the Interior (Tobish 1995) was the first recorded north and west of its breeding range, and the Middleton bird is the first for S-C Alaska.

Melospiza lincolnii (gracilis). Lincoln's Sparrow. Uncommon in **FALL**, 8 Aug (2010) to 27 Oct (2016). From 2012 to 2014 arrived 15–18 Aug. Numbers of migrants peaked from mid-Aug through mid-Sep when counts of 15–20/day were regular, decreasing to five to 10/day in late Sep, one to three/day in Oct. Maxima 30 on 9 Sep 2012 and 60 on 15 Sep 2013. **TAXONOMIC NOTES:** In Alaska, subspecies *gracilis* nests commonly from Prince William Sound east through SE Alaska, nominate *lincolnii* throughout the rest of the species' distribution (Gibson and Withrow 2015). Since geographic variation was described by Pyle (1997:584) as "weak, clinal where ranges meet, and differences ... obscured by slight dichromatism (grayish and brownish plumages) and individual variation," we infer our specimens to be *gracilis* without clear evidence to the contrary. **NOTES:** Of 185 birds captured during fall, only five were adult. **SPECIMENS:** UAM, 8.

Melospiza georgiana (ericrypta). Swamp Sparrow. Casual in **FALL**: One at edge of west thickets on 27 Sep 1987 (UAM 5418, AHY unsexed, DDG), one in the same area on 20 Oct 2016 (photo ML39344061, NRH+), and one along southwest bluff on 25 Oct 2016 (NRH+; photos ML39344201, 39344211; Figure 28). **NOTES:** Rare in Alaska; most records are from SE Alaska in fall (see Gibson and Kessel 1992, Heisl and Piston 2009, Gibson and Withrow 2015).

Zonotrichia albicollis. White-throated Sparrow. Casual in **FALL**: One on 26 and 27 Sep 1997 (TJD+), one on 1 Oct 2012 (SCH), three on 6 Oct 2014 (UAM 36329, HY unsexed; UAM 36331, HY ♂; the third remained through 8 Oct, photo ML33467831), three on 13 Oct 2014 (UAM 36330, HY ♀; one through 14 Oct), one from 23 to 27 Oct 2016 (UAM 39614, HY [♀]), and one from 20 to 28 Oct 2016 (photo ML43852081, joined by a second on the 25th). **NOTES:** Multiple birds in both 2014 and 2016 were unprecedented, as all other records in S-C Alaska are of single individuals (TGT). This species is rare in Alaska, annual in fall and winter only in SE; it is casual in S-C Alaska (Gibson and Withrow 2015). It breeds close to Alaska in southern Yukon Territory (Sinclair et al. 2003).

Zonotrichia querula. Harris's Sparrow. Three records in **FALL**: Separate single birds on 5 Oct (UAM 5440, HY ♂, MEI) and 6 Oct 1987 (MEI) and one on 26 and 27 Sep 1997 (TJD+). **NOTES:** This species is casual in Alaska, with most records from SE in fall and winter (Gibson and Withrow 2015).

Zonotrichia leucophrys (gambelii). White-crowned Sparrow. Uncommon in **FALL**, 19 Aug (2014) to 26 Oct (two in 2016). First arrival as late as 29 Aug (2012). Typically <five/day and not daily, most consistent from late Aug through late Sep. Maxima 20+ on 26 Sep 1987 and 30 on 25 Sep 1987. Less numerous into Oct (but 10 on 20 Oct 2016). Apparently uncommon in **SPRING**: Three on 14 May and one on 16 May 1981, and at least two in Apr 2006 (TvN). One in mid-Jul 2006 (TvN) was the only one reported in **SUMMER**. **NOTES:** In fall typically observed with flocks of Golden-crowned Sparrows. Nearly all White-crowned, including all 30 captured in fall, were immatures; we noted single adults on 12 Oct and 13 Oct 1980 and 9 Sep 2012. This species is a rare and local breeder in coastal S-C Alaska, more numerous inland (Isleib and Kessel 1973). Andres and Brown (2004) considered it an uncommon fall migrant at Yakutat.

Zonotrichia atricapilla. Golden-crowned Sparrow. Common in **FALL**, first arrivals generally single immatures, 18 Aug (2014) to 24 Aug. First push of migrants from 22 Aug (160 birds in 2014) to 9 Sep (250 birds in 2012). Most numerous in Sep, when typically at least 50/day and often 200–400/day. Maxima 1500+ on 9 Sep 1981 and

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5500+ on 15 Sep 2013. Numbers decreased to 10–20/day after 1 Oct and <five/day by late Oct (2016). Latest was one on 11 Nov 1986. Uncommon in **SPRING**: Present on 6 May 1979 (SAH) and 7 May 2003 (CJG), also in late Apr and few through early Jun in 2005 and 2006 (TvN). **NOTES**: Of 744 birds captured in fall, 42 (6%) were adult. One banded 15 Sep 2013 was recovered 10 Jan 2014 in Richmond, California. The species is a common migrant and local breeder in coastal S-C Alaska (Isleib and Kessel 1973, Andres and Browne 2004). **SPECIMENS**: AMNH, 8; UAM, 1.

Junco hyemalis (hyemalis), *J. h. oregonus*, and *J. h. hyemalis* × *oreganus*. Dark-eyed Junco. Common in **FALL**, arriving 18 Aug (2012) to 26 Aug (2013). Intermittent, with usually <five/day before the peak from mid-Sep through early Oct, when typically 10–20/day. Maxima 50 on 9 Sep 2012 and 59 on 29 Sep 2013. Regular through at least late Oct (e.g., up to 16 from 19 to 26 Oct 2016). Two on 6 Nov 1982 (DWS, RLS) were latest. Subspecies *oreganus* arrived slightly later than nominate *hyemalis* (e.g., in 2013, 10 Sep versus 26 Aug, respectively); earliest dates 22 Aug 2014 and 4 Sep 2011. With a maximum of 15 on 18 Sep 2011, *oreganus* was typically less numerous than *hyemalis*. Rare in **SPRING**: Earliest were two on 30 Apr 2006 (TvN); also recorded 1–5 May 1979 (one, SAH), 12–13 May 1981 (one, DDG), and in the second half of May 2006 (TvN). **NOTES**: Of 65 juncos captured in fall (2011–2014), only two (3%) were adult. Subspecies *hyemalis* nests through most of the Alaska range of this species, south and east to Prince William Sound, where *oreganus*, reaching west from SE Alaska, replaces it (see Gabrielson and Lincoln 1959, Gibson and Withrow 2015). The latter winters coastally as far west as the eastern Aleutian Islands (in small numbers—Gibson and Byrd 2007). Both subspecies are uncommon in coastal S-C Alaska year round (Isleib and Kessel 1973) and common in migration at Yakutat (Andres and Browne 2004). **TAXONOMIC NOTES**: Two of our specimens (as well as other individuals seen in the field) represent phenotypes intermediate between subspecies *hyemalis* and *oreganus* and thus resemble the taxon *cismontanus*. We identify these birds here with no name, as simply intergrades of *hyemalis* and *oreganus* (see Gibson and Withrow 2015), rather than examples of a formally named *cismontanus* Dwight, 1918 (type locality Sumas, British Columbia). **SPECIMENS**: *J. h. oregonus*, e.g., UAM 5410, UAM 5717, and UAM 29163; *J. h. hyemalis* × *oreganus*, e.g., UAM 31127 and UAM 34540.

Emberiza rustica (latifascia). Rustic Bunting. Once in **FALL**: One immature male along the southwest bluff on 13 Oct 2014 (UAM 36333, ♂, LHD; photo ML33565221, NRH+). **NOTES**: Casual in S-C and SE Alaska in fall and winter (see Gibson and Withrow 2015), when it has reached British Columbia (Campbell et al. 2001), Washington (Wahl et al. 2005), Oregon (Marshall et al. 2006), and California (Hamilton et al. 2007).

Piranga ludoviciana. Western Tanager. Casual in **FALL**: One each on 20 Sep 1997 (TJD+), 31 Aug 2013 (UAM 34184, HY [♀], LHD+), 1 Sep 2013 (photo ML33566051, NRH+), and 8 Sep 2014 (CWW+). **NOTES**: The two records in 2013 were part of a small influx into S-C Alaska, where the species is casual (e.g., three in Seward, 11–18 Sep, Tobish 2014). It occurs annually as far northwest as the SE Alaska mainland, where it is an uncommon probable breeder (see Kessel and Gibson 1978).

Pheucticus ludovicianus. Rose-breasted Grosbeak. Once in **FALL**: One immature on 19 Aug 2013 (UAM 34186, ♀, LHD+)—first Alaska specimen. **NOTES**: This species is casual in SE Alaska (Gibson and Withrow 2015), and the bird at Middleton was the first recorded in S-C Alaska.

Pheucticus melanocephalus (melanocephalus). Black-headed Grosbeak. One report in **FALL**: One immature, 20–21 Sep 1981 (TGT), was the first of the species reported in Alaska (Gibson 1982). **NOTES**: Since the early 2000s, the Black-headed Grosbeak has occurred intermittently in SE and accidentally in S-C Alaska (see Heint and Piston 2009, Gibson and Withrow 2015).

Agelaius phoeniceus (arctolegus). Red-winged Blackbird. Intermittent in **FALL**, with



Figure 27. Song Sparrow (*Melospiza melodia*) specimens from Middleton Island representing phenotypic variation observed in fall migrants. Geographic partitioning of Song Sparrow subspecies in S-C Alaska is complex and by no means resolved. We identify the largest and darkest specimens as subspecies *insignis/kenaiensis* (top; UAM 30840), slightly smaller but still dark specimens as subspecies *caurina/kenaiensis* (middle; UAM 36632), and a single example of subspecies *merrilli*, presumably originating from SE Alaska (bottom; UAM 29166).

10 records (of 15 birds), from 21 Aug (2012) to 28 Sep (1987, UAM 5424, HY ♀, MEI; and 2013), most in first half of Sep. The only instances of multiple individuals were of two from 9 to 12 Sep 2012 and five on 1 and 2 Sep 2013 (UAM 34060, HY ♀, JJW). **NOTES:** The species is rare in summer, and a local breeder, in S-C and interior Alaska and a locally fairly common breeder in SE Alaska (Isleib and Kessel 1973, Kessel and Gibson 1978, Heinel and Piston 2009, Gibson and Withrow 2015).

Euphagus carolinus carolinus. Rusty Blackbird. Uncommon in **FALL** from 19 Aug (2014) to 24–26 Oct (2016). Most from 10 to 30 Sep, when often up to five/day. In some years persisted into early Oct, e.g., six on 4 Oct 2014. Maxima 10 on 20 Sep 1981 and 12 Sep 2012 and 13 on 13 Sep 2012. Twice in **SUMMER:** Female on 15 Jun 1981 (PJG) and one bird on 20 Jun 2006 (TvN). **NOTES:** Occurred along vegetated edges of ponds and wet edges of shrub thickets. In S-C Alaska an uncommon spring and fairly common fall migrant and a rare local breeder and winter visitant (Isleib and Kessel 1973). At Yakutat Andres and Browne (2004) recorded fall migrants from mid-Aug to late Oct. Rare in southern SE Alaska (see Heinel and Piston 2009). **SPECIMENS:** UAM 5419, AHY ♀, 27 Sep 1987, DDG; UAM 35619, HY ♂, 17 Sep 2013, LHD.

DISCUSSION

We document multiple lines of evidence for migration of passerines across the Gulf of Alaska in fall. Whether a similar pattern occurs during spring migration is unknown as our effort was limited during that season. Although nonpasserines have long been recognized to use this trans-oceanic route in autumn (Brant: Dau 1992; Cackling Goose: Gill et al. 1996; Short-eared Owl: Johnson et al. 2017; Red Knot: J. A. Johnson unpubl. data; Dunlin, Long-billed Dowitcher, Greater Yellowlegs, Marbled Godwit, and Whimbrel: R. E. Gill Jr. and D. R. Ruthrauff unpubl. data), it has previously only been suggested for passerines (see Swarth 1920, Gruchy et al. 1972). As our data on bird migration at Middleton Island are most detailed for passerines, and this result is the most novel finding of the project, we focus our discussion on their migration. Migration across the Gulf of Alaska is inherently risky for passerines, but the advantages are shortening the distance traveled and taking advantage of the favorable southeast airflow produced by the weather systems prevailing during autumn (e.g., Gill et al. 2009). We here present four lines of evidence to corroborate our assertion that passerines regularly cross the Gulf of Alaska in fall migration: age composition, body condition, abundance, and relationship between the intensity of migration and weather systems.

The age composition of migrants can clarify from what portion of a broad-front migratory flyway a sample originates. Adults are typically less susceptible to drifting off course than are immatures, resulting in a higher proportion of the latter at peripheral, often coastal, locations (Ralph 1971,



Figure 28. Three of the five Swamp Sparrows (*Melospiza georgiana*) reported from S-C Alaska have been at Middleton Island, this one photographed on 25 Oct 2016.

Photo by Nicholas R. Hajdukovich/USFWS

1981, Newton 2008). The percentage of immatures at Middleton Island ($\bar{x} = 92\%$, for all captured migrant passerines) was higher than at Yakutat, on the mainland 370 km east of Middleton ($\bar{x} = 79\%$; Andres et al. 2005). The proportion of immatures at Middleton resembles that at sites along the Atlantic coast within a main migratory path (Ralph 1981) and is lower than at offshore sites outside of known migratory routes, such as the Farallon Islands, California, where Ralph (1971) reported 96.2% of migrants were immatures. This pattern suggests that migrants at Middleton—as a proxy for migrants over the Gulf of Alaska—are within a regularly used migratory route, although showing the typical “coastal effect” (Ralph 1981).

Common passerine migrants at Middleton Island were in good body condition, many with heavy fat stores (banding data). The body mass (in immature birds) of the most common migrants was higher at Middleton Island than at Yakutat on the mainland coast: Yellow Warblers were heavier at Middleton by 5.1% (Middleton $n = 2083$, $\bar{x} = 10.4 \pm$ [standard deviation] 1.08 g; Yakutat $n = 302$, $\bar{x} = 9.91 \pm 0.94$ g), Orange-crowned Warblers by 2.6% (Middleton $n = 331$, $\bar{x} = 9.65 \pm 0.83$ g; Yakutat $n = 674$, $\bar{x} = 9.40 \pm 0.69$ g), Hermit Thrushes by 2.5% (Middleton $n = 621$, $\bar{x} = 25.03 \pm 2.62$ g; Yakutat $n = 1324$, $\bar{x} = 24.42 \pm 1.80$ g, and Fox Sparrows by 3.5% (Middleton $n = 3783$, $\bar{x} = 37.75 \pm 2.94$ g; Yakutat $n = 374$, $\bar{x} = 36.42 \pm 3.40$ g). It may be that migrants on Middleton are depositing larger fat stores in preparation for long over-water flights.

We also captured large numbers of migrant passerines on Middleton in each year of study, demonstrating that passerines are numerous offshore in the Gulf of Alaska during fall. As our fall seasons at Middleton were similar in duration to those of Andres et al. (2005) at Yakutat, we compared the rate of birds captured (per 100 net-hours) at the two sites. At Middleton this number was nearly three times greater than at Yakutat (150 versus 57 birds per 100 net-hours respectively; Andres et al. 2005). Over four years of mist-netting at Middleton Island, we banded 9963 individuals. There are myriad variables that influence mist-net captures, but it is clear that large numbers of passerines regularly and predictably occur over water in the Gulf of Alaska during fall—not just a mistaken few.

Many bird species take advantage of weather systems to embark on lengthy trans-oceanic flights (e.g., Gill et al. 2009, Shamoun-Baranes 2010). We suggest passerines may be using similar weather systems to aid their migration across the Gulf of Alaska. The timing and abundance of migrant passerines at Middleton Island in fall vary greatly, with one day often contrasting starkly with the next. We assume this to be a result of the strong influence of weather. The largest pulses of migrants at Middleton typically took place during periods of southeasterly airflow over the northwestern Gulf of Alaska. This weather pattern occurred most consistently after the passing of a low pressure system to the south of Middleton Island, when the trailing edge of the system rotating counterclockwise produced a flow of air from the north or northwest (Figure 29B) contrasting with direction of airflow prior to the passing of a low pressure system (Figure 29A). Of the 11 largest pulses of migrants (on days with capture rates contrastingly higher than on preceding days), six occurred when the prevailing flow of air in the region was from the northwest (e.g., Figure 29B). This pattern suggests that passerines depart

the mainland coast presumably to the north and west of Middleton Island and use this south and southeast flow of air to assist them across the Gulf of Alaska. Further research may illuminate more details regarding the complex interaction of migrants and weather systems in the Gulf of Alaska.

As expected, the majority of migrants occurring in fall at Middleton were of Pacific Flyway species that are common during migration and winter along the Pacific coast south and east of Middleton. This avifauna was further corroborated by the recoveries of five birds we banded at Middleton at sites in the Pacific Flyway. Most species and subspecies we found as common migrants on Middleton likely originated from populations breeding just to the north on the Kenai Peninsula and around Prince William Sound (e.g., subspecies *sinuosa* of the Fox Sparrow, *lutescens* of the Orange-crowned Warbler, and *rubiginosa* of the Yellow Warbler). We also regularly observed species and subspecies that follow the Central Flyway (e.g., the Alder Flycatcher, Gray-cheeked Thrush, subspecies *celata* of the Orange-crowned Warbler, Northern Waterthrush, and subspecies *banksi* of the Yellow Warbler). Given the paucity of these species or subspecies along the Pacific coast south of southeastern Alaska, their regular occurrence on Middleton suggests migration in a direct line west to east across the Gulf of Alaska then inland to join the Central Flyway. That these Pacific and interior taxa mix during fall migration at Middleton Island confirms a complex intermingling of avifaunas in the Gulf of Alaska.

In its isolated position in the northern Gulf of Alaska, Middleton attracts in fall a large array of misoriented birds (e.g., 19 species are known in S-C Alaska only from Middleton Island). Of the 261 species recorded, we consider 91 extralimital at Middleton, as they occur infrequently and not on passage between summering and wintering grounds. This suite of species can be parsed into two broad cohorts, of origin in the Old World ($n = 23$) or in the New World ($n = 68$). Within each group, multiple geographic patterns emerged. Some birds likely came from areas relatively nearby, such as southeastern Alaska (e.g., Western Tanager, American Redstart, Common Yellowthroat). Others were on trajectories from differing and vastly distant parts of the world, such as the Prairie Warbler, nesting no closer to Middleton than 4000 km to the southeast, and the Wood Warbler, nesting no closer to Middleton than 6500 km to the west.

This publication provides the first detailed view of the patterns of offshore migration in the northern Gulf of Alaska and offers much new information on trans-Gulf of Alaska migration in passerines. Given the numerous novel and intriguing patterns of occurrence noted throughout these accounts, it is our hope that this paper will provide a foundation for further research.

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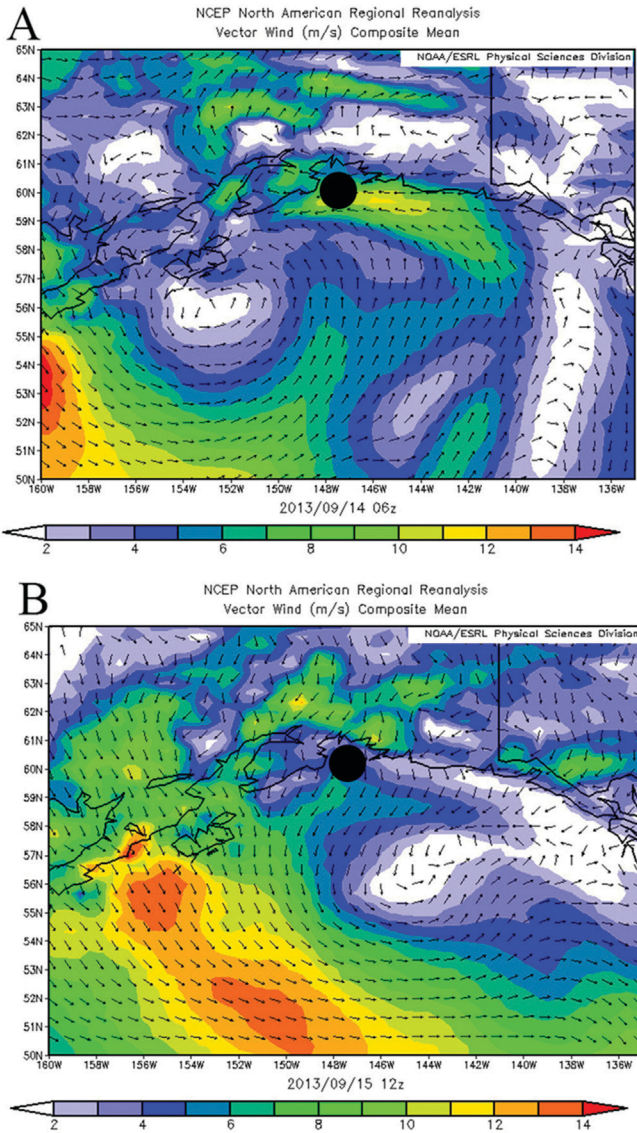


Figure 29. Comparison of unfavorable (A) and favorable (B) surface winds for passerine migration over the Gulf of Alaska in fall. Middleton Island is located by the black dot. Figure A (13 Sep 2013, 22:00 local time) represents typical winds along the leading edge of a low pressure system; note onshore winds over Middleton and the nearby mainland coast. Figure B (15 Sep 2013, 04:00 local time) represents typical winds after the passing of a low pressure system; note offshore winds over Middleton and the nearby mainland. This particular low pressure system resulted in an exceptionally large pulse of passerine migrants at Middleton on 15 Sep 2013.

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