

WESTERN BIRDS



Vol. 40, No. 2, 2009

Western Specialty: **Sooty Grouse**



Photo by © Michael A. Schroeder, Washington Department of Fish and Wildlife:
Sooty Grouse (*Dendragapus fuliginosus*) male
Near Rockport, Washington, 25 May 2001.
This male displays yellow apteria typical of this coastal species.

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Front cover photo by © Andrew W. Piston of Ward Cove, Alaska: Chestnut-backed Chickadee (*Poecile rufescens*), at its nest in a cavity in a stump at Vallenar Bay, Gravina Island, Alaska, 4 June 2006.

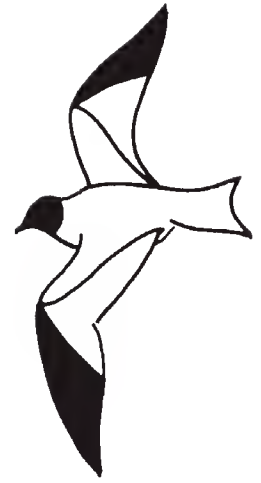
Back cover “Featured Photos” by © Michael A. Schroeder of Bridgeport, Washington: (top) Dusky Grouse (*Dendragapus obscurus*), male near Turner Valley, Alberta, 14 May 2005. This male has red apteria on the neck, apparently typical of all Dusky Grouse; (bottom) Sooty Grouse (*Dendragapus fuliginosus*), male south of Terrace, British Columbia, 15 May 2008. Red apteria appear to be the rule in Sooty Grouse from Terrace north through southeastern Alaska, rather than yellow as they are farther south.

Western Birds solicits papers that are both useful to and understandable by amateur field ornithologists and also contribute significantly to scientific literature. The journal welcomes contributions from both professionals and amateurs. Appropriate topics include distribution, migration, status, identification, geographic variation, conservation, behavior, ecology, population dynamics, habitat requirements, the effects of pollution, and techniques for censusing, sound recording, and photographing birds in the field. Papers of general interest will be considered regardless of their geographic origin, but particularly desired are reports of studies done in or bearing on the Rocky Mountain and Pacific states and provinces, including Alaska and Hawaii, western Texas, northwestern Mexico, and the northeastern Pacific Ocean.

Send manuscripts to Kathy Molina, Section of Ornithology, Natural History Museum of Los Angeles County, 900 Exposition Blvd., Los Angeles, CA 90007. For matters of style consult the Suggestions to Contributors to *Western Birds* (at www.wfo-cbrc.org/journal.html).

Good photographs of rare and unusual birds, unaccompanied by an article but with caption including species, date, locality and other pertinent information, are wanted for publication in *Western Birds*. Submit photos and captions to Photo Editor. Also needed are black and white pen and ink drawings of western birds. Please send these, with captions, to Graphics Manager.

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BIRDS OF THE KETCHIKAN AREA, SOUTHEAST ALASKA

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ABSTRACT: Historically, the Ketchikan area was visited by ornithologists only briefly in the early 1900s, and there has been no formally published, comprehensive treatment of the avifauna of southeast Alaska. Here we outline the status of 260 species of birds that have been recorded in the Ketchikan area, southeast Alaska, including 70 confirmed or probable breeders and 10 possible breeders, largely on the basis of our personal observations from 1990 to 2008. The avifauna of the Ketchikan area is typical of the coastal temperate rainforest but also, as a result of its location on the inner islands of the Alexander Archipelago, includes elements of both the open marine environment along the outer coast to the west and mainland river habitats to the east.

The city of Ketchikan is located on Revillagigedo Island at the southern terminus of the Alexander Archipelago, just north of Dixon Entrance, in southeast Alaska (Figure 1). Ketchikan lies near the heart of the coastal temperate rainforest that stretches from northwestern California north and west along the Pacific coast to the Kenai Peninsula and Kodiak Island, Alaska. There has been no formally published, comprehensive treatment of the avifauna of southeast Alaska, and published information from the Ketchikan area is particularly limited. Most early ornithological explorations of southeast Alaska took place in the spring and summer, and ornithologists often spent only a short time in any one location. The Ketchikan area was visited briefly by Alexander Wetmore (Gabrielson and Lincoln 1959), Ira N. Gabrielson (Gabrielson and Lincoln 1959), and Harry S. Swarth (1911), who collected specimens at Gravina Island and at Portage Cove, Revillagigedo Island. George Willett visited southeast Alaska seasonally beginning in 1912, and he was the first ornithologist to live year round in southern southeast Alaska, from 1919 to 1926. His published observations during that time concerned mainly the avifauna of St. Lazaria Island, Forrester Island, the Wrangell area, and Craig, Prince of Wales Island; however, he also lived

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Figure 1. Coastal Alaska and British Columbia, showing the location of Ketchikan within the Alexander Archipelago and southeast Alaska, along with locations mentioned in the text.

in Ketchikan from the spring of 1924 through the winter of 1925–1926 (Willett 1927, 1928, Howard 1946). Much of the historical ornithological information on southeast Alaska was summarized by Gabrielson and Lincoln (1959) and Kessel and Gibson (1978), the two primary publications on the status and distribution of birds in Alaska. Our purpose is to provide a detailed summary of the status and distribution of birds in the Ketchikan area in southern southeast Alaska.

AREA COVERED

“Southeast Alaska” as a biogeographic region was defined by Kessel and Gibson (1978) as all of Alaska east of Cape Fairweather and south to Dixon Entrance, an area approximately 600 km long and 140 to 270 km wide (Figure 1). Major features include the more than 1000 largely mountainous islands that constitute the Alexander Archipelago, the sheltered waters of the Inside Passage, and a narrow strip of the mainland, separated along its length from the interior of the continent by the rugged Coast Mountains. Within this region, we consider the Ketchikan area to include the islands of Revillagigedo, Gravina, Annette, Pennock, Bold, Betton, and Hassler and the adjacent bodies of water (Behm Canal, Clarence Strait, Nichols Passage, and Revillagigedo Channel). This area is nearly encapsulated by the Alaska mainland on the east and an extension of the mainland, the Cleveland Peninsula, on the north and west (Figure 2). Prince of Wales Island (Alaska’s second-largest island after Kodiak Island) and smaller islands to the west separate the Ketchikan area from the Pacific Ocean, more than 100 km to the west.

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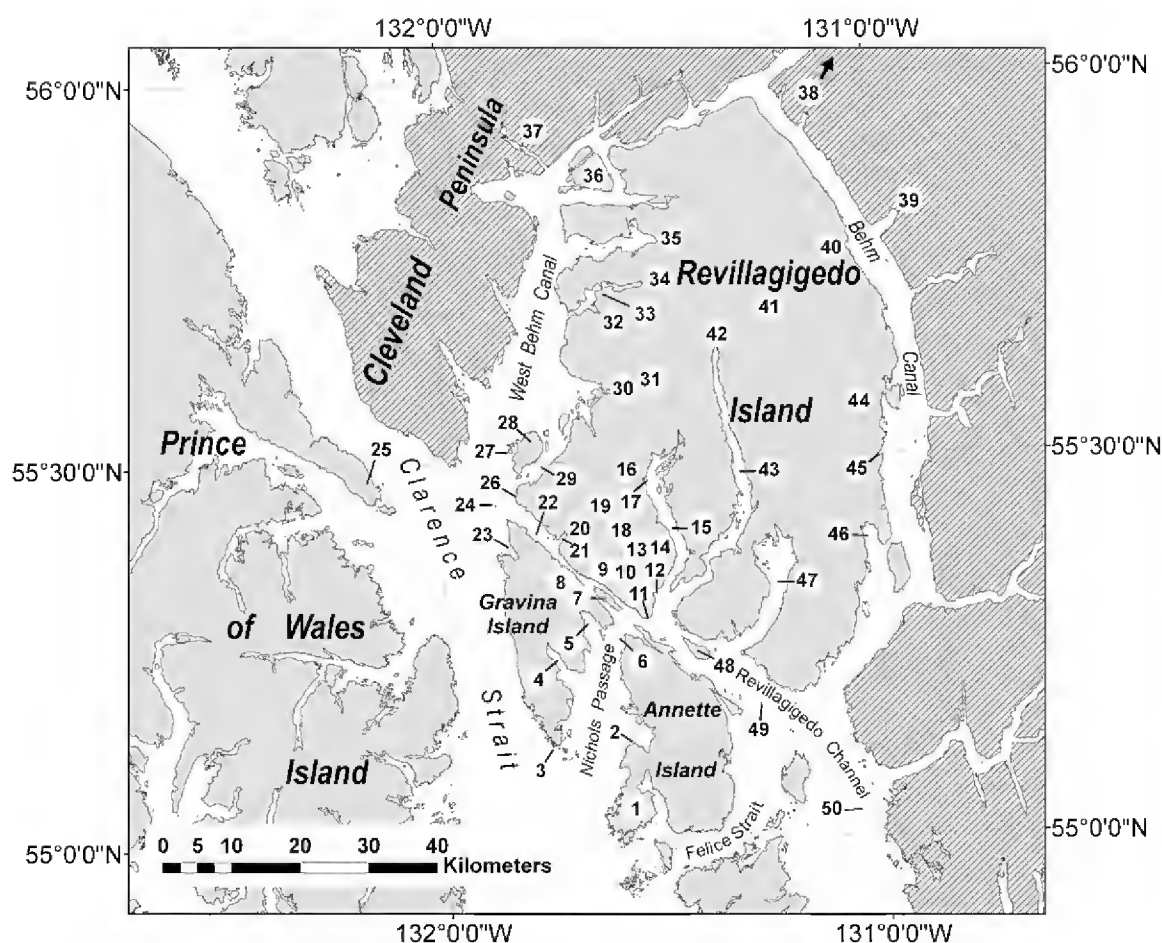


Figure 2. Map of the Ketchikan area showing major features and sites mentioned in the text. 1, sw Annette Island; 2, Metlakatla; 3, Dall Head; 4, Bostwick Inlet; 5, Blank Inlet; 6, Walden Rocks; 7, Pennock Island; 8, Ketchikan airport/northeast Gravina Island; 9, Ketchikan; 10, Deer Mt.; 11, Mountain Point; 12, Herring Cove; 13, Mahoney Mt.; 14, Silvas Lakes; 15, George Inlet; 16, Harriet Hunt Lake; 17, White River; 18, Dude Mt.; 19, Talbot and Connell lakes; 20, Ward Lake; 21, Ward Cove; 22, Tongass Narrows; 23, Vallenar Bay; 24, Guard Island; 25, Kasaan Peninsula; 26, Point Higgins; 27, Tatoosh Rocks; 28, Betton Island; 29, Clover Passage; 30, Naha River; 31, Jordan and Heckman lakes; 32, Margarita Bay and Margaret Lake; 33, Traitors Cove; 34, Traitors Creek; 35, Neets Bay; 36, Hassler Island; 37, McDonald Lake; 38, Unuk River; 39, Chickamin River; 40, Portage Cove; 41, Mt. Reid; 42, Carroll River; 43, Carroll Inlet; 44, Manzanita Lake; 45, Ella Bay; 46, Princess Bay; 47, Thorne Arm; 48, Bold Island; 49, Hog Rocks; 50, Snail Rock.

The vast majority of our bird observations come from the Ketchikan road system, the western half of Revillagigedo, the northeast shore of Gravina (including the area around the Ketchikan airport), and the Metlakatla area, on southwestern Annette (including 35 km of road). The primary feature of the Ketchikan road system is the Tongass Highway, which runs along the shore 21 km south and 26 km north from downtown Ketchikan and includes the small town of Saxman about 3 km south of Ketchikan. Revilla Road extends 14 km inland from Ketchikan and provides access to logging roads and several freshwater lakes. Much of the eastern half of Revillagigedo lies within the Misty Fjords National Wilderness, and it has been little explored by birders and ornithologists. At the time of the 2000 census, the popula-

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tion of the Ketchikan Gateway Borough was 14,070, and the population of Metlakatla was 1375.

CLIMATE

High annual precipitation, gray skies, and cool, moderate temperatures characterize the climate of southeast Alaska. The average annual precipitation at Ketchikan is 387 cm a year, with monthly averages ranging from 17 cm a month in both June and July to a peak of 56 cm in October. Climatic conditions vary as a consequence of the region's mountainous terrain (Alaback 1982); for example, the average annual precipitation at Metlakatla, only 24 km from Ketchikan, is 276 cm a year. The average summertime high and low temperatures at Ketchikan are 18° C and 10° C, the average wintertime high and low temperatures 5° C and -1° C.

AVIAN HABITATS

Habitats found in the Ketchikan area include most of those described in Kessel's (1979) classification of Alaska's avian habitats. The temperate climate supports dense coniferous forests dominated by western hemlock (*Tsuga heterophylla*) and Sitka spruce (*Picea sitchensis*), with western redcedar (*Thuja plicata*) and yellow-cedar (*Cupressus nootkatensis*) also present in wetter areas (Dellasala et al. 1996; Figure 3) (plant names from <http://plants.usda.gov>, 15 October 2008.). Blueberry and huckleberry (*Vaccinium* spp.), devil's club (*Oplopanax horridus*), currants (*Ribes* spp.), and rusty menziesia (*Menziesia ferruginea*) form a dense understory of shrubs. Birds that nest primarily in mature coniferous woodland include the Sooty Grouse, Marbled Murrelet, Barred Owl, Red-breasted Sapsucker, Hairy Woodpecker, Steller's Jay, Chestnut-backed Chickadee, Brown Creeper, Golden-crowned Kinglet, Varied Thrush, Townsend's Warbler, and Red Crossbill.

The spruce-hemlock woods are naturally fragmented by open *Sphagnum* bogs, or muskegs, that include a range of habitats, from wet meadow to dwarf-shrub meadow, low- to medium-shrub thicket, and dwarf forest (Figure 4). Muskegs commonly cover fairly level low-lying areas of poor drainage but are also found on steeper slopes, from sea level to timberline, where drainage is slowed or impounded (Neiland 1971). They are covered with sparse, scrubby shore pine (*Pinus contorta*) and shrubs, including stunted yellow-cedar, common juniper (*Juniperus communis*), bog-laurel (*Kalmia polifolia*), Labrador tea (*Ledum groenlandicum*), and sweet gale (*Myrica gale*), interspersed with isolated dense stands of pine, yellow-cedar, and western and mountain hemlock (*Tsuga mertensiana*) (Pojar and MacKinnon 1994). Virtually the entire southwestern portion of Annette and the northeastern shore of Gravina are covered by muskeg. Muskegs and associated woodland are the primary nesting habitat of the Greater Yellowlegs, Northern Flicker, Yellow-rumped Warbler, Lincoln's Sparrow, and Dark-eyed Junco.

The coniferous forests of southeast Alaska have been fragmented by logging, particularly since the 1950s (Harris and Farr 1974). Clearcuts and logging roads are common on the larger islands in the Ketchikan area. Most clearcuts quickly fill with a dense growth of *Vaccinium* spp., currants,

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salmonberry (*Rubus spectabilis*), and conifer saplings (Alaback 1982). These temporary shrub habitats are used by nesting Orange-crowned Warblers, Wilson's Warblers, Fox Sparrows, Dark-eyed Juncos (Kessler and Kogut 1985, Dellasala et al. 1996), and others, until the conifers close out the canopy and the shrub understory is eliminated (about 25–35 years after logging; Alaback 1982).

Deciduous forest is of limited extent in the Ketchikan area and is often mixed with conifers. Narrow riparian stands of red alder (*Alnus rubra*), with a dense understory of salmonberry, devil's club, elderberry (*Sambucus racemosa*), and currants, grow along the larger creeks, and patches of this habitat develop along the margins of salt-water shores, in disturbed areas around towns, on old logging roads, and in moist areas of clearcuts. Slides, numerous on the steep hillsides, fill rapidly with Sitka alder (*Alnus viridis*), salmonberry, and devil's club. These primarily deciduous habitats are important to nesting Fox Sparrows, Wilson's Warblers, and Swainson's Thrushes.

Lowland meadows and grasslands are limited to estuaries at the mouths of the largest creeks (e.g., Carroll River and Traitors Creek). Extensive estuarine meadows and drier grassland are lacking, and most species associated with this habitat (e.g., Rough-legged Hawk, American Kestrel, Short-eared Owl, Northern Shrike, and Lapland Longspur) are encountered in the Ketchikan area infrequently.

Alpine heath is found at elevations of 750–900 m and higher on Gravina, Annette, and Revillagigedo (Figure 5). The most extensive alpine habitat is found on the northern half of Revillagigedo, where the maximum elevation is 1400 m at Mt. Reid. Alpine heath is important habitat for the Willow and Rock ptarmigans and nesting American Pipits.

Marine waters consist of numerous inlets, bays, and passages between the islands (Figure 6). These protected nearshore waters provide important wintering habitat for many species of waterfowl, loons, grebes, and alcids (e.g., Barrow's Goldeneye, Common Merganser, Pacific Loon, Western Grebe, Common Murre, and Marbled Murrelet). Marine spawning sites of the Pacific herring (*Clupea pallasii*) provide important migration stopover sites for the Surf Scoter. More exposed open water is found to the south and west of the study area in Clarence Strait and Revillagigedo Channel, both of which open south into the inshore waters of Dixon Entrance. Shorelines are generally narrow and rocky, and there are few sandy beaches in the area. Estuarine substrates also tend to be rocky or muddy, with extensive mud exposed only at the lowest (minus) tides. Thus many species of shorebirds are not seen as frequently in the Ketchikan area as they might be elsewhere in southeast Alaska.

Although lacustrine waters are common, the majority of the large lakes in the region are oligotrophic, with deep steep-sided basins, and are not always productive for water birds. The numerous small acidic ponds and lakes in muskeg bogs are also often unproductive. Thus, with few exceptions, the density and diversity of breeding waterfowl around Ketchikan is low in comparison to that of other areas of Alaska and the interior of British Columbia to the east (Campbell et al. 1990a), a situation also noted by Swarth (1911). Lakes with wet sedge meadows and inlet streams bordered by dense low

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thickets of the shrub *Spiraea douglasii* support breeding populations of the Common Yellowthroat, Song Sparrow, and Lincoln's Sparrow.

Fluviatile waters and shorelines are also common, and there are many small to medium-sized creeks throughout the area that provide important habitat for the Common Merganser and American Dipper. Salmon spawn in nearly every stream in the Ketchikan area, and many of the larger streams support hundreds of thousands of spawning pink salmon (*Oncorhynchus gorbuscha*) each fall (Heinl and Geiger 2005). Dead and dying salmon and their eggs are an important source of food for Bald Eagles, gulls, and some waterfowl.

Artificial habitats, including buildings and other structures, disturbed ground, and cut banks next to roads and quarries are used by several species nesting in the Ketchikan area, particularly the Killdeer, Belted Kingfisher, Northern Rough-winged Swallow, Barn Swallow, and European Starling.

ANNOTATED LIST

We outline the status of 260 species of birds, representing 52 families in 18 orders, that have been recorded in the Ketchikan area as of 31 July 2008. Three additional species, included in brackets, are commensal (Rock Pigeon; Gibson and Kessel 1997), unsubstantiated in the Ketchikan area (Golden Eagle; Willett 1927), or unsubstantiated in Alaska (Laughing Gull; AOU 1998).

Species accounts are based primarily on our personal field notes from 1990 to 31 July 2008, incorporating more than 45,000 observations. In addition to published data sources, we also included the observations of other people living in the Ketchikan area, unpublished information on file at the University of Alaska Museum (UAM), Fairbanks (1960s to present; courtesy of D. D. Gibson), and unpublished information from George Willett's personal notes from the 1920s (primarily January 1924–November 1925; courtesy of K. L. Garrett, Los Angeles County Museum of Natural History [LACM]). We also included observations published in the quarterly reports of *Audubon Field Notes* and its successors *American Birds*, *Field Notes*, and *North American Birds*. We have cited specific statements on status and distribution in these reports by the regional editor's name and year of publication. In a few instances we provide our original assessments of status and distribution based largely on information from these quarterly reports. Written documentation and photographs pertaining to the records discussed below are on deposit at UAM.

We have included information on subspecies for nearly all polytypic species that have been found in the Ketchikan area. Subspecific identity was determined from specimens archived at UAM, or inferred from Gibson and Kessel's (1997) inventory of the species and subspecies of Alaska birds (in the latter case, subspecies are presented parenthetically in the heading of the species account). Identification of UAM specimens was made or corroborated by D. D. Gibson. We have also included reference to the Ketchikan specimens collected by Willett, archived at LACM (specimen data courtesy of K. L. Garrett), and to Swarth's specimens, archived at the Museum of Vertebrate Zoology (MVZ), University of California Berkeley (Swarth 1911).

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Nomenclature follows Gibson and Kessel (1997) unless otherwise noted. We have provided additional specimen information, when it exists, for those monotypic species that are rare or casual in the Ketchikan area.

We used the following terminology, based on Kessel and Gibson (1978), to describe the status of each species: Resident—a species present throughout the year. Migrant—a seasonal transient between winter and breeding ranges. Breeder—a species known to breed; prefixed by “possible” or “probable” if concrete evidence of breeding is unavailable. Visitant—a nonbreeding species, also, in fall, a species not directly en route between breeding and wintering ranges. Common—the region regularly hosts large numbers of the species, and it occurs in all or nearly all proper habitats. “Abundant” is used for several species that sometimes occur in extremely large numbers. Fairly common—the region regularly hosts substantial numbers of the species but it occurs in only some of the proper habitat, and large areas of presumed suitable habitat area occupied sparsely or not at all. Uncommon—species occurs in the region in relatively small numbers, and it is not observed regularly even in proper habitats. Rare—species within its normal range, occurring regularly but in very small numbers. “Very rare” is used for a species which occurs more or less regularly, but not every year, and usually in very small numbers. Casual—a species beyond its normal range that may occur intermittently over a period of years and in very small numbers.

The initials and names of contributors of original observations are as follows: (RWB) Robert W. Bale, (CB) Chris Betrus, (CC-B) Cole Crocker-Bedford, (DB) David Bowers, (GB) Gretchen Blanchard, (JB) Jesse Ball, (MB) Mike Brown, (JC) Jackie Canterbury, (KOD) Kathy O. Doyle, (PD) Peter Dwyer, (PSD) Philip S. Doherty, (TJD) Terry J. Doyle, (GLE) Gene and Laura Eide, (ME) M. Eanes, (CAF) Cheryl A. Fultz, (CJF) Craig J. Flatten, (DDG) Daniel D. Gibson, (JG) Jack Gustafson, (TLG) Teri L. Goucher, (ABH) Amy B. Holm, (EBH) E. Brooke Hunt, (JH) John Haddix, (JTH) J. Tom Hunt, (PSH) Patricia S. Hunt, (SCH) Steven C. Heintz, (SLH) Sharon L. Huffman, (MEI) Malcolm E. “Pete” Isleib, (ABJ) Andrew B. Johnson, (LMJ) Lane M. Johnson, (RJ) Randy Jahnke, (BFK) Ben F. King, (DK) D. Kiljegren, (HK) Halli Kenoyer, (JFK) Jerrold F. Koerner, (LK) Lynn Kolund, (BAL) Bert A. Lewis, (JL) Jeff Lundberg, (JDL) James D. Levison, (JHL) Jim H. Lewis, (KL) Kris Larson, (NDL) Nancy Dee Lough, (TL) T. Leeman, (CAM) Charles A. Mackey, (GHM) G. and H. Metcalf, (JM) J. Melton, (JMM) James M. Maley, (KEM) Ken E. Mix, (PM) Patricia McConnell, (PMe) Phil Meredith, (SJM) Steve J. McCurdy, (SOM) Stephen O. MacDonald, (DN) Dennis Northrup, (REN) Rod E. Neterer, (SLN) Sharon L. Norton, (WN) Walter Northrup, (ALTP) Ardath L. T. Piston, (AWP) Andrew W. Piston, (BTP) Boyd T. Porter, (DKP) Dave K. Person, (JP) Jeannie Pontti, (JEP) Joe E. Piston, (NP) Nancy Priebe, (AMR) Anne M. Reynolds, (BR) B. Ringeisen, (DR) Dale Rogers, (KMR) Kathy M. Ripley, (PMR) Peter M. Roginski, (WFR) William F. Rotecki, (CS) C. Smout, (DWS) David W. Sonneborn, (JS) Joyce Silberling, (JES) Jessie E. Swift, (LS) Lyle Stack, (LSw) LoAnn Swanson, (MWS) Mark W. Schwan, (NS) Nan Story, (RLS) Robert L. Scher, (RS) Richard Schuerger, (SS) Sandy Skrien, (SSp) Sheila Spores, (KT) Ken Turley, (MAT) Mark A. Tofeldt, (TGT) Theodore G. Tobish, Jr., (GBV) Gus B. vanVliet, (SV) Sheila Valentine, (BW) Bruce Wright, (DW) Don Westlund, (HW) Helen West, (JDW)

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Abbreviations used in the text: *American Birds* (AB), British Columbia (BC), Christmas Bird Count (CBC), *Field Notes* (FN), Los Angeles County Museum of Natural History (LACM), Museum of Vertebrate Zoology, University of California, Berkeley (MVZ), *North American Birds* (NAB), photograph (ph.), southeast (se), southwest (sw), U.S. Forest Service (USFS), and University of Alaska Museum, Fairbanks (UAM). Photos were taken by Heintz or Piston unless otherwise noted. In instances when observers other than the authors found a bird, documentary photographs by the authors are indicated by the abbreviation "ph." following a semicolon after the initials of the original observer.

SPECIES ACCOUNTS

Anser albifrons frontalis. Greater White-fronted Goose. Common spring migrant, uncommon fall migrant, and casual summer visitant. This species is conspicuous in spring, flying north over the area in flocks of a few to 400 birds, often with Canada Geese (*Branta canadensis*) (earliest, 12 April 2001, KEM). Spring migration peaks 23 April–10 May, and stragglers are observed through mid-May (latest, 29 May 2006). High counts include 700 over Tongass Narrows 24 April 1993, 2300 over Tongass Narrows 27 April 2002, 5150 flying over Clarence Strait and sw Annette 28 April 2004, 6800 flying over Tongass Narrows 30 April 2006, 1050 flying north over sw Annette 1 May 2002, and 715 over sw Annette and 120 over Nichols Passage 6 May 1995. In fall, migrants occur between 3 September (2001) and 25 October (2003) but are irregular and not observed annually (maximum, 175 on 3 September 2001). A very late bird was at Clover Passage 9–30 November 1993. Single birds with Canada Geese at Gnat Cove, Carroll Inlet, 19 June 1999 and Clover Passage 15–19 June 2006 (DW) are the only ones recorded in summer. A salvaged specimen from Gravina (UAM 14168, unsexed adult, 17 May 2001) is *A. a. frontalis*, the race that breeds in western Alaska (Gibson and Kessel 1997). We suspect that the vast majority of the birds that we see are this form, although the large, dark race *A. a. elgasi*, which breeds in Cook Inlet, may also migrate over our area.

Chen caerulescens (*caerulescens*). Snow Goose. Uncommon migrant. Observed in spring from 2 April (1997) to early May, with peak numbers in mid-April (maxima, 170 on 13 April 2002 and 1170 on 17 April 2004) and the latest 18–26 May 2006 (DW). Fall migrants occur from 26 September (1996) to 26 October (1999, ABH; maxima, 1000 on 9 October 1992, JFK; 750 on 30 September 2001). A late flock of 100 was reported in "November" 1973 (PM). The Snow Goose is very rarely found on the ground in the Ketchikan area. Migrants through southeast Alaska belong to the population that breeds on Wrangel Island, Russia, some of which follow a coastal migration route and winter on the Fraser and Skagit river deltas in BC and Washington (Mowbray et al. 2000). These coastal migrants stop annually at the Stikine River delta in southeast Alaska in both spring (e.g., 10,452 on 13 April 1992; R. E. Lowell, Alaska Department of Fish & Game, in litt.) and fall (e.g., 2000 on 20 October 1950; Gabrielson and Lincoln 1959).

Branta bernicla (*nigricans*). Brant. Uncommon spring migrant. Occurs annually in small numbers, primarily during May (earliest, 18 April 2008 and 27 April 2002; latest, 2–4 June 1987, MEI), with maximum numbers in shallows along the

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Figure 3. Coniferous forest, Carroll Inlet, Revillagigedo Island, July 2007. On the left is old-growth coniferous forest (hemlock, spruce, and cedar), on the right is a 20-year-old clearcut filled with coniferous second growth. Lines of paler red alder mark the old logging roads. The sedge meadow and *Spiraea* thickets at the far end of the small lake are excellent habitat for the Song and Lincoln's sparrows and Common Yellowthroat.

Photo by S. C. Heinl

outer shore of sw Annette (e.g., 170 on 1 May 2002, 60 on 6 May 1995). Most of Alaska's breeding population migrates to and from the breeding grounds in western Alaska over the Gulf of Alaska and largely bypasses southeast Alaska (Gabrielson and Lincoln 1959, Dau 1992).

Branta hutchinsii (minima). Cackling Goose. Only recently recognized as distinct from the Canada Goose (Banks et al. 2004), the Cackling Goose is likely an uncommon to fairly common migrant in southeast Alaska, though more information is needed to clarify its status. Bailey (1927) reported seeing flocks migrating by Hoonah Sound 7–8 May 1920 and another flock in Glacier Bay 11 October 1920. Webster collected a specimen at Kruzof Island, near Sitka, 30 April 1940 (Webster 1941) and found migrant flocks near Wrangell 27 April–16 May 1946, where he collected a specimen at the Stikine River mouth 16 May 1946 (Webster 1950). This specimen (California Academy of Sciences 60403) is small and dark-breasted, with a short neck and small bill (exposed culmen 24.1 mm, fide D. J. Long, California Academy of Sciences), so is clearly *B. h. minima*. Gabrielson and Lincoln (1959) gave a Ketchikan arrival date of 23 April for *minima* but provided no further details.

Many of the white-cheeked geese we have observed flying north in late April and May are smaller than the accompanying Greater White-fronted Geese; some of these birds are certainly *B. h. minima*, including 275 on 7 May 2008, 200 on 7 May 2006, and 25 on 25 May 2006. We have found spring stragglers on the ground at Ketchikan (two, 21–23 May 2006, ph.) and on the adjacent mainland at Hyder

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Figure 4. Muskeg or *Sphagnum* bog habitat at Gravina Island. The wet meadows and surrounding coniferous growth are the primary breeding habitat of the Greater Yellowlegs, Northern Flicker, Yellow-rumped Warbler, Lincoln's Sparrow, and Dark-eyed Junco.

Photo by J. E. Piston

(single birds on 6 June 2004 and 6–8 June 2006; ph.). One at the Naha River mouth 18 October 1999 provided our only certain fall record of this species at Ketchikan. All of the birds that we have seen on the ground have been the dark, very small, purplish-breasted *B. h. minima*, which is fairly straightforward to identify in the field (see Delacour 1954).

Branta canadensis (fulva). Canada Goose. Common spring migrant, fairly common breeder and fall migrant, and common winter visitant. The subspecies *fulva* breeds in southeast Alaska and coastal northern BC and is thought to be relatively sedentary (Campbell et al. 1990a, Gibson and Kessel 1997). It occurs in pairs and small flocks during the summer (maxima, 25 at Traitors Creek 7 June 2002 and 16 at Carroll Inlet 19 June 2002). Breeding records include a pair with two downy chicks at Gravina 18 May 2003, a pair with five downy chicks at Talbot Lake 9 June 2004,

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a pair with four half-sized young at Gravina 8 July 2000, a pair with two chicks in the White River valley 15–22 July 2001, a pair with six nearly full-grown juveniles at Harriet Hunt Lake 27 July 2000, and a pair with four juveniles at the Ketchikan airport 29 July 2000. Gabrielson estimated over 1000 birds in Behm Canal and adjacent Reflection and Manzanita lakes, Revillagigedo, 24 August 1945 (Gabrielson and Lincoln 1959), and M. E. Isleib estimated that 200–300 were at sw Annette 10–18 September 1986. This race is common on sheltered salt-water shores from November to March, particularly at large intertidal areas such as the mouth of the Carroll River, where 200–400 winter annually (MAW). Winter counts on the Ketchikan road system range from a few to 50 birds.

This species is a conspicuous spring migrant from late March to mid-May, with maximum numbers from mid-April to early May, when large flocks are observed flying north over the area on a daily basis (e.g., 21 flocks totaling 2885 birds in 4 hours on 19 April 1998, 4000 in 1 hour on 23 April 2002, 2200 in 3 hours on 25 April 1999, and 800 over sw Annette 4 May 1996). We do not know the subspecific identity of these geese, as they are observed only while flying over the area. We identified two medium-sized, pale-breasted geese at sw Annette 28 April 2004 and one at Gravina 22–29 May 2006 as Lesser Canada Geese (*B. c. parvipes*). In the fall we have observed flocks of migrants only in October and not annually (maximum, 300 on 14 October 1999 and 2001). The timing of these birds coincides with the movement of white-cheeked geese, including subspecies *occidentalis*, in the Prince William Sound area in late September and October (Isleib and Kessel 1989). We observed a flock of eight medium-sized pale-breasted birds, likely *B. c. parvipes*, at Ketchikan on 26 October 2003.

Cygnus buccinator. Trumpeter Swan. Uncommon migrant and winter visitant, casual summer visitant and breeder. Small numbers winter regularly on open fresh water and sheltered estuaries (e.g., up to 28 at the Carroll River mouth, winter 1994–1995, and 20 birds there 31 January 1998 and 23 December 1998; all MAW). The USFS (unpubl. data) conducted eight aerial surveys of Revillagigedo over seven winters and found an average of 40 birds (range 18–70; maximum, 70 on 22–23 December 1977). An aerial survey of Revillagigedo in March 1945 produced 61 swans (Gabrielson 1946), some of which may have been migrants. The Trumpeter Swan is a very rare breeder in southeast Alaska, and there is one record of breeding on Prince of Wales immediately to the west of Ketchikan (Kessel and Gibson 1978). Orton (1951), and later Gabrielson and Lincoln (1959), implied that this species bred at lakes in the upper Naha River drainage and wintered at lower lakes in the same drainage. Orton, however, provided no actual evidence of breeding. In 1999, Piston also found Trumpeter Swans in the Naha River drainage (three adults at Roosevelt Lagoon 28 April, one adult there 28 May, and one adult upriver at Jordan Lake 2 June). An adult with two downy chicks in the Traitors Creek drainage 27 July 2005 (ph. PMR) provided the first confirmed breeding record for the area. Four at Manzanita Lake 1 June 1995 (CJF) and one adult at Ward Lake 28 July 2002 (present for only one day) represent the only other summer records.

Migrant swans are observed from mid-October to late November (earliest, 13 October 1999) and from early March to mid-April; stragglers occur through late April and occasionally early May (latest, 6 May 1995 and 21 May 2007). They typically occur in small groups (the median flock size was four birds; $n = 112$). Maximum counts are 75 on the beach at Vallenar Bay, Gravina, 1 April 2002 (BTP), 30 flying north 2 April 2002 (JEP), and 27 at Heckman Lake March 1943 (Orton 1951) and 28 October 1992 (JC). All of the migrating swans we have heard have been Trumpeter Swans; however, it is certainly possible that some of the migrant swans we were not able to identify to species, or that were reported to us by other people, were Tundra Swans (*C. columbianus*).

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Cygnus columbianus (columbianus). Tundra Swan. This species is primarily a migrant in southeast Alaska; however, its full status has been clouded by the difficulty of distinguishing it from the Trumpeter Swan in the field (Gabrielson and Lincoln 1959). We have only three certain records: one immature with Trumpeter Swans at Ketchikan 6 January 1995 (ph.), two adults at Ward Lake 10–11 November 1999, and two adults at Ward Lake 26 February–9 March 2005.

Aix sponsa. Wood Duck. Casual. This species was considered casual in Alaska through the early 1990s but has since occurred in southeast Alaska nearly annually and at all seasons. Eight Ketchikan records: female 2–9 November 1991 (DB; ph.), female 1–16 May 1999 (ph. NAB 53:315), pair 16 December 2000–18 March 2001 (ph. NAB 55:213), flock of three males and two females 13 November–23 December 2001 (ph.), male 18 September 2006 (REN), male 28 November–16 December 2006 (ph. PMR; Figure 7), male 16–17 April 2007 (ph. MAT), pair December–6 February 2008 (ph. LSw, WFR).

Anas strepera (strepera). Gadwall. Uncommon winter visitant, rare spring migrant, and casual summer visitant. This species is present in very small numbers from October to March (earliest, 18 October 2000; maximum, 8 on 16 December 1995), and a few are found in spring through early May (latest, 27 May 2002 and 31 May 2000). A drake at Ketchikan 15 June 2008 provided the only summer record.

Anas penelope. Eurasian Wigeon. Rare spring migrant and casual winter visitant. We have one winter record (pair 17 February 1973; Kessel and Gibson 1978) and nine spring records, 3 April (1997) to 6 May (2001). This species is a rare spring migrant and casual winter visitant in southeast Alaska (Kessel and Gibson 1978).

Anas americana. American Wigeon. Fairly common migrant and rare winter visitant. Spring migrants are observed from 3 April (1997) to 3 June (2003) (maxima, 122 on 27 April 2002 and 82 on 28 April 2004). Fall migrants are observed from 24 August (2001) to late October (maxima, 92 flying south over Tongass Narrows 30 September 2001, 60 at Traitors Cove 12 September 1996, and 45 at sw Annette 11 September 1986, MEI, RLS, TGT). A few winter annually with flocks of Mallards (e.g., one to three birds along the Ketchikan road system; maximum, 21 at the Carroll River mouth 7 February 2003).

Anas platyrhynchos (platyrhynchos). Mallard. Common migrant and winter visitant, uncommon breeder. Fall migrants arrive in mid-August (earliest, 14 August 1998), and the species is common by mid-September, particularly at salmon spawning streams, where the birds feed on salmon carcasses and loose eggs. Small flocks winter on fresh water and along coasts, with the largest concentrations at sheltered estuaries (e.g., the Carroll River mouth: 500 on 23 December 1998, 400 on 31 January 1998 and 23 December 2000, MAW). Spring migration begins in late March and peaks in April (e.g., 215 at the Ketchikan airport 27 April 2002), with smaller numbers through early May. The Mallard is uncommon during June and July (maximum, 20 at Traitors Cove 5 June 2000). Breeding records are of a female with eight chicks at sw Annette 3 June 1987 (MEI), a female with eight chicks along the upper White River 22 June 2003, a female with chicks near Traitors Cove 22 June 2004 (CJF), and a female with a half-grown chick at the Ketchikan airport 28 June 2001. Resident feral Mallards also breed at Ward Lake, near Ketchikan.

Anas discors. Blue-winged Teal. Uncommon spring migrant and rare fall migrant. Spring migrants occur annually in very small numbers from mid-May to early June (earliest, 30 April 2003; latest, 16 June 2002; maximum, nine at Vallenar Bay 19 May 2004). Three fall records: one at Ward Lake 2–9 September 1995, four at Carroll Inlet 16 September 2002 (including UAM 19367, immature male, REN), and one at Ketchikan 23 August 2004 (REN).

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Figure 5. Extensive alpine habitats support breeding Rock and Willow ptarmigan, American Pipit, and possibly Gray-crowned Rosy-Finch (975 m, Mahoney Mt., Revillagigedo, June 2005).

Photo by A. W. Piston



Figure 6. Gray skies, sheltered nearshore waters, and mountainous islands blanketed with dense coniferous forest characterize the Alexander Archipelago of southeast Alaska. View looking south down Nichols Passage on a typical summer day, with Annette Island on the left, Gravina Island on the right, and Pennock Island in the foreground.

Photo by S. C. Heinl

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Figure 7. Drake Wood Duck at Ketchikan Creek 11 December 2006. This species is casual in Alaska but has occurred with increasing frequency and at all seasons over the past decade.

Photo by A. W. Piston

Anas cyanoptera (septentrionalium). Cinnamon Teal. Casual. One Ketchikan record: one male 15 May 2007 (PD, ph.). This species is a rare spring migrant to southeast Alaska (Kessel and Gibson 1978).

Anas clypeata. Northern Shoveler. Fairly common migrant, casual summer and winter visitant. Spring migrants are observed from 22 April (2000 and 2002) to 31 May (2001); maximum, 293 flying north at Ketchikan 5 May 2001. One at Gravina 16 June 2002 and six at Traitors Cove 27 July 2001 are the only ones recorded in summer. Fall migrants are observed from 14 August (1998) to 18 October (1995); maxima, 40 flying south over Tongass Narrows 1 October 2000 and 20 at Traitors Cove 12 September 1996. One at the mouth of the Carroll River 28 October–2 November 1996 was very late (MAW). A pair at Ketchikan in late January 1974 (Kessel and Gibson 1978) and a female at Herring Cove 10 January–8 April 2003 (JL) are the only ones recorded in winter.

Anas acuta. Northern Pintail. Fairly common migrant and rare winter visitant. Spring migrants are observed flying north over the area from 31 March (1991) to mid-May (latest, 31 May 2000). High counts over Tongass Narrows include 130 on 29 March 2004, 150 on 19 April 2002, 180 on 29 April 2001, and 115 on 4 May 2002. Fall migrants are observed primarily from August (earliest, 23 July 2003) to late October (maxima, 100 flying south over Tongass Narrows 2 September 1996 and 300 flying south 30 September 2001). A few winter annually with flocks of Mallards (e.g., one to four birds along the Ketchikan road system).

Anas crecca (carolinensis). Green-winged Teal. Fairly common migrant, rare summer visitant and possible breeder, and uncommon winter visitant. Spring migrants are observed from mid-April to 21 May (2001), with largest numbers during late April and early May (e.g., 80 at the Ketchikan airport 27 April 2002, 140 flying north over

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Tongass Narrows 28 April 2001, and 120 flying north over Tongass Narrows and 90 at sw Annette 28 April 2004). Summer records include two at the Naha River to 5 June 1999, a male at northeastern Gravina 11 June 2005, three sightings of one to three birds at the mouth of Traitors Creek between 28 June (2001) and 20 July (2000), and nine at Vallenar Bay, Gravina, 14 July 2007. A female that exhibited agitated behavior in a small pond at Gravina 28 June 2008 provided our only breeding evidence for this species. Fall migrants are observed from mid-August (earliest, 2 August 2002) to late October, when small numbers are found at tidal flats with other dabblers (maxima, 50 at Traitors Cove 22 August 2000 and 60 there 6 September 2001). A few birds winter annually (maxima, 15 at Vallenar Bay, Gravina, 1 February 2003, 12 near the Ketchikan airport 2–15 March 1999, and 10 at Carroll Inlet 7 February 2003). Gabrielson and Lincoln (1959) reported 50 near Ketchikan 11 March 1944. We identified a male at Ketchikan 21 April 2002 (ph.) as Eurasian *A. c. crecca*; this race breeds in the Aleutian Islands (Gibson and Kessel 1997) and is a rare, regular winter visitant along the Pacific coast south of Alaska (Campbell et al. 1990a, Marshall et al. 2003).

Aythya valisineria. Canvasback. Casual. Three records: one at Ward Lake 2–3 November 1985 (MEI, RLS, TGT), two in Tongass Narrows 9 October 1992, and one at northeast Gravina 7 May 2006 (REN). This species is a rare migrant and casual winter visitant in southeast Alaska (Kessel and Gibson 1978).

Aythya americana. Redhead. Casual. Three records: three in Tongass Narrows 9 October 1992, a pair at Ward Lake 12–15 June 1999, and a female at sw Annette 30 April 2003. This species is a rare spring migrant, very rare fall migrant, and casual summer and winter visitant in southeast Alaska (Kessel and Gibson 1978).

Aythya collaris. Ring-necked Duck. Uncommon migrant, rare winter and summer visitant, and possible breeder. Migrants are observed from late April to May and from September to November, occurring almost exclusively on lakes and ponds (maxima, 19 at sw Annette 30 April 2003, 13 there on 6 May 1994, and 11 there on 16 September 1986, MEI, RLS, TGT). A few remain to winter in some years (maximum, 13 at Ward Lake 18 January 1999). Kessel and Gibson (1978) considered this species to be a very rare breeder in southeast Alaska, and it breeds on Prince of Wales to the west (M. A. Archie pers. comm. and pers. obs.). To date we have no evidence of breeding for the Ketchikan area, but 10 on various ponds and small lakes at sw Annette 2 June 1987 (MEI) and a pair at northeast Gravina 11 June 2005 suggest possible breeding.

Aythya marila (nearctica). Greater Scaup. Fairly common migrant and uncommon to fairly common winter visitant. Spring migrants are observed from late March to May. Maximum numbers have been found at the Pacific herring's spawning areas, e.g., at sw Annette (350 on 30 April 2003, 160 on 1 May 2002), and in Tongass Narrows (250 on 23 April 1999, 150 on 19–22 April 2002). Stragglers are found into late May and June (latest, female at Ward Lake, 13 June 2000). Fall migrants are observed primarily in October and November (earliest, 12 September 1986; MEI, RLS, TGT). Small numbers winter along the Ketchikan road system, where counts have ranged from a few to 20 birds, but the Greater Scaup appears to be more common in winter at sw Annette, where there are extensive shallow bays (maximum, 60 on 25 February 1992).

Aythya affinis. Lesser Scaup. Uncommon migrant and winter visitant. This species is rarely found in any numbers, and in winter, fall migration (October–November; earliest, 5 October 1997), and spring migration (April–May; latest, 21 May 2007) typical counts are of one to eight birds. It is occasionally found in larger numbers during the winter, e.g., 40 at Skaters Lake, sw Annette, 25 February 1992, 21 at Thomas Basin, Ketchikan, 10 January 2002, and 15 there on 4 January 1997.

Polysticta stelleri. Steller's Eider. Casual. Two records: an immature female at Ketchikan 11 February–1 April 2001 (ph.) and an adult male at Vallenar Bay, Gravina,

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10–15 May 2003 (ph.). The regular winter range of this species extends east along the Pacific coast only to Kodiak Island and lower Cook Inlet (Gibson 1984).

Histrionicus histrionicus. Harlequin Duck. Fairly common migrant and winter visitant, uncommon summer visitant. Flocks of up to 20 birds are found along rocky shores from September to mid-May; e.g., 75 at sw Annette 10–18 September 1986 (MEI, RLS, TGT), 50 along the south shore of Gravina 10 March 1993, 75 at Valenar Bay, Gravina, 10 April 2004, and 60 at sw Annette 6 May 1995. Maximum counts have been in the spring at the Pacific herring's spawning sites (e.g., 230 in lower west Behm Canal 2 May 1995). Swarth (1911) found "a great many" at the mouth of Portage Cove 28 June–4 July 1909. Although the Harlequin Duck is found regularly on salt water during the summer (e.g., 37 at sw Annette 3–4 June 1987, MEI; 50 at Dall Head, Gravina, 26 June 1993), we have no evidence for breeding. It is more common on the outer coast of southeast Alaska, as suggested by the large numbers that are attracted to herring spawning areas near Craig, Prince of Wales (e.g., 1500 at Fish Egg Island 21–26 March 1992).

Melanitta perspicillata. Surf Scoter. Common or abundant migrant and winter visitant, uncommon to fairly common summer visitant. The Surf Scoter is most abundant during spring migration, which begins in late March (e.g., 2000 along the Ketchikan road system 27 March 1997). Migration peaks from late April to early May, when flocks of up to 300 birds are frequently observed flying north over Tongass Narrows, at times in a nearly constant procession. High counts include 9200 in 6 hours on 27 April 2002, 8970 in 6 hours on 28 April 2001, 4000 in 1 hour on 24 April 2001, and 3450 in 2 hours on 4 May 1996. Large numbers congregate at herring spawning areas. On 2 May 1995, Heinl estimated a total of 60,000 at extensive herring spawn in lower west Behm Canal (10,000 at Smugglers Cove, 30,000 at Mike Point, and 20,000 at Tatoosh Rocks). Other large counts at herring spawning areas include up to 15,000 at Point Higgins from late April to early May 1996 and 23 April 1999, 14,000 at Clover Passage 27 April 2008 (Figure 8), and 10,000 at Mountain Point 27 April 2000. Recent, as yet unpublished, studies of the



Figure 8. Part of an estimated 14,000 Surf Scoters at Clover Passage, near Ketchikan, gathered to take advantage of herring spawn deposited along the shorelines 27 April 2008. The sheltered waters of Clover Passage are also an important wintering site for loons, gulls, and alcids, particularly the Marbled Murrelet, which sometimes numbers in the thousands when feed is concentrated in the area.

Photo by A. W. Piston

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Surf Scoter along the Pacific coast have revealed that herring spawning areas around Ketchikan (particularly in west Behm Canal and around Annette Island) are some of the species' most important stopover sites in southeast Alaska (E. K. Lok, Simon Fraser University, pers. comm.). Small numbers of nonbreeders are found during the summer (maximum, 105 at Ketchikan 5 June 2001).

Fall migrants begin to arrive in mid-September. We observed large numbers of birds flying south over Tongass Narrows 17–30 September 2001 (maximum, 1350 in 1 hour on 21 September 2001). We have not observed this kind of movement in other years, however, and the species is less numerous in the fall than in the spring. In winter it occurs throughout the area in flocks of up to 150 birds (100–500 along the Ketchikan road system).

Melanitta fusca deglandi. White-winged Scoter. Common winter visitant and uncommon summer visitant. The White-winged is less numerous in the Ketchikan area than the Surf Scoter. Fall migrants begin to arrive in September, and the species is common from October to March (up to 300 birds along the Ketchikan road system). Numbers decline through April and May (e.g., we saw only one bird flying north at Ketchikan 28 April 2001, the same day we recorded 8970 Surf Scoters). Although large numbers have been found at herring spawn on the outer coast of Prince of Wales (e.g., 2500 at Fish Egg Island 20–26 March 1992), herring spawning areas on inside waters near Ketchikan have not attracted large concentrations of this species (maximum, 360 at sw Annette 4 May 1996). Small numbers of nonbreeders are found annually in summer (e.g., 10 at Ketchikan 8 June 1977, JDW; 14 with Surf Scoters near Ketchikan 31 May 1987, MEI; 52 at Betton Island 4 June 2001; 10 at Gnat Cove, Carroll Inlet, 19 June 1999). One LACM specimen.

Melanitta nigra (americana). Black Scoter. Uncommon migrant and winter visitant, casual summer visitant. This species is observed from October to May (earliest, single birds 8 September 1991, 14 September 2003, and 21 September 1996; latest, 10 flying north 20 May 1991 and one on 26 May 1999). Typical counts along the Ketchikan road system are of fewer than 10 birds (maximum, 15 on 3 January 1992). The Black Scoter appears to favor exposed rocky shores with strong tidal surge and is more common away from the Ketchikan road system (e.g., 45 at Walden Rocks, Nichols Passage, 9 February 1997). One in Revillagigedo Channel south of Ketchikan 14 June 1991 provided our only summer record.

Clangula hyemalis. Long-tailed Duck. Common winter visitant and casual summer visitant. Observed from October to May (earliest, three on 21 September 2005 and single birds on 28 September 1999 and 30 September 2001; latest, 21 May 2001 and 29 May 2006). It favors the Ketchikan waterfront adjacent to the fish-processing plants, where peak winter counts 2001–2005 averaged 1000 (maximum, 1400 from 9 to 19 February 2001). Fair-sized flocks are also encountered away from the Ketchikan waterfront (e.g., 80 in Clover Passage 8 February 1998, 100 there 11 November 1999, 200 in Nichols Passage 13 November 1997, and 80 at Metlakatla 7 February 1992). There are three summer records: a female at Princess Bay 19–22 July 1994 (TL, LW), and a male and two females there 10 June 1995 (CS, JM), and a male at Carroll Inlet 3–5 July 1999.

Bucephala albeola. Bufflehead. Common migrant and winter visitant, casual summer visitant. Observed from mid-October to late April (earliest, 9 October 1997; latest, 10 at Traitors Cove 21 May 2001 and four at a pond near Vallenar Bay, Gravina, 28 May 2005, JEP). The Bufflehead is widespread and occurs in flocks of a few to 15 birds on open fresh water and sheltered shores, particularly at creek outfalls and estuaries (e.g., 80 at sw Annette 25 February 1992, 105 at Vallenar Bay, Gravina, 10 April 2004, and 205 in Carroll Inlet 7 February 2003). Single birds at Gravina 24 June 2007 and 4 July 2003 and at Snow Lake, Revillagigedo, 26–29 August 1975 (MWS) provided the only summer records.

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Bucephala clangula (americana). Common Goldeneye. Fairly common migrant and winter visitant, casual summer visitant. Observed from late October to late April (earliest, 19 October 1999; latest, 10 May 2000 and 27 May [year not specified, Gabrielson and Lincoln 1959]). The Common does not congregate in large flocks as does the Barrow's Goldeneye, and it is generally found in small, loose groups of up to 10 birds along sheltered shores and on open fresh water. Winter counts along the Ketchikan and Metlakatla road systems have ranged up to 50 birds. Thus Gabrielson and Lincoln's report (1959) of 250 "in the harbor at Ketchikan" 11 March 1944 is of interest given the species' current status in the area. The Common Goldeneye is apparently a rare breeder on the southeast Alaska mainland (e.g., female with downy chicks at McDonald Lake 8 June 2005); however, we have only two summer records for the Ketchikan area: an adult male on a pond at sw Annette 2–4 June 1987 (MEI) and up to two females on a small pond in the White River valley, near Ketchikan, 15 and 22 July 2001.

Bucephala islandica. Barrow's Goldeneye. Common migrant and winter visitant, rare summer visitant. Fall migrants arrive in early October (earliest, single birds 2 September 1995 and 21 September 2005) and are common by late October. Migrants are sometimes attracted to salmon spawning streams in October, where they feed on loose salmon eggs (e.g., 125 at Ward Lake 25 October 1999, 100 at Roosevelt Lagoon 26 October 1999). During the winter, Barrow's Goldeneyes congregate along sheltered rocky shores in tight flocks of up to 100 birds. Up to 500 birds wintered along the Ketchikan road system in 1992. On 7 February 2003, we counted 875 birds in 47-km-long Carroll Inlet. Large numbers are often attracted to herring spawn in April (maximum, 500 at herring spawn at Point Higgins 18 April 1999), and a few linger on salt water to mid-May (latest, three birds at Traitors Cove 21 May 2001, one there 13 June 2002). A few birds have been observed on freshwater lakes in May and even June, though we have no evidence of breeding. Observations include a male and two females at Harriet Hunt Lake 1 June 1987 (MEI), a female there 12 August 1990, two pairs on the White River 16 May 2000, a lone female there 19 May 2000, a male at Talbot Lake 25 May 2002, a female at Jordan Lake 25 June 1995, three at Patching Lake 1 June 2002, a male at Ward Lake 6 June 2003, and a pair on a small pond in the upper White River valley 31 June 2007.

Lophodytes cucullatus. Hooded Merganser. Uncommon migrant and winter visitant, casual summer visitant. This species is observed most frequently from September to late March, when single birds or groups of up to four are found on ponds and lakes and along sheltered shores at creek outfalls and estuaries (maxima, 24 in Carroll Inlet 7 February 2003; 15 at Shoal Cove, Carroll Inlet, 22 October 2007, MAW; 12 in Carroll Inlet 23 December 1998, MAW). Although the Hooded Merganser is an uncommon resident and breeder in mainland southeast Alaska (Kessel and Gibson 1978), we have no evidence of breeding for the Ketchikan area. We have seen this species at sw Annette three times in May and at the Naha River 23 May 2006; a basic-plumaged bird at a small muskeg pond on Gravina 7 July 2001 provided our only summer record.

Mergus merganser (americanus). Common Merganser. Common winter visitant and fairly common breeder. This species is one of the most conspicuous water birds in the area from November to mid-April. Flocks of up to 100 birds winter along virtually all sheltered shorelines (e.g., 885 along the Ketchikan road system 21 January 1996, 880 on 17 January 2000). Large numbers are also attracted to Ketchikan's fish-processing plants (maximum, 1000 on 27 November 2001). Smaller numbers winter on open fresh water. Numbers decline through April, and few are found on salt water after early May. Swarth (1911) found young at Revillagigedo in July. Pairs and small groups are found on fresh water throughout the breeding season, and females with downy chicks are frequently observed between 24 May (2008; JHL) and 28 July

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(2002). Family groups are fairly common into September. Fall migrants appear on fresh water during September and on salt water by mid-October.

Mergus serrator. Red-breasted Merganser. Fairly common migrant and winter visitant, casual summer visitant. Fall migrants arrive in mid-October, and the species is fairly common by November (earliest, seven at sw Annette 12 September 1986, MEI, RLS, TGT; six there 28 September 1994). Gabrielson and Lincoln (1959) reported this species to be common in the Ketchikan area in late February and early March 1944. It is found in flocks of up to 35 birds on shallow bays, with maximum counts of 60 at sw Annette 25 February 1992 and 65 along the south shore of Gravina 10 March 1993. Typical counts along the Ketchikan road system, where there is little shallow water, range from a few to 40 birds. Numbers increase during spring migration in April (maxima, 210 at sw Annette 6 May 1995 and 135 at herring spawn at the Whipple Creek mouth 13 April 1997; latest, 17 May 1999 and 2003). We have not recorded this species on fresh water, and one at Port Stewart, Cleveland Peninsula, 4 July 2003, provided our only summer record.

Oxyura jamaicensis (rubida). Ruddy Duck. Casual. One record: immature at Ward Lake 19 October 1998. This species is a casual migrant and winter visitant to southeast Alaska (Kessel and Gibson 1978).

Lagopus lagopus alexandrae. Willow Ptarmigan. Fairly common resident. During the breeding season this species is found in brushy alpine habitat, generally above 750 m elevation. We have breeding records from Revillagigedo, at both Deer Mountain (e.g., pair with 10 tiny chicks 18 June 1995, CJF, SCH; female with five young 31 July 1994, CJF; female with five young August 1994, TLG) and Dude Mountain (female with six downy chicks 14 July 2002 and a pair with 10 juveniles 17 August 2002). The Willow Ptarmigan has also been found on Achilles Mountain and Mt. Reid (KL), Revillagigedo, and on California Ridge, Gravina (MAW, JEP). It probably occurs in alpine habitat throughout the area. Some move to lower elevations in the winter, e.g., single birds on Deer Mountain, below treeline at 750 m, 13 January 2002 and at 500 m in heavy timber 18 February 2002 (BAL), three at the Ketchikan airport November 1994 (RJ), and one found dead at Mountain Point 20 February 1995 (KL). One UAM specimen.

Lagopus muta (dixoni). Rock Ptarmigan. Uncommon resident. We have five records of this species, all from alpine heath at high elevation on Revillagigedo: three males near Mahoney Mountain 22 July 2001 (ph. KL), a female with six downy chicks near Mahoney Mountain 26 June 2005 (Figure 9), a female with two nearly full-grown chicks at 975 m, 2.4 km southeast of Mt. Reid, 4 August 2001 (JH, KL), a male on Dude Mountain 6–7 July 2002 (ph.), and two males on Dude Mountain 11 June 2005 (ph. REN). The Rock Ptarmigan is found in southeast Alaska on the northern islands (Chichagof, Baranof, and Admiralty) and along the Coast Mountains of the mainland (Gibson and Kessel 1997). The northern portion of Revillagigedo has extensive alpine habitat to 1400 m, but it has not been visited by ornithologists. There are no previously published reports of this species in southeast Alaska south of Baranof and Admiralty islands in the archipelago and Wrangell Peak on the mainland (Webster 1950), but it is a rare to very rare resident in the adjacent western mountains of BC south of 56° N (Campbell et al. 1990b).

Dendragapus fuliginosus sitkensis. Sooty Grouse. Fairly common resident. We have found this species on Revillagigedo, Annette, Gravina, and Betton islands. Males begin courtship displays in late March or early April, are calling in full force by mid-April (earliest, 12 March 2005, and 20 March 1993, MAW; exceptionally 13 February 1995), and continue to display through mid-July (latest, 30 July 1996 and 17 August 2004). They are most often heard calling from stands of mature hemlock and spruce, but we have also found them calling from the ground at the edge of clearcuts

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and from scrubby stands of pine and cedar in muskeg bogs. Breeding records include a female with five chicks near Ketchikan 4 July 2005 (KLW), a female with chicks at Princess Bay 8 July 1995 (CS, JM), a female with two chicks along the White River road 15 July 2001, a female with three chicks on Dude Mountain 16 July 2002, a female with three chicks on Gravina 3 August 2003, and a female with eight half-grown chicks on Dude Mountain 17 August 2002. Full-grown juveniles and adults are sometimes found along roads from August to September (e.g., six juveniles at sw Annette 4 September 1995), occasionally later (single birds at sea level in Ketchikan on 2 November 1996, 9 November 1993, and 19 December 1998). One LACM and five UAM specimens.

The Sooty Grouse and the Dusky Grouse (*D. obscurus*) were only recently recognized as separate species (Banks et al. 2006), on the basis of genetic studies (Barrowclough et al. 2004). The study by Barrowclough et al. (2004) did not include samples from populations north of southern BC, excluding over 1000 km of this species' range, including the entire range of *D. f. sitkensis*. Males in the Ketchikan area and elsewhere in southeast Alaska, including Gustavus (N. K. Drumheller, in litt.) and Juneau (P. M. Suchanek in litt.), vocalize like the Sooty Grouse but their necks have the reddish apteria of the Dusky Grouse (Figure 10).

Gavia stellata. Red-throated Loon. Fairly common migrant, uncommon breeder, and rare winter visitant. Alternate-plumaged birds arrive in late March (earliest, 17 March 1991). From April to August, single individuals and pairs occur on both salt water and freshwater ponds and lakes, e.g., five displaying birds at Jordan Lake 2–5 May 1991, pair at Harriet Hunt Lake 3 May 1995, pair displaying there 6 July 1990, one at Talbot Lake 29 April 1995, three there 13 June 1999, two pairs at Ward Lake 25 May 2002, pair there 31 May 1987 (MEI), pair on a small lake on Gravina 13 May 2000 and 7 July 2001. Nesting has been documented twice: an adult on a nest in a small muskeg pond near Traitors Cove 11 June 1999 (MB) and a pair of adults with two half-grown downy chicks on a small muskeg pond on northeastern Gravina 8 and 15 July 2000. One pair on a small pond at Gravina 24 May 2006 appeared to be prospecting for nest sites—over 40 minutes, the birds swam together and repeatedly pushed up on shore for a minute or so at three different sites; the birds checked each site up to three times. During the summer adults are frequently observed and heard flying overland, presumably between breeding sites on fresh water and feeding areas on salt water. Fall migrants move through the area to at least mid-November. Gabrielson and Lincoln (1959) reported “a high number” near Ketchikan on 11 March 1944; however, this species is typically rather scarce in winter, when it is the least common of the loons (maxima, 15 on 21 January 2008, two on 13 January 1992 and 21 February 1995). The Red-throated Loon also breeds south along the coast of BC (including the Queen Charlotte Islands) to Vancouver Island (Campbell et al. 1990a).

Gavia pacifica. Pacific Loon. Fairly common migrant, common winter visitant, and uncommon summer visitant. Spring migrants are observed from mid-April to early June (maxima, 400 at sw Annette 4 May 1996; 222 at Vallenar Bay, Gravina, 10 May 2003; 150 there 25 May 2006; 100 in Revillagigedo Channel 14 June 1991). Small numbers occasionally linger to early July (latest, 16 July 2005). Fall migrants arrive in early September (earliest, 24 August 2003) and are common by early October. Typical winter counts along the Ketchikan road system range from 20 to 250 birds; however, the species is sometimes present in larger numbers (e.g., 512 in Tongass Narrows 5 February 2000, 460 at Ward Cove 8 January 2000). Numbers during winter 2007–2008 were exceptional: the maximum count of 1760 on 21 January 2008 included a single flock of 1400 birds. Wintering birds begin to disperse in mid-March.

Gavia immer. Common Loon. Uncommon migrant, breeder, and winter visitant. Alternate-plumaged birds arrive in mid-April (earliest, 18 April 1990 and 2002), and

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typical spring counts are of one to five birds a day (maximum, 30 at sw Annette 1 May 2001 and 1 May 2002). Adults (one to three individuals) have been observed on lakes from April to August on Revillagigedo (Roosevelt Lagoon, Margaret, Connell, Talbot, Ketchikan, and Chamberlain [MWS] lakes), Annette (Purple, Tamgas, and Trout lakes; MEI), and Bold Island. Single nests with two eggs were found at Margaret Lake, Revillagigedo, on 18 May 1995 and 11 May 1996; however, both nests were reportedly abandoned (BW, SJM). Basic-plumaged nonbreeders are also observed on sheltered bodies of water during June and July (e.g., two at Dall Head, Gravina, 4 July 1992; one at Traitors Cove 23 July 1996). Numbers are fairly constant from September to November, and it is difficult to separate migrants from summer and winter visitants. Maximum winter counts are of 10 at sw Annette 25 February 1992 and seven at Ketchikan 31 December 2000.

Gavia adamsii. Yellow-billed Loon. Rare migrant and winter visitant, casual summer visitant. This species arrives in mid-October (earliest, 12 September 1993 and 29 September 2003) and is present in variable numbers through mid-April (latest, 1 May 2002 and 2 May 2007). We have recorded one-day counts of three or four birds on numerous occasions between 13 November and 21 February. Numbers are variable, however, and only single birds were recorded in winters 2000–2001 and 2001–2002. Nearly all birds observed closely have been in first-winter plumage. Conversely, we have three summer records, all of single birds in alternate plumage: Anchor Pass 11 June 1999 (JTH, PSH), Carroll Inlet 20 June 1999, and Clarence Strait, Gravina, 9 July 2005.

Podilymbus podiceps podiceps. Pied-billed Grebe. Rare fall migrant, very rare winter visitant, and casual spring migrant and breeder. This species was first recorded in Alaska when Gabrielson observed one at Ward Lake, near Ketchikan, 23 August 1944 (Gabrielson and Lincoln 1959). Single birds were subsequently recorded at Ketchikan in March 1973, November 1973, 22–24 October 1976 (Kessel and Gibson 1978), and 7 February 1982 (REW; AB 36:321). Since then, the Pied-billed Grebe has proven to be a nearly annual fall migrant from late August to early December (e.g., at least five at sw Annette 11–16 September 1986; MEI, RLS, TGT) and sporadic winter visitant through March (latest, 13 April 2001, TLG). We have found at least 29 birds since 1990, including the first Alaska specimen (UAM 9360, adult male, 13 November 1998, Blank Inlet).

We have few records outside of fall and winter. A pair was feeding three nearly grown juveniles on a small muskeg pond at sw Annette 4 September 1995 (SCH, TJD, KOD). A singing bird in alternate plumage was on that same pond 4 May 1996, and a pair was there on 14 May 2003. An alternate-plumaged bird at Ward Lake 3–5 May 1995 provided our only other May record. The only other published Alaska breeding record is from the Copper River delta in 1978 (Isleib and Kessel 1989). The Pied-billed Grebe is considered very rare in coastal BC north of Vancouver Island and has not been found breeding there (Campbell et al. 1990a).

Podiceps auritus cornutus. Horned Grebe. Uncommon migrant and winter visitant. Fall migrants arrive in mid-September (earliest, 4 August 1990 and 4 September 1995; maximum, 110 at sw Annette 28 September 1994). The species winters most numerous on sheltered, shallow bays and inlets (e.g., 20 at Blank Inlet 22 November 1992; 23 at sw Annette 25 February 1992; 16 at Goat Cove, Thorne Arm, 22 March 1999). Gabrielson found the Horned Grebe to be “common on waters near Ketchikan” on 11 March 1944 (Gabrielson and Lincoln 1959). Spring migrants are found through mid-May (maxima, 55 at sw Annette 1 May 2001 and 25 there 4 May 1996; latest, 14 May 1991). Two LACM specimens.

Podiceps grisegena (holboellii). Red-necked Grebe. Fairly common migrant and winter visitant, casual summer visitant. Fall migrants arrive in early September (earliest, 44 at Bostwick Inlet 30 August 1992, 12 at sw Annette 4 September 1995).

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Maximum fall counts are from sw Annette (e.g., 80 on 14 September 1986, 100 on 16 September 1986; MEI, RLS, TGT). Winter counts along the Ketchikan road system range from a few up to 35 and, exceptionally, 75 on 12 January 2008. Gabrielson recorded 300 in George and Carroll inlets in late February and early March 1944 (Gabrielson and Lincoln 1959). Spring migrants are observed from late April through mid-May (maximum, 35 at sw Annette 6 May 1995; latest, four at Ketchikan 20 May 1924, G. Willett, one at Ketchikan 20 May 2000, and two at Clover Passage 30 May 2007). Single birds on salt water at Princess Bay 10 June 1995 (CS, JM) and Ella Bay 16 June 1999 (MB) represent the only summer records.

Aechmophorus occidentalis occidentalis. Western Grebe. Locally common winter visitant and casual summer visitant. Kessel and Gibson (1978) described this species as a locally common winter visitant in southern southeast Alaska, occurring in flocks of 100–300 birds. Such flocks winter annually in the Ketchikan area from mid-September (earliest, 5 September 2004) to mid-May (latest, 23 May 2002; MAW). Favored locations include upper Blank Inlet, lower Carroll Inlet, Tongass Narrows near Totem Bight, Clover Passage near Back Island, Bostwick Inlet, Annette Bay, and Revillagigedo Channel near Bold Island. The Western Grebe is uncommon away from those locations. Maximum counts are of flocks of 1100 at the mouth of Carroll Inlet 4 March 2004, 635 at Carroll Inlet 11 April 2003, 410 at Totem Bight 14 February 1992, and 400 at Bold Island 28 December 2002. Numbers at each location vary annually (e.g., only 78 birds at Totem Bight on 19 January 1998). Gabrielson recorded over 200 and collected a specimen (U.S. National Museum 587940) in Carroll Inlet 11 March 1944 (Gabrielson and Lincoln 1959). Single birds at Metlakatla 2 June 1987 (MEI) and at Carroll Inlet 2 July 1999 are the only ones recorded in summer. Clowater (1998) found that Western Grebes wintering near southern Vancouver Island, BC, rested together in dense flocks during the day; the flocks dispersed at dusk, and solitary birds fed nocturnally on pelagic fish, likely juvenile herring. We have observed that wintering birds in our area are nearly always resting in tight flocks during the day (they appear to be sleeping) and suspect that they must also feed primarily at night.

Fulmarus glacialis (rodgersii). Northern Fulmar. Casual. One record: One found dead after a storm 22 December 2003 (LS; ph.). This species is common off the outer coast of southeast Alaska and BC (Willett 1915, Sanger 1972, Campbell et al. 1990a).

Puffinus griseus. Sooty Shearwater. Casual. Three fall records: single birds in Felice Strait 12 September 1993, at Mountain Point 29 September 1994 (PSD), and in Clarence Strait, near Guard Island, 15 September 2002. This species is common off the outer coast of southeast Alaska (Gabrielson and Lincoln 1959).

Oceanodroma furcata (furcata). Fork-tailed Storm-Petrel. Rare, irregular visitant. This species has been found on the Ketchikan waterfront primarily in September and October (earliest, 17 August 2004, TLG; latest, 5 November 1999). It usually occurs singly, often following a storm; however, larger numbers were present for extended periods during the falls of 1995, 1999, 2001, and 2007 (e.g., 3 October–5 November 1999; maximum, 120 on 27 October 1999). One found after a storm on 22 December 2004 (HK) was very late. There are few records at other times of the year: one found dead at Ketchikan 27 April 1999 (MB), one at Ketchikan 30 April 2006, up to seven at Ketchikan 3–22 May 2001, and one in Clarence Strait, between Gravina and the Kasaan Peninsula, 13 June 1975 (DDG, TGT). The Fork-tailed Storm-Petrel breeds commonly on small islands off the coasts of southeast Alaska (Gabrielson and Lincoln 1959) and the Queen Charlotte Islands, BC (Campbell et al. 1990a).

Oceanodroma leucorhoa (leucorhoa). Leach's Storm-Petrel. Casual. Five records, all of single birds in fall: at Ketchikan 8 November 1996, 10 October 2001, 15 December 2002 (JDL), and 21 October 2003, and in Revillagigedo Channel, near

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Thorne Arm, 13 October 2001 (BAL). This species is a common breeder on offshore islands on the outer coasts of southeast Alaska (Gabrielson and Lincoln 1959) and the Queen Charlotte Islands, BC (Campbell et al. 1990a), but it occurs on inside waters much less frequently than the Fork-tailed Storm-Petrel.

Pelecanus erythrorhynchos. American White Pelican. Casual. A single bird was observed on the Gravina shore, near the Ketchikan airport, 25–26 June 1993 (LSw, WFR). There are only two other Alaska records of this species (one at Petersburg 2 May–13 July 1981, Gibson and Kessel 1992; one at Klawock, Prince of Wales, 23–27 June 1993, AB 47:1138), and it is casual on the northern BC coast (Campbell et al. 1990a).

Pelecanus occidentalis (californicus). Brown Pelican. Casual. Two birds photographed near Ketchikan 23 May 2003 (immature, Clarence Strait, KT) and 24–28 May 2003 (adult, Clover Passage; ph. NAB 57:390; Figure 11), provided Alaska's first substantiated records (Gibson et al. 2008). Prior records are of a tame subadult at Ketchikan 18 April 1996 (captured and shipped to a rehabilitation center—it was later determined that the bird had landed on the vessel in BC “two to three days south of Ketchikan” and hitched a ride north; Tobish 1996) and a well-described immature at Vallenar Bay, Gravina, 21 December 2002 (LMJ). Numbers of the Brown Pelican have increased steadily along the coast of the Pacific Northwest since the 1970s (Campbell et al. 1990a, Gilligan et al. 1994, Wahl and Tweit 2000). It may be worth noting that unprecedented numbers of pelicans lingered in Oregon well into December 2002 (NAB 57:247), and they moved north earlier than normal the following spring to both Oregon (arrived March) and Washington (arrived April; NAB 57:394), perhaps in response to the moderate El Niño–Southern Oscillation of 2002–2003 (McPhaden 2004).

Phalacrocorax penicillatus. Brandt's Cormorant. Uncommon winter visitant. One in Revillagigedo Channel 16 November 1980 established the first record for the Ketchikan area (MEI; AB 35:214). More recently, we have found this species annually in very small numbers, from 2 November (2002) to 20 May (2006), primarily in the more exposed waters of Revillagigedo Channel and Nichols Passage, just south of Ketchikan (including one UAM specimen; Heinl and Piston 2007). Maximum counts have been 15 in a roosting flock of 200 cormorants at Hog Rocks, Revillagigedo Channel, 11 February 2000 (SCH, JTH, AWP, RLS, DWS), 15 at Snail and Black rocks, Revillagigedo Channel, 21 April 2006, and 10 at Ketchikan 17 January 2008. Our observations include both immature and adult birds, and many of the adults are in alternate plumage by February. These are Alaska's only winter records (Heinl and Piston 2007).

Phalacrocorax auritus (cincinatus). Double-crested Cormorant. Fairly common migrant and winter visitant. This species arrives in late September (earliest, 19 August 1992 and 7 September 1996) and is most numerous from October to March, though it is not as common as the Pelagic Cormorant (*P. pelagicus*). Maximum counts at roosts are generally of 15 or fewer but have ranged up to 135 at Ward Cove 24 January 1992 and 45 at Hog Rocks 11 February 2000. Spring migrants are regularly observed to mid-May, with stragglers into June (latest, 4 June 2001 and 2002, 7 June 1991).

Phalacrocorax pelagicus pelagicus. Pelagic Cormorant. Fairly common migrant and winter visitant, very rare summer visitant. This species arrives in late August (earliest, 10 August 2004) and is found in nearly all areas of open water from September through May, with stragglers into early June. Counts along the Ketchikan road system are typically up to 30 birds (maximum, 120 on 14 February 1992). High counts at roosts are of 80 at Tatoosh Rocks, Behm Canal, 7 April 1998, 60 at Walden Rocks, Nichols Passage, 8–23 March 1997, and 150 at Hog Rocks 11 February 2000.

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Single birds 21 June 2003 and 26 June 1993 and two birds 17 July 2003 are the only ones recorded in summer. One UAM specimen.

Ardea herodias fannini. Great Blue Heron. Uncommon resident and slightly more common winter visitant. This species is present year round but is most numerous from September to early May, when 5 to 15 birds can typically be found along the Ketchikan road system. In some past winters, large numbers were found on the log rafts in Ward Cove (where the Ketchikan Pulp Co. operated a large mill), probably attracted to herring; maxima, 57 on 14 February 1992 and 48 on 15 December 1990 (GLE). Although the Great Blue Heron probably breeds in our area, to date we have no evidence of breeding. Small numbers are present through the summer, including two fresh juveniles at Traitors Cove 17 July 2001. One UAM specimen.

Bubulcus ibis ibis. Cattle Egret. Casual. Four at Ketchikan 11–20 November 1981 provided the first Alaska record, including two UAM specimens, one of which had been banded as a nestling at the Salton Sea, California, 11 June 1981 (Gibson and Hogg 1982). Three additional Ketchikan records: single birds 7–10 November 1984, 3–13 December 1989 (Gibson and Kessel 1992), and 28 October 1998 (JFK; ph.). Nominate *B. i. ibis* is a casual fall visitant to southeast Alaska (Gibson and Kessel 1992), the northern BC coast, and Queen Charlotte Islands (Campbell et al. 1990a). The Cattle Egret at Ketchikan in 1998 is the only one recorded in Alaska since 1993.

Cathartes aura (meridionalis). Turkey Vulture. Casual. One at Clover Passage, near Ketchikan, 25–27 April 1996, established the first record for southeast Alaska and the earliest record for the state (DN, CJF, JFK). The same bird, identified by scattered white feathers on the back and neck, returned to the same location late May–13 June 1997 (WN, ph. FN 51:911). The Turkey Vulture occurs regularly on the Pacific coast only as far north as Vancouver Island, BC (Campbell et al. 1990b), and is a casual visitant to Alaska, from May to September (Gibson and Kessel 1992). The only Alaska specimen has been identified as subspecies *meridionalis* (Gibson and Kessel 1997).

Pandion haliaetus (carolinensis). Osprey. Uncommon migrant, rare summer visitant and possible breeder. Spring migrants are observed in April and May (earliest, 19 April 1998; maximum, four birds flying north over Ketchikan 28 April 2001), fall migrants primarily in September (earliest, 13 August 2000; latest, 4 October 2001, except for two at Perseverance Lake 2 November 2002, PD). We observed 15 migrating south along a ridge above Traitors Cove in 3 hours on 18 September 2002; otherwise, the maximum daily count in fall is two. There are no breeding records, but single birds at the Naha River 27 April–26 May 1999 (observed carrying sticks on the last date, AWP), Jordan Lake 28 May 1993 (CJF), Hassler 3 June 2000 (CJF), and Ella Bay 15 June 1999 (MB) suggest that this species may prove to be a very rare breeder. The Osprey breeds locally in Alaska, generally north of southeast Alaska (Tobish 1999). Gabrielson and Lincoln (1959) cited a breeding record for Sitka (Dall and Bannister 1869) as the only one for southeast Alaska.

Haliaeetus leucocephalus (alascanus). Bald Eagle. Common migrant and resident. The Bald Eagle is conspicuous year round, so seasonal movements are difficult to discern. Prior to its closure in 1995, the Ketchikan dump attracted 30–100+ eagles daily from November to March (maximum, 237 on 4 January 1994); very few fed at the dump at other times of the year. During migration (March–April and September–November), eagles are nearly a constant sight circling in thermals and flying over ridgelines. This species is attracted to herring spawning areas during spring migration (maximum, 100 at Point Higgins 9 April 2000), and salmon spawning streams during fall migration. At fish-processing plants in Ketchikan large numbers are attracted to offal in late spring (e.g., 85 on 16 May 2001, 55 on 1 June 2001), smaller numbers

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during the winter, but the eagles do not take advantage of that food source during the late summer and fall. The species is a common breeder in southeast Alaska (Gabrielson and Lincoln 1959) and nests commonly in the Ketchikan area, typically in large trees close to salt water.

Circus cyaneus (hudsonius). Northern Harrier. Uncommon migrant. This species is annual in small numbers in spring, from 11 April (1972; SOM) to 29 May (2006), and fall, from 29 August (1998; MAW) to 19 November (2007). It typically occurs singly (maximum, five at the Ketchikan airport 27 April 2002). Extensive fields and marshy habitat favored by the harrier are generally lacking in the Ketchikan area.

Accipiter striatus perobscurus. Sharp-shinned Hawk. Uncommon migrant, rare winter visitant, and rare breeder. Migrants are observed in spring from mid-March to mid-May, in fall from August to November (maximum, 10 at Ketchikan 16 April 2002, including six observed flying over George Inlet in 1 hour). The species is rare in the summer, and we have no reports of actual nests, but several late spring and summer observations almost certainly indicate nesting. Four very vocal birds at Ward Creek 19 July 1994, and again in the same vicinity on later dates, strongly suggested a nest in the area (MAW). Three birds along the White River road, near Ketchikan, 22 July 2001 included two flying juveniles that gave food-begging calls for over 15 minutes. An adult was observed carrying food in the same vicinity 14 July 2002. Adults were observed repeatedly at the mouth of Traitors Creek during July 1996, and a juvenile gave food-begging calls throughout the day from a tree top at the mouth of the creek on 30 July 1996. A few individuals winter annually, most associated with bird feeders in residential areas (e.g., up to six birds, winter 2001–2002). Willett (1927) collected a female at Ketchikan 9 February 1926. Eight UAM specimens are all *A. s. perobscurus*, the southeast Alaska breeding race (Gibson and Kessel 1997).

Accipiter gentilis laingi. Northern Goshawk. Rare resident, present in very small numbers year round. The Alaska Department of Fish & Game studied the southeast Alaska breeding form, *A. g. laingi*, from 1991 to 1999, finding four active nests in the Ketchikan area, all in mature spruce–hemlock forest (three on Revillagigedo and one on Hassler; Flatten et al. 2001). Adults or juveniles (but no nests) were also reported during the breeding season at several other areas on Revillagigedo and Gravina (C. J. Flatten, Alaska Department of Fish & Game, pers. comm.). Radio-tagged adults, particularly males, generally held their home ranges year round. Most juveniles, however, dispersed soon after fledging in August (Flatten et al. 2001). During migration and winter goshawks are occasionally attracted to bird feeders and chicken coops in residential areas. One specimen each in UAM and LACM.

Buteo jamaicensis alascensis. Red-tailed Hawk. Uncommon migrant, rare probable breeder, and very rare winter visitant. Migrants are observed in spring from late March to early May, in fall from mid-August to November. Maximum counts have been 20 in 1 hour flying across George Inlet, from Carroll Point to Mountain Point, on 16 April 2002, 15 flying across George Inlet in the same area in 2 hours on 3 April 2003, and 12 observed in 3 hours migrating south along a ridge above Traitors Cove on 18 September 2002. There are many observations of adults from mid-May to early August, indicating probable nesting in the area, but a juvenile giving food-begging calls near Deer Mountain 18 August 1994 (CJF) is to date the only evidence of breeding. A specimen from Ketchikan (UAM 7851, adult male, 24 April 1996) is subspecies *alascensis*, the southeast Alaska breeding race (Gibson and Kessel 1997). Gabrielson and Lincoln (1959) reported this race as scarce and “probably resident” in southeast Alaska but listed only one midwinter record. It has recently proven to be a very rare winter visitant at Ketchikan, with thirteen December–February records since 1990, although several late February–early March records could refer to early migrants. We identified a light-morph bird at Ketchikan 27 February 2006 as an im-

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mature Harlan's Hawk *B. j. (harlani)*, which provided our only record of this form. Our identification was corroborated by B. K. Wheeler (in litt.) on the basis of our photograph and notes.

Buteo lagopus (sanctijohannis). Rough-legged Hawk. Casual. One record: immature at Ketchikan 10 November 1995. This species is an uncommon migrant in southeast Alaska, primarily on the mainland, and its scarcity in the Ketchikan area is likely due to the lack of suitable foraging habitat.

[*Aquila chrysaetos*. Golden Eagle. Willett (1927) reported seeing the feet of a bird that had been shot for bounty "near Ketchikan" 15 January 1924. Gabrielson and Lincoln (1959) made no mention of Willett's report but did list a specimen taken at Prince of Wales Island 8 February 1944. The Golden Eagle is known to breed on the mainland of northern southeast Alaska, near Juneau (Tobish 1998).]

Falco sparverius (sparverius). American Kestrel. Very rare migrant. We have nine spring records from 3 April (2008) to 28 April (2001) and five fall records from 4 September (2003; JFK) to 9 November (2000; JFK). This species is found more regularly during migration on the mainland of southeast Alaska (e.g., it is a fairly common migrant in the Juneau area; P. M. Suchanek pers. comm.), and it is much less numerous in the Alexander Archipelago. It is very rare on the northern mainland coast of BC and casual on the Queen Charlotte Islands (Campbell et al. 1990b).

Falco columbarius (suckleyi). Merlin. Uncommon migrant and very rare winter visitant and breeder. Migrants are observed in spring from late March to early May, in fall from late August through October (earliest, 17 August 2003). The species usually occurs singly; maximum, four on 27 April 2002. We have 11 records from December through February, but it is not recorded annually during the winter. A pair was found nesting in an old crow nest approximately 20 feet high in a western hemlock at Margarita Bay 29 June 1997 (CJF, CCB, SCH). The nest was in a 30-year-old stand of second-growth hemlock with an overstory of scattered older trees. Four recently fledged juveniles were observed perched in the top of the nest tree. An active colony of Northwestern Crows (*Corvus caurinus*) occupied the same stand of trees, and old crow nests were scattered throughout the stand. The same pair and a juvenile were observed there the following year, 18 June 1998 (CJF, SCH). The blackish upper parts and heavily streaked under parts of the juveniles suggested *F. c. suckleyi*, the breeding race in southern southeast Alaska (Gibson and Kessel 1997). Gabrielson and Lincoln (1959) reported that Swarth found a "nest and eggs" of this species at Three Mile Arm, Kuiu Island, 3 May 1909; however, Swarth (1911) reported only an adult and an empty nest that "appeared to belong to this bird."

Falco peregrinus. Peregrine Falcon. Rare migrant and casual or very rare winter and summer visitant. Migrants have been observed in spring from 14 March (1996; MB) to 20 May (1991) and in fall from 21 August (2005) to 9 December (2005). Single birds in winter 1996–1997 and winter 1999–2000, and another on 21 January 2008 represent our only winter records. One at Ketchikan 18 July 1993 represents our only summer record. We have not identified most birds to subspecies, though a few dark immature birds were likely *F. p. pealei*, which breeds on islands off the coast of southeast Alaska (Gabrielson and Lincoln 1959) and the Queen Charlotte Islands, BC (Campbell et al. 1990a).

Rallus limicola (limicola). Virginia Rail. Casual. One record: one at Ward Lake 7 November 2006 (JFK). One found dead at Prince of Wales 17 February 1986 established the first Alaska record of this species (Gibson and Kessel 1992). There are at least nine additional records (seven summer and two winter, including two UAM specimens), all from the southeast Alaska mainland at the Stikine River, Haines, Juneau, and Gustavus. This species breeds and winters as close as southern BC, and there is one winter record for the Queen Charlotte Islands (Campbell et al. 1990b).

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Fulica americana (americana). American Coot. Rare fall migrant and winter visitant and casual spring migrant. One at Ketchikan 24 December 1971–12 April 1972 established the first local record (Kessel and Gibson 1978). Fall migrants are found nearly annually from October to November on lakes, sheltered coves, and boat harbors (earliest, two at sw Annette 14–16 September 1986, MEI, RLS, TGT; maximum, five birds, fall 1991 and fall 1998). Wintering birds have lingered to March or early April (maximum, five birds, winter 1991–1992; latest, 12 April 1972 and 1990). One at sw Annette 1 May 2001 and one at Ward Lake 25 May 2002 are the only ones recorded in spring.

Grus canadensis. Sandhill Crane. Rare migrant and summer visitant; possible breeder. We have observed migrant cranes mostly in ones or twos or, rarely, in groups of up to six birds during April and September (maxima, 12 on 13 April 1997, 10 on 19 April 2002, and three flocks totaling 50 on 23 September 2001). Three flying south over Ketchikan 15 October 2005 were late. Pairs are regularly found on and near extensive muskegs on Gravina and Annette, where they possibly breed, from 5 April (1997; JEP) through August. These birds, and others breeding in the southern Alexander Archipelago (Tobish 1998), are very large and are thought to be Greater Sandhill Cranes, either *G. c. tabida* or *G. c. rowani*; however, subspecies identification has not been confirmed from specimens (Gibson and Kessel 1997). Cranes breeding on the Queen Charlotte Islands, BC, are thought to be *G. c. rowani* (Campbell et al. 1990b). Ivey et al. (2005) captured eight Sandhill Cranes wintering in the lower Columbia River region of Washington and Oregon and tracked their movements with satellite transmitters, including those of two birds that migrated north to southeast Alaska. On the basis of measurements they identified all of the birds they captured as *G. c. rowani*, further suggesting that cranes breeding in southeast Alaska are Greater Sandhill Cranes.

A late immature at Saxman 31 October–1 December 2004 (ABH; ph.) was very small and likely a Lesser Sandhill Crane (*G. c. canadensis*). Ketchikan is just west of a regular mainland spring migration route of *G. c. canadensis* along the Coast Range (e.g., flock of 250 flying north over Hyder 21 April 1991, and 500 in two flocks flying over the Unuk River 22 April 2000; see Petrula and Rothe 2005).

Pluvialis squatarola. Black-bellied Plover. Fairly common spring migrant, rare fall migrant, and casual winter visitant. Spring migrants are observed from 10 April (2004) to 17 May (1999, 2006). Maximum counts include 55 at the Ketchikan airport 27 April 2002, 45 in two flocks flying north over Tongass Narrows 23 April 2002, and 40 at sw Annette 4 May 1996. Fall migrants are observed from 7 September (2003) to 9 October (1994; maximum, six on 5 October 1994). We have one winter record of a single bird at Ketchikan 24 December 2002–22 March 2003. One at Seward to 17 January 1988 established Alaska's only prior mid-winter record (AB 42:308).

Pluvialis apricaria. European Golden-Plover. One at Gravina 13–14 January 2001 provided the first documented record of this species in Alaska and the Pacific basin and the first winter record in the New World (UAM 12100; Piston and Heintz 2001). There was one previous sight record for Alaska: one at Point Barrow 13 June 1980 (AOU 1998, Gibson et al. 2003). This species winters primarily in the British Isles, western Europe, and North Africa (Vaurie 1965).

Pluvialis dominica. American Golden-Plover. Casual. One record: one at sw Annette 15–16 September 1986 (MEI, RLS, TGT).

Pluvialis fulva. Pacific Golden-Plover. Rare migrant. We have seven spring records of one to three birds from 28 April (2004, SSp; 2006, JFK) to 13 June (2008) and five fall records from 29 August (1995) to 15 September (maximum, six on 15 September 1997).

Charadrius semipalmatus. Semipalmated Plover. Fairly common migrant. Spring migrants are observed from 24 April (2008) to 27 May (2002). Maximum spring

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counts have been at sw Annette (e.g., 60 on 4 May 1996, 43 on 28 April 2004, and 40 on 1 May 2001). Fall migrants are observed from 14 July (2007) to mid-September (latest, 30 September 2001; maximum, 20 on 3 September 2001).

Charadrius vociferus vociferus. Killdeer. Locally uncommon migrant, winter visitant, and breeder. This species is present year round in small numbers but is most numerous from mid-March to November. It can be found on beaches but favors extensive open disturbed ground, such as gravel lots and industrial areas. Maximum counts include 14 at Ketchikan 12 November 2007 (fide CAF) and 13 at Ketchikan 8 September 2005. Our breeding data include a copulating pair at Ketchikan 4 April 2007, a nest with three eggs at Ketchikan 28 April–16 May 2005 (the adults had two downy chicks on 21 May 2005), a nest with two eggs at Saxman 20 May 2002, a nest with four eggs 28 May 2007, a pair with two downy chicks at Ward Cove 4 June 2002, a dead half-grown chick at the Ketchikan airport 1 July 2001 (JMM), and a juvenile with downy tips to the central rectrices, accompanied by an agitated adult, at the Ketchikan airport 19 August 1998. A well-observed nest at Ketchikan held four eggs on 12 April 2006 (see Figure 12); three of the eggs hatched on 5 May 2006 (fide CAF). The same pair double-brooded and built another nest in nearly the same location as the first. The second nest contained four eggs on 30 May 2006 (fide CAF). A few Killdeer winter annually (maximum, nine at Clam Cove, Gravina, 16 February 2003, RS). One UAM specimen.

Haematopus bachmani. Black Oystercatcher. Rare visitant. This species breeds along the exposed, outer islands of southeast Alaska (Gabrielson and Lincoln 1959) but is found only rarely at Ketchikan (10 records, March–August; maximum, flock of eight flying north over Ketchikan 23 April 1999). It is known to nest as close as Snail Rock, Revillagigedo Channel, 51 km southeast of Ketchikan (SBW).

Actitis macularius. Spotted Sandpiper. Fairly common migrant and breeder. Spring migrants arrive in early May (earliest, 28 April 2001 and 2 May 1995 and 1998) and can be fairly numerous on salt-water shores the last half of the month (e.g., flock of 10 at Herring Cove 11 May 2001, flock of eight at the Ketchikan airport 27 May 2002). During the summer the Spotted Sandpiper frequents streams and lakes with rocky or sandy shores. Swarth (1911) took one specimen (MVZ) at Portage Cove 1 July 1909. Breeding data include a pair of agitated adults at Ward Cove 29 June 2003, an adult with a downy chick at Ketchikan Lake 9 July 2004 (TLG), a nest with three eggs and one newly hatched chick at the White River 15 July 2001, an adult with a downy chick at Upper Silvas Lake 15 July 1993, an adult with two nearly full-grown chicks at Traitors Creek 24 July 1996, and an adult with a downy chick at Ketchikan 7 August 2007 (JHL). Fall migration peaks from mid-August to mid-September (maximum, 12 at the Ketchikan airport 20 August 1995; latest, 5 November 1999 and 1 December 2002).

Tringa solitaria (cinnamomea). Solitary Sandpiper. Rare fall migrant and very rare probable breeder. This species is known as an uncommon migrant in southeast Alaska and as an uncommon to rare summer visitant and breeder on the southeast Alaska mainland (Kessel and Gibson 1978). Gabrielson and Lincoln (1959) reported that Wetmore found this species in “numbers” at Ketchikan 1 September 1911. We have found it rarely in the fall from 28 July (1996) to 18 September (1996; maximum, three at Traitors Creek 1–4 August 2002). We have several records of defensive adults in muskegs on Gravina: one 17 July 2005 (JEP), one 3 June 2007 (JEP), and a pair 24 June and 22 July 2007 (JEP). In all cases, the defensive behavior of the birds (calling incessantly and alighting in tree tops near the observers) suggested probable nesting.

Tringa incana. Wandering Tattler. Uncommon migrant. Observed in spring from 28 April (1999) to 7 June (1925; G. Willett) and in fall from 16 July (2001) to 19 September (1995). All records are of one to three birds. This species is probably more

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common along the outer coast, and Kessel and Gibson (1978) considered it to be a fairly common coastal migrant in southeast Alaska.

Tringa melanoleuca. Greater Yellowlegs. Fairly common spring migrant, uncommon breeder, and uncommon fall migrant. This species breeds throughout southeast Alaska (Gabrielson and Lincoln 1959, Piston and Heintz 2006). Spring migrants are observed from early April through May (earliest, 21 March 2004, JTH; 23 March 2002 and 30 March 2003, JTH); maxima, 27 on 23 April 2002 and 19 on 27 April 2002, all flying north over Tongass Narrows. Some birds set up territories by mid-April, making it difficult to distinguish migrants from breeding birds. We have regularly found this species in small groups near ponds and marshes in open muskeg bogs during the breeding season, April–July. We have recorded nesting three times and frequently encounter agitated, defensive adults (Piston and Heintz 2006; Figure 13). Fall migrants are observed from early July (earliest, three flying south over Deer Mountain 10 July 1993; earliest juvenile 17 July 2001) to late September (maximum, 12 at sw Annette 11 September 1986, MEI, RLS, TGT; latest, one, 20 October 2002).

Tringa flavipes. Lesser Yellowlegs. Rare spring migrant and uncommon fall migrant. Observed in spring from 27 April (2006) to 11 May (2000; six records). More numerous in fall from 16 July (2003) to 4 September (1997; maximum, 40 at Traitors Creek, 30 July 2002).

Bartramia longicauda. Upland Sandpiper. Casual. One record: one at sw Annette 17 September 1986 (MEI, RLS, TGT). This species is a casual fall migrant in southeast Alaska (Kessel and Gibson 1978).

Numenius phaeopus (hudsonicus). Whimbrel. Uncommon spring migrant and rare fall migrant. Observed in spring from 28 April (2001) to 21 May (2006), in fall from 31 August (2002) to 12 September (1986; maximum, three flocks totaling 75 birds, 20 May 1991).

Limosa fedoa (beringiae). Marbled Godwit. Rare spring migrant. We have observed this species in spring from late April to early May (earliest, 17 April 2004 and 21 April 2001; latest, 15 May 2004), when it occurs usually in flocks of up to five birds; maxima, 23 at sw Annette 28 April 2004 (Figure 14), flock of 15 flying north up Tongass Narrows and eight at sw Annette 1 May 2002, and three flocks totaling 16 birds on 17 April 2004. Southeast Alaska migrants are presumably from the small population breeding on the Alaska Peninsula (*L. f. beringiae*), which winters from western Washington to central California (Gibson and Kessel 1989). This subspecies migrates to and from the breeding grounds primarily via a trans-Gulf of Alaska flight (Gibson and Kessel 1989) but in spring it is also found along the south coast of Alaska (Kessel and Gibson 1978, Andres and Browne 1998). The only southeast Alaska specimen is an adult female (Gravina, 5 May 2002, UAM 17703) and cannot be identified with certainty to subspecies (see Gibson and Kessel 1989).

Arenaria interpres (interpres). Ruddy Turnstone. Rare migrant. Observed in spring from 1 May (2002) to 14 May (2003), in fall from 30 August (1992, JP) to 28 October (1990). Maximum, 11 on 10 May 2002.

Arenaria melanocephala. Black Turnstone. Common migrant and winter visitant. This species is widespread on exposed rocky shores from mid-July (earliest, 2 July 2005) to mid-May (latest, 17 May 1999), making it difficult to determine migration timing. We routinely encountered flocks of up to 60 birds, often accompanied by Surf-birds (*Aphriza virgata*) and Rock Sandpipers (*Calidris ptilocnemis*); maxima, 600 at Herring Cove 6 May 2008, 510 at Carroll Inlet 7 February 2003 (AWP, SCH, MAW), and 370 at sw Annette 30 April 2003.

Aphriza virgata. Surf-bird. Fairly common migrant and uncommon winter visitant. Migrants are observed in the spring during April and early May (latest, 13 May 2008)

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and in the fall from July through December (earliest, 2 July 2005). The Surfbird is usually encountered in flocks of up to 50 birds. Exceptional counts include 3000 at Hog Rocks 14 April 2001 (at herring spawn on nearby Annette), 950 at Saxman 9 May 2008, 800 at Saxman 13 November 1994, 400 at Whipple Creek 19 December 1998, and 350 at Herring Cove 6 May 2008. During the winter the species is found on exposed rocky shorelines in small flocks with Black Turnstones and Rock Sandpipers (maxima, 120 at Ward Cove 10 February 2002, and 115 at Walden Rocks 9 February 1997).

Calidris canutus (roselaari). Red Knot. Rare spring migrant and casual fall migrant. We have observed this species in spring from 1 May (2001, 2002) to 14 May (2003; five records; maximum, 10 at sw Annette 14 May 2003). One near Ketchikan 4 September 2001 provided our only fall record.

Calidris alba. Sanderling. Uncommon migrant and casual winter visitant. Migrants are observed in spring from 30 April (1992), exceptionally 5 April (1992) to 27 May (2002; maximum, nine at Vallenar Bay, Gravina, 19 May 2006) and in fall from 19 August (1999), exceptionally 14 July (2007) to 1 October (2001; maximum, seven at sw Annette 14 September 1986, MEI, RLS, TGT). One at Ketchikan 9 November 2005 was extremely late, and two at Ketchikan 23–29 December 1999 and one there 6–12 January 2003 provided the only winter records.

Calidris pusilla. Semipalmated Sandpiper. Rare migrant. Observed in spring from 8 May (2000) to 17 May (2001; maximum, three at the Ketchikan airport 10 May 2000), in fall from 3 July (2001) to 13 September (1986, MEI, TGT, RLS). Maxima, eight adults at Traitors Creek 16 July 2003 and five juveniles there 14 August 1998, including specimen UAM 9184.

Calidris mauri. Western Sandpiper. Common spring migrant and fairly common fall migrant. This species is conspicuous in spring from late April to late May (earliest, 18 April 2004; latest, 25 May 1991), with a peak during the first week of May (maxima, 10,000 flying north over Tongass Narrows during 2 hours on 4 May 1996, 3500 at sw Annette 4 May 1996, and 1700 there 1 May 2001). It is not as numerous during fall migration, from July (earliest adult, 3 July 2001 and 2005; earliest juvenile, 16 July 2003) to late September (latest, 8 October 2003). Maximum fall counts are of 300 adults at Vallenar Bay, Gravina, 15 July 2007 and 300 juveniles at Traitors Cove 14 August 1998.

Calidris minutilla. Least Sandpiper. Fairly common migrant. Spring migration takes place from late April to late May (earliest, 17 April 2004; latest, 24 May 2001) and peaks during the first two weeks of May (maxima, 850 at sw Annette 1 May 2001 and 550 there 4 May 1996). Fall migrants are observed from July (earliest adult, 26 June 2001, JMM; earliest juvenile, 17 July 2003) to late September (latest, 4 October 1999). Maximum fall counts are of 445 at Traitors Cove 10 July 2003, 250 there 7 August 2001, and 200 there 14 August 1998. A color-banded adult at Ketchikan 10 May 2003 had been banded as an adult at Sidney Island lagoon, BC, 21 July 2000 (M. Lemon, Canadian Wildlife Service, pers. comm.).

Calidris bairdii. Baird's Sandpiper. Rare fall migrant. We have observed this species only irregularly in the fall from 3 August (1998) to 17 September (1986; maximum, five at sw Annette 11–17 September 1986, MEI, TGT, RLS). Baird's Sandpiper is a rare migrant in southeast Alaska (Gabrielson and Lincoln 1959).

Calidris melanotos. Pectoral Sandpiper. Uncommon migrant. Observed in spring from 8 May (1993) to 20 May (2004; maximum, 31 at North Point Higgins 17 May 2001). In fall, earliest adult 28 July (2000), earliest juveniles 6 August (2003), and latest juveniles 1 October (2000). Maximum, 33 at sw Annette 13 September 1986 (MEI, TGT, RLS).

Calidris ptilocnemis (tschuktschorum). Rock Sandpiper. Uncommon migrant

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and winter visitant. This species is present from late October to early May (earliest, 21 October 1990; latest, 11 May 2001). It is found on exposed rocky shorelines, and most sizable flocks of Black Turnstones or Surfbirds also contain Rock Sandpipers, usually a few to 25 birds (maxima, 65 at Ketchikan 24 January 1992 and 40 at Ketchikan 22 November 1992, 19 December 1998, and 10 March 1993). Subspecies *C. p. tschuktschorum* winters from south-central Alaska to northern California (Gill et al. 2002).

Calidris alpina (pacifica). Dunlin. Common spring migrant, very rare fall migrant, and uncommon winter visitant. Spring migrants are observed from late April to late May (earliest, 14 April 2002; latest, 30 May 1999), with a peak the last few days of April through the first week of May (maxima, 3700 at sw Annette 4 May 1996 and 670 at Ketchikan airport 27 April 2002). Earliest fall migrant, one at sw Annette 12 September 1986 (MEI, RLS, TGT). The Dunlin winters locally in sheltered bays (e.g., 65 at Bostwick Point, Gravina, 10 March 1993; 40 at Blank Inlet, Gravina, 14 November 1998; 25 at Carroll Inlet, 7 February 2003).

Calidris himantopus. Stilt Sandpiper. Casual. One record: one juvenile at Traitors Cove, Revillagigedo, 22 August 2005 (ph.; Figure 15). This species is a casual migrant in southeast Alaska (Kessel and Gibson 1978).

Tryngites subruficollis. Buff-breasted Sandpiper. Casual. One record: one juvenile at sw Annette 14 September 1986 (MEI, RLS, TGT). This species is a casual migrant in southeast Alaska (Kessel and Gibson 1978).

Philomachus pugnax. Ruff. Casual. One record: a male at sw Annette 14 May 2003 (ph.). There are three prior reports of this Eurasian species in southeast Alaska, all in spring, of single birds at Juneau 14 May 1982 (AB 36:885), Sitka 1–8 May 1990 (AB 44:480), and Juneau 15 May 2000 (NAB 54:316). The Ruff is casual in spring and very rare in fall along the Pacific coast south of Alaska (Campbell et al 1990b, Paulson 1993, AOU 1998).

Limnodromus griseus (caurinus). Short-billed Dowitcher. Fairly common spring migrant and rare fall migrant. This species is observed in spring from 18 April (2004) to 29 May (2006; maxima, 750 at sw Annette 4 May 1996, 450 there 1 May 2002, and 350 there 28 April 2004). We have seven fall records from 9 July (2005) to 19 September (1999).

Limnodromus scolopaceus. Long-billed Dowitcher. Uncommon spring migrant and rare fall migrant. Observed in spring from 6 May (1995) to 21 May (2006; maximum, 95 at the Ketchikan airport 10 May 2002). Observed in fall from 15 July (2000) to 6 October (1996; maximum, 12 adults at Traitors Cove 14 August 1998).

Gallinago delicata. Wilson's Snipe. Fairly common migrant and very rare winter visitant. Spring migrants are observed from mid-March to early May (latest, one at Ketchikan 17 May 1999 and one at the Naha River 25 May 1999; maxima, 23 at the Ketchikan airport 14 April 2002 and 18 there 28 April 2001). Two displaying birds at sw Annette 6 May 1995 are the only suggestion that this species might breed in the area. Fall migrants are observed from September through November, occasionally into December (earliest, 10 August 2004 and 28 August 2005; maximum, 14 birds on 25 October 2003 and 14 November 2005). Willett found one at Ketchikan 15 January 1924, and we have found this snipe irregularly in January–February (maxima, seven at the Ketchikan airport 15 January 2006 and four at Ketchikan 16 January 2003).

Phalaropus lobatus. Red-necked Phalarope. Common or abundant migrant. Recorded as early as 15 April (2005, CAF) and 29 April (2000 and 2003), this species is conspicuous during May, when it is often observed feeding in large rafts along tide rips (e.g., 7000 in west Behm Canal 29 April 2003; 5000 in Clarence Strait

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Figure 9. Prior to 2001, the Rock Ptarmigan was not known from the southern islands of the Alexander Archipelago. This female with downy chicks was found at 975 m elevation on Mahoney Mt., Revillagigedo Island, 26 June 2005.

Photo by S. C. Heinl



Figure 10. Displaying male Sooty Grouse (*Dendragapus fuliginosus sitkensis*) at Gravina Island 17 April 2004. Like all Sooty Grouse in the Ketchikan area, this bird gave six to eight very loud call notes characteristic of this species; however, it exhibited the reddish apteria of the interior species, the Dusky Grouse (*D. obscurus*), rather than yellow apteria typical of the coastal Sooty Grouse.

Photo by A. W. Piston

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Figure 11. Adult Brown Pelican at Ketchikan 25 May 2003; this species has only recently been reported in Alaska.

Photo by S. C. Heint

between Guard Island and Kasaan Peninsula 9 May 2001, TPZ; 2000 near Guard Island, Tongass Narrows, 5 May 1996; 2000 in Tongass Narrows 7 May 1999, TLG) and small flocks are observed flying north up Tongass Narrows (e.g., 3500 in flocks of up to 400 birds 12 May 2001; 2600 on 1 May 2001). On 30 April 2003 we found a large concentration of phalaropes in the waters of Port Chester, Annette, and adjacent Nichols Passage that we estimated to be 35,000 birds. This species has also been found in large concentrations on the BC coast during spring migration, including a maximum flock of 20,000 off Cleland Island on 15 May 1969 (Campbell et al. 1990b). Spring migrants occasionally linger into June (e.g., 50 on 1 June 1987, MEI). Fall migrants begin to arrive in early July and peak from late July through August, when the species is sometimes abundant (earliest, 3 July 2003; maxima, 3200 at Ketchikan 28 August 2001 and 800 there 9 August 1990). Numbers decrease through September (latest, 18 October 2001).

Phalaropus fulicarius. Red Phalarope. Casual. Three fall records: one in Nichols Passage 10 September 1986, (MEI, RLS, TGT), one at Mountain Point 13 October 1995, and up to 25 at Ketchikan following a storm 21–26 October 2003. One near Ketchikan 31 December 2002 and two there on 6 January 2003 were very late; the latest date for coastal BC is 17 December 1982 (Campbell et al. 1990b), and we know of no prior winter records for Alaska. This pelagic species occurs primarily well offshore of southeast Alaska (Gabrielson and Lincoln 1959).

Rissa tridactyla (pollicaris). Black-legged Kittiwake. Fairly common migrant, rare summer visitant, and very rare winter visitant. This species is most numerous during the fall from late August to late November (maximum, 200 at Bostwick Inlet 15 September 1990). It is a regular spring migrant from mid-March to early June, when largest numbers have been of subadults in late spring (maxima, 185 at Betton Island 4 June 2001, 150 at Nichols Passage 30 May 2002, and 120 at Nichols Passage 18 May 2003). Nonbreeders are occasionally found in the summer (e.g., 75 at Dall Head 26 June 1993 and 45 there on 17 July 1993). Willett (1927) found an immature at Ketchikan 23 January 1925, and we have found this species sporadi-

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cally from December to early March (maximum, three birds 17 December 2002–19 February 2003).

Xema sabini. Sabine's Gull. Casual. This species occurs primarily on pelagic waters off the outer coast (Gabrielson and Lincoln 1959). We have three fall records, all of juvenile birds at Ketchikan: one on 18 September 1986 (MEI, RLS, TGT), three on 12 October 1995, and one on 30 September 2001. We have also recorded Sabine's Gulls, all adults, four times in the spring: one at Ketchikan 3 May 2001, one at Clover Passage 3 June 2001, a flock of 225 near Saxman following a large storm 30 May 2002, and three in Nichols Passage 8 June 2003.

Chroicocephalus philadelphia. Bonaparte's Gull. Common or abundant migrant, uncommon summer visitant, and rare winter visitant. Spring migrants arrive in late March (earliest, 14 March 1999) and are conspicuous from April to early May. We have observed flocks of up to 200 birds flying north up Tongass Narrows in a nearly continuous stream during mid-April (e.g., 1200 flying north in 5.5 hours on 28 April 2001). Large numbers congregate at herring spawning areas (maxima, 12,000 at Clover Passage 20 April 2008, 4500 in Tongass Narrows 18 April 1999 and 9 April 2000, and 3000 in Tongass Narrows 19 April 2002). Also, 1500 were observed feeding on krill in Clover Passage 14 April 1993. Subadults are often numerous through the end of May (e.g., 1000 in Nichols Passage 16 May 1999 and 500 there 19 May 2001 were nearly all subadults), and small numbers linger through June and July. Swarth (1911) found a flock of 100+ subadults in Behm Canal between Portage Cove and the mouth of the Chickamin River 28 June 1909.

Fall migrants arrive in mid-July (earliest juvenile, 19 July 2003) and are most common from September through November (maxima, 2000 in Revillagigedo Channel 16 November 1980, MEI; 1500 at Clover Passage 14 October 1995; 1500 at Blank Inlet 13 November 1998; 1000 at Traitors Cove 18 August–13 September 1996). The Bonaparte's Gull generally departs by mid-December, but it has lingered into January–February in eight years since 1990 (maximum, 110 on 3 January 1994; latest, 17 February 2001).

Hydrocoloeus minutus. Little Gull. Casual. One record: an adult at Ketchikan 28 April–13 May 2001 established the first documented Alaska record (ph. NAB 55:340; Gibson et al. 2003). This species is a casual migrant and summer visitant to Alaska (Gibson et al. 2003).

[*Leucophaeus atricilla*. Laughing Gull. One sight record at Ketchikan 4 July 1976 (AOU 1998). We do not believe that the brief description of the bird (a subadult) on file at UAM was adequate to eliminate the similar Franklin's Gull (*L. pipixcan*) from consideration. This species has yet to be substantiated in Alaska.]

Leucophaeus pipixcan. Franklin's Gull. Rare fall migrant and casual summer visitant. This species was first recorded at Ketchikan 10–20 September 1986 (MEI, RLS, TGT), and we have found it nearly annually during fall migration since 1990. At least 33 birds have been seen between 6 August (1994) and 12 October (2001); two UAM specimens (Heinl 1997). The maximum one-day count is of three individuals (10 September 1994, 27 August 1998, 3–21 September 2001, and 7 September 2003). All fall records involve first-year birds, with the exception of one adult 30 August 1992. There are four summer records: single second-year birds 24 June 1991 and 17 July 1994 and single adults 2 July 2005 and 1 June 2008. Franklin's Gull is a casual migrant and summer visitant elsewhere to coastal Alaska.

Larus crassirostris. Black-tailed Gull. Casual. Four records: one third-year bird 21 August–8 October 1992 (ph. AB 47:166; Heinl 1997) and single adults 5 July 1993 (Heinl 1997), 28 September–1 October 2002 (ph. NAB 57:103), and 1–2 October 2003 (ph. NAB 58:126). This Asian species is a casual visitant to Alaska (Gibson and Kessel 1992).

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Figure 12. Nest and eggs of the Killdeer at Ketchikan 2 May 2006. This species is a locally uncommon breeder in southeast Alaska.

Photo by A. W. Piston

Larus heermanni. Heermann's Gull. Casual. One juvenile at Ketchikan 22 August 1991 established the first Alaska record (ph.; Gibson and Kessel 1992). Three additional Ketchikan records: one first-year bird 16 August–23 September 1994 (ph.; Heintz 1997), four first-year birds 9–28 August 1999 (ph.), and one second-year bird 28 August 2001. There are at least two additional Alaska records from Sitka 15–16 September 1996 (two birds; UAM specimen, TJD; FN 51:103) and 22–31 August 1999 (NAB 54:90).

Larus canus brachyrhynchus. Mew Gull. Common winter visitant, abundant migrant, fairly common summer visitant, and uncommon breeder. Fall migrants arrive in mid-July (earliest juvenile 17 July 1994). Peak counts on the Ketchikan waterfront have ranged from 3000 to 9000 birds, from mid-August to early September. The Mew Gull is common at salmon spawning streams from August to October (e.g., 3000 at Traitors Cove 4 September 1996 and 2000 there 6 September 2001). Numbers decline in October, although migrants move through the area well into November (e.g., small flocks totaling 300 birds moving south down Tongass Narrows 28 November 1998). Typical winter counts on the Ketchikan road system range from 100 to 400 birds, but large numbers often congregate at feed (maxima, 3000 in Tongass Narrows 6 January 2003, 1500 at Clover Passage 4 January 1997, and 1000 on the Ketchikan waterfront 8 February 2001). Spring migration peaks during April, when small flocks move continuously north up Tongass Narrows and large numbers are attracted to spawning herring (e.g., 10,000 in Tongass Narrows 18 April 1999 and 7–9 April 2000; 5000 in Tongass Narrows 19 April 2002). Migration continues well into May, when most birds are subadults (e.g., 1000 in Nichols Passage 16 May 1999 were nearly all subadults), and smaller numbers are present during June and July (maxima, 150 in Nichols Passage 2 June 1987, MEI; 110 at Ward Cove 19 June 1993).

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Figure 13. Greater Yellowlegs in muskeg habitat at Gravina Island 24 June 2007. This bird was highly agitated and likely had chicks nearby.

Photo by S. C. Heinl

Isleib found pairs of Mew Gulls attending nests on small islets in Melanson, Trout, and Purple lakes, Annette, 2–4 June 1987. We have also found Mew Gulls nesting at several locations on Revillagigedo: Connell Lake (nest with two chicks, mid-June 1996, AMR; up to nine adults and at least three nests 6 May–10 June 2001; nest with three chicks 22 June 2005, KEM), Lower Silvas Lake (two nests, one with two chicks, 13 June 2004), Jordan Lake (adult on nest 24 May 2006 and 22 May 2008), and Traitors Cove (adult sitting on nest in small muskeg lake 23 July 2004, CJF). This species nests along the coasts of BC (Campbell et al. 1990b) and mainland southeast Alaska (Gabrielson and Lincoln 1959) but was not previously known to nest in the Alexander Archipelago. One LACM specimen.

Larus delawarensis. Ring-billed Gull. Uncommon fall migrant, very rare spring migrant and summer visitant (Heinl 1997; two UAM specimens), and casual winter visitant. Fall migrants are observed from late July to mid-October (earliest, 25 July 1994). Peak counts on the Ketchikan waterfront from late August to early September usually range from a few to 30 birds (maximum, 48 on 27 August 1998). Stragglers lingered to 11 November 1999 and 2005, 15 November 2003, and 2 December 1974 (Kessel and Gibson 1978). An adult at Ketchikan 31 January 2003 provided our only winter record. The Ring-billed Gull is much less numerous in spring and summer, when not found annually (earliest, 23 April 1990; maximum, one or two birds). Hersey (1916a, b) reported that this species was common at Ketchikan 16 May 1914, but Gabrielson and Lincoln (1959) considered Hersey's report to be mistaken. Indeed, Willett, a careful observer who never reported the Ring-billed Gull in Alaska, listed the Mew Gull as "fairly common" at Ketchikan in his personal notes on 21 May 1914, only five days after Hersey was there.

Larus occidentalis occidentalis. Western Gull. Rare fall visitant, very rare winter visitant, and casual spring visitant. Maximum numbers were found prior to the closure

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Figure 14. Part of a flock of 23 Marbled Godwits at Annette Island 24 April 2004. Marbled Godwits migrating through southeast Alaska are presumably from the small Alaska Peninsula breeding population (*L. f. beringiae*) that winters from western Washington to central California. Much like the Brant, this race migrates to and from the breeding grounds primarily via a trans-Gulf of Alaska flight, but it is found in small numbers along the south coast of Alaska during the spring migration.

Photo by A. W. Piston

of the Ketchikan dump in 1995 (e.g., 18 birds from 26 August to 6 November 1992; maximum one-day count, six birds 27–29 October 1993; Heint 1997). Since 1995, we have found a few annually in the fall, primarily during October and November (ph. NAB 58:127; earliest, 19 August 1990), and single birds irregularly during the winter through March. There are seven late April–May records (latest, 17 May 1991). The vast majority of the birds that we observed have been hybrid Western $\times$ Glaucous-winged gulls (three UAM specimens include two hybrids and one pure Western Gull, *L. o. occidentalis*; Heint 1997). Hersey (1916a, b) reported that this species followed his ship north out of Seattle and that four were still with the boat when it arrived at Ketchikan 16 May 1914; Gabrielson and Lincoln (1959), however, considered Hersey's report hypothetical.

Larus californicus. California Gull. Common fall migrant, uncommon spring migrant and summer visitant, and casual winter visitant (Heint 1997). Fall migrants are observed from late July to late November (earliest juvenile 19 July 1994), and migration peaks from late August to early September. Our maximum counts on the Ketchikan waterfront are of 3500 on 28 August 2001, 2500 on 28 August 1999, and 2100 on 31 August 1996. The California Gull is also common at salmon spawning streams from August to September. We have found only three birds in December or later (single birds at Ketchikan 14 December 1991–11 January 1992, 14 December 1991, and 2 December 2002). Small numbers, mostly adults, are found annually in spring from mid-March to late May (earliest, 23–24 February 1998 and 10 March 2000; maxima, 100 at Ketchikan on 30 April 2006, 100+ at Vallenar Bay, Gravina, on 18 May 2006, and 90 at Clover Passage on 13 April 2008). Small numbers, primarily subadults, are found annually during June and July (typically 10–20 birds on the Ketchikan waterfront; maximum, 150 at Betton Island 4 June 2001). Gabrielson and Lincoln (1959) questioned Hersey's (1916a, b) report of this species at Ketchikan 16 May 1914.

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After breeding the Great Basin subspecies, *L. c. californicus*, disperses north and west to the Pacific Northwest (Campbell et al. 1990b, Pugesek et al. 1999) and north to southern southeast Alaska (Heinl 1997). All fall specimens from the Ketchikan area appear to be this small, dark-mantled race (Gibson and Kessel 1997), and one bird observed at Ketchikan 25 October 1993 had been banded as a nestling in Nevada in 1991 (Heinl 1997). Conversely, we believe that most of the breeding-condition adults that occur in the spring are *L. c. albertaensis*, the larger, paler-mantled race breeding east of the Rocky Mountains from the Northwest Territories south to the Dakotas (Jehl 1987). We base this conclusion on the noticeably paler mantle of spring migrants and our limited specimen evidence, though we agree with Patten et al. (2003) that field identification of these two forms is tentative. We have collected only two spring specimens, one of which is a clear example of *L. c. albertaensis* (UAM 19064, male, Hog Rocks, near Ketchikan, 14 April 2001). Our other specimen (UAM 19372, male, Carroll Inlet, 11 April 2003) is large and by Jehl's (1987) formula measures to *L. c. albertaensis*; it has a mantle color similar to that of the specimens of *L. c. californicus* specimens at UAM, though apparently the mantle color of the two races overlaps (Howell 2003). A California Gull collected at Wrangell 25 July 1974 is the only other Alaska specimen of *L. c. albertaensis* (UAM 2802; Kessel and Gibson 1978, Gibson and Kessel 1997).

Larus argentatus smithsonianus. Herring Gull. Common migrant, uncommon summer visitant, and rare winter visitant. Fall migrants begin to arrive in late July, and migration peaks from mid-August through early October (maximum, 2200 at Ketchikan 28 August 2001); the Herring Gull is common at salmon spawning streams during that time (e.g., 2000 at Traitors Cove 6 September 2001 and 1000 there on 12 and 13 September 1996). Numbers decrease through October, and in winter the Herring is greatly outnumbered by the Iceland Gull (*L. glaucoides thayeri*). Nearly all adult Herring-type gulls found during the winter betray signs of hybridization with the Glaucous-winged Gull, and pure Herring Gulls are rare from December to February (Heinl 1997; Figure 16). Spring migration begins in mid-March and peaks in April when large numbers often gather at herring spawning areas (e.g., 5000 in Tongass Narrows 18 April 1999). Most adults have migrated through by early May; however, subadults are common through the end of May (e.g., up to 300 subadults on the Ketchikan waterfront into early June 1999). Swarth (1911) observed subadults at Ketchikan 15 June 1909, and we have observed a few annually through July. One UAM specimen.

Larus glaucoides thayeri. Iceland Gull. Common migrant and fairly common winter visitant. The specific status of the taxa in the Iceland Gull complex are "unstable and controversial" (Snell 2002; see also Banks and Browning 1999). We follow Godfrey (1986), Snell (1989, 2002), Sibley and Monroe (1990), and Patten et al. (2003) in treating Thayer's Gull as a subspecies of the Iceland Gull rather than as a full species (AOU 1973, 1983, and 1998), and it is currently maintained as such on the Alaska checklist (Gibson and Kessel 1997). Fall migrants arrive annually by the third week of August (earliest, 3 August 2004 and 16 August 1994), and numbers peak in mid to late September (maximum, 1500 at Ketchikan 18 September 1991 and 16 September 1993; Heinl 1997). In contrast to other species of large gulls, typically only a few can be found in the large flocks of gulls that frequent salmon spawning streams in the fall. During the winter this species favors creek outfalls on protected shores, and counts along the Ketchikan road system typically range from 10 to 200 birds (maximum, 1000 in Tongass Narrows 6 January 2003). Willett collected one at Clover Passage 10 January 1926 (LACM 21601, ad. female). Spring migrants are observed in April and May (latest, 24 May 2001) and can be quite common at herring spawning sites in April (e.g., 1000 in Tongass Narrows 18 April 1999; 500 in Tongass Narrows 13 April 1997 and 19 April 2002). During the fall and winter we have also observed some paler individuals, several of which we identified as *L. g. kumlieni*, including an adult in late October 1993 (ph.), two first-winter birds 6

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February–20 March 2007 (ph. NAB 61:312; Figure 17), and one second-winter bird 7 December 2007–10 January 2008 (ph.).

Larus schistisagus. Slaty-backed Gull. Very rare fall migrant and winter visitant; casual spring migrant. From 1990 to 1995, we found this species at Ketchikan annually (16 records; two UAM specimens, Heint 1997; ph. FN 50:98), mostly during fall migration from 19 August (1990) to 17 December (1994; maximum, three on 4 November 1993), but also rarely in winter through mid-March (latest, 19 March 1994). Since the closure of the Ketchikan dump in 1995, we have found only seven additional birds, including an adult 27–29 March 1997 that appeared to be a spring migrant.

Larus glaucescens. Glaucous-winged Gull. Common migrant and winter visitant; rare summer visitant. Fall migrants begin arriving in late July (earliest juvenile 4 August 1990) and are most numerous from September to early December (e.g., peak counts at the Ketchikan dump were up to 2000 birds, 30 September+). They are common at salmon spawning streams from September to October. Numbers decline into the winter months, and typical counts on the Ketchikan road system are of less than 1000 birds, although large flocks are sometimes found at feed (e.g., 1500 attracted to seafood-processing plants in Ketchikan 23 January 2001). Small flocks of spring migrants move continuously north up Tongass Narrows from late March to early May, at which time large numbers are also attracted to herring spawning areas (e.g., 1500 in Tongass Narrows 18 April 1999). Numbers drop considerably after mid-May, and only a few nonbreeders are found during June and July (maximum, 10 at Betton 4 June 2001). The Glaucous-winged Gull breeds primarily on the outer coast of southeast Alaska (Gabrielson and Lincoln 1959) and is known to nest as close as Snail Rock, Revillagigedo Channel, 51 km southeast of Ketchikan (SBW).

Larus hyperboreus barrovianus. Glaucous Gull. Rare migrant and winter visitant.



Figure 15. Juvenile Stilt Sandpiper and juvenile Lesser Yellowlegs at Traitors Creek, Revillagigedo Island, 22 August 2005. The Stilt Sandpiper is casual in southeast Alaska, and this bird provided the first record for the Ketchikan area.

Photo by S. C. Heint

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Figure 16. Pure Herring Gulls are very rare during the winter in the Ketchikan area, and most Herring-type birds exhibit signs of hybridization with the Glaucous-winged Gull. This adult at Ketchikan 5 March 2007 was most similar to a Glaucous-winged Gull (large size, heavy bill, dark eye, and pink eye ring) but had extensively slate-gray outer primaries.

Photo by A. W. Piston

Fall migrants typically arrive in early October (earliest adult 28 August 1992; earliest second-year bird 30 August 1996; earliest first-winter bird 13 September 1994). We recorded maximum counts prior to the closure of the Ketchikan dump in 1995: 10 on 24 January 1992 and eight on 9 December 1990 (Heinl 1997). Since then, we have found only one to three annually during fall and winter through late March (latest, 17 May 1991). One UAM specimen.

Hydroprogne caspia. Caspian Tern. Rare migrant and summer visitant. This species only recently became a regular visitant and a rare breeder in Alaska (Gibson and Kessel 1992, McCaffery et al. 1997, Gill 2008, Johnson et al. 2008, Lohse et al. 2008), following a long population expansion on the Pacific coast (Gill and Mewaldt 1983, Suryan et al. 2004). Four birds at Ketchikan 2–4 June 1981 provided the first Alaska record (Gibson and Kessel 1992). Currently, the Caspian Tern occurs primarily in ones or twos from late April to early September (more than 25 records; maximum, six on 3 June 2006, CAF). Our extreme arrival (20 April 2006) and departure (22 September 2001) dates are among the earliest and latest records for Alaska.

Sterna paradisaea. Arctic Tern. Very rare migrant and summer visitant. We have six records between 1 May (1998) and 17 September (1995); maximum, two near Ketchikan 8 June 2003. This species breeds at glacial river systems on the mainland of southeast Alaska (Gabrielson and Lincoln 1959) but is apparently only rarely observed on inside waters away from those locations.

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Figure 17. First-winter Kumlien's-type gull (*Larus glaucooides kumlieni*), with Thayer's (*L. g. thayeri*), Mew, and Glaucous-winged gulls at Ketchikan 16 February 2007. In addition to its small size, round head shape, and short, slender bill in comparison to the adjacent Thayer's Gulls', this bird had completely barred rectrices (not visible) and tertials, and dark pigmentation in its outer primaries was limited to subterminal markings.

Photo by S. C. Heinl

Stercorarius pomarinus. Pomarine Jaeger. Very rare migrant and summer visitant. An injured bird was found at Ketchikan 5 March 1993 (UAM 7702, adult female, JC). There are five other records: single birds in west Behm Canal 21 October 1995 (MAW) and 23 August 2002; three at Point Alva 25 May 1999 and one there on 8 June 1999 (CB); one at Ketchikan 30 September 2001. This species probably occurs more frequently in the open waters of Clarence Strait and Dixon Entrance.

Stercorarius parasiticus. Parasitic Jaeger. Rare migrant and summer visitant. In the Ketchikan area the Parasitic Jaeger occurs in very small numbers from late May (earliest, 14 May 2003) to October (latest, 20 October 1999; maximum, three on 24 May 2001). It occurs more frequently in the open waters of Clarence Strait and Dixon Entrance.

Stercorarius longicaudus (pallascens). Long-tailed Jaeger. Casual. One record: juvenile at Ketchikan 7–10 September 1991 (ph.). In southeast Alaska this species occurs primarily on pelagic waters off the outer coast (Gabrielson and Lincoln 1959).

Uria aalge (inornata). Common Murre. Common winter visitant and rare summer visitant. The Common Murre arrives in late August and is common from September to February in most years, sometimes being locally abundant in favored bays and passes (e.g., Clover Passage: 600 on 14 February 1992, 520 on 12 January 2003, 470 on 3 January 1994, and 450 on 1 December 1992). Unusually large numbers

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were found throughout the area during the winters of 1997–1998 (e.g., 1200 in Clover Passage 8 February 1998) and 2002–2003 (e.g., 3500 in northern Nichols Passage 28 December 2002, including 2500 in Annette Bay; 620 still present there 30 April 2003). Common Murres begin to depart the area in mid-March, and only small numbers usually remain through mid-May. Nonbreeders are occasionally found during the summer (maxima, 50 at Vallenar Bay 9 July 2005 and 20 at Dall Head 4 July 1992).

Cepphus columba (columba). Pigeon Guillemot. Fairly common summer visitant and local breeder; rare winter visitant. Alternate-plumaged birds arrive in March (earliest, 25 February 2007), and the species is widespread on open waters through September. There are two small breeding colonies near Ketchikan where birds nest in rock crevices: Tatoosh Rocks in west Behm Canal and Guard Island, at the north end of Tongass Narrows. Breeding evidence at Tatoosh: 75 on 7 May 2003, including birds displaying and landing on the cliffs; 40 on 4 June 2001, including birds displaying, two pairs copulating, and several birds that entered crevices under overhanging turf; adults carrying fish to crevices at seven different nest sites on the cliff 23 July and 23 August 2002. On 13 July 2008, 120 birds were at the Guard Island colony, including up to 40 standing on the rocks; at least 10 birds were observed to enter nest crevices. This species does not nest on the piling foundations of waterfront docks and buildings at Ketchikan as it does at Petersburg and Wrangell (pers. obs.). Although Gabrielson and Lincoln (1959) considered the Pigeon Guillemot a common winter resident of southeast Alaska, perhaps it is more numerous on open waters away from the immediate Ketchikan area, as we have only four January–February records, all for Nichols Passage.

Brachyramphus marmoratus. Marbled Murrelet. Common resident and probable breeder. This species is found in loose flocks of a few to 200 birds on sheltered waters throughout the year, though it is most conspicuous during the winter, when it is sometimes found in very large congregations. Maximum counts have been at Clover Passage: 4000 on 3 January 1994, 2300 on 14 February 1992, and 1000–2000 on nine other occasions between November and February. We have also encountered large numbers in Nichols Passage (e.g., 500 on 3 March 1998 and 11 February 2000, 450 on 14 March 1992, and 340 on 21 January 2001) and Tongass Narrows (e.g., 350 on 12 January 2003 and 250 on 24 December 2002). We know of no nests found in the area, but adults are often heard flying over mature coniferous forest during the breeding season, and juveniles are regularly observed with adults on salt water by the end of July (earliest, 19 July 1990; specimen UAM 9192, juvenile with egg tooth, 25 July 1998, Traitors Cove). The Marbled Murrelet is common throughout southeast Alaska (Agler et al. 1998), and nesting has been documented on Prince of Wales, just west of the Ketchikan area (Ford and Brown 1995).

Synthliboramphus antiquus. Ancient Murrelet. Rare visitant. This species is most frequently found during summer and fall; maximum, four on 9 July 2005. We have one winter record (one in Nichols Passage 21 January 2002) and two spring records (two in Nichols Passage 15 April 2003 and two in Revillagigedo Channel 21 April 2006). The Ancient Murrelet breeds commonly on islands along the outer coast of southeast Alaska and BC (Gabrielson and Lincoln 1959, Campbell et al. 1990b). A pair with a large downy chick in Clarence Strait, between Gravina and the Kasaan Peninsula, Prince of Wales, 13 June 1975 (DDG, TGT) likely came from one of those outer-coast breeding locations.

Ptychoramphus aleuticus (aleuticus). Cassin's Auklet. Very rare visitant. We have only four fall records, July–October, and one spring record (two in Nichols Passage 14 May 2003). Although Gabrielson and Lincoln (1959) listed no winter records for Alaska, this species is casual in winter along the north coast of BC (Campbell et al.

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1990b), and we have three winter records: one in Nichols Passage 13 December 1991, two at Clarence Strait, near Gravina, 24 December 2002, and, remarkably, 32 in Clarence Strait 14 January 2006, with some remaining to 20 February 2006. The Cassin's Auklet breeds at Forrester Island and the Hazy Islands off the outer coast of southeast Alaska (Manuwal and Thoresen 1993), and it has been reported on more open waters elsewhere in southeast Alaska in mid-summer and fall (Gabrielson and Lincoln 1959).

Cerorhinca monocerata. Rhinoceros Auklet. Uncommon spring, summer, and fall visitant; casual winter visitant. The Rhinoceros Auklet occurs in ones or twos from mid-April (early alternate-plumaged bird 8 March 1997) to mid-November (latest, 18 November 1993), most commonly in the open waters of Clarence Strait (e.g., 25 near Vallenar Bay, Gravina, 8 September 2007, 20 at Dall Head, Gravina, 4 July 1992, and 20 near Vallenar Bay, Gravina, 9 July 2005). Single birds near Ketchikan 23 December 1993, 6 February 2000, 20 February 2005, 20 February 2006, and 25 February 2007 provided our only winter records. This species breeds on the outer coast of southeast Alaska, primarily at Forrester and St. Lazaria islands (Gabrielson and Lincoln 1959), and on islands along the coast of BC (Campbell et al. 1990b). The 1907 egg record attributed in error by Gabrielson and Lincoln (1959) to "Lucy Island near Metlakahtla [= Metlakatla]," Alaska, was instead based on an egg collected at Lucy Island, near Metlakatla, BC (Drent 1961).

[*Columba livia*. Rock Pigeon. Locally common resident. Gibson (1990) considered the Rock Pigeon to be a "locally introduced, quasi-wild, non-migratory commensal of man" in Alaska, and it is not considered part of the wild avifauna of the state (Gibson and Kessel 1997). It is common at Ketchikan, where it occurs in the hundreds and nests along the waterfront in buildings and on pilings under buildings. It is found strictly near human settlements, and we have yet to record it away from the immediate vicinity of the Ketchikan or Metlakatla road systems (maximum at Metlakatla: 15 on 7 February 1992).]

Patagioenas fasciata (monilis). Band-tailed Pigeon. Rare to uncommon summer visitant and probable breeder. This species was first reported in the Ketchikan area in 1972 (25 at Margarita Bay 12 July 1972; Olson 1974) and has since been found in small flocks at favored locations. It typically arrives in early April (earliest, 20 March 1994 and 22 March 2006, PSD; 28 March 1997, ABH) and departs by late September (latest, 4 October 1996, ABH). From Revillagigedo we have records of this species at Francis Cove (up to 23, late July–1 September 1973, Kessel and Gibson 1978; 10 there on 21 July 1994, JG), Shelter Cove (four on 8 June 1998 and 21 July 1999, JG), and Traitors Cove (one, 10 July 2003). The Band-tailed Pigeon is also found annually at feeders along the Ketchikan road system, where maximum counts are of flocks of 28 on 12 May 2008 (CAF), 21 on 12 April 1997 and 20 April 2003 (ABH), and 20 on June 1995 (CJF). Three juveniles accompanied by adults at a feeder near Ketchikan 18 June 1998 constitute our only evidence of breeding (ABH). This species reaches the northern limit of its range in southern southeast Alaska, where it occurs on the mainland and on islands near the mouths of the mainland rivers (Kessel and Gibson 1978).

Streptopelia decaocto. Eurasian Collared-Dove. Casual. Two records: single birds at Ketchikan 15 June 2007+ (RWB; ph.) and 15–19 June 2008 (KMR; ph.). This introduced species expanded its range rapidly following release in the Bahamas in the 1970s (Smith 1987, Romagosa 2002). It is being found with increasing frequency in the Pacific Northwest (e.g., NAB 60:429) and was first reported in Alaska in 2006 and 2007 (Gibson et al. 2008). As noted by Romagosa and McEneaney (1999), however, this species is kept in captivity, and individual doves found in the wild might be the result of local introduction. In at least one case in Alaska (three birds at Petersburg 20 July 2006), birds were determined to have been local escapes (Gibson et al. 2008).

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Zenaida macroura (marginella). Mourning Dove. Rare fall migrant; casual spring migrant and summer visitant. We have found this species nearly annually in the fall from 23 August (1992) to 31 October (2004, TLG; maximum, three on 19 September 1998). One at a feeder near Ketchikan 2–9 December 2007 was very late (JFK). We have two spring records (26 May 2001, ph. TPZ; 25–30 April 2003, JFK) and two summer records (6–9 June 2003, SS; 9 July 2003, KLW), all of single birds. The Mourning Dove is a rare visitant along the south coast of Alaska, primarily in the fall (Kessel and Gibson 1978).

Coccyzus americanus occidentalis. Yellow-billed Cuckoo. Casual. Two Ketchikan records, both of birds found dead: 18 August 1991 (first Alaska record, SLN; UAM 5932, adult female; Gibson and Kessel 1992, 1997) and 30 August 1997 (window strike, HW; UAM 7059, adult female). A salvaged specimen from Juneau provided the only other Alaska record (UAM 6953, adult female, 11 July 1996). The western race, *C. a. occidentalis*, which occurred north to southern BC until the 1920s (Campbell et al. 1990b) and to western Washington until the 1930s (Hughes 1999), is now endangered through most of its range (Laymon and Halterman 1987). It is accidental in BC (Campbell et al. 1990b) and breeds locally in very small numbers only as close as southeastern Idaho (Taylor 2000) and southeastern Montana (Hughes 1999).

Megascops kennicottii kennicottii. Western Screech-Owl. Rare resident. Willett found one at Ketchikan 10 January 1924. Territorial birds have been heard in spring from 20 March (1995) to 27 June (1995). A pair of adults with up to three fledglings was conspicuous at Herring Cove late June–early July 2000 (SLH, GBV), and a pair of adults and two fledglings were at Clover Passage 14 September 2007 (CAF). Our only other breeding evidence is a nearly full-grown downy juvenile found dead near Ketchikan 28 August 1992 (KEM). One UAM specimen.

Bubo virginianus saturatus. Great Horned Owl. Although resident throughout much of Alaska (Gabrielson and Lincoln 1959), this species is rather scarce in the Ketchikan area, and we have only two records, of one collected at Ketchikan 9 February 1946 (Gabrielson and Lincoln 1959) and a feather belonging to this species found at the Ketchikan airport 20 August 1995.

Bubo scandiacus. Snowy Owl. Casual. Willett collected a female (LACM) at Grant Island 23 November 1925 (Gabrielson and Lincoln 1959). There are five additional records of single birds at Ketchikan (fall 1984, AB 39:91; 31 October 1992; 8 November 1996; 7 November 2001, BTP; and 11–20 November 2005), and two at sw Annette (early November 1992 and 1 December 2005). This species is an irregular visitant to southeast Alaska, primarily in late fall (Gabrielson and Lincoln 1959).

Surnia ulula caparoch. Northern Hawk Owl. Casual. One record: one found dead at Ketchikan 18 November 1999 (BR; UAM 14154, male). This species occurs in southeast Alaska irregularly (Gabrielson and Lincoln 1959, Tobish 2001).

Glaucidium gnoma grinnelli. Northern Pygmy-Owl. Rare fall, winter, and spring visitant; possible breeder. We have found this species regularly from late August (earliest, 19 August 2000) through early April. It occurs in very small numbers, with usually fewer than three observations at Ketchikan per season. Occasionally, however, it has occurred in larger numbers, primarily in the fall (e.g., at least 15 observations at Ketchikan in fall 2005). Possible breeding in the Ketchikan area was indicated by a pair at Roosevelt Lagoon, Naha River, 10–26 April 1999 and single birds calling at Gravina 7 May 2005 and 14 May 2000 (JEP), White River 31 May 2007, Ketchikan 14 June 2005, and Traitors Creek 19 July 2001. Four fall and winter UAM specimens are the coastal race *G. g. grinnelli*. Kessel and Gibson (1978) considered the Northern Pygmy-Owl to be a rare fall, winter, and spring visitant to southeast Alaska. Only one nest has been documented for Alaska (Mitkof Island; Walsh 1990), but a juvenile picked up alive at Haines 19 June 1988 (female, UAM 5600) and late spring and

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summer records the length of mainland southeast Alaska (Haines, Juneau, Gustavus, Taku River, Stikine River, Unuk River, and Chickamin River) and on islands adjacent to the mainland (Kupreanof, Kuiu, Mitkof, Revillagigedo, and Gravina; *Am. Birds*, *Field Notes*, and *N. Am. Birds*) suggest the species breeds throughout this region. Its being found much more regularly in the Ketchikan area during the nonbreeding season suggests that some of these birds dispersed from breeding areas elsewhere in southeast Alaska. Short-distance or elevational movements have been observed elsewhere in the species' range (Holt and Petersen 2000).

Strix varia (varia). Barred Owl. Uncommon resident. This species was discovered in Alaska only as recently as 1977, but it has since been found throughout southeast Alaska (Kessel and Gibson 1978, Gibson and Kessel 1992). The first local record, and first Alaska breeding record, was established when a nest with two downy young was discovered in a felled tree 16 km east of Ketchikan 1 June 1988 (ph. REW; AB 42:1330). The Barred is the most vocally conspicuous nocturnal owl in the area, and we have found it regularly in the Ward Creek, Traitors Creek, and Naha River drainages (including a pair at Orton Ranch 13 April–6 June 1999). An adult with a begging juvenile was at Ward Creek 28 July 2004 (DKP). There are also records of calling birds at Margaret Lake, Alava Bay, Carroll Inlet, Vallenar Bay (Gravina), Tamgass Harbor (sw Annette, including a pair calling together on 18 February 2005), and at multiple locations along the Ketchikan road system.

Asio flammeus flammeus. Short-eared Owl. Very rare migrant and winter visitant. The scarcity of this widespread species is almost certainly due to the lack of suitable foraging habitat. One flying north over Tongass Narrows 27 April 2002 provided our only spring record. In addition, there are six fall records between 1 November (1991) and 14 December (1999; MB) and one winter record (2 February 1994). One UAM specimen.

Aegolius funereus richardsoni. Boreal Owl. Casual. Two records: one found long dead at Harriett Hunt Lake, near Ketchikan, late April 1996 (DR; UAM 14219) and one found recently killed and partially eaten at Ketchikan 28 February 2000 (EBH, JB). This species has been considered casual in southeast Alaska, primarily in the winter on the mainland, but its status in the region is poorly known (Tobish 2000).

Aegolius acadicus acadicus. Northern Saw-whet Owl. Rare or uncommon resident and probable breeder. Although the saw-whet owl is an uncommon breeder in southeast Alaska (Kessel and Gibson 1978), territorial birds singing from mature coniferous forest during April and May (earliest, 23 March 1991) constitute our only evidence of breeding. We have few fall and winter observations. Four UAM specimens.

Chordeiles minor (minor). Common Nighthawk. Casual. Two Ketchikan records: single birds on 9 September 1997 and 13 June 2008 (TLG). This species is a very rare summer visitant and rare fall migrant at and near the mouths of rivers in mainland southeast Alaska (Kessel and Gibson 1978) and has nested on the mainland near Haines (Johnson et al. 2008).

Cypseloides niger borealis. Black Swift. Very rare summer visitant. Swarth (1911) found this species at Portage Cove, on the east side of Revillagigedo, in late June and early July 1909. He reported seeing a few individuals "nearly every evening at dusk, flying about until dark," and he collected two specimens on 1 July (both males; MVZ). We have two recent records: two at the Deer Mountain summit, near Ketchikan, 18 July 1992, and one at Ketchikan 17 June 2004. These few records, particularly Swarth's, suggest that this species might be found more regularly on the remote, eastern portion of Revillagigedo. The Black Swift is a locally uncommon summer visitant and probable breeder along the rivers of mainland southeast Alaska from the Stikine River south (Swarth 1911, Gabrielson and Lincoln 1959, UAM unpublished data).

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Chaetura vauxi (vauxi). Vaux's Swift. Uncommon migrant, summer visitant, and probable breeder. This species arrives in late May (earliest, 19 May 2000), and it is found throughout the area during June and July usually in groups of up to five birds (maximum, 40 in the Naha River drainage 25 June 1995). Swarth (1911) found this species at Portage Cove in late June and early July 1909. Our only breeding evidence is a pair at the White River 15 June 2002 that repeatedly broke small twigs from the top of a dead hemlock and carried them away. Small flocks (usually ≤ 20) of migrants or post-breeders, accompanied by juveniles, are observed August–September (maxima, 70 at Talbot Lake 5 September 1994 and 40 at Traitors Cove 5 September 2001; latest, 27 September 2003 and 4 October 2005).

Calypte anna. Anna's Hummingbird. Very rare fall and winter visitant; casual spring and summer visitant. A female at Ketchikan in mid-December 1974 established the first local record (Kessel and Gibson 1978). There have since been about 15 records, nearly all from hummingbird feeders. Most are of birds that arrived in the fall (September–October), a few of which stayed the entire winter (latest, 17 April 1996, JP). We have two spring records (29–30 April 1996 and 11–13 May 1990). One male was observed from 2 October 1994 to 29 March 1995 and again from 6 July 1995 to 17 April 1996; possibly it remained over the entire 19-month period (JP). The latter bird, and one at North Point Higgins 9 June 2000 (JFK), provide the only summer records.

Selasphorus rufus. Rufous Hummingbird. Fairly common spring migrant and breeder. This species arrives regularly in late March or early April and it is numerous by mid-April (earliest, 16 March 2005, NP; 21 March 2003, ALTP; 23 March 1995, JP). Our latest arrival date is 11 April (2002). Males are commonly observed displaying by early May (earliest, 24 April 2003). Females were observed collecting nest material (dog fur) on 10 May 2008 and 22 June 2008. Nest records include a female on a nest at Ketchikan 30 April–11 May 2007 (NDL), a nest with two eggs at Ketchikan 2 July 2001 (SV), and a nest with two nestlings at Princess Bay 13 July 1994 (TL, LW). Males depart by the end of June (latest, 7 July 2002). Females and immatures are fairly common through early August, after which time this species is rare (latest, 9 September 2007 and 12–13 September 1986 at sw Annette, MEI, RLS, TGT).

Megaceryle alcyon. Belted Kingfisher. Uncommon resident. Although not numerous, this species is widespread (e.g., up to five birds per day along the Ketchikan road system). The birds are paired up by April, when they are observed inspecting potential nest sites, often cut banks next to roads or quarries (earliest, 6 April 2001). Artificial habitats such as these have certainly increased the availability of nesting sites for this species in southeast Alaska. Isleib reported "active" nests at both Ketchikan and sw Annette 31 May–4 June 1987. We found active nests in cut banks along roads at the White River 10 June 2001 and at Ketchikan 5 June 2005.

Sphyrapicus ruber ruber. Red-breasted Sapsucker. Fairly common migrant and breeder; uncommon winter visitant. Spring migrants begin to arrive in early to mid-March and are fairly common in mature spruce–hemlock forest by early April. Willett (1928) found a nest with newly hatched young at Betton 26 May 1926. We have found eight active nests near Ketchikan 7 May (2003)–15 June (2003). Seven were in snags and one was in a telephone pole. Lone juveniles are regularly observed in July (earliest, 26 June 1993 and 2005). Numbers decrease after mid-September, and a few probable migrants are found to mid-November. One to five birds have been recorded nearly annually December–February, when the species is usually more difficult to detect (specimen, UAM 6968, male, 31 January 1996). Numbers were unusually large during a period of subfreezing weather in January 2005, with 35 along the Ketchikan road system 9–15 January, primarily in coniferous forest fringing beaches. Sixteen were along approximately 1 km of beach fringe 15 January 2005,

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suggesting many more birds were likely in the area. The previous maximum winter count was seven on the Ketchikan CBC 16 December 2000. These observations suggest that the Red-breasted Sapsucker may be more common in the winter than previously known. One LACM and five UAM specimens.

Picoides pubescens (glacialis). Downy Woodpecker. Rare migrant and winter visitant. Gabrielson and Lincoln (1959) considered the Downy Woodpecker to be an uncommon resident of coastal Alaska east of the Kenai Peninsula. It has proven to be rather scarce in the Ketchikan area, however, and is certainly not resident. It is found in alder habitat during migration from mid-March to April (earliest, 17 March 2003, JFK; latest, 1 May 2001) and from late August to November (earliest, 24 August 1993). It typically occurs singly; maximum, up to three birds daily at sw Annette 10–18 September 1986 (MEI, RLS, TGT). We have 10 records between December and February, most of birds at feeders. All of the birds that we have closely observed in the field had the smoky underparts and heavily barred rectrices of subspecies *glacialis*, which is found along the coast from Prince William Sound east to southeast Alaska (Gibson and Kessel 1997).

Picoides villosus (sitkensis). Hairy Woodpecker. Uncommon resident. This species begins drumming typically in late March (earliest, 22 February 2003 and 22 March 1998 and 1999), and calling birds are frequently detected through September. Our breeding data include active nests at Patching Lake (1 June 2002) and Ward Lake (6 June 2003; 1 June 2005, TLG). We have recorded the Hairy Woodpecker much less frequently from December to February, and it is uncommon at best during the winter. Gabrielson and Lincoln (1959) considered *P. v. sitkensis* to be a resident in southeast Alaska, but it is possible that some of the population departs for the winter.

Picoides dorsalis (fasciatus). American Three-toed Woodpecker. Very rare resident. Our records of this species are all from pine–cedar muskeg habitat. We have three from Princess Bay: a female with a brood patch banded 21 July 1994 (TL, LW), a male banded 3 August 1994 (TL, LW), and two adults attending a nest with one nestling 17 June 1996 (MB). We have four other records of single birds: at Tamgass Harbor, sw Annette, 2 June 1987 (MEI); an immature at Traitors Creek 16 August 1995; at Manzanita Lake 22 June 2000 (MB); near Ketchikan 1 July 2001.

Picoides arcticus. Black-backed Woodpecker. Casual. One record: a male at the mouth of Thorne Arm, Revillagigedo, 14 September 1999 (TLG). This interior species is casual along the BC coast (Campbell et al. 1990b), and it occurs irregularly in southeast Alaska (Gibson 1986).

Colaptes auratus. Northern Flicker. Uncommon migrant, breeder, and winter visitant. Willett (1928) described this species as fairly common in southern southeast Alaska and stated that it “might be seen or heard almost daily at Ketchikan.” It is present year round but most numerous during migration, from mid-March to May and again from September to October (maxima, 10 at sw Annette 14–16 September 1986, MEI, RLS, TGT; eight at northeast Gravina 14 April 2001). During the breeding season it favors coniferous woods at the edges of open areas in muskegs, clearcuts, and residential areas. Territorial behavior begins in early April (e.g., a male singing and drumming 4 April 2003). Swarth (1911) found a nest at Portage Cove, Revillagigedo, 2 July 1909, and M. E. Isleib reported up to three birds a day at sw Annette, including an active nest 2–4 June 1987. Our breeding data include a pair digging a nest hole at sw Annette 1 May 2001, a nest with a nearly fledged chick at Gravina 7 July 2001, a nest with a nearly fledged chick in a piling near Ketchikan 6 July 2005, a nest with two chicks in a piling near Ketchikan 1–14 July 2007 (one chick fledged 12 July, the other 14 July), and a pair attending just-fledged juveniles 20 July 2002. Gabrielson and Lincoln (1959) referred to the flicker as an occasional winter visitant, but we have found it wintering annually in small numbers, primarily

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in residential areas of Ketchikan, often at feeders (maximum, 25 on the Ketchikan CBC 17 December 2005; also, at least 13 birds winter 2001–2002).

Yellow-shafted *C. a. luteus* breeds in central, southcoastal, and mainland southeast Alaska, while red-shafted *C. a. cafer* breeds in the southern Alexander Archipelago and on the adjacent mainland, where intergrades with *C. a. luteus* are known (Gibson and Kessel 1997). Swarth (1911) collected a male at Gravina 15 June 1909 and a pair at a nest at Portage Cove 2 July 1909. The specimen from Gravina (MVZ 9729) and the male from Portage Cove (MVZ 9731) are intergrades. At Grant Island 3 October 1925 Willett (1927) collected an intergrade closer to *C. a. luteus* in appearance. Most of the birds that occur in the Ketchikan area are closest to *C. a. cafer*, but nearly all birds that we have examined closely betray signs of intergradation with *C. a. luteus*. We have identified intergrades at all times of the year, including the breeding season. For example, two chicks at a nest on 1 July 2007 (above) both had red underwings and red nuchal patches, and one bird had a buff throat (Figure 18). Flickers are much easier to examine closely in winter when they visit feeders, and 13 of 16 birds that we studied closely in winters 2001–2002 and 2002–2003 showed a partial or complete red nuchal patch, and some of these also showed tan coloration on the face or pale orange or yellowish quills. In winter we have observed several birds that approached *C. a. luteus* in plumage but also showed signs of intergradation.

Contopus cooperi cooperi. Olive-sided Flycatcher. Uncommon migrant and probable breeder. Spring migrants are observed from mid-May to early June (earliest, one collected by Willett at Ketchikan 5 May 1926, Gabrielson and Lincoln 1959; latest, 11 June 1999, MB). During the summer this species is found in open coniferous forest, generally above 150 m elevation, often foraging from large snags at the edge of clearcuts (e.g., one near Margaret Lake 18 June 1998; several on Brown Mountain 15 June–17 August 2002; pair at the White River 24 July 1993 and 3 July 1998). We have only four records of fall migrants (latest, 13 September 1998). Single LACM and UAM specimens.

Contopus sordidulus (saturatus). Western Wood-Pewee. Rare migrant. This species occurs in ones or twos in spring from 7 May (1992 and 2005) to 16 June (2008; JFK) and less commonly in fall from 14 August (1998) to 7 September (1998). Subspecies *saturatus* is an uncommon migrant and breeder in mainland southeast Alaska (Kessel and Gibson 1978; Gibson and Kessel 1997).

Empidonax alnorum. Alder Flycatcher. Very rare migrant and possible breeder. Singing birds have been found at Ella Bay (27 June 1995, CS; 10 June 1998, MB; 16 June 1999, MB; 23 June 2000, MB), at the Ketchikan airport (10 July 2002 and 24 June 2007), and near the White River (22 June 2003). We also found single birds singing near Talbot Lake in a clearcut with dense conifers 3 m tall and a mixture of alder and willow (19–26 June 1993, 13 June 1999, 23 June 2000, and 24 June–2 July 2001). Some of these birds may have been migrants, and we have no evidence of breeding apart from males singing on territory. There are four fall records: single birds at Ketchikan 27 August 1993, 31 August 1997, 13 September 2000, and, very late, 11 October 1992. The Alder Flycatcher is an uncommon migrant and breeder on the southeast Alaska mainland and a locally rare probable breeder in the Alexander Archipelago (Kessel and Gibson 1978).

Empidonax minimus. Least Flycatcher. Casual. One record: one at Ketchikan 5–12 June 2005 (ph.). This species is known to breed as close as central and southeastern BC (Campbell et al. 1997), and it is a casual visitant to Alaska, primarily in June (Gibson and Kessel 1992).

Empidonax hammondii. Hammond's Flycatcher. Casual. Three records: one at Traitors Creek 13 September 1998, two at Ketchikan 15–19 May 2001, and one at Ketchikan 17 September 2007. This species is an uncommon spring migrant and

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probable breeder along the major rivers of mainland southeast Alaska (Kessel and Gibson 1978).

Empidonax difficilis difficilis. Pacific-slope Flycatcher. Fairly common migrant; common summer visitant and breeder. This species arrives in early to mid-May (earliest, 27 April 2005, 1 May 2004, and 2 May 1992 and 1997). It is common in spruce–hemlock woods, being most numerous where there is adjacent alder or an alder understory (e.g., 20 along 1.5 km of road near Talbot Lake 13 July 1993, 20 at Silvas Lake 15 July 1993, and 20 along 4 km of Ella Creek 20 July 1995). Swarth (1911) collected one specimen on Revillagigedo (MVZ) on 29 June 1909. We have few breeding data, aside from adults carrying food on 15 July 1993 and 19 July 1995 (CS, JM), adults feeding recently fledged young on 7 July 2007, and lone juveniles (earliest, 22 July 1993). Fall migrants are found regularly to mid-September (latest, 27 September 1996 and 30 September 1992). Four UAM specimens.

Sayornis saya (yukonensis). Say's Phoebe. Casual. One record: one at Ketchikan 14 September 1996 (PJW, ph. DWS). This species is a very rare fall migrant in southeast Alaska (Kessel and Gibson 1978). Dickerman (2005) recently recommended recognition of subspecies *yukonensis* (Bishop 1900), which includes populations breeding in Alaska and northwestern BC.

Tyrannus melancholicus (satrapa). Tropical Kingbird. Casual. Four records of single birds at Ketchikan: 23–24 October 1976 (first Alaska record; AB 31:212), 9–13 October 1992 (first documented Alaska record; ph. AB 47:169), 2–7 November 1998 (ph.), and 20 October 2002 (CAF; ph.). The last three birds gave trilling calls characteristic of this species, which is a casual fall visitant along the coast of the Pacific Northwest, north to southernmost BC (Campbell et al. 1997). There are no Alaska specimens, but, with one exception, specimens from the west coast of the lower 48 states have all been of the northern race, *T. m. satrapa* (see Stouffer and Chesser 1998).

Tyrannus verticalis. Western Kingbird. Casual. One Ketchikan record: 3 September 2003 (ph.). Kessel and Gibson (1978) listed two Alaska records of this species, of single birds along the Denali Highway 28 June 1964 and in the Copper River delta 16 August 1973. There are now at least 13 additional spring or summer records, all from southeast Alaska, and all but two from June (earliest, 2 May 1994, Unuk River, FN 48:331). There are only two additional fall records in Alaska: single birds at Juneau 10 August 1986 (AB 41:131) and Sitka 21–22 September 1991 (AB 46:138).

Tyrannus tyrannus. Eastern Kingbird. Casual. Two Ketchikan records: 11 August 1975 (BFK) and 13 June 2003 (ME). This species is a rare summer visitant on the mainland of southeast Alaska (Kessel and Gibson 1978).

Lanius excubitor (borealis). Northern Shrike. Rare migrant and very rare winter visitant. Most records are from mid-October through December (16 records; also, one very early bird at sw Annette 14 September 1986, MEI, TGT, RLS). We have two mid-winter records (15 January 2005, TLG; 11 February 2003) and three spring records (22 March 2005, 3 April 1997, and 29 April 2007, CAF). The scarcity of this species is likely due to the lack of suitable habitat.

Vireo gilvus swainsonii. Warbling Vireo. Rare migrant, summer visitant, and breeder. This species arrives in late May, and migrants are noted well into June (earliest, 9 May 2005, 12 May 2004, and 19 May 2008). One or two territorial birds have been found annually in riparian red alder along Ketchikan Creek and in second-growth alder along the White River and near Talbot Lake. We found single nests in tall red alder at Ketchikan Creek in 1996 (6 July; fledged one young 19 July), 1998 (adults feeding young in nest 20 June; one fledged and one still in the nest 1 July), and 2003 (two young in nest 28 June–2 July; fledged by 8 July). Fall migrants are observed in ones or twos from 19 August (1998) to 25 September (1994). The

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Warbling Vireo is an uncommon to fairly common probable breeder along the rivers of mainland southeast Alaska and a rare migrant elsewhere on the mainland (Kessel and Gibson 1978). One UAM specimen.

Vireo olivaceus (olivaceus). Red-eyed Vireo. Casual. One record: one singing male at Ketchikan 5–7 July 1976 (Kessel and Gibson 1978). This species is a rare, local, probable breeder along the rivers of mainland southern southeast Alaska and a casual summer visitant on adjacent islands of the Alexander Archipelago (Kessel and Gibson 1978).

Cyanocitta stelleri stelleri. Steller's Jay. Common resident. This species is numerous in coniferous forests from early April through November but is variably rare to fairly common during the winter. For example, it was unusually abundant in late fall and early winter 1994–1995 (including a single flock of 30 birds on 13 January 1995), but it was all but absent in winter 2000–2001. We have few breeding data. We observed an adult gathering mud 17 April 2005, a pair gathering moss at McDonald Lake, on the mainland near Ketchikan, 2 May 2002, and adults attending fledged young 26 June 2005 and 8 July 2005. Juveniles are common by July. Fifteen UAM specimens.

Nucifraga columbiana. Clark's Nutcracker. Casual. Three Ketchikan records: one at a feeder 7 December 1987–late June 1988 (ph. JFK), one on 12 October 1992 (ph. AB 47:135), and one at a feeder 17–24 August 2002 (CAF). This species breeds in the mountains of southern BC but is an "erratic vagrant" to maritime BC (Campbell et al. 1997) and a casual visitant to Alaska (Gabrielson and Lincoln 1959).

Pica hudsonia. Black-billed Magpie. Very rare winter visitant. A few have been found nearly annually from 14 September to 25 March (also, two birds to 29 April 2003; K LW). Magpies occur usually in ones or twos; maximum, flock of five at Clover Pass winter 1999–2000 (NS, DN). Although this species winters regularly in southeast Alaska, it occurs most frequently in the northern portion of the region (Gabrielson and Lincoln 1959) and is casual along the BC coast south of Ketchikan (Campbell et al. 1997).

Corvus caurinus. Northwestern Crow. Common resident. This species is ubiquitous in the Ketchikan area (e.g., 400 were counted flying to an evening roost near Metlakatla, sw Annette, 4 September 1995, and 438 were recorded on the 1999 Ketchikan CBC). It occurs almost strictly near salt-water shores, and all nests that we have found were in dense coniferous forest along beaches, often with several pairs nesting in close proximity. We have observed nest building throughout April (adults carrying sticks as early as 1 April 2002 and as late as 28 April 2002; adults gathering moss 16 April 2002 and 28 April 2002). We found a nest attended by agitated adults 12 May 2001 and two nests with brooding adults 18 and 31 May 2003. One nest completed on 28 April 2002 contained two large young on 9 June. Another pair completed a nest on 24 April 2003 and fledged young on 12 June. A nesting colony at Margarita Bay during the 1990s was in a dense stand of second-growth hemlock, with trees <10 m in height (BW). On 29 June 1997, 100 birds (juveniles and adults) were present, and the stand contained many old nests and one nest with three large nestlings (CJF, SCH). Swarth (1911) found many recent fledglings accompanied by adults at Portage Cove in late June and early July 1909. Juveniles are a common sight by early July. Some authorities (e.g., A. M. Rea in Phillips 1986, Sibley and Monroe 1990) have questioned whether the Northwestern Crow is distinctive as a species from the American Crow (*C. brachyrhynchos*).

Corvus corax (principalis). Common Raven. Common resident. This species is a constant sight in the Ketchikan area (e.g., 200 at the Ketchikan dump 11 November 1990). Ravens begin collecting nesting material in March: large sticks as early as 2 March 2002, moss as early as 11 March 2002 and as late as 20 April 1996. We observed a pair placing moss in a nest 15 m up in a Sitka spruce 28 March 1999. We

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found a half-grown nestling on the ground 30 m below a nest in a western hemlock 7 May 2008. Another nest, 45 m up in a spruce, contained two large nestlings on 20 May 2001. On 23 March 2002, we observed a pair placing moss in a nest 15 m up in a cedar; the nest contained at least one young bird on 27 May 2002. Isleib observed recently fledged young attended by adults at sw Annette 2–4 June 1987.

Eremophila alpestris (arctica). Horned Lark. Casual. Five records, one of three at sw Annette 13 September 1986 (MEI, RLS, TGT) and four of single birds at Ketchikan 29 October 1992, 26 April 2003, 30 April 2006, and 21 December 2007 (ph.). This species is a rare or uncommon migrant in southeast Alaska, primarily on the mainland.

Tachycineta bicolor. Tree Swallow. Fairly common spring migrant and breeder. This species arrives early, by mid-April each year (earliest, 6 April 1990 and 9 April 2006 and 2007). Migrants are detected to at least late May (e.g., 40 at Ward Lake during poor weather 29 May 2002). The Tree is the most widespread swallow in the Ketchikan area. It breeds near fresh water, including residential areas where it readily uses nest boxes. Swarth (1911) found a few pairs at Portage Cove in late June–early July 1909 and collected one specimen on 29 June (MVZ). Willett reported Tree Swallows nesting at Ketchikan (Gabrielson and Lincoln 1959). Our breeding data include adults investigating nest sites (14 May 1999) and collecting nesting material (13 June 1999), active nests from 22 May (2007) to 14 July (1995), and adults feeding fledged young (earliest, 25 June 1992). The Tree Swallow is an early fall migrant, departing the area annually by mid-August (latest, 14 August 1993).

Tachycineta thalassina (thalassina). Violet-green Swallow. Locally uncommon migrant and breeder. It arrives typically in late April (earliest, 5 April 2008, 9 April 2007 and 15 April 2006, CAF), and during the summer we have found it exclusively in residential areas (e.g., four pairs along Ketchikan Creek, summer 1993). All the nests that we have found have been in holes in buildings. Breeding data include adults collecting nesting material 6 and 8 May 2008, 10 May 2004, and 13 June 1999, a nest that fledged three young on 17 July 2003, a nest that fledged two young on 22 July 1993, and a nest that fledged three young on 26 July 2000. Like the Tree Swallow, this species typically departs the area by mid-August (maximum, 20 in early August 1993; latest, 28 August 1999).

Stelgidopteryx serripennis (serripennis). Northern Rough-winged Swallow. Rare migrant and breeder. Small numbers occur nearly annually, from May to August (e.g., at least nine birds 10–29 May 2001; earliest, 30 April 1999; latest, 30 August 1994). Artificial habitats in the form of cut banks next to roads and quarries have certainly increased the availability of nesting sites for this species in southeast Alaska. A nest in a blasting hole in a rock wall near Ketchikan July 2000 provided the first local nesting record (young birds in the nest 12 July 2000 but gone by 25 July). Another pair nested in a cut bank along the White River road in 2001 (pair in the area 27 May; adult carrying nesting material into the nest hole 10 June; both adults feeding young in the nest 15 July). We observed one pair at the same bank 15 June 2002, two pairs there 22 June 2003 (when we observed one bird enter a nest hole). A single juvenile at Ketchikan Creek 31 July 2006 and two adults and two juveniles together at Clover Passage 4–11 August 1995 and 3–14 August 1998 also suggest breeding. Kessel and Gibson (1978) considered this species to be a rare migrant, summer visitant, and breeder in southeast Alaska, occurring on the mainland and on islands near the mouths of the mainland rivers.

Riparia riparia (riparia). Bank Swallow. Casual spring migrant and very rare fall migrant. We have six fall records between 14 August (1998) and 6 September (1997; maximum, 20 on 29 August 1991) and one spring record (Naha River 5 June 1999). This species is a rare migrant and breeder on the southeast Alaska mainland (Kessel and Gibson 1978).

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Petrochelidon pyrrhonota (*pyrrhonota*). Cliff Swallow. Very rare spring migrant and casual fall migrant. We have four spring records from 9 May (2001 and 2002) to 10 June (1999) and one fall record (two at Ketchikan 29 August 1991). This species is a rare spring migrant and very rare summer visitant and breeder on the southeast Alaska mainland (Kessel and Gibson 1978).

Hirundo rustica erythrogaster. Barn Swallow. Fairly common migrant and local breeder. Spring migrants are observed from early May to mid-June (earliest, 28 April 1999 and 1 May 2001), with a peak during late May and early June (e.g., 40 at Ward Lake during poor weather 29 May 2002). The Barn Swallow nests almost exclusively on artificial structures and is rarely found away from residential areas during the breeding season. Willett (1928) watched a pair build a nest at Ketchikan 26 June 1925: they lined the nest 1 July, the last of four eggs was laid 11 July, the eggs hatched 24 July, and the young fledged 13 August. Swarth (1911) found a few pairs at Portage Cove in late June and early July 1909 and collected one specimen 29 June (MVZ). We have observed nests with young as early as 17 June (1998), and fledging dates range from 15 July (2007) to late August (also, recently fledged young attended by adults 6 September 1997). One pair successfully fledged two broods of young at Ketchikan during summer 1993 (four young fledged from the first nest on 9 July; the pair built a new nest only a few feet from the old one by 20 July, and two fledged young were sitting next to this nest on 1 September). Fall migration peaks from late August to early September (maximum, 55 at Ketchikan 24 August 1993; latest, 15 September 1990 and 1 October 2002). One UAM specimen.

Poecile rufescens rufescens. Chestnut-backed Chickadee. Common resident in coniferous habitats from sea level to timberline. Nesting records are numerous, and we have recorded nesting activity from 10 April (2004; placing nest material into a cavity in a large stump along a beach) to 15 July (2007; young birds in a nest box being fed by a pair of adults). We have found nests in cavities in a variety of locations, including large alder, spruce, and hemlock snags, large stumps left over from logging (particularly along beaches), in buildings, and in artificial nest boxes. A closely observed pair that nested in a stump at Gravina raised two broods in 2003 (29 April–15 May and again 4 July) and 2004 (collecting nest material 10 April; chicks in nest 18 May; chicks fledged prior to 30 May; nesting again 27 June; chicks in nest 5 July). Adults attending recently fledged young are regularly observed in June and July (earliest, 25 May 2002). Eleven UAM specimens.

Sitta canadensis. Red-breasted Nuthatch. Rare fall migrant and casual winter, spring, and summer visitant. This species occurs annually in small numbers in the fall from 13 August (2001) to 25 November (1990; maximum, five on Deer Mountain 24 September 2000). We have four winter records (in two cases the birds lingered to April), two spring records (4 May 2003 and 2008), and one summer record (19–23 July 2001). Gabrielson and Lincoln (1959) considered this species to be an uncommon summer resident in southeast Alaska and listed records for Ketchikan and Loring, Revillagigedo (no dates given). Kessel and Gibson (1978) considered it a rare resident and breeder and suggested that breeding may follow sporadic fall invasions to southeast Alaska. Fall invasions reached to the west of Ketchikan on Prince of Wales in 1980 (50+ birds; AB 35:215) and 1981 (AB 36:208), but we have not recorded an invasion in the Ketchikan area during the past 19 years, and to date we have no evidence of breeding.

Certhia americana occidentalis. Brown Creeper. Uncommon resident. During the breeding season this species is found primarily in mature spruce–hemlock woods. A nest at Hassler 30 June 1995 is our only evidence of breeding (MB). During the winter the creeper is also found in mixed woods with flocks of chickadees and kinglets. The southeast Alaska breeding race is *C. a. occidentalis* (Gibson and Kessel 1997; one UAM specimen).

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Troglodytes troglodytes. Winter Wren. Common resident. This species favors the dense understory of mature coniferous woods, from sea level to timberline (e.g., 35, mostly singing males, in mature hemlock woods along 3 km of the Deer Mountain trail 25 June 1990). It also nests in a wide variety of other habitats as long as dead wood, such as fallen logs, snags, stumps, and slash, is available for nesting sites (Hejl et al. 2002). Kessler and Kogut (1985) found Winter Wrens breeding in clearcuts of all ages on nearby Prince of Wales. We found many birds singing in a <10-year-old clearcut that contained only stumps and dense 1-m-tall growth of alder, lady fern (*Athyrium filix-femina*), *Vaccinium*, and *Rubus* (upper White River, 15 June 2002). On the adjacent mainland, we also found territorial birds singing from giant root wads stranded well out on the gravel flood plain of the Salmon River (6 June 2006). Males begin singing in full force by mid-February (earliest, 4 February 2003), and we have observed adults carrying nesting material on 8 April 2006, 8 May 2004, and 15 May 2004. Adults carrying food, adults attending fledged young, and lone juveniles were all observed on Deer Mountain 10 July 1993. We found an active nest in a cavity in a rotten stump along the beach at Vallenar Bay, Gravina, on 26 May 2007, and an adult was observed carrying food to the nest several times on 3 June 2007. A nest at Princess Bay fledged two young on 6 June 1995 (JM, CS), and lone juveniles are common by July. Although there are eight UAM specimens, it is not clear to which race birds breeding in the Ketchikan area belong: *T. t. pacificus* breeds on Prince of Wales to the west, *T. t. ochroleucus* on the islands of the northern Alexander Archipelago (A. M. Rea in Phillips 1986, Gibson and Kessel 1997). It is still the case that “all Alaska material from east of the Aleutians needs to be assembled in one place and reviewed” (R. W. Dickerman in Gibson and Kessel 1997:70).

Cinclus mexicanus (unicolor). American Dipper. Fairly common resident. This species is found at nearly all large creeks in the Ketchikan area. Willett considered it a fairly common breeder and found two nests: one with large young 8 June 1924, another with five eggs 13 May 1925 (the nest contained large young on 25 June). Breeding data at Ketchikan Creek, where birds nested in holes drilled into a cement retaining wall, include active singing in February (in full song first week of February 2000), adults investigating nest holes (earliest, 26 March 1996), adults collecting nesting material (19 April 2001 and 28 April 2003), nestlings ready to fledge (27 May 1995, EBH, and 25 June 1992), and adults attending recently fledged young (earliest, 27 April 2001; latest, 14 June 1996). In addition, an adult was observed feeding a fledgling at upper Silvas Lake 15 July 1993 (300 m elevation). During the winter dippers are frequently found feeding in brackish water at creek mouths.

Regulus satrapa olivaceus. Golden-crowned Kinglet. Common resident. This species is present year round in coniferous woods, from sea level to timberline. Breeding data include a pair gathering nesting material (Talbot Lake 16 April 1995), adults carrying food (earliest, 1 June 2001), adults attending recently fledged young (9 June–22 July), and lone juveniles (earliest, 19 June 1993). All four UAM specimens are the southeast Alaska breeding race, *R. s. olivaceus* (Gibson and Kessel 1997).

Regulus calendula (grinnelli). Ruby-crowned Kinglet. Fairly common migrant and breeder; casual winter visitant. Spring migrants are observed from late March (earliest, 14 March 2005) through April (e.g., 26 at the Ketchikan airport 27 March 2004, 59 at northeast Gravina 14 April 2001, and 40 there 20 April 2002). Singing males begin establishing territories in late April and early May. During the breeding season the Ruby-crowned Kinglet occurs in a variety of coniferous habitats, from sea level to timberline. For example, we have found singing males in shrubby subalpine mountain hemlock, coniferous edges of avalanche chutes, older, shrubby clearcuts (particularly with a mixture of alder), and coniferous edges of bogs. Breeding data include adults carrying food (earliest, 23 May 2004), adults attending recently fledged young (14 June–10 July), and lone juveniles (numerous by early July). Fall migration

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takes place from late August to late November and peaks during September (e.g., 100 at sw Annette 17 September 1986, MEI, RLS, TGT). Stragglers frequently linger into December (maximum, five on 14 December 2002), and there are four January–February records. Subspecies *grinnelli* is the southeast Alaska breeding race (Gibson and Kessel 1997).

Sialia currucoides. Mountain Bluebird. Casual. One record: a female along the White River 13 April 2003. This species occurs primarily on the mainland in southeast Alaska, where it is a locally uncommon spring migrant and casual to rare fall migrant and winter visitant.

Myadestes townsendi (*townsendi*). Townsend's Solitaire. Very rare migrant. Five were at sw Annette 11–15 September 1986 (MEI, RLS, TGT), and there are four Ketchikan records of single birds: 16 May 1975 (MEI; Kessel and Gibson 1978), 16 April 1993 (CJF), 1 October 2000, and 6 May 2001. This species is a rare migrant and probable breeder in southeast Alaska (Kessel and Gibson 1978).

Catharus minimus (*aliciae*). Gray-cheeked Thrush. Casual. One record: a male singing in an old clearcut 24 June 2001 (SCH, JMM). This species is a rare to uncommon local breeder in mainland southeast Alaska and occurs regularly only as close as the Stikine River, 150 km to the north of Ketchikan (Kessel and Gibson 1978).

Catharus ustulatus ustulatus. Swainson's Thrush. Common migrant and breeder. This species is one of Ketchikan's latest spring migrants, typically not arriving until late May (earliest, 14 May 2004, 16 May 1925, Willett 1928, and 17 May 2006). Willett noted that it was "common" by 21 May 1925. It is particularly common in habitats with red alder, both riparian and fringing beaches. Breeding data include adults carrying nesting material (8 June 2005), a nest with four eggs (11 June 2005), a nest with an incubating adult (22–25 June 2006), a nest with four eggs (24 June 2007), adults carrying food between 19 June (1993) and 5 August (2005), adults feeding recently fledged young (15 July 2006), and lone juveniles (earliest, 13 July 1993). Fall migration peaks in late August (e.g., 25 per minute heard flying overhead at 22:00 hours on 30 August 1990), and the species is usually gone by mid-September (latest, 24 September 1996 and 8 October 2006, ph.). Twelve UAM specimens from the Ketchikan area are *C. u. ustulatus*, the breeding race in the Alexander Archipelago (Gibson and Kessel 1997).

Catharus guttatus. Hermit Thrush. Common spring migrant and breeder, fairly common fall migrant, and casual winter visitant. Spring migrants arrive in late April and are common through most of May (earliest, 16 April, Gabrielson and Lincoln 1959; 17 April 2004, and 18 April 1990, 1992, 1996, and 2002). The Hermit Thrush is one of the commonest breeding passerines of the Ketchikan area, and singing males are heard in nearly all coniferous habitats, from sea level to timberline. Breeding data include a nest with four eggs (8 June 1924; Willett 1928), adults carrying food between 5 June (2005) and 3 August (2003), and an adult feeding fledged young (7 July 2001). Lone juveniles are common by mid-July (earliest, 10 July 2002). Fall migration takes place from September to mid-October (maximum, 15 birds daily at sw Annette 12–17 September 1986, MEI, RLS, TGT). Stragglers have lingered to December (three records), and there are two winter records: 22 January 2003 (TLG) and 9 January 2005.

We agree with K. C. Parkes' recommendation that the name *nanus* (Audubon) should be used for the Hermit Thrushes breeding in southeast Alaska (Dickerman and Parkes 1997, K. C. Parkes in Gibson and Kessel 1997); the name *osgoodi*, advocated by Phillips (1991; followed by Gibson and Kessel 1997), is considered a synonym of *nanus*. Most Ketchikan specimens are the southeast Alaska breeding race (e.g., 12 UAM specimens). Subspecies *guttatus* breeds on the Pacific coast to the north and west of southeast Alaska (Gibson and Kessel 1997), and migrants

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identified as such have been collected at Ketchikan (two specimens 27 May 1911; Gabrielson and Lincoln 1959).

Turdus migratorius caurinus. American Robin. Common migrant and breeder; rare winter visitant. A few spring migrants arrive annually as early as late February, but large flocks generally arrive in mid-March (e.g., earliest flock arrival 12 March 1992 and 1993; latest flock arrival 25 March 2002). Flocks of 30–100 birds are common in open areas and along roadsides through late April, in some years to early May (e.g., flock of 40 at North Point Higgins 5 May 2002). Adult males arrive earlier than adult females and first-spring birds (e.g., on 21 March 1999 a flock of 120 contained only 10 females, while on 17 April 1999 a flock of 70 contained only 10 adult males). The American Robin breeds at the edges of open areas such as forest openings, bogs and muskegs, clearcuts, and residential areas. Willett (1927) collected four eggs from a nest at Ketchikan 30 May 1925. We have observed evidence of nesting from 15 May to 16 August, including adults sitting on nests (24 May–20 June), adults carrying food or feeding nestlings (15 May–3 August), and young fledging from a nest (30 July 2003). Lone juveniles are common by mid-June (earliest, 1 June 2004 and 4 June 1995). Adults collecting nesting material or building nests 5 June 1995, 8 June 2005, and 12 June 2005, and a juvenile sitting on a nest 16 August 1999, all suggest that some birds rear two broods. In fall, migration peaks from late August through September, though it is not so conspicuous as in spring (maximum, 200 on 7 October 2005). Most robins depart the area by mid-October, but small numbers linger into November and, in some years, early December (e.g., flock of 45, early December 1974, PM; flock of 30 on 12 December 1993). A few winter nearly annually in residential areas of Ketchikan; many of these survive through the end of February (maximum, 28 on 4 January 1994). In 2005, exceptional numbers of robins lingered into November and December (e.g., 115 on the Ketchikan CBC 17 December), and above-average numbers wintered—at least 35 birds through mid-February. During the late fall and winter, the birds often subsist on the fruit of various ornamental plants. The 10 UAM specimens are the southeast Alaska breeding race, *T. m. caurinus* (Gibson and Kessel 1997).

Ixoreus naevius naevius. Varied Thrush. Common migrant and breeder; uncommon or fairly common winter visitant. Spring migrants are numerous from mid-March to late April and are often found in large groups along road edges, on beaches, and in open areas with American Robins (e.g., 150 at the head of Neets Bay 18 April 1990; 75 along the road at Clover Passage and North Tongass Hwy 29 March 1993; 50 at the Ketchikan airport 12 April 1998 and 28 April 2001). During the breeding season Varied Thrushes inhabit coniferous forest, from sea level to timberline. Breeding data include adults carrying food (23 May–19 July), adults attending fledglings (10 June 2005), and lone juveniles (earliest, 19 July 2003). The species remains common in coniferous forest through late fall, often becoming conspicuous at low elevations when forced out of the woods by the first snows of the winter (e.g., common at Ketchikan on 22 November 1990 and 11 November 1995, immediately after several days of snow; maximum, 150 on 12 November 2005). In most winters it remains fairly common, but in other years it can be difficult to find in January and February. Willett (1927) also found this species to be common in some winters, rare in others, and absent in yet others: he found none in Ketchikan during early winter 1924–1925 but began seeing it in mid-January, and it was fairly common the rest of the winter. The seven female UAM specimens are nominate *I. n. naevius*, the southeast Alaska breeding race (Gibson and Kessel 1997).

Mimus polyglottos (*polyglottos*). Northern Mockingbird. Casual. Two Ketchikan records: single individuals at Ketchikan 19–22 April 1998 (GHM; ph.) and 16 December 2006 (ph.). This species is a casual visitant to Alaska (Gibson and Kessel 1992), for which there are at least ten records.

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Sturnus vulgaris vulgaris. European Starling. Uncommon resident. This species was first recorded in Alaska at Juneau in 1952 (Kessel 1953), and by 1977 it was regarded as a rare or uncommon migrant, local winter visitant, and rare local breeder in southeast Alaska (Kessel and Gibson 1978). A flock at Ketchikan in winter 1957–1958 established the first local record, and 50–100 were recorded at Ketchikan 14 December 1960 (Kessel and Gibson 1978); the starling occurs in similar numbers today (e.g., flocks typically of 5–25, occasionally up to 50; maximum, flock of 150 at North Point Higgins 7–16 December 2002). It is found almost strictly around residential areas, on lawns, and in open disturbed areas (e.g., the city dump), but it also regularly feeds on beaches. One feeding on the beach with turnstones at Carroll Inlet 7 February 2003 (11 km from Ketchikan) is the only starling we have observed away from residential areas.

Two broods in 1962 provided the first local breeding records (Kessel and Gibson 1978). Isleib observed adults feeding nestlings in waterfront buildings at both Ketchikan and Metlakatla 31 May–4 June 1987. We have found many active nests at Ketchikan, nearly all in buildings, most of which have been reused annually. A nest at the top of a crane 15 m tall (10 May 2001) is the only nest we have found that was not in a building. Breeding data include adults carrying nesting material (earliest, 4 April 2004), a nest with two eggs 23 May 2002 (TLG), adults feeding young at the nest (earliest, 10 May 2001), and young fledging from nests (earliest, 25 May 2001). Fledged juveniles are regularly encountered by early June (earliest, 25 May 2001). One pair successfully reared two broods in 2003: the first brood fledged on 6 June; the adults began rebuilding their nest in mid-June, were actively feeding young by 8 July, and fledged their second brood 22 July (TLG). We have found this species regularly at Metlakatla, Annette (maxima, 45 on 18 February 2006, and 35 on 25 February 1992), including one nest in a building 28 April 2004. Three UAM specimens.

Motacilla tschutschensis (tschutschensis). Eastern Yellow Wagtail. Casual. One record: immature at Ketchikan 30 September 2007 (ph.; Figure 19). This species is a common migrant and breeder on the mainland of western Alaska (Kessel and Gibson 1978) and a casual migrant elsewhere on the Pacific coast of North America (AOU 1998), primarily in the fall (Iliff et al. 2007). There is only one prior report for southeast Alaska (20 June 2005; NAB 59:641).

Motacilla alba. White Wagtail. Casual. One record: immature at Ketchikan 13 November 2005–1 March 2006 (ph.). Some of the bird's plumage characteristics suggested *M. a. lugens* (formerly considered a separate species; AOU 1983), but we are not certain of the subspecies identification. The White Wagtail is a rare breeder in western Alaska and a rare migrant and very rare breeder in southwestern Alaska (Badyaev et al. 1996). One on the Alaska Peninsula at King Cove 16 December 2000–7 March 2001 represents the only prior winter record for the state (NAB 55:214). The species occurs casually as a migrant and winter visitant along the Pacific coast south to southern Baja California (Badyaev et al. 1996.; both *M. a. ocularis* and *M. a. lugens*), and there are three prior southeast Alaska records of single birds: at Glacier Bay 2 July 1969, Juneau 26 September 1977 (Kessel and Gibson 1978), and Long Island 13–18 May 1991 (AB 45:485).

Anthus cervinus. Red-throated Pipit. Casual. One record: immature at Ketchikan 7 September 2003. This species breeds in western Alaska and is a casual fall migrant on the Pacific coast south to Baja California (AOU 1998). The Ketchikan bird occurred during a large movement of this species along the west coast of North America (Sullivan 2004) and provided one of only three southeast Alaska records, one of which is for Juneau the same day as the bird at Ketchikan (NAB 58:128).

Anthus rubescens (pacificus). American Pipit. Fairly common migrant and breeder; casual winter visitant. Spring migrants are observed along shores at low elevation, from mid-April (earliest, 10 April 2004) to late May (maxima, 150 at Point Higgins

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27 April 2001 and 145 at the Ketchikan airport 28 April 2001; latest, 7 June 2002). We have found pipits breeding in open alpine heath above 750 m elevation, such as 18 adults, including adults carrying food, on the Mahoney Mountain ridge 26 June 2005. At least 20 adults were along 3 km of ridgeline between Deer Mountain and Roy Jones Mountain, Revillagigedo, 10 July 1993; the agitated behavior of two pairs carrying food suggested they were attending nestlings, and four pairs were feeding recently fledged young. We also observed adults performing display flights and collecting nest material on Dude Mountain 7 July 2002 and an adult carrying food there 14 July 2002. Fall migrants are observed from late August (earliest, 27 August 1993) to late October (maxima, 60 at sw Annette 13 September 1986, MEI, RLS, TGT; 35 in the alpine zone near Deer Mountain 27 August 1995). Prior to 2005, we had few observations later than October (latest, 2 December 2001) and no winter records. Then, in January 2005, we found up to six birds; latest, 16 January). The species recurred January–February 2006 (e.g., at least 13 at Ketchikan through late February; eight at Metlakatla, Annette, 18 February) and December 2007–9 January 2008 (at least two; one on 26 March 2008 could have been an extremely early migrant or late winter visitant).

Bombycilla garrulus (pallidiceps). Bohemian Waxwing. Irregular, uncommon migrant and winter visitant. We have found this species from late October (earliest, 24 October 1990) to early April (latest, 1 May 2007), though it occurs primarily in the late fall (maximum, 120 on 5 December 2006) and we have not recorded it in some winters. Willett (1927) saw 10–12 birds at Ketchikan 18 January 1925. We have found the Bohemian Waxwing almost exclusively in residential areas, where it favors the fruit of the European mountain ash (*Sorbus aucuparia*) and other ornamental plants. Kessel and Gibson (1978) considered this species to be a fairly common migrant and winter visitant and very rare summer visitant and possible breeder in southeast Alaska.

Bombycilla cedrorum. Cedar Waxwing. Uncommon summer visitant and breeder; casual winter visitant. This species is one of the latest spring migrants at Ketchikan, typically arriving in early June (earliest, 20 May 2004, CAM; 29 May 2000). It occurs in small groups usually of up to five birds (maxima, 40 at Ketchikan Creek 30 August 1990 and 30 at Ketchikan 21 September 1995). Willett (1927) saw up to eight birds at Ketchikan 14–15 July 1924. The Cedar Waxwing is found in open areas with deciduous trees, including riparian red alder, young clearcuts with alder and tall perches, and disturbed areas around human settlements. Breeding evidence includes a nest with three young at the Ketchikan airport 3 August 2003, a nest with five eggs at Ketchikan 22 July 2008 (the young fledged 20 August 2008; CAF; Figure 20), an adult feeding three just-fledged young at Mountain Point 1 August 2003, adults feeding four fledglings at Ketchikan Creek 30 August 1990, and an adult with two just-fledged young near a clearcut on the Ward Lake road 3 September 1995. In most years the Cedar Waxwing departs the area by late September, but it has occasionally lingered into October (latest, 24 October 1990 and 1996). There are three winter records: up to 11 birds 18 December 1993–4 January 1994, one mid-January 1997 (JP), and one 16 January–8 March 2002.

Vermivora peregrina. Tennessee Warbler. Casual. Three Ketchikan records of single birds in fall: 9 September 1986 (MEI, RLS, TGT), 18 October 1991, and 11–23 November 2005 (TGT, JFK; ph.). This species is a rare migrant and local breeder in mainland southeast Alaska (Kessel and Gibson 1978).

Vermivora celata lutescens. Orange-crowned Warbler. Common migrant and breeder. This species arrives in late April (earliest, 14 April 1992 and 1996; JP), and large numbers move through during May, when it is one of the most common migrant passerines (maxima at the Ketchikan airport: 135 on 1 May 1998, 120 on 17 May

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1999, and 95 on 12 May 2001). During the breeding season it occurs most commonly in dense, shrubby habitats from sea level to timberline, such as alder-filled avalanche chutes, young clearcuts, and brushy edges in bogs. Our breeding data include adults carrying food (10 June–15 July), adults feeding recently fledged young (earliest, 25 June), and lone juveniles (earliest, 26 June 2005). Fall migration peaks from August to mid-September (maximum counts up to 40 birds), and small numbers are observed through mid-October. Stragglers have lingered into November (12 records) and December (one, 2–14 December 2002). The southeast Alaska breeding race is *V. c. lutescens* (Gibson and Kessel 1997). Swarth (1911) collected one specimen (MVZ) at Portage Cove on 30 June 1909, and there is one UAM specimen.

Vermivora ruficapilla. Nashville Warbler. Casual. Two Ketchikan records: single birds 19 October 2005 and 11 November 2005 (ph. NAB 60:121; Gibson et al. 2008). There are only four other records of this species in Alaska, all from fall (Isleib and Kessel 1989, Lehman 2005, Gibson et al. 2008). Nominate *V. r. ruficapilla* breeds as close as central Saskatchewan, and *V. r. ridgwayi* breeds as close as southern BC (Dunn and Garrett 1997).

Dendroica petechia (rubiginosa). Yellow Warbler. Fairly common spring migrant, rare summer visitant and possible breeder, and common fall migrant. Spring migrants are observed from mid-May to mid-June (earliest, 4 May 2004, CAM, 9 May 2006, and 12 May 1999 and 2001). Our maximum counts are 94 at the Ketchikan airport 28 May 2001 and 32 along the White River road 27 May 2001. The entire Ketchikan area has little in the way of the extensive willow habitat that this species favors for nesting (Dunn and Garrett 1997). Although we have no evidence of breeding, a few singing males found annually in late June and July suggest possible breeding. The Yellow is the most numerous warbler in the Ketchikan area during fall migration, from early August to mid-October, with a peak from late August to mid-September (earliest, 1 August 2003; maxima, 150 on 11 September 1986 and 120 on 13 September 1986 at sw Annette, MEI, RLS, TGT; 85 at Ketchikan 15 September 1991). Stragglers are irregularly recorded into late October, and there is one record each for November (12 November 1993) and December (5 December 2002). The southeast Alaska breeding race is *D. p. rubiginosa* (Gibson and Kessel 1997).

Dendroica pensylvanica. Chestnut-sided Warbler. Casual. One record: a singing male at Pennock, near Ketchikan, 22 June 1997 (specimen UAM 7051; Gibson et al. 2003) provided Alaska's second record. This eastern species has bred once in central BC (Campbell et al. 2001), and it is a casual or rare migrant to western North America from southern BC to California (Dunn and Garrett 1997).

Dendroica coronata. Yellow-rumped Warbler. Uncommon migrant and breeder; casual winter visitant. Subspecies *auduboni* breeds on the southern southeast Alaska mainland; subspecies *hooveri*, a Myrtle Warbler, breeds throughout the rest of the Alaska range of the species, including northern southeast Alaska and the Alexander Archipelago (Gibson and Kessel 1997). Intergrades are known in Alaska from the Stikine River (Gibson and Kessel 1997), Mitkof Island (Hubbard 1969), and Hyder (UAM specimens). It is likely that most of the birds breeding in the Ketchikan area are intergrades (Figure 21), as four specimens that we collected from Gravina all proved to be: UAM 18074, female closer to *hooveri*, 16 June 2002; UAM 18077, male closer to *hooveri*, 7 July 2001; UAM 18075, male closer to *auduboni*, 16 June 2002; and UAM 18076, male closer to *auduboni*, 7 July 2001. These specimens extend the known intergrade zone into southern southeast Alaska, 160 km south from that described by Hubbard (1969).

This species is never numerous in our area and is more common on the adjacent mainland, as both a migrant and a breeder (pers. obs.). Both phenotypes are found in about equal numbers during spring migration, although many birds exhibit signs

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of intergradation. Spring migrants are observed from mid-April to late May (earliest *hooveri* 10 April 1990; earliest *auduboni* 13 April 1992; maxima, 23 at sw Annette 30 April 2003 and 14 at the Ketchikan airport 6 May 2001). Fall migration takes place from early August to late November but peaks in September and October (earliest, 5 August 1994; maximum, 12 on 14 October 1997). Birds that appear to be *auduboni* are rare in the fall through late September, probably because this race does not occur commonly to the north of our area. We observed a very late well-marked *auduboni* on 2 November 1998. There are at least eight records of birds closer to *hooveri* in December, and four winter records of single individuals 14 February–15 April 1995 (JP), 25 February–6 March 2005, 18 February 2006, and 20 January 2008. During the breeding season, we have found territorial males and family groups adjacent to ponds and lakes in open pine–cedar muskeg bogs (e.g., 11 singing males and one female along a 5-km transect of northeast Gravina 16 June 2002). We observed a female resembling *auduboni* collecting fine grass fibers at a muskeg near Talbot Lake, Revillagigedo, 20 May 2001 and, on northeast Gravina, a pair feeding just-fledged young 24 June 2007, two family groups of adults attending recently fledged young 15 July 2000, and an adult attending two just-fledged young 28 August 2005. During the summer singing males are also occasionally found in residential areas of Ketchikan, where adults of *auduboni* were observed feeding recently fledged young 24 June 1995 (CJF) and 14 July 1995. Lone juveniles have been noted as early as 7 July (2001).

Dendroica townsendi. Townsend's Warbler. Common migrant and breeder. This species arrives in mid-April (earliest, 12 April 1997 and 13 April 1996) and is common by the end of April. It is one of the most common breeding passerines in mature spruce–hemlock woods. We observed adults gathering nest material on 1 May 2005 and 16 May 2003. Recently fledged young attended by adults are regularly observed by the first week of June, and family groups are common thereafter (e.g., 65 along the Deer Mountain trail 25 June 1990 and 45 there 25 June 1992). Fall migration peaks in late August, when small flocks are also found in mixed deciduous habitat (e.g., 35 at Ketchikan Creek on 29 August 1998 and 27 August 1993; 30 there on 30 August 1990). Townsend's Warbler is rare after mid-September, and stragglers have lingered into October (eight records) and November (eight records; latest, 24 November 2007).

Dendroica discolor (*discolor*). Prairie Warbler. Casual. One record: an immature at Saxman 29 September 1990 provided the second Alaska record (Gibson and Kessel 1992). This species breeds primarily in eastern North America and is a casual visitant to western North America (Dunn and Garrett 1997).

Dendroica palmarum (*palmarum*). Palm Warbler. Casual. Five Ketchikan records of single birds in fall: 21 October 1990 (Gibson and Kessel 1992), 13 November 1993 (SCH, RLS), 7–19 December 2002, 13 December 2002, and 19 October 2003. Subspecies *palmarum* breeds as close as northeastern BC (Campbell et al. 2001); it is casual in Alaska, and nearly all records are from the fall (Gibson and Kessel 1992, Benson et al. 2000).

Mniotilta varia. Black-and-white Warbler. Casual. One record: a singing male at Ketchikan 30 May 2004 provided the fifth Alaska record. This species breeds as close as northeastern BC (Campbell et al. 2001).

Setophaga ruticilla. American Redstart. Casual. One record: an immature at Ketchikan 17 September 1994 (JP). This species is an uncommon breeder along the rivers of mainland southeast Alaska (Kessel and Gibson 1978). The American Redstart is considered monotypic (e.g., see Dunn and Garrett 1997).

Oporornis tolmiei tolmiei. MacGillivray's Warbler. Rare migrant and breeder.

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Although this species is common along the rivers of mainland southeast Alaska (pers. obs.), it is the rarest of the regularly occurring warblers in the Ketchikan area. We see very few spring migrants (earliest, 15 May 2004 and 27 May 2001). A few singing males are found annually during the breeding season in alder–salmonberry thickets at the edges of clearcuts (e.g., one or two near Talbot Lake in 1990, 1993, 1994 and 1999; one or two along the White River road in 2001 and 2002; up to five along upper Traitors Creek in 1995 and 2002). We have also found this species rarely in salmonberry thickets at the edge of estuarine sedge flats (e.g., one pair at Traitors Creek July–August 1996–1998; one male at the Carroll River 5 July 1999). Isleib observed one at the head of Tamgass Harbor, Annette, 3 June 1987. Breeding evidence includes a female feeding fledged young at Clover Passage in mid-July 1972 (SOM) and a pair feeding just-fledged young at Traitors Creek 2 August 1997. We have five records of fall migrants: an immature at sw Annette 13–14 September 1986 (MEI, RLS, TGT), and single individuals at the Ketchikan airport on 29 August 2001, 2 September 2002, 19 September 1998, and 27 September 1997. One UAM specimen.

Geothlypis trichas. Common Yellowthroat. Uncommon migrant and fairly common breeder. This species generally arrives in late May (earliest, 1 May 1998 and 20 May 2001) and breeds in freshwater sedge marshes where there are extensive thickets of *Spiraea douglasii* and in estuarine sedge meadows with thickets of salmonberry or willow. We have found it during the breeding season at virtually every location with appropriate habitat that we have visited (e.g., Ward Lake, Talbot Lake, Naha River drainage, Traitors Creek drainage, White River, Manzanita Creek, and Ella Creek). Maximum counts include eight at the Naha River 25 June 1995, five at Talbot Lake 26 June 1994, and five at Ella Creek 20 July 1995. Twenty at ponds on upper Traitors Creek on 16 August 1995 probably included fall migrants and young of the year. Breeding evidence consists of adults feeding recently fledged young at Talbot Lake (two family groups 13 July 1993) and at the mouth of Traitors Creek (adult carrying food 19 July 2003 and fledged young in late July 1996). Fall migrants are found typically from August to late September (latest, 12 October 2002, 14 October 2001, and 18 October 2007). Kessel and Gibson (1978) considered the yellowthroat to be an uncommon to locally fairly common breeder in freshwater marshes and estuarine meadows along the rivers of mainland southeast Alaska and on islands near the mouths of these rivers. Subspecies *occidentalis* breeds in southern southeast Alaska (and presumably the Ketchikan area); subspecies *campicola* breeds on the mainland of northern southeast Alaska (Gabrielson and Lincoln 1959, Gibson and Kessel 1997).

Wilsonia pusilla pileolata. Wilson's Warbler. Fairly common spring migrant and breeder; uncommon fall migrant. Spring migrants occur primarily during May, sometimes into June (earliest, 28 April 2001; maxima, 30 along the White River road 27 May 2001 and 20 at the Ketchikan airport 20 May 1990; latest, flock of 15 at timberline on Deer Mountain 18 June 1995). During the breeding season, this species favors shrubby Sitka alder near timberline and in avalanche chutes (e.g., eight in two avalanche chutes near Silvas Lake 27 June 1993), clearcuts grown over with alder (e.g., 21 in the upper White River drainage 15 July 2001), and *Rubus*–alder understory of high-elevation hemlock forest. It does not appear to breed in low-elevation riparian red alder or alder fringing beaches. Breeding data include adults carrying food (19 June–14 July) and fledged juveniles (earliest, 15 July 1993 and 2001). Fall migrants are observed from late July through September, occurring in ones or twos and with no real peak in numbers (maximum, nine at the Ketchikan airport 2 September 2002). Stragglers have lingered into October (eight records) and November (four records; latest, 16 November 1992). The Alaska breeding race is *W. p. pileolata* (Gibson and Kessel 1997); Swarth (1911) collected two males (MVZ) on Revillagigedo at Portage Cove on 29 June 1909.

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Piranga ludoviciana. Western Tanager. Very rare migrant and casual summer visitant. We have 10 fall records from 10 September (2002) to 22 October (2004; maximum, three on 14 September 2000) and one record each for spring (male at Ketchikan 19 May 2002; GZ) and summer (male at Ketchikan 5 July 2000; JG). This species is an uncommon probable breeder along the rivers of mainland southeast Alaska and occurs only rarely as a migrant and summer visitant to islands near the mouths of those rivers (Kessel and Gibson 1978).

Spizella arborea (ochracea). American Tree Sparrow. Rare fall migrant and winter visitant. This species occurs in very small numbers, primarily in the fall (earliest, 9 October 1997; maximum, three from 2 November to 21 December 1996) and occasionally through the winter (latest, 7 April 2004; 23 April 2008 and 24 April 2005, CAF).

Spizella passerina (arizonae). Chipping Sparrow. Casual. Five records, all near Ketchikan: two on 24 October 1999 (JFK) and single juveniles 23–25 October 2001 (JFK; ph.), 12 November 2004–30 March 2005 (JFK; ph.), 8 October 2007, and 18 November 2007 (ph.). The Chipping Sparrow is an uncommon breeder along the rivers of mainland southeast Alaska and a rare migrant elsewhere on the mainland (Kessel and Gibson 1978).

Spizella pallida. Clay-colored Sparrow. Casual. One record: an immature at a feeder near Ketchikan 7–14 November 2000 (JFK, AWP, SCH; ph.). This species breeds as close as northeastern BC (Campbell et al. 2001), and it is casual in Alaska, where there are seven additional records (Gibson and Kessel 1992, Benson et al. 2000, Lehman 2005, NAB 61:126).

Spizella breweri (taurneri). Brewer's Sparrow. Casual. One record: an immature bird at a feeder near Ketchikan 25–26 October 2001 (JFK, AWP, SCH; ph.; Figure 22). Plumage characters (including relatively coarse dorsal streaks, pale nape, more distinct supercilium and median crown stripe; Doyle 1997) suggested the Timberline Sparrow, *S. b. taurneri*, which breeds in southwestern Yukon (Sinclair et al. 2003), northeastern BC (Campbell et al. 2001), and, in very small numbers, in the Nutzotin Mountains, Alaska, near the Alaska–Yukon border (Doyle 1997). Single specimens of migrant *S. b. taurneri* collected just east of Ketchikan at Hyder 6 June 1996 (Doyle 1997) and 7 June 1997 (FN 51:1039) provided the only prior Alaska records away from the known breeding area. The Ketchikan bird was also very late—Campbell et al. (2001) cited 22 September as the latest date for this species in BC.

Passerculus sandwichensis sandwichensis. Savannah Sparrow. Common or abundant migrant, rare summer visitant and possible breeder, and casual winter visitant. Spring migrants begin arriving generally in early April, though they are uncommon until the end of the month (earliest, 21 March 2003, 27 March 1999 and 2004, and 28 March 2002). The Savannah Sparrow is one of the most abundant and conspicuous migrants in the area during May, particularly when concentrated by periods of inclement weather (e.g., 275 at the Ketchikan airport 28 April 2001 and 245 there on 10 May 2002). Fall migration takes place from late August (earliest, 10 August 1995) to early November (latest, mid-December 1992; JFK), with peak numbers during September (maxima, 150 at sw Annette 13 September 1986, MEI, RLS, TGT; 145 at the Ketchikan airport 27 September 1996). Our only mid-winter records are of single birds at Ketchikan 17 January–5 March 2005, 31 December 2005–9 February 2006, and 15 December 2007–3 March 2008 (LK).

Although this species is a locally fairly common breeder in mainland southeast Alaska, it is less numerous in the archipelago, and, because of a lack of suitable breeding habitat, we have few summer records in the immediate Ketchikan area. Gabrielson and Lincoln (1959) mentioned specimens of “breeding birds” from Revillagigedo and Gravina, presumably collected at low elevation; however, Swarth (1911) did not

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mention finding the species on either island, and a specimen from Gravina 26 June 2001 (JMM) provided our only lowland summer record. Single adults were observed at 750 m elevation in open alpine habitat on the Deer Mountain ridgeline, near Ketchikan, on 10 July 1993 and 18 June 1995; in both cases, the agitated behavior of the birds suggested that a nest or young were nearby. We follow Rising (2007) in grouping previously recognized Alaska breeding races of this species under nominate *sandwichensis* (see Gibson et al. 2008; single LACM and UAM specimens).

Passerella iliaca. Fox Sparrow. Common or abundant migrant, fairly common breeder, and uncommon winter visitant. This species is an early spring migrant, normally arriving in mid-March. It is often present in very large numbers from the last week of March to mid-April (e.g., 42 at Ketchikan 18 March 2005, 335 at the Ketchikan airport 6 April 2002, 240 along a half mile of logging road near Ketchikan on 14 April 2008, and 150 at Neets Bay 18 April 1990). Migrants are fairly common through the end of April and are detected in nonbreeding habitat well into May (latest, 8 June 2002). In fall, migrants occur from mid-August to mid-November but are not nearly as numerous as in spring (maxima, 45 on 12 November 1993 and 30 on 27 September 1996). The Fox Sparrow is rather uncommon during the winter (mostly at feeders), but numbers vary from year to year. At least 25 birds wintered December 2001–February 2002, but the species was absent or nearly absent during winters 1991–1992 and 1994–1995. Willett (1923b) similarly found the Fox Sparrow to be common at Craig, Prince of Wales, during the winter of 1919–1920 but absent the following winter, 1920–1921. Willett also recorded this species as “fairly common” at Ketchikan January–18 February 1925.

The Fox Sparrow nests in habitats with dense tall shrubs from just above sea level to timberline. It favors patches of shrubby Sitka alder and mountain hemlock at timberline (e.g., 14 near Dude Mountain summit 6 July 2002), alder-filled avalanche chutes (e.g., 10 near Silvas Lake 15 July 1993), and young clearcuts filled with dense, shrubby hemlock and mixed alder–hemlock (e.g., 16 singing along 4 km of logging road, White River, 10 June 2001). It is much less common at low elevations near the shore (e.g., two males singing in riparian elderberry thickets at the mouth of Traitors Creek in June and July from 1996 to 1998 and in 2003). An adult was observed carrying food on 31 May 1995, and recently fledged birds have been observed as early as 19 June (1993). Both Swarth (1911) and Gabrielson and Lincoln (1959) reported that Fox Sparrows were not found breeding on the southern islands of the Alexander Archipelago, aside from Forrester and Howkan islands on the outer coast. Willett (1921), however, also found this species during the summer on Prince of Wales, Dall, and Long islands. More recently, Kessler and Kogut (1985) found the Fox Sparrow to be very common in 11–17-year-old clearcuts filled with dense coniferous regrowth on Kosciusko and Prince of Wales islands. Although it certainly expanded its breeding range, following clear cutting of forests since the 1950s, this species probably always inhabited higher-elevation tall-shrub habitats in southern southeast Alaska.

Birds breeding in the Ketchikan area are referable to one of the dark races of the Sooty Fox Sparrow group that breed in southeast Alaska (Gibson and Kessel 1997; one UAM specimen), either *P. i. townsendi*, which breeds on the outer islands of the Alexander Archipelago, or *P. i. chilcatensis* (Webster 1983), which breeds in mainland southeast Alaska. Other races of the Sooty Fox Sparrow group that breed along the coast to the north and west likely migrate through the Ketchikan area to some degree, at least in the spring. Specimens collected and salvaged in spring include at least one *P. i. sinuosa* (UAM 18068, 10 May 2002). Willett (1928) reported taking only three specimens in southern southeast Alaska that were not breeding *P. i. townsendi*, including single birds from Ketchikan he identified as *P. i. insularis* (29 March 1926) and *P. i. sinuosa* (31 March 1926). Others reported collecting *P. i. annectens*, *P. i. unalaschensis*, *P. i. insularis*, and *P. i. sinuosa* elsewhere in southeast Alaska (Swarth 1922, Webster 1941, 1950, 1988, Gabrielson and Lincoln 1959). The red

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subspecies *P. i. zaboria*, which breeds throughout interior Alaska (Gibson and Kessel 1997), is a casual migrant and winter visitant in southern southeast Alaska. One at Ketchikan 5–12 November 2006 (ph.) and four birds there 17 November 2007–5 January 2008 (ph.; one lingered to 1 April 2008) provided our only records.

Melospiza melodia. Song Sparrow. Fairly common migrant and resident. This species is present year round, though it is most abundant during spring migration from late March to early May (e.g., 30 at Roosevelt Lagoon 18 April 1999 and 23 at the Ketchikan airport 6 April 2002) and fall migration from late August to October (e.g., 38 at the Ketchikan airport 22 August 2004 and 35 there 11 October 1992). It favors dense brushy habitat along beaches, creeks, lake shores, estuarine meadows, and residential areas. Swarth (1911) found a nest built into tall meadow grass at Portage Cove on 28 June 1909, and Willett (1928) found a nest with four eggs in a roll of wire netting just above the high tide line in Ketchikan 29 April 1926. Willett also found a nest with four eggs at Grant Island 5 July 1925 and saw young out of the nest at Ketchikan on 1 June 1924. We found a nest with four tiny young in a spruce hedge at Pennock 18 July 2004. Isleib found fledged young at both Ketchikan and Metlakatla 31 May–4 June 1987, and fledged juveniles are common by early June. Numbers decrease through November. The Song Sparrow is generally least common during the winter, although we found 30 at Metlakatla 18 February 2005, many of which were in full song. In southeast Alaska, *M. m. inexpectata* (four UAM specimens) breeds on the mainland and inner islands of the Alexander Archipelago, while *M. m. rufina* breeds on the outer islands to the west of the Ketchikan area (Gibson and Kessel 1997). Wintering birds include both subspecies *inexpectata* (one UAM specimen) and *caurina* (one UAM specimen), the race breeding along the south coast of Alaska immediately to the north of southeast Alaska (D. D. Gibson pers. comm.; Willett 1928; cf. Gabrielson and Lincoln 1951). As pointed out by Willett (1928), subspecies *caurina* is strictly a beach bird, and it is frequently found on boat docks and breakwaters during the winter months.

Melospiza lincolnii. Lincoln's Sparrow. Fairly common migrant and breeder; rare winter visitant. Spring migrants are observed from late April (earliest, 13 April 1996) to mid-May (latest migrant, 24 May 1999). During the breeding season this species uses wet habitats with low to medium shrubs adjacent to grass or sedge meadows at lake and creek outlets and in estuaries and muskegs. Swarth (1911) considered it common at Portage Cove and found a nest with five young that fledged on 1 July 1909. Other breeding evidence includes adults carrying food (9 June–13 July) and an adult attending just-fledged young (13 June 2003). Lone juveniles are common by mid-July (earliest, 7 July 2001). Fall migration takes place from mid-August to late November. Maximum counts around the perimeter of the Ketchikan airport include 49 on 19 August 1998, 45 on 3 September 2001, and 40 on 27 September 1996. The Lincoln's Sparrow occasionally lingers into December, and we have seven records for January through March. The southeast Alaska breeding race is *M. l. gracilis* (Gibson and Kessel 1997; one LACM and nine UAM specimens). Nominate *lincolnii* apparently also migrates through southeast Alaska, as a few specimens have been collected in fall and spring, including one at Ketchikan 27 April 1916 (Gabrielson and Lincoln 1959).

Melospiza georgiana ericrypta. Swamp Sparrow. Very rare fall migrant and casual winter visitant. Although this species is casual in Alaska (Gibson and Kessel 1992), it has proven to be of more regular occurrence in the Ketchikan area, where there are 17 records, including one specimen (UAM 5262, immature female, 3–4 November 1985; Gibson and Kessel 1992). Most birds were found in October and November (earliest, 12 October 2002), but several wintered or attempted to winter (latest, 14 April 1996). This species breeds as close as northeastern BC, but it is accidental on the Queen Charlotte Islands and otherwise unrecorded on the northern BC coast (Campbell et al. 2001).

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Figure 18. Juvenile Red-shafted Flickers (*C. a. cafer*) at a nest hole in a piling near Ketchikan 11 July 2007. The bottom bird features both a red moustachial stripe and a red nuchal patch, while the top bird has a buff-colored throat, characteristics of intergradation with the Yellow-shafted Flicker (*C. a. luteus*) common to flickers in the Ketchikan area at all seasons.

Photo by A. W. Piston



Figure 19. This immature Eastern Yellow Wagtail at Ketchikan 30 September 2007 represented only the second record for southeast Alaska.

Photo by S. C. Heint

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Figure 20. Cedar Waxwing nest in an ornamental maple at Ketchikan 15 August 2008; the five chicks fledged 20 August 2008.

Photo by J. H. Lewis

Zonotrichia albicollis. White-throated Sparrow. Rare fall migrant and winter visitant. Single birds at Ketchikan during the winter of 1972–1973 (Kessel and Gibson 1978) and at Saxman 3 November 1985 (MEI, RLS, TGT) established the first local records. We have found this species annually since 1990, with most records in October and November (earliest, 23 September 2007, JFK; latest, 19 April 2002 and 3 May 2007, JFK). It occurs generally in ones or twos, primarily at feeders (maximum, seven during the fall and winter 2001–2002; TLG, JFK, SCH, AWP; Figure 23). Tan-striped adults have outnumbered white-striped adults by about four to one. The White-throated Sparrow breeds as close as central BC (Campbell et al. 2001) and is a rare to uncommon migrant and winter visitant to the Pacific coast south of Alaska (e.g., Marshall et al. 2003). There are apparently few records for the northern BC coast (Campbell et al. 2001), and the species is casual elsewhere in Alaska (Kessel and Gibson 1978).

Zonotrichia querula. Harris's Sparrow. Casual. Eight Ketchikan records, all of single birds at feeders: winter 1972–1973 (Kessel and Gibson 1978), 26–29 March 1991 (ph.), 20–23 October 1992 (JP; ph.), 13 November 1997 (JFK; ph.), 19–24 October 2006 (KEM; ph.; adult), 20–21 October 2007 (ph.), 4 November 2007–4 May 2008 (JFK; ph.), and 8–21 November 2007 (ph.). This species is a rare migrant and winter visitant on the Pacific coast (Kessel and Gibson 1978, Campbell et al. 2001, Marshall et al. 2003).

Zonotrichia leucophrys (gambelii). White-crowned Sparrow. Uncommon migrant, rare winter visitant, and possible breeder. This species is never numerous, a few being found with flocks of Golden-crowned Sparrows during migration. Spring migrants are found in ones or twos from 20 April (2003) to 30 May (1999). Larger numbers occurred in spring 2000, when they were fairly common at Ketchikan (maximum, 40 at a single feeder 29 April 2000). Subspecies *Z. l. gambelii* breeds throughout most of mainland Alaska (Gabrielson and Lincoln 1959) and the interior of BC im-

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mediately east of southeast Alaska (Campbell et al. 2001), but it is not known to breed in southeast Alaska. Possible breeding at the Ketchikan airport was suggested by two lone streak-breasted juveniles 17 August 2003 and single males singing in low shrubby alders 2–19 May 2004 (not tracked after that date) and 7 June 2008. Both of the adults appeared to be *gambelii*; see Dunn et al. (1995). The juveniles were particularly suggestive, as this species does not migrate until after the prebasic molt (Chilton et al. 1995, Pyle et al. 1997). Otherwise, fall migrants occur from September to November (earliest, 3 September 2001; maxima, 10 at the Ketchikan airport 30 September 2001, seven at a feeder near Ketchikan 25 November 2007, JFK, and up to five a day at sw Annette 11–18 September 1986, MEI, RLS, TGT). The White-crowned Sparrow is a regular winter visitant at feeders (maximum, five at one feeder during the winter of 2000–2001; JFK).

Zonotrichia atricapilla. Golden-crowned Sparrow. Fairly common to abundant migrant, casual summer visitant, and rare winter visitant. Spring migrants are observed primarily from mid-April to late May (earliest, 8 April 2004 and 12 April 1996; latest, 6 June 1999, TLG), and migration peaks during early May, at which time this species is often abundant (e.g., 615 at the Ketchikan airport 28 April 2001 and 300 at sw Annette 1 May 2001). We have one summer record: a silent adult in an alder-filled avalanche chute at 150 m elevation in the upper White River valley, Revillagigedo, 15 July 2001. Fall migration takes place largely in September (earliest, 30 August 1990). Large numbers are seldom encountered during fall migration, and ≤ 10 birds per day is typical (maxima, 128 at the Ketchikan airport 30 September 2001 and 115 at Ketchikan 27 September 1996). Stragglers regularly linger into November and December. We have January–March records for eight of 17 winters; however, 32 of 34 mid-winter birds have occurred since 2000 (maximum, at least 12 birds January–February 2002).

Junco hyemalis. Dark-eyed Junco. Fairly common migrant, breeder, and winter visitant. Migrants of the breeding race, *J. h. oregonus* (Gibson and Kessel 1997; two UAM specimens), begin to arrive in mid-March and are numerous by mid-April. The junco favors open, brushy habitats from sea level to timberline, such as muskeg bogs, open subalpine woods, brushy alpine hemlock, and fairly recent clearcuts (< 15 years old). Swarth (1911) reported this species to be fairly common and possibly breeding at Portage Cove in late June and early July 1909, and he collected one specimen on 1 July 1909 (MVZ). Males begin singing on territory in early April. Breeding data include a nest with three eggs and one young at Ketchikan 31 May 1925 (Willett), a nest with three eggs at Princess Bay 21 June 1994 (TL, LW), a nearly completed nest near Ketchikan 6 July 2008 (JES), and adults carrying food (earliest, 31 May 1995). Adults attending recently fledged birds are common in June. An adult was observed collecting nesting material while at the same time it fed recently fledged young on 18 June 1995. Fall migration takes place August–October (e.g., 150 at sw Annette on 13 September 1986, MEI, RLS, TGT), and by mid-October this species is uncommon away from residential areas. Although Gabrielson and Lincoln (1959) reported that most juncos depart during the winter, this species is now the most common bird at residential feeders, and 1000+ probably winter annually along the Ketchikan road system. The Slate-colored Junco (*J. h. hyemalis* or *J. h. cismontanus*, and intergrades with *J. h. oregonus*) is a rare to uncommon migrant and winter visitant from 29 September (2002) to 28 April (2005, KEM), and one or two Slate-colored Juncos can be found in most large flocks of wintering juncos (maxima, seven at one feeder on 30 October 2002 and five at one feeder on 30 October 2000).

Calcarius lapponicus (alascensis). Lapland Longspur. Uncommon migrant. This species is a regular migrant in southeast Alaska (Gabrielson and Lincoln 1959). In the Ketchikan area, however, it generally occurs in small numbers because of the lack of suitable habitat. Fall migrants are found from 11 September (1986) to 20

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Figure 21. Most, if not all, Yellow-rumped Warblers that breed in muskeg habitat in the Ketchikan area are intergrades of the Myrtle Warbler (*Dendroica coronata hooveri*) and the Audubon's Warbler (*D. c. auduboni*). The top bird most closely resembles a Myrtle Warbler; however, most of its throat is lemon yellow. The bottom bird most closely resembles an Audubon's Warbler; however, it has white supraloral and supercilium markings, slaty auriculars, and white throat corners that extend slightly behind the auriculars. Gravina Island, 28 June 2008.

Photos by S. C. Heinl

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Figure 22. Brewer's Sparrow at a Ketchikan feeder 25 October 2001. The relatively coarse dorsal streaking, pale nape, fairly distinct supercilium, and distinct pale median crown stripe suggest the race *S. b. taverneri*, which breeds very locally at the eastern edge of the Alaska interior and is the only subspecies of Brewer's Sparrow to have been documented in Alaska by specimen (see Doyle 1997).

Photo by S. C. Heinl



Figure 23. The White-throated Sparrow is a rare fall migrant and winter visitant to the Ketchikan area, and typically multiple birds are found each year. This adult was at a Ketchikan feeder 23 November 2006.

Photo by S. C. Heinl

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October (1993 and 2001); maximum, 56 on 19 September 2004. This species was observed nearly daily at sw Annette 11–17 September 1986 (maximum, nine on 17 September 1986, MEI, RLS, TGT). Spring migrants occur from 31 March (2007) to 5 May (1993, JP); maximum, 32 on 6 April 2002.

Plectrophenax nivalis (nivalis). Snow Bunting. Very rare migrant and winter visitant. Although Kessel and Gibson (1978) considered this species an uncommon migrant and winter visitant in coastal southeast Alaska, it is generally scarce in the Ketchikan area, as a result of the lack of suitable habitat. It was reported to be “common” at Ketchikan in the fall of 1973, with a few stragglers noted to December (PM). We have only six other fall records, all between 4 November (2005) and 22 November (2007), one winter record (two on 13 February 1996), and two spring records (single birds, 5 April 1992 and 19 March 2005).

Pheucticus ludovicianus. Rose-breasted Grosbeak. Casual. Two records: an immature male at sw Annette 15 September 1986 (first Alaska record; Gibson et al. 2003) and up to three birds at Ketchikan 3–18 October 2005 (two hatching-year males and a second-year male; ph. NAB 60:122 and 175; Figure 24). This species is casual in Alaska (Gibson et al. 2003) and breeds as close as northeastern BC (Campbell et al. 2001).

Pheucticus melanocephalus (melanocephalus). Black-headed Grosbeak. Casual. Two records of single immature males at Ketchikan: 26 September 2003 (ph. TLG) and 5–13 October 2005 (ph. NAB 60:175). Subspecies *P. m. melanocephalus* breeds north to interior southern BC, and *P. m. maculatus* breeds north to coastal southwestern BC (Godfrey 1986). This species is a very rare summer visitant to the northern BC coast (Campbell et al. 2001) and a casual migrant and summer visitant to southeast Alaska; the only (southeast) Alaska specimen has been identified as nominate *melanocephalus* (Gibson and Kessel 1997).

Dolichonyx oryzivorus. Bobolink. Casual. One record: one basic-plumaged bird at North Point Higgins, near Ketchikan, 10 October 2000 (ph. JFK). This species breeds north to central BC (Campbell et al. 2001). Single birds at Barrow (23 June 1976; Kessel and Gibson 1978) and Hyder (14 June 1991; UAM specimen, RLS, MEI; AB 45:1151) constitute the only prior Alaska records.

Agelaius phoeniceus (arctolegus). Red-winged Blackbird. Rare spring migrant and uncommon fall migrant. Spring migrants occur from 17 March (2007) to 21 May (2008) and 6 June 1999 (TLG). The species is slightly more numerous in the fall, primarily in August and September (earliest, 26 July 1996; maxima, flock of 11 at Traitors Cove 30 July 2002 and flock of eight there 8 August 2001). Stragglers occasionally linger to November (five records) and December (two records; latest, 14 December 2001, UAM 18524, immature female). The Red-winged Blackbird is a fairly common local breeder on the southeast Alaska mainland but rare in the Alexander Archipelago away from mainland river mouths (Kessel and Gibson 1978).

Sturnella neglecta neglecta. Western Meadowlark. Casual. One at Ketchikan 5–21 November 1977 established the first local record (Kessel and Gibson 1978). We have six additional fall and winter records of single birds at Ketchikan: 31 October 1992 (ph. AB 47:136; specimen UAM 6152, male; Gibson and Kessel 1997), 26 January–18 February 1994 (GB; ph.), 8 December 2002–27 April 2003 (ph.), 15 November 2005, 4 December 2005–23 March 2006 (ph.; Figure 25), and 25 November 2007 (ph.). This species breeds north to central and northeastern BC (Campbell et al. 2001). Subspecies *neglecta* breeds over most of the species' range, while *confluenta* breeds on the Pacific slope from southwestern BC to northwestern Oregon, where it is largely sedentary (Davis and Lanyon 2008); Alaska specimens have been identified as *neglecta* (AOU 1957, Gibson and Kessel 1997).

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Xanthocephalus xanthocephalus. Yellow-headed Blackbird. Casual. One record: a second-year male at a feeder near Ketchikan 1–7 May 2003 (JFK, video). This species is a casual spring, summer, and fall visitant to Alaska (Kessel and Gibson 1978) and breeds as close as south-coastal and northeastern BC (Campbell et al. 2001).

Euphagus carolinus carolinus. Rusty Blackbird. Very rare migrant. We have observed migrants in spring from 17 March (1993) to 4 May (1996) and in fall from 11 September (1986) to 13 November (2001); maximum, three on 2 November 1996. Kessel and Gibson (1978) considered this species an uncommon migrant and rare winter visitant in southeast Alaska.

Euphagus cyanocephalus. Brewer's Blackbird. Casual. Seven Ketchikan records, some of which may pertain to returning individuals: a female at a feeder 26 March–5 April 1992 (ph. AB 46:464), a female at the same feeder 7 October 1992–February 1993 (JFK; ph.), two males 25 October 1993–18 March 1994 (ph.; specimen UAM 6472, adult male, SCH, DB), one male at the same location 2 October–30 November 1994, a female 24–27 April 2004 (KMR; ph. NAB 58:420), a male 15 October 2005–18 February 2006, and a female 24–28 October 2007 (JFK; ph.). This species was first recorded in Alaska at Barrow 25 June 1942 (Bailey 1948). It has since been found only in southeast Alaska, where it is a casual migrant and winter visitant. It is an uncommon local resident along the nearby coast of northern mainland BC (Campbell et al. 2001).

Quiscalus quiscula versicolor. Common Grackle. Casual. Two records of Bronzed Grackles at Ketchikan feeders: single males 20 May 2002 (JFK, video) and 20 November 2005–18 March 2006 (JFK; ph.). This species is a casual migrant and summer visitant to Alaska, and there are only seven prior records for the state (Kessel and Gibson 1978, Tobish 1995). It breeds as close as northeastern BC (Campbell et al. 2001) but has recently expanded its breeding range west of the Rocky Mountains (Peer and Bollinger 1997) and has occurred with increasing frequency in the Pacific Northwest (see Marshall et al. 2003).

Molothrus ater artemisiae. Brown-headed Cowbird. Rare migrant. We have observed this species in spring principally from mid-May to mid-June (earliest, 30 April 2008, JFK; latest 19 June 1998, MB) and in fall from 27 July (2008; KMR) to 18 October (2005). It generally occurs singly; maximum, four at Saxman 5 September 1998 (TLG). The Brown-headed Cowbird is also a rare probable breeder and casual winter visitant in southeast Alaska (Kessel and Gibson 1978). Alaska specimens have all been identified as subspecies *artemisiae* (Gibson and Kessel 1997).

Icterus spurius spurius. Orchard Oriole. Casual. One record: an immature at Mountain Point, near Ketchikan, 18 October 2002 provided the first Alaska record (ph. NAB 57:104; Gibson et al. 2003). Subspecies *spurius* breeds over most of the species' range (Scharf and Kren 1996), but it breeds no closer to Alaska than southeastern Saskatchewan. It is a casual or rare migrant to the western United States and BC (AOU 1998, Campbell et al. 2001, Marshall et al. 2003).

Icterus bullockii. Bullock's Oriole. Casual; at least two records. An adult male visited a hummingbird feeder at Ketchikan 25–26 April 1996 (PMe); that bird, or another, was observed for several days at a different location in late June 1996 (TLG). An immature at Ketchikan 2 September 2003 provided our only other record. This species breeds north to southern BC (Campbell et al. 2001) and is a casual spring and fall visitant to Alaska (Gibson et al. 2008). We follow Patten et al. (2003) in maintaining this species as monotypic.

Fringilla montifringilla. Brambling. Casual. Two records: single birds at Ketchikan 23 November 1985–March 1986 (REW; AB 40:156) and 14 November 1990 (ph.). This Eurasian species is a regular migrant in the western Aleutian Islands (Gibson and Byrd 2007) but is a casual migrant and winter visitant to southeast Alaska.

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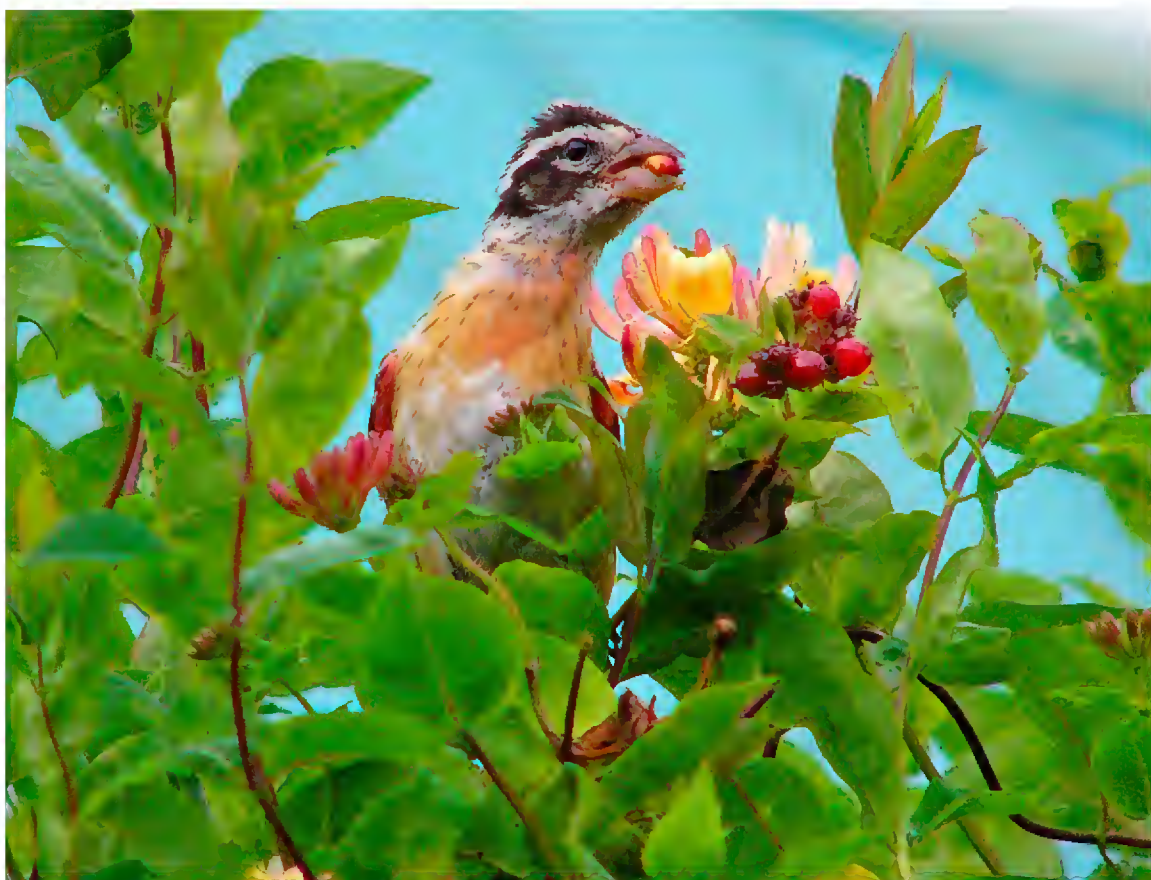


Figure 24. This hatching-year male Rose-breasted Grosbeak at Ketchikan was one of three present 3–18 October 2005 (shown here 4 October 2005); there were only five prior Alaska records.

Photo by S. C. Heinl

Leucosticte tephrocotis (littoralis). Gray-crowned Rosy-Finch. Rare possible breeder and casual winter visitant. Two summer records in the alpine zone near Ketchikan suggest possible breeding on Revillagigedo: a flock of five at 750 m near North Bird Peak 27 August 1995 and three at 900 m on Mahoney Mountain 26 June 2005. The northern portion of Revillagigedo has extensive alpine habitat to 1300 m, but it has not been visited by ornithologists. One Gray-crowned Rosy-Finch at Ketchikan 3 February 2001 provided our only winter record. Kessel and Gibson (1978) considered this species to be a fairly common probable breeder and an uncommon to rare local winter visitant in southeast Alaska, with most records from northern section of the region. Birds that we have seen closely were gray-cheeked *L. t. littoralis*, which breeds from central Alaska south through southeast Alaska (Gibson and Kessel 1997).

Pinicola enucleator. Pine Grosbeak. Uncommon resident. This species is observed primarily above 150 m elevation, in open coniferous woods, at the edges of clearcuts, and in open subalpine habitat, e.g., above Margaret Lake (singing male 18 June 1998), upper Traitors Creek (up to two 9–27 June 1995), Deer Mountain summit (four on 18 June 1995), Lower Silvas Lake (three singing males 15 July 1993), Harriet Hunt Lake (five, including singing males, 15 July 1994), and Brown Mountain (six, including singing males, 15 June 2002). It is less frequently observed near sea level. Swarth (1911) found a singing male at Portage Cove on 3 July 1909, and small flocks are occasionally found feeding on mountain ash berries in residential Ketchikan, particularly during the winter (maximum, 70 on 23 December 1993, including one flock of 35 birds). An adult carrying food 12 June 2005 and three recently fledged birds at Harriet Hunt Lake 27 July 2000 provide our only breeding evidence to date. A specimen salvaged at Ketchikan

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Figure 25. Western Meadowlark at Ketchikan 12 February 2006. This species is a casual fall and winter visitant to Alaska, and the Ketchikan area accounts for more than half the state records.

Photo by S. C. Heinl

20 October 1995 represents the only Alaska record of *P. e. carlottae* (RS, UAM 6758; Gibson and Kessel 1997), from the Queen Charlotte Islands, BC. All other Ketchikan specimens (seven UAM and one LACM) are *P. e. flammula*, the resident race in coastal Alaska (Gabrielson and Lincoln 1959, Gibson and Kessel 1997).

Carpodacus purpureus purpureus. Purple Finch. Very rare fall migrant and winter visitant; casual spring migrant. There are at least 18 records at Ketchikan feeders between 30 October (2002) and mid-April (1987). The species usually occurs singly; maxima, a flock of 11 most of March 1984 (two UAM specimens; Gibson and Kessel 1992) and a flock of six from late January to mid-April 1987 (Gibson and Kessel 1992). Single birds at Ketchikan 6 May 2000 (JFK) and the Naha River 13 May 1999 provided the only spring records. This species is casual elsewhere in Alaska (Gibson and Kessel 1992) and is very rare on the coast of northern BC (Campbell et al. 2001). Nominate *C. p. purpureus* breeds as close as northern and central BC, while *C. p. californicus* (undocumented in Alaska) breeds north to southwestern BC (AOU 1957, Campbell et al. 2001).

Carpodacus mexicanus (frontalis). House Finch. Casual. Five Ketchikan records: single males, 11 July 1994, 11 June 2001, and 2 July 2002 (ph.), a pair 24 May–early

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June 2004 (CAM; ph. NAB 58:420), and a female 7 May 2005 (ph.; Figure 26). A female at Haines 12 July 1991 provided the first Alaska record (AB 45:1151). Single birds have also been found at Hyder, 1–2 June 1996 (specimen UAM 6934, Gibson and Kessel 1997) and 18 June 2004 (male, NAB 58:585), and at Valdez, 23–24 May 2005 (female, ph. NAB 59:481). Over the past 70 years this species expanded its range north into southern BC, where it is now common (Campbell et al. 2001).

Loxia curvirostra minor. Red Crossbill. Common resident and breeder. Although this species is found year round in mature spruce–hemlock forest, numbers fluctuate from season to season and from year to year. An adult female observed feeding two recently fledged young 2 July 1991 is our only breeding evidence. The breeding race in southeast Alaska is *L. c. minor* (Kessel and Gibson 1997; one UAM specimen).

Loxia leucoptera (leucoptera). White-winged Crossbill. Uncommon, irregular visitant. We have encountered this species infrequently in the Ketchikan area, primarily in fall and winter (maximum, 40 on 6 November 1995). We have found single birds during the summer at Annette (4 June 1987, MEI), Traitors Creek (23 July 1996), and Talbot Lake (singing male, 23 June 2000) but have no breeding evidence for the area. This species is very rare in coastal BC (Campbell et al. 2001).

Carduelis flammea (flammea). Common Redpoll. Very rare winter visitant. Isleib found several flocks of 500 birds at Ketchikan 29 November 1984 (AB 39:92). We have found this species in only six of 18 winters, usually only one to three birds. Larger numbers were present with flocks of Pine Siskins (*C. pinus*) from 24 January to 4 March 2002 (maximum, 13 on 21 February), 4 December 2004 to 27 February 2005 (maximum, 31 on 10 February 2005), and 5 December 2007 to 17 March 2008 (maximum, 35 on 3 March 2008).

Carduelis pinus (pinus). Pine Siskin. Common resident and breeder. This spe-



Figure 26. House Finch at Ketchikan 7 May 2005. This species has only recently been found in Alaska, and the Ketchikan area accounts for more than half the state records.

Photo by S. C. Heinl

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cies is present year round in coniferous habitat at all elevations, although numbers fluctuate from season to season and from year to year. It is occasionally found in very large flocks, particularly from fall through spring (e.g., single flocks of 350 on 4 November 1993 and 500 on 30 December 2001). Our breeding evidence includes one collecting nest material (dog fur) 4 April 2008, a male feeding sunflower seed to a female (female fluttered wings continuously while being fed) 5 April 2008, and an adult tending just-fledged young 26 June 2005.

Carduelis tristis. American Goldfinch. Casual. One adult male photographed at a feeder near Ketchikan 18–20 June 1991 provided the first documented Alaska record (Gibson and Kessel 1992). Subspecies *C. t. pallida* breeds as close as southern interior BC, *C. t. jewetti* as close as southwestern BC (Godfrey 1986).

Coccothraustes vespertinus brooksi. Evening Grosbeak. Casual. Five Ketchikan records: two at a feeder 15 November 1972, followed by a flock of up to 50 that remained through 2 April 1973 (specimen UAM 2545, female, Kessel and Gibson 1978); one female 7 February–1 April 1990 (JP); one female 3 November 1997; one male 17 October 2004; one female 10 May 2008 (ph. JHL). This species is a rare to uncommon migrant and casual winter visitant on the northern coast of BC (Campbell et al. 2001).

Passer domesticus (domesticus). House Sparrow. Casual. Five fall and winter records at Ketchikan: a male 26 October 1996 (ph.), a pair observed intermittently at a feeder 2 December 2001–1 May 2002 (ph.), a female at a feeder 26 October 2002, a pair at a feeder 29 October–9 December 2002 (JFK; ph.), and a female at a feeder 2 October 2004 (ph.). A female collected at Petersburg 23 October 1987 (UAM 5448) provided the first Alaska specimen (Gibson and Kessel 1992) and the only other southeast Alaska record. This species has been recorded at all seasons on the adjacent BC coast at Prince Rupert (CBC average 30 per year, 1993–2002) and Stewart (maximum, six on 2 March 1996 and 30 June 1974; Campbell et al. 2001).

DISCUSSION

A total of 260 species of birds, representing 52 families in 18 orders, had been recorded in the Ketchikan area as of 31 July 2008. Of these, 37 (14%) are present year round, 58 (22%) occur primarily in migration, 32 (12%) are primarily summer visitants, 32 (12%) are primarily winter visitants, and 101 (39%) species are of less than annual occurrence. Seventy species have been confirmed as breeders or probable breeders, and another 10 species are possible breeders. The Bald Eagle, Rufous Hummingbird, Pacific-slope Flycatcher, Common Raven, Chestnut-backed Chickadee, Winter Wren, Golden-crowned Kinglet, Swainson's Thrush, Hermit Thrush, Varied Thrush, Townsend's Warbler, Dark-eyed Junco, Red Crossbill, and Pine Siskin are among the characteristic breeding species in the Ketchikan area and are frequently cited as the most widespread or abundant species in bird-community surveys and habitat-use studies in the Alexander Archipelago (see Kessler and Kogut 1985, Dellasala et al. 1996, Smith et al. 2001, Andres et al. 2004). Other regularly occurring species that typify the temperate coniferous forest include the Sooty Grouse, Marbled Murrelet, Red-breasted Sapsucker, Steller's Jay, Northwestern Crow, and Brown Creeper (Gabrielson and Lincoln 1959).

Swarth (1911, 1936) proposed that the breeding avifauna of southeast Alaska is of southern derivation and strongly distinct from the breeding avifauna to the east of the Coast Mountains, where the interior environment

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is much colder and drier. Swarth (1936) went on to suggest that southeast Alaska was colonized by birds moving north along the coast following the retreat of glacial ice into the Coast Mountains at the end of the Pleistocene and that the ice-bound Coast Mountains blocked the movement of birds west into southeast Alaska until only recently. Recent archaeological and molecular studies, however, suggest that unglaciated refugia existed along the outer coast and colonization of the region was almost certainly more complicated than Swarth could have realized; e.g., see Dickerman and Gustafson (1996), MacDonald and Cook (1996), and Cook et al. (2006).

Many of the landbirds found in southeast Alaska are the same or closely related to species ranging along the coast farther south (Swarth 1911). Twelve taxa that breed in the Ketchikan area nest only along the coast of southeast Alaska and BC, most of them dark races characteristic of the humid coastal region. The breeding distribution of the Canada Goose (*Branta canadensis fulva*), Sooty Grouse (*Dendragapus fuliginosus sitkensis*), Northern Goshawk (*Accipiter gentilis laingi*), Red-tailed Hawk (*Buteo jamaicensis alasensis*), Merlin (*Falco columbarius suckleyi*), Hairy Woodpecker (*Picoides villosus sitkensis*), Steller's Jay (*Cyanocitta stelleri stelleri*; also north to Prince William Sound), Ruby-crowned Kinglet (*Regulus calendula grinnelli*), Hermit Thrush (*Catharus guttatus nanus*), Fox Sparrow (*Passerella iliaca townsendi*), Lincoln's Sparrow (*Melospiza lincolnii gracilis*; also north to Prince William Sound), and Dark-eyed Junco (*Junco hyemalis oregonus*) are all limited to this narrow coastal strip. The subspecific identity of the Winter Wren that resides in the Ketchikan area is unresolved (Robert W. Dickerman in Gibson and Kessel 1997:70), but that species almost certainly fits into this category as well. Another 10 taxa that breed in the Ketchikan area can be considered of Pacific Northwest origin: the Great Blue Heron (*Ardea herodias fannini*), Sharp-shinned Hawk (*Accipiter striatus perobscurus*), Western Screech-Owl (*Megascops kennicottii kennicottii*), Red-breasted Sapsucker (*Sphyrapicus ruber ruber*), Northwestern Crow, Brown Creeper (*Certhia americana occidentalis*), Golden-crowned Kinglet (*Regulus satrapa olivaceus*), Swainson's Thrush (*Catharus ustulatus ustulatus*), American Robin (*Turdus migratorius caurinus*), and Varied Thrush (*Ixoreus naevius naevius*); all range from south-coastal Alaska to western Washington, western Oregon, or northwestern California. Eight additional taxa with broader western ranges reach or approach the northern limit of their range in southeast Alaska: the Band-tailed Pigeon, Vaux's Swift, Rufous Hummingbird, Northern Flicker (*Colaptes auratus cafer*), Pacific-slope Flycatcher, Chestnut-backed Chickadee, Orange-crowned Warbler (*Vermivora celata lutescens*; also north to Cook Inlet area), and Yellow-rumped Warbler (*Dendroica coronata auduboni*).

As a result of its location on the inner islands of the Alexander Archipelago, the avifauna of the Ketchikan area includes elements of both the open marine environment along the outer coast to the west and mainland river habitats to the east. Three large mainland rivers (the Unuk, Chickamin, and Salmon) support habitats of limited extent in the Ketchikan area, such as large tracts of deciduous and mixed forest, particularly extensive stands of riparian cottonwood (*Populus balsamifera*) and willow (*Salix* spp.), deciduous shrublands, freshwater marshes, extensive estuarine meadows, alluvial bars and islands, and tide flats (Johnson et al. 2008). Consequently, many species associated

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with mainland river habitats are completely absent or do not breed in the Ketchikan area or islands to the west, such as the Ruffed Grouse (*Bonasa umbellus*), American Bittern (*Botaurus lentiginosus*), Sora (*Porzana carolina*), Arctic Tern (*Sterna paradisaea*), Western Wood-Pewee, Hammond's Flycatcher, Cassin's Vireo (*Vireo cassinii*), Magnolia Warbler (*Dendroica magnolia*), American Redstart, Northern Waterthrush (*Seiurus noveboracensis*), Western Tanager, Chipping Sparrow, and Red-winged Blackbird. Johnson et al. (2008) documented 94 confirmed or probable breeding species on the Alaska mainland immediately east of the Ketchikan area, in contrast to the 70 confirmed and probable breeders in the Ketchikan area.

The southeast Alaska distribution of a small number of mainland species extends to islands near the mouths of the mainland river systems, such as Revillagigedo (Kessel and Gibson 1978). The Band-tailed Pigeon, Northern Rough-winged Swallow, Cedar Waxwing, and Common Yellowthroat occur in the Ketchikan area in abundance similar to that on the mainland. In our experience, the Common Yellowthroat is present in nearly all suitable habitat on Revillagigedo Island, and a report of eight birds at Prince of Wales 7 July 1995 (FN 49:965) suggests that this species may occur more regularly on the outer islands than was previously known (cf. Kessel and Gibson 1978). Other primarily mainland species have been found in the Ketchikan area during the breeding season but in numbers much smaller than on the adjacent mainland (Black Swift, Alder Flycatcher, Warbling Vireo, Yellow Warbler, and MacGillivray's Warbler). The limited available information from islands to the west of Ketchikan suggests that the breeding ranges of many of these same species (e.g., Band-tailed Pigeon, Black Swift, Alder Flycatcher, Warbling Vireo, Northern Rough-winged Swallow, and MacGillivray's Warbler) do not extend to the outer islands of the Alexander Archipelago (Gabrielson and Lincoln 1959, Kessel and Gibson 1978, Kessler and Kogut 1985, Willett unpublished data, and UAM unpublished data).

At least 12 species that breed in open marine environments along the outer coast of the Alexander Archipelago west of Ketchikan do not breed on the protected nearshore waters of the Ketchikan area but occur at other seasons or as nonbreeding visitants: the Fork-tailed and Leach's storm-petrels, Pelagic Cormorant, Peregrine Falcon, Black Oystercatcher, Herring Gull, Glaucous-winged Gull, Common Murre, Ancient Murrelet, Cassin's Auklet, Rhinoceros Auklet (Gabrielson and Lincoln 1959), and Brandt's Cormorant (Nelson et al. 1987). Three additional coastal breeding species have never been recorded in the Ketchikan area: the Horned Puffin (*Fratercula corniculata*), Tufted Puffin (*Fratercula cirrhata*; Gabrielson and Lincoln 1959), and Parakeet Auklet (*Aethia psittacula*; Jones et al. 2001). Migrant pelagic species are quite rare in the Ketchikan area, and most of our few records of the Sooty Shearwater, Northern Fulmar, Sabine's Gull, Pomarine and Long-tailed jaegers, and Red Phalarope were associated with storms.

The only species of landbird that breeds on the islands of the outer archipelago west of the Ketchikan area but does not occur on the islands and mainland to the east is the endemic Prince of Wales Spruce Grouse (*Falcipennis canadensis isleibi*), which is found only on Prince of Wales and adjacent smaller islands (Dickerman and Gustafson 1996). An additional subspecies of the Song Sparrow (*Melospiza melodia rufina*) is resident

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on the outer islands, but it is replaced by *M. m. inexpectata* on the inner islands and mainland, including the Ketchikan area.

Seasonal Movements by Birds

Spring Migration. Spring migration in the Ketchikan area begins as early as late February or early March, peaks from mid-April to mid-May (in terms of diversity and abundance), and ends in early June. With a few possible exceptions, spring migrants arrive from the south, following the narrow corridor along the coast of BC and southeast Alaska, west of the Coast Mountains. Although tremendous numbers of waterfowl, shorebirds, and gulls migrate through the area, most are observed flying past rather than staging in the area, with the exception of congregations of certain species at herring spawning sites. Migrant passerines are particularly attracted to disturbed areas along the Ketchikan and Metlakatla road systems, young brushy clearcuts, and the edges of logging roads. Stormy weather at the peak of migration can produce large fallouts of passerines and forces greater numbers of shorebirds and waterfowl (other than the Surf Scoter) to fly at lower altitude and possibly farther inshore (i.e., closer to the Ketchikan area), where they are more easily observed.

The American Robin is typically the first migrant to arrive, often as early as late February. This species and the Varied Thrush and Fox Sparrow are common by mid-to-late March and account for the vast majority of migrant landbirds during the month, although small numbers of Ruby-crowned Kinglets and Rufous Hummingbirds often arrive near the end of March. Small flocks of Trumpeter Swans are regularly observed flying north throughout March. Gulls (e.g., Herring, Bonaparte's, and California) begin to arrive by mid-March, and Greater Yellowlegs and small numbers of raptors begin moving through the area in late March.

A wide variety of migrants begins to pass through the area by the middle of April. Large flocks of Canada Geese are observed daily moving north by mid-April, and large flocks of Greater White-fronted Geese join them late in the month and continue through early May. Surf Scoters move north in large numbers beginning in April, and they are abundant in late April and early May when a nearly constant stream of flocks of 50 to several hundred birds moves north up Tongass Narrows, at Ketchikan. The main movement of shorebirds occurs from late April through mid-May, and the largest numbers of staging birds are found on the shallow bays and mud flats at southwestern Annette. Gulls move north in a constant procession by mid-April, with Bonaparte's, Mew, Herring, Iceland, and Glaucous-winged being the most common species. The diversity of migrant passerines increases quickly beginning in mid-April, and migration peaks from late April through mid-May. Most of the wintering waterfowl, loons, grebes, cormorants, and alcids have either moved north or inland to interior breeding grounds or to offshore breeding colonies by early May.

Spawning of the Pacific herring along the Pacific coast provides an important food source for many species of birds, particularly migrating gulls, waterfowl, and shorebirds (Haegerle 1993, Vermeer et al. 1997, Sullivan et al. 2002, Lewis et al. 2007). The Ketchikan area supports major stocks

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of spawning herring in lower west Behm Canal and Annette Island–upper Revillagigedo Channel. From 1991 to 2008, estimates of the herring spawn in west Behm Canal made by Alaska Department of Fish & Game biologists ranged from 2.8 to 25.6 nautical miles (mean 13.8 nautical miles; S. B. Walker, Alaska Department of Fish & Game, pers. comm.). Most spawning takes place in April but continues to be a productive source of food into early May, when some of our maximum counts of birds have been made. Thousands of gulls converge on areas of major spawn, with Bonaparte's, Mew, Herring, Glaucous-winged, and Iceland gulls accounting for the vast majority. The Surf Scoter is the most conspicuous species of waterfowl at these sites, sometimes massing in single flocks exceeding 10,000 birds. A variety of other ducks is usually found amid the spectacle of gulls and scoters, and some of our largest counts of Barrow's Goldeneye, Harlequin Duck, and Greater Scaup were also made where herring were spawning.

A small group of species, including the Vaux's Swift, Pacific-slope Flycatcher, Yellow Warbler, and Common Yellowthroat, arrives in the Ketchikan area during the second half of May. The Swainson's Thrush arrives late in the month and quickly becomes common throughout the area. The Cedar Waxwing is the latest regularly observed breeding species to arrive in the area, and the first arrivals are typically noted after 1 June.

Fall Migration. Compared to spring migration, fall migration is protracted. The main movement of birds takes place from August to October, although some species begin moving south as early as June and small numbers of late migrants linger well into November and even December in some years. We do not typically observe large numbers of waterfowl (particularly geese) flying over the area as we do in spring, partly because in fall populations of some species fly across the Gulf of Alaska and largely bypass southeast Alaska (Campbell et al. 1990a, Dau 1992, Austin and Miller 1995, Gill et al. 1996). Landbirds are able to disperse over inland and high-elevation habitats that are often covered with snow and inaccessible through much of spring migration. Thus, in fall, migrants are generally encountered in numbers smaller than in spring, and stormy weather produces smaller fallouts of birds. Migrants are again found primarily near salt-water shores once colder weather approaches in late October and November.

Fall migration commences in June, when male Rufous Hummingbirds depart the area. Adult shorebirds move through the area as early as late June, and the peak movement is toward the end of July. Juvenile shorebirds arrive in late July, and their migration peaks in mid- and late August. Gull migration begins in late July and peaks from mid-August to early October, at which time flocks of thousands congregate to feed on salmon carcasses and eggs at the numerous salmon spawning streams throughout the area and near fish processors in Ketchikan. Waterfowl move through the Ketchikan area from August to mid-November (again, however, we do not typically see large numbers flying over the area in autumn). The main movement of primarily insectivorous species (e.g., swifts, flycatchers, swallows, Swainson's Thrush, and warblers) takes place from early August to mid-September, and most depart the area by late September. A small number of warblers lingers into late fall and, very rarely, early winter. Most sparrows move through the area from mid-August through November, and small numbers regularly

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linger into the winter. Many of the loons, cormorants, grebes, alcids, and waterfowl that winter in the area begin to return in early September, although some species typically do not arrive until after mid-October (e.g., Bufflehead, Common Goldeneye).

Late fall is the best time of year for finding rarities in the Ketchikan area: 64% of all our records of passerines of casual occurrence in Alaska (see Checklist of Alaska Birds at www.uaf.edu/museum/bird/products/checklist.pdf) were from October, November, and December. Late migrants tend to be concentrated in disturbed habitats and residential areas at a time when there are relatively fewer migrants around, making them easier to find. Fall records of casual species originate from several regions outside of Alaska, partly a result of the many hatching-year birds performing their first autumn migration. The proximate origins of fall vagrants to the Ketchikan area include the West (Anna's Hummingbird, Western Kingbird, Western Meadowlark, Bullock's Oriole), Southeast (Prairie Warbler, Orchard Oriole), East (Palm Warbler, Rose-breasted Grosbeak, Clay-colored Sparrow, Purple Finch [nominate *purpureus*]), and Asia-western Alaska (Black-tailed Gull, Eastern Yellow Wagtail, White Wagtail, Red-throated Pipit). Several species casual in the Ketchikan area regularly disperse northward along the Pacific coast in the fall (Brown Pelican, Heermann's Gull, Cattle Egret, Tropical Kingbird). In contrast, the majority of records (85%) of casual species found in the Ketchikan area during the spring represent spring overshoots that originated from the south or southeast (e.g., Turkey Vulture, Least Flycatcher, Chestnut-sided Warbler, House Finch, American Goldfinch).

Winter. From December through February most of the Ketchikan area's bird life can be found on or near salt water. Many species of loons, cormorants, grebes, alcids, and waterfowl spend the winter in the area. Some of the more common species that winter on protected inshore waters near Ketchikan include the Canada Goose, Mallard, Surf and White-winged scoters, Long-tailed Duck, Bufflehead, Common and Barrow's goldeneyes, Common and Red-breasted mergansers, Pacific and Common loons, Red-necked and Western grebes, Pelagic and Double-crested cormorants, Common Murre, and Marbled Murrelet. Glaucous-winged, Mew, and Iceland gulls make up the vast majority of wintering gulls in the area, and they often feed in large flocks behind the fish processors at Ketchikan. The Black Turnstone, Surfbird, Rock Sandpiper, and occasionally Dunlin frequent the numerous rocky shores and are the only shorebirds present in numbers during the winter.

A few species of waterbirds regularly occur in great abundance in the Ketchikan area during the winter. Long-tailed Ducks regularly congregate along the Ketchikan waterfront, and our recent winter counts have often reached 1000 birds (maximum, 1400 from 9 to 19 February 2001). Flocks of up to 100 Barrow's Goldeneyes are widespread along the area's protected rocky shores each winter, as illustrated by our count of 875 in 47-km-long Carroll Inlet on 7 February 2003. In the winters of 1992, 1995, 2000, and 2008, exceptionally large flocks of Pacific Loons congregated in areas with abundant bait fish (likely Pacific herring), including a single flock of 1400 birds on the Ketchikan waterfront 21 January 2008. The Western Grebe reaches the northernmost edge of its range in southern southeast Alaska (Kessel and Gibson 1978), but relatively large flocks are found each winter

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at several favored wintering sites in the Ketchikan area (maximum, 1100 at the mouth of Carroll Inlet 4 March 2004, 635 there 11 April 2003, and 410 at Totem Bight 14 February 1992).

The Common Murre and Marbled Murrelet are two of the most frequently observed waterbirds during the winter months, and large congregations often form at concentrations of feed. Clover Passage consistently hosts large numbers of these two species during the winter, and we have been able to survey this body of water regularly because of its location on the Ketchikan road system. We have counted >1000 Marbled Murrelets in Clover Passage in nine different winters since 1990, with a maximum estimate of 4000 birds on 3 January 1994 (on which date we also counted 470 Common Murres). Our maximum count of Common Murres at Clover Passage was 1200 on 8 February 1998 (on which date we also counted 1350 Marbled Murrelets). We have also observed these species in large concentrations in Nichols Passage, including estimates of 500 Marbled Murrelets on several occasions and 3500 Common Murres on 28 December 2002.

Landbirds are noticeably scarce away from the vicinity of salt water during the winter. Most wintering landbirds are residents (87%), and only a handful of species are encountered in large numbers. The Common Raven, Northwestern Crow, Chestnut-backed Chickadee, Winter Wren, Golden-crowned Kinglet, Varied Thrush, Red Crossbill, and Pine Siskin are the most frequently encountered passerines away from feeders during the winter. The abundance of Pine Siskins and Red Crossbills fluctuates from year to year, but even in off years there are usually small numbers present. The most regularly occurring species at feeders during the winter are the Northern Flicker, Steller's Jay, Chestnut-backed Chickadee, Varied Thrush, Song Sparrow, Dark-eyed Junco, and Pine Siskin. The Dark-eyed Junco is by far the most common species at feeders, except in years when Pine Siskins are abundant. The small and variable number of Golden-crowned, White-crowned, and Fox sparrows that linger into the winter is primarily associated with feeders. Away from feeders, the woods can seem devoid of bird life during the winter.

CHANGES IN HABITAT

In the late 1800s, at nearby Sitka, Joseph Grinnell (1898) found heavy forests covering nearly all of the land below tree line, and he observed small landbirds most frequently in the narrow strips of deciduous vegetation and adjacent timber that grew along the shores and near stream mouths. He went on to say, "the dark mossy forests but a few rods back from the coast are almost destitute of bird life." Swarth (1911) met with only small numbers of migrant passerines during his work in the Alexander Archipelago in April and May 1909, which led him to conclude that the islands of the archipelago "do not lie in the main migration route of the birds of the Pacific coast." Human disturbance of the landscape in southeast Alaska is far more extensive today than in the time of Grinnell and Swarth. Disturbed habitats, including brushy areas, ornamental plantings, grassy road edges, ball fields, and parks, found along the Ketchikan and Metlakatla road systems, as well as brushy areas along logging roads and in clearcuts, provide an oasis amid the unbro-

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ken sea of coniferous forest and muskeg habitats that dominate southeast Alaska. Migrants (particularly the Ruby-crowned Kinglet, American Robin, Varied Thrush, Orange-crowned and Yellow warblers, and Savannah, Fox, and Golden-crowned sparrows) are often concentrated in large numbers in these disturbed areas, particularly during periods of inclement weather, and are more dispersed and appear to be less numerous in natural habitats.

One of the greatest changes to take place in southeast Alaska since ornithologists first explored the area is the widespread logging of forested lands and the associated building of roads. The coniferous forests of southeast Alaska have been managed intensively for timber production since the 1950s (Harris and Farr 1974), and clearcuts of varying age are common in the Ketchikan area. Clearcuts fill rapidly with a dense growth of deciduous and coniferous shrubs (Alaback 1982), creating temporary conditions suitable for species that prefer to nest in the succession of shrub habitats, such as the Orange-crowned and Wilson's warblers, Fox Sparrow, and Dark-eyed Junco (Kessler and Kogut 1985, Dellasala et al. 1996), as well as for a variety of migratory species. Over time, coniferous trees begin to dominate older clearcuts, and the shrub understory is virtually eliminated once the forest canopy closes after 25–35 years (Alaback 1982). A large area of forest in the vicinity of Talbot Lake, near Ketchikan, was cut in 1979 and 1980. Fox Sparrows were numerous in these clearcuts when we first visited this area in the early 1990s, and several species that are rare in the Ketchikan area occurred nearly annually (e.g., Alder Flycatcher, Warbling Vireo, and MacGillivray's Warbler). By 2005, the dense second growth in this area had reached heights of 30 feet or more; of those successional species, only the Warbling Vireo remained, and it used second-growth alder forest along the logging road. Second-growth coniferous forests support a less diverse fauna than old-growth forests (Kessler and Kogut 1985, Schoen et al. 1988, Dellasala et al. 1996) and are of particularly less value to animals that depend on high-volume old-growth forest for winter habitat and forage (Kirchhoff and Schoen 1987). More than 140 years are required for the canopy to open up and for shrub understory to reestablish itself in second-growth forests in southeast Alaska (Alaback 1982).

A large portion of the species that we have documented in the Ketchikan area occurred less than annually (39%). Our finding them is almost certainly a result of the concentrating effect of disturbed habitat and residential bird feeders. All of the 28 passerine species considered casual or accidental in Alaska that we have found in the Ketchikan area were found in human-disturbed sites. (Of these 28 species, only the Swamp Sparrow has also been found in natural habitat.) As an example of this effect, between 2002 and 2005 we found eight species of very rare or casual occurrence in the Ketchikan area in an overgrown vacant lot that had been cleared for a shoreline housing development at Mountain Point: a Western Kingbird, a Nashville Warbler (fifth Alaska report), a Palm Warbler, two Swamp Sparrows, two White-throated Sparrows, a Western Meadowlark, an Orchard Oriole (first Alaska record), and a Bullock's Oriole (third Alaska report). An additional 14 passerine species that we consider casual in the Ketchikan area but which are found more regularly elsewhere in Alaska were also observed in disturbed habitats. Along the Ketchikan road system, bird feeders help to concentrate birds further, particularly during the late fall and winter when

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overall numbers of passerines are very low. During the winter, overwintering sparrows, with the exception of the Song Sparrow, are almost exclusively associated with feeders.

CHANGES IN STATUS

Kessel and Gibson (1994) described the range expansion of eight North American species into Alaska in the 20th century, including five species that now occur regularly in the Ketchikan area: the Caspian Tern, Band-tailed Pigeon, Barred Owl, Anna's Hummingbird, and European Starling. The status of three of these, the Band-tailed Pigeon, Anna's Hummingbird, and European Starling, is more or less the same now as previously described by Kessel and Gibson (1978). The expanding population and shifting breeding distribution of the Caspian Tern along the Pacific Coast has been well documented (Suryan et al. 2004), and, following the first Alaska record at Ketchikan in 1981, we now see small numbers regularly at Ketchikan as the terns move north and south through southeast Alaska. The Barred Owl was first found in Alaska in 1977 (Kessel and Gibson 1978, Gibson and Kessel 1992), and Kessel and Gibson (1994) summarized its status as "a scarce but conspicuous resident the length of the Southeastern Alaska mainland." In our experience, this species is now much more numerous, and we have found Barred Owls in nearly every drainage that we've visited, not just in the Ketchikan area as we report here, but also at several places on the mainland to the east (McDonald Lake, Unuk River, Hugh Smith Lake) and several locations the length of Prince of Wales Island to the west (Salmon Bay, Salmon, and Hetta lakes), where breeding was also documented in 1995 (downy bird found 1 July 1995; FN 49:965).

Five additional species with marginal status in southeast Alaska are worth mentioning. The Wood Duck was known in Alaska from only two records prior to the 1980s (Kessel and Gibson 1978). Breeding and overwintering populations of Wood Ducks in southern BC and Washington increased in the 1970s and 1980s in a strong response to nest-box programs and winter feeding stations (Campbell et al. 1990a, Wahl et al. 2005), and in the 1990s the breeding range appeared to be expanding northward into central BC (Hepp and Bellrose 1995). This duck has recently been found nearly annually in fall, winter, and spring in southeast Alaska, with at least 22 records since 1987 (17 records in the past 10 years, including seven at Ketchikan). Many records involved multiple birds. Single females were also found in June 2000 at the Taku and Chilkat rivers, areas that support extensive potential nesting habitat (Johnson et al. 2008).

Perhaps it was inevitable that the Eurasian Collared-Dove, which spread quickly across North America over the past two decades (Smith 1987, Romagosa 2002; see also Hamilton et al. 2007), would also reach Alaska. Initial Alaska reports in 2006 were followed by reports from at least seven locations in southeast Alaska, between Ketchikan and Yakutat, in 2007. Only one was reported in Alaska in 2008 (at Ketchikan). Whether or not this species increases its presence in Alaska remains to be seen. Similarly, the House Finch and House Sparrow have both been found in the Ketchikan area more frequently in the past decade, and more than half of the Alaska

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records of these species are from the Ketchikan area.

Finally, one species that appears to have *declined* in occurrence as a casual visitant is the Cattle Egret (nominate *Bubulcus ibis ibis*). This species expanded its range into the Pacific Northwest in the 1960s and 1970s (Campbell et al. 1990a, Gilligan et al. 1994, Wahl et al. 2005), occurring primarily as a post-breeding visitant between November and February (Gilligan et al. 1994, Wahl et al. 2005). It has been found in Alaska only in the southeast and only in the fall, first at Ketchikan in 1981 (four birds; Gibson and Kessel 1992), followed by additional southeast Alaska sightings in 1984 (3), 1986 (1), 1989 (1), 1992 (4), and 1993 (2). Both Wahl et al. (2005) and Harris (2005) reported a decline in the northward postbreeding dispersal of this species starting in the mid-1980s, and there has been only one report of nominate *ibis* in Alaska in the past 15 years (one at Ketchikan in 1998).

The status of some species of gulls at Ketchikan has recently changed as a result of the modification of waste-management and fish-processing practices. The open-pit landfill at the Ketchikan dump formerly attracted large numbers of gulls throughout the fall and winter, and fish-processing waste on the Ketchikan waterfront attracted large numbers of migrating gulls from July through September (Heinl 1997). Since 1995, Ketchikan's food waste has been shipped south for disposal, and as a result many fewer large gulls winter at Ketchikan. The number of large gulls reported annually on the Ketchikan Christmas Bird Count declined from an average of 4000 birds prior to 1995 to fewer than 1400 since, and we have found three rarer species, the Western, Slaty-backed, and Glaucous, much less frequently (e.g., we found 16 Slaty-backed Gulls at Ketchikan between 1990 and 1995 but only seven additional birds in the 12 years since).

In 2007, fish processors at Ketchikan began converting their fish waste into fish oil and other products and are pumping much less waste into Tongass Narrows during the summer salmon-fishing season. The number of early-migrating gulls (particularly the Mew, California, and Ring-billed) staging at the Ketchikan waterfront declined from many thousands per day (e.g., 9300+ on 28 August 2001) to only several hundred per day in 2007 and 2008. The Franklin's Gull was a nearly annual fall visitant at Ketchikan, but we are unlikely to find this species as often in the future without the attraction of fish-processing waste.

The changes in food resources available to gulls at Ketchikan has presumably resulted in a redistribution of migrating and wintering gulls away from the city of Ketchikan, rather than a true change in abundance. Gulls continue to exploit other food sources in remote areas where they are less easily observed, particularly at salmon spawning streams, which provide an important source of food during the fall migration (Isleib and Kessel 1989, Christie and Reimchen 2005). While we now see fewer Slaty-backed Gulls at Ketchikan, this species continues to be found elsewhere along the south coast of Alaska (e.g., Kodiak, Juneau, and Sitka) and, increasingly, along the Pacific coast south of Ketchikan (Wahl et al. 2005, Hamilton et al. 2007).

Much is yet to be learned about the birds of southeast Alaska, and large expanses of remote country have seldom or never been visited by ornithologists or birders. There remains a lack of published, comprehensive treatments of the avifauna of southeast Alaska outside the Ketchikan area. Prince of

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Wales, in particular, has been little covered since George Willett resided in the Craig area nearly 100 years ago. Other areas of southeast Alaska are known to have species assemblages slightly different from that of the Ketchikan area as a result of different habitat and location, particularly with respect to proximity to the mainland and its major river corridors. Increased coverage and publication from elsewhere in southeast Alaska will help clarify the movements and distribution of birds in the region. Among the many specific topics that deserve further study in southeast Alaska are the determination of the subspecific identity and status of the Sandhill Cranes that nest in the southern Alexander Archipelago (which almost certainly merit conservation interest) and clarification of the relationship of southeast Alaska Sooty Grouse (*Dendragapus fuliginosus sitkensis*) to Sooty Grouse that reside on the coast south of the Ketchikan area and to the Dusky Grouse of the interior.

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California Bird Species of Special Concern, by W. David Shuford and Thomas Gardali, editors. 2008. *Studies of Western Birds* no. 1, Western Field Ornithologists and California Department of Fish and Game. xiii + 450 pp. Softback, \$12.00. Available from Allen Press at <http://bookstore.allenmm.com> or by phone at 800-627-0326. ISBN 978-0-9790585-1-6. Also available as a PDF at www.dfg.ca.gov/wildlife/nongame/ssc/birds.html.

It is hard to imagine a more important inaugural publication for a series titled *Studies of Western Birds*. As a contribution to conservation of one huge state's avian diversity, it contributes to the future of a substantial portion of western North America's avian heritage. Western Field Ornithologists and the California Department of Fish and Game can take pride in an obviously immense effort. It is light-years beyond what J. V. Remsen Jr. could have envisioned at the time of his seminal monograph, "Bird Species of Special Concern in California," published by the Department of Fish and Game in 1978.

An adjective in the foreword—"definitive"—sets forth the ambitious goal. It is definitive, of course, only at the moment. The subject is a perpetual work in progress because much remains unknown about the birds and much remains undone about protecting them. But the word is surely justified by the results of this intensive collaboration by prominent ornithologists, wildlife biologists, and conservationists. Their commitment to factual accuracy and informed interpretation is evident on every page.

Editors W. David Shuford and Thomas Gardali and 49 authors of individual species accounts set a high goal for themselves at the outset, and they have met it in an outstanding demonstration of meticulous planning, organization, analysis, and clarity in presentation. It is hard to escape thinking that there must have been disagreements and doubts—perhaps also some discouragement—during the 10 years of hard work leading to the book. If so, then we should be extra-thankful that such problems were overcome.

The long subtitle tells us what to expect: "A Ranked Assessment of Species, Subspecies, and Distinct Populations of Birds of Immediate Conservation Concern in California." The collaborators rank conservation action at three levels of priority. Birds are assigned either to currently recognized taxonomic classifications or to unclassified but geographically defined populations, all of which are judged as appropriate units of conservation. The term "immediate" points to a goal of management on a scale currently manageable in California (not, for example, a long-term response to climate change).

The book is divided into two parts. First is a 54-page overview in which Shuford and Gardali explain and discuss informatively the project's philosophies, methods, and findings. Second is the essence of the book: detailed accounts of 63 taxa judged by the experts to warrant immediate conservation concern.

When I first looked briefly at the overview, I recoiled at a specter of bureaucratic wrangling—a morass of incomprehensively complex listings and footnote-burdened tables. Five taxa are assigned to the list on the basis of a "BSSC definition." Six are assigned because they listed as threatened or endangered by the U.S. government but not the state of California. The main 63 are rated as warranting special concern by either or both of two different ranking schemes, one termed "linear," the other "categorical." Other birds are placed on a "California Bird Responsibility List" because they are endemics, near-endemics, and—good grief—"semi-endemics." Finally, there is an annotated list of "Taxa to Watch."

Well, after I read all of the intricacy carefully and gave it a lot of thought, almost everything does make sense to me. Eventually, although it took a while, I found out why the California population of Yellow-billed Cuckoo and the Least Bell's Vireo are

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not included on the special-concern list. We certainly cannot accuse the participants of settling for less than a thorough treatment.

Two sections of the overview deserve special comment because they reflect well-known controversies, which the editors cover valiantly. Each reader will have to decide how convincing are the explanations and the advisory committee's decisions, but the attention given to these two issues is commendable.

One section, "Units of Conservation," will definitely not satisfy everyone—an unavoidable situation, considering the diverse opinions about how biologically, ecologically, and evolutionarily significant populations should be approached as targets of conservation. Shuford and Gardali sort out the competing concepts carefully, and they show no hesitation in expressing the committee's explicit stand on the characters it chooses to emphasize: phenotypic, not genotypic. Genetic characters are viewed as limited in applicability to California's birds at the present stage of knowledge, and phenotypic features are emphasized as likely to represent ecological adaptations worth conserving. Thus the recommendations for genetic analyses of taxa such as the Mount Pinos Sooty Grouse (*Dendragapus fuliginosus howardi*), Catalina California Quail (*Callipepla californica catalinensis*), and San Francisco Common Yellowthroat (*Geothlypis trichas sinuosa*), however desirable, diverge from this principle. For any population of birds, how much genetic differentiation merits conservation, to be judged on what portion of the genome? Reassessment of phenotypic characters is desirable too, as the validity of some subspecies has been questioned. Another doubt arises about the definition of a distinct population as "well isolated geographically (and likely genetically)." This focus on geographic isolation is at variance, for example, with the listing of the Modesto Song Sparrow (*Melospiza melodia maillardi*), not isolated geographically and dubiously distinctive phenotypically but apparently well separated ecologically from adjacent populations. Perhaps the study has underemphasized the importance of ecological isolation in some taxa that are not listed. As the collaborators realize, everyone who looks at the listings will find something to question.

The other section, aptly titled "Elusiveness of a Perfect Ranking Approach," addresses two long-standing questions that the editors tell us were "debated at length" by the advisory committee. The debate is about what criteria should be used to judge the basis for concern and, more particularly, how the factors should be analyzed to prioritize conservation action. Criteria adopted are population trend, range trend, population size, range size, percentage of entire range in California, population concentration, and projected impact of threats. Two different analytical methods are employed and, in fact, are combined in the apparent absence of a consensus. A linear scheme simply adds scores for the factors together, giving extra weight to population trend, range size, and impact of threats. A categorical scheme is more complex, using various numerically rated combinations of factors. In this case, results of the two methods do not differ strikingly. Perhaps neither do they differ meaningfully in light of the admittedly subjective, uncertain, and arbitrary nature of the judgments, as well as the incompleteness of much fundamental data. Two thirds of the special-concern taxa rank equally in both schemes; the other third differ only at the second- vs. third-priority level.

The excellent species accounts are the heart of the book. These are organized in a logical structure consisting of the bird's priority rank, Breeding Bird Survey statistics when appropriate, general (i.e., global) range and abundance, seasonal status in California, historic and recent range and abundance in California, ecological requirements, threats, management and research recommendations, and monitoring needs. In every account, a long list of literature cited demonstrates the author's commitment to extensive research. No one shirked his or her duty to scholarship.

Historical information, of course, relies heavily on *The Birds of California* by W. L. Dawson (1923), *The Distribution of the Birds of California* by Joseph Grinnell and A. H. Miller (1944), *Birds of Southern California: Their Status and Distribu-*

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tion by Kimball Garrett and Jon Dunn (1981), and the state's enviable array of classic county-level treatises.

Data on recent distribution and abundance are drawn from nearly every resource imaginable, although there is a surprising absence of information from the journal now titled *North American Birds*. The sections on recent populations appear to cover the state well, and they are amazingly detailed for patchily located species such as the Black Swift, Vermilion Flycatcher, Lucy's Warbler, and Summer Tanager. In the most remarkable cases, it seems that virtually every known site of isolated nesting pairs and small colonies is included. There is refreshing candor about large gaps in knowledge of some species' population sizes, such as those of Long-eared Owl and Short-eared Owl.

Admirable candor appears as well in the sections on ecological requirements. Some birds' preferences are, naturally, easy to state—for example, the Cactus Wren's predilection for cholla and prickly pear and the association of Le Conte's Thrasher with saltbush. Contrastingly, there is emphasis on how little is known about some birds' needs—for example, the Gray Vireo's nesting ecology is "poorly known in California," and the San Clemente Spotted Towhee's requirements are "largely undescribed." For every bird listed, there is no shortage of important topics for researchers to tackle.

Many threats are presented in general terms such as loss and degradation of riparian, forest, grassland, and wetland habitat. Others focus on very specific problems such as competition from alien herbivores on the Channel Islands and, ironically, lethal control of the very rare subspecies *vanrossemi* of the Gull-billed Tern to protect federally listed Snowy Plovers and Least Terns.

Management recommendations range similarly from broad actions such as preservation of areas from urbanization to eradication of particular invasive plants. Data on population trends and distribution are so insufficient that basic monitoring of many species remains an essential but elusive goal. Unless adequate funding is obtained and committed researchers are willing to undertake extensive work, approaching an adequate determination of the status of many taxa may remain a pipedream.

Technically, the writing and editing are superb throughout the book. In the introductory material and the overview, all of the topics are explained thoroughly. In the species accounts, the prose style and construction are consistent, references are given for every statement of fact, and authors' speculations and opinions are expressed conservatively. I noticed only two flaws in the text: a typo, "suppport," on page vi; missing words in "the riparian these species mainly co-occur" on page 238.

A map with each account carefully illustrates past and present distribution, and the caption in most cases summarizes the bird's status aptly in just a sentence or two. The line art by Andy Birch and Tim Manolis is of high quality. The best, in my view, is a Cactus Wren perched on a prickly pear against a background of habitat destruction. I wish all of the illustrations had been planned to depict different threats in this thematic fashion.

What comes next? The overview concludes with 11 recommendations for future actions that are at least as ambitious as the initial effort. These include annual reviews of the status of birds at risk, updates and thorough revisions of the list at least every five years, reports identifying research priorities and possible effects of climate change, formation of a volunteer monitoring program, and outreach to official agencies, other bird-conservation groups, and the public. Another recommendation is a website tracking new information on taxa of special concern, updating criteria scores, and providing a basis for discussion of changes and additions. Such a website would be a welcome resource for all of us who are concerned about bird conservation but have no easy access to ongoing, unpublished research. It would also be worthwhile to provide the names and ranking scores of all 283 taxa originally nominated for the list.

A final thought: The best state-level publication of this kind that I had previously encountered is volume 5 of *Rare and Endangered Biota of Florida* (University Press

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of Florida, Gainesville, 1996). Florida's book still sets an admirable standard 13 years later, but it does not approach the astonishing depth and detail of *California Bird Species of Special Concern*. David Krueper, president of Western Field Ornithologists, expresses hope in the foreword that this new book will stimulate "comparable works on at-risk birds elsewhere." Perhaps a truly comparable work is too much to ask, but we should hope along with Krueper that experts in other regions will be inspired to try.

Paul Hess

Wings in the Desert: A Folk Ornithology of the Northern Pimans, by Amadeo M. Rea. 2007. University of Arizona Press, Tucson. 320 pages, illustrated. Hardcover, \$70. ISBN 978-0-8165-2459-4.

Wings in the Desert is a most impressive example of what ethno-ornithology can teach us. Amadeo Rea celebrates here the traditional environmental knowledge and wisdom of the Piman peoples of the Sonoran Desert and adjacent Sierra Madre Occidental from Arizona's Gila River Pimans (the Akimel O'odham or "river people") and "Papago" (the Tohono O'odham or "desert people") south to the Pima Bajo along the Yaqui River in southern Sonora and the Pima Alta of the adjacent Sierra.

The book is the concluding volume of Rea's Piman quartet, the product of a 45-year immersion in the natural history of the Sonoran Desert and consideration of its human face, the Piman peoples. Rea's first volume, *Once a River* (1984), was a historical ecology of Arizona's Gila River, more ornithological than ethnobiological. Rea followed with an ethnobotany, *At the Desert's Green Edge* (1997) and a treatise on Piman knowledge of mammals, *Folk Mammalogy of the Northern Pimans* (1998). In *Wings in the Desert* Rea returns to the birds that were his original inspiration.

Rea comes to ethnobiology—which is first of all an anthropological discipline—from an unusual direction, a professional base as a museum ornithologist. He acquired the anthropological expertise and sensibility from his close and enduring friendships with Piman elders met in the course of his field studies of Sonoran Desert ecology begun in 1963. Even then Piman ethnobiological research was a salvage project, as but fragments of the rich biocultural tapestry of his subject matter had come down to the generations that Rea knew. A wealth of detail has been lost to the social and natural transformations consequent to European colonization. As Rea, writes, "I have used the past tense frequently in this chapter because feather use by River Pima and Pima Bajo has all but ceased. Shamans and healers still use those feathers that are needed in their profession. But even among Tohono O'odham, who have maintained more of their traditional ceremonial life, knowledge of folk taxonomy and of uses of avian species is now greatly eroded among younger and even middle-aged generations. No longer are the folk identification, ecology, and behavior of birds and other animals the currency of thought among younger O'odham. Without these three, metaphors collapse" (p. 71).

Rea has scoured the ethnohistorical, ethnographic, and linguistic records of the past 400 years and has applied his expert knowledge of bird biology and behavior and of the Sonoran Desert to capture the sophistication and subtlety of the ancestral Piman appreciation of birds.

Wings in the Desert is in two parts. First is a series of eight chapters to introduce Rea's Piman teachers, many now passed on, to describe the variety of Piman cultures and their habitats, both north and south of the Mexican border, and to summarize Piman bird taxonomy and nomenclature and the peoples' economic, aesthetic, and spiritual relationships with birds. The second part treats each of some 85 named Piman bird categories in exquisite detail. These species accounts may run to as many as 10 three-column pages, most notably for the birds most charismatic to the Pima: the Turkey Vulture, Golden Eagle, Scarlet Macaw, Great Horned Owl, and Common Raven.

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Piman ornithology is selective, greatly elaborated in some cases but less concerned to recognize the smaller species, especially those that pass through in migration (though the diminutive Verdin and the several nondescript thrasher species receive careful attention). Yet for the 74 Piman “folk generic” taxa, eight of which are further differentiated at the “folk specific” rank for a total of 85 terminal taxa, Piman ornithology demonstrates acute powers of observation on a par with those of the professional ornithologist. Seemingly obscure details of anatomy and behavior may be embedded in Piman origin myths and other sacred stories. For example, *ñui*, the Turkey Vulture, is a culture hero who carved the landscape with his wings to conserve the scarce rainfall essential for Piman agriculture. He is considered also to be a warrior, recognized by his “white leggings.” Rea notes the Turkey Vulture’s characteristic behavior of urinating on its legs to facilitate evaporative cooling, the residue of uric acid coating its pink feet white (p. 97). Another telling detail is the Turkey Vulture’s large perforate nostrils, coinciding with this species’ exceptional olfactory sensitivity. Piman myths note this same feature as the piercing of a warrior’s nasal septum, an honor reserved for those who have killed an enemy combatant. Rea concludes, “Almost all that is known to Western science about the behavior and anatomy of this marvelous bird [the Turkey Vulture] has somehow been encoded into Piman mythology” (p. 95).

Rea helps us make sense of what might seem irrational or “primitive,” as with the Piman concern with “staying sickness,” a potentially fatal affliction: “Left untreated, staying sickness ultimately invades the whole body, causing death” (p. 45). We might understand it as a sort of spiritual cancer. It is brought on by human actions—intentional or not—that offend, typically, an animal spirit. As many as 40 species of animals have been implicated as causing this malady, including ten birds. Offenses include improper killing, butchering, or disposing of the remains of the animal, actions considered to be disrespectful of the animal. “It could also mean ridiculing the animal or even watching it die slowly; [if killed] it must be dispatched as quickly and painlessly as possible” (p. 47). Piman shamans were called upon to treat staying sickness, divining the offensive action (with the aid of a feathered divining wand). Rea’s teacher, Leonard Pancott, explained, “The medicine man looks at him and visualizes what causes it.... Then they find somebody who sings the songs.... Have to have the song for ... what you killed or what you abused. Sing all night. Then he will get over it.” (p. 49). Those who know these songs acquired them on a vision quest during which they “met” the animal spirit that serves thenceforth as their guardian. Thus a person may be known as a “Great Horned Owl meeter,” a “Prairie Falcon meeter,” even an “ant meeter.” There is then a spiritual connection that gives the person “great knowledge or seeing” (p. 46).

These essentials of Piman traditional spiritual understanding represent a Piman expression of an animistic understanding that is widely shared among the world’s surviving hunting-gathering and horticultural peoples, that human beings and the natural world of animals, plants, wind, and water are bound together by a Golden Rule that transcends mere human society, a sensibility lost to those who understand the natural world as but a machine, however marvelously intricate.

Wings in the Desert rewards careful and repeated readings.

Eugene S. Hunn

Birds of the Inland Northwest and Northern Rockies, by Harry Nehls, Mike Denny, and David Trochlell. 2008. R. W. Morse Company, Olympia, Washington. 422 pages, over 260 color photographs. Paperback, \$18.95. ISBN 98780964081062.

This book is the latest in a series of small pocketable guidebooks that focus on the west coast of North America. (Others include *Birds of Southwestern British Columbia*, *Birds of the Puget Sound Region*, *Birds of the Willamette Valley Region*, and

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Birds of the Los Angeles Region.) *Birds of the Inland Northwest and Northern Rockies* covers the identification of the common species of eastern Washington, eastern Oregon, Idaho, and western Montana. The book contains a “quick guide to local birds” (with useful small photographs) at the front and a very helpful “short index” and a longer “index/checklist of birds” in the back. Other introductory sections include a map, information on birding in general, identifying birds, attracting yard birds, bird habitats in the area, where to go to find birds in the field, and a useful list of resources such as journals, books, websites, stores, and nature centers in the area covered.

In most cases unusually large photographs face the page with the species account. If there is a major difference between the sexes or between the breeding plumage and the juvenile plumage, one or more photographs are added to highlight the information. Each species account includes a “description” with the bird’s particular features highlighted in boldface, a section “similar birds” with features relevant to note, “voice” with the species’ main calls and songs, “where to find” with seasonal movements along with general locations and habitats, “behavior” highlighting feeding, movement, and flight, “did you know?” giving extra information usually not found in guide books, and, finally, “date and location seen,” with some extra blank lines to record your sightings.

At first glance, it would be easy to pass by this book and others in the series as oriented strictly for beginners. After all, the book seems small: 5.9 × 4.5 × 0.9 inches. Plus, for visual depiction of species it relies entirely on photographs, which are sometimes not favored by many seasoned birders who prefer more universally depicted painted or computerized illustrations of species. And, finally, it is indeed localized in coverage and does not cover the odd vagrant that might show up in the region.

Birds of the Inland Northwest and Northern Rockies has strengths, however, that raise it beyond a simplistic introductory guide. First, the book’s localized coverage is one of its main strengths. The text is written by local experts who have birded the region for many years and know the distribution of each species intimately. The information presented is not plucked out of the air, so to speak, by an outside group that has come in to produce a regional guide on an assembly line as is seen in some other recent small-format guides.

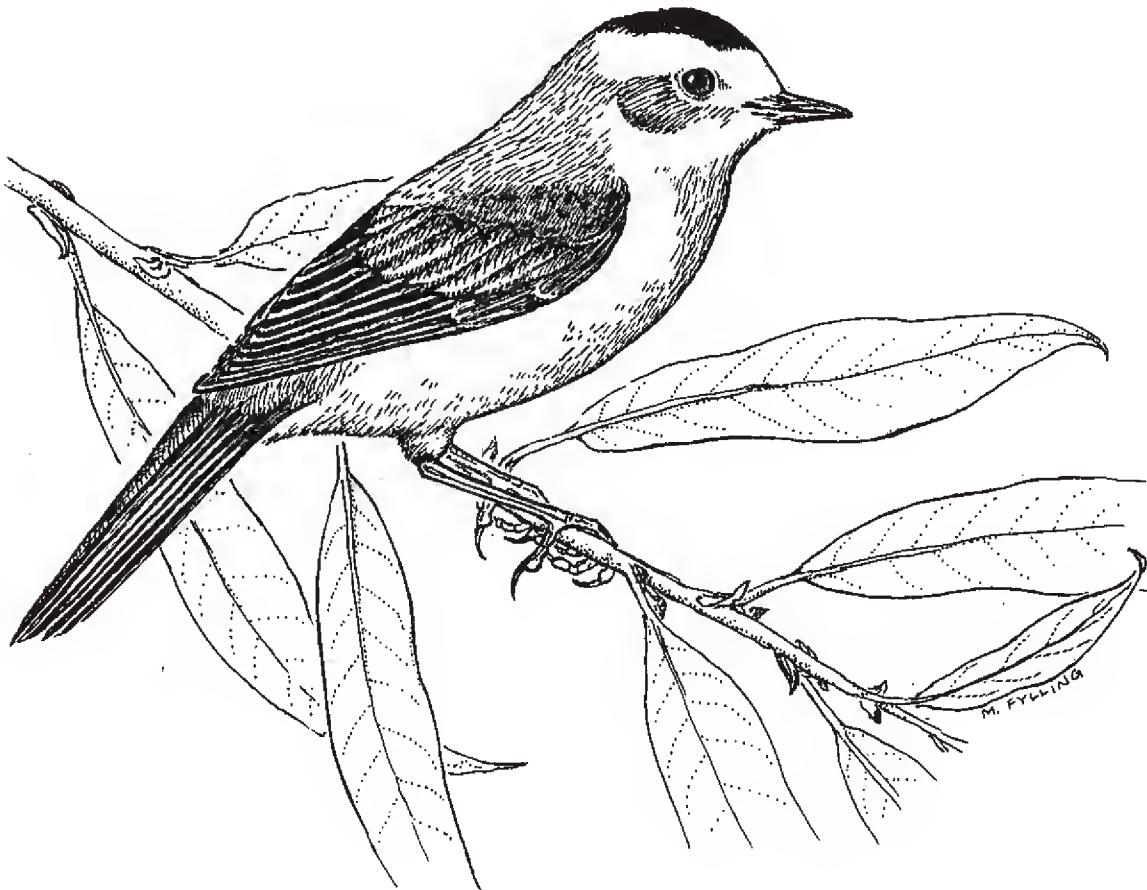
Second, the supplementary information gives the book depth. Examples are descriptions of bird behavior and interesting trivia such as how the bird was named or how many subspecies are in the region. Even the photographs were primarily taken by local western photographers, reinforcing the “by the locals, for the locals” flavor of the book. The birds illustrated are primarily of local subspecies, which are often not the ones that appear in national field guides. Additionally, errors seem to be few (e.g., a photograph of a coastal subspecies of the Downy Woodpecker instead of an interior one—a mistake that will be rectified in the next printing according to one of the authors; perhaps the photograph of a Song Sparrow not showing the breast spot in a clear fashion). The first printing had text transplanted between the Yellow-headed Blackbird and the crossbills (pp. 389 and 405). Subsequent printing rectified this error.

It is doubtful that you could find a better book to recommend for local backyard birders or birders starting to explore their neighborhood. The clear and simple approach also makes it superbly suitable for education and field instruction. I have used a sister publication here in western Oregon, *Birds of the Willamette Valley Region*, for those times when we need a quick identification on bird walks with a local group of fourth-grade students. It has also been repeatedly useful with adults on local outings when the main guide is left back in the car. It is small enough to be carried easily in a pocket—even a rear pants pocket—and then always easily available when you are out with a group or when someone from the general public runs across you staring at tree or shrub with your binoculars and wonders what is going on.

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This book and the series in general will be highly useful for beginner to intermediate birders who want an easily carried field guide with sharp photographs of the species most likely to be encountered. You can leave your favorite general guide back home or in the car. Also, the book and series are highly useful for those who want to share their enthusiasm with others on the trail. The books have been helpful to me both in my local birding activities and superbly in helping to inspire and educate many new birders. I have given away many books in this series and wore out and/or lost many others in the field. If there ever could be such a thing as disseminating “good birding karma,” you need not look further than the little book in your hand. Give one to your neighbor.

John Thomas



Wilson's Warbler

Sketch by © Marni Fylling

FEATURED PHOTO

REGIONAL PHENOTYPIC VARIATION IN THE SOOTY GROUSE

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Long united as a single species under the name Blue Grouse, the more coastal Sooty Grouse (*Dendragapus fuliginosus*) and the more inland Dusky Grouse (*D. obscurus*) have received substantial attention in recent years. Zwickel and Bendell (2004) addressed the biology and natural history of these birds, specifying their regional variation. Coastal males have yellow cervical apteria (unfeathered skin on the sides of the neck; see this issue's inside front cover) and a black tail with a contrasting gray terminal band, while most interior males have red cervical apteria (see this issue's back cover) and the tail band, if any, much less distinct. In addition, the song of male Sooty Grouse is much louder than that of the Dusky Grouse. Barrowclough et al. (2004) concluded from a molecular study that two species exist. Subsequently, "on the basis of genetic evidence (Barrowclough et al. 2004) and differences in voice (hooting), behavior, and plumage (Brooks 1929)" Banks et al. (2006:929) accepted reclassification of these birds as two species. Through history, the birds' classification, as followed by the American Ornithologists' Union, has oscillated from a single species (1886, 1895, 1910) to two species (1931), back to one species (1944, 1957, 1983, 1998), and back to two species (Banks et al. 2006).

Questions about the color of the apteria of the Sooty and Dusky Grouse arose during a trip to southeast Alaska in May 2006. While en route to Prince of Wales Island, Schroeder and Zwickel noted mounted specimens of male Sooty Grouse in a taxidermy store in Ketchikan. Although most literature has reported coastal birds to have yellow apteria, all specimens on display had the apteria painted red. When asked about the color, the taxidermist said he painted them red because that was the way he remembered them in the living bird. Later that day Heinl shared a photograph of a Sooty Grouse taken on nearby Gravina Island by Piston in which the apteria were clearly red (Heinl and Piston 2009: Figure 10).

To the best of our knowledge, males with red apteria have not been reported previously from any coastal population of grouse. Swarth (1921) described the Sooty Grouse of southeast Alaska as subspecies *sitkensis*, basing his description on the plumage of females and stating "adult male not appreciably different from the male of *D. o. fuliginosus*" (the subspecies of the Sooty Grouse inhabiting the mainland from southwestern Yukon south to northwestern California). Although Swarth did not describe the apteria of *sitkensis*, Gabrielson and Lincoln (1959) reported them as "deep yellow," as Brooks (1926) described the apteria of all coastal birds—hence the confusion.

Confirmation of male Sooty Grouse with red apteria led us to investigate the geographic extent of this characteristic, especially as it differs from the published literature. To address this question we considered several avenues of inquiry. First we evaluated our field notes from previous trips to many portions of the range (Zwickel and Bendell 2004). Second, we contacted biologists, photographers, and birdwatchers to obtain information on birds in specific locations. Third, in 2007 and 2008 we visited southeast Alaska and north-coastal British Columbia to observe and photograph as

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many coastal males as possible. Here we describe some of the findings to date, with the understanding that portions of this work will likely continue.

Our results indicate that red apteria in Sooty Grouse are distributed regionally—we have found no site with both phenotypes. Males with red apteria have been found in Alaska's Alexander Archipelago on Douglas, Admiralty, Mitkof, Gravina, and Revillagigedo islands, on the mainland of southeast Alaska around Bartlett Cove and Juneau, and in north-coastal British Columbia at Stewart, near Prince Rupert at the mouth of the Skeena River, and inland along the Skeena River as far as the Terrace area (see this issue's back cover). The most northerly population of Sooty Grouse with yellow apteria has been documented on Graham Island (Haida Gwaii or Queen Charlotte Islands), British Columbia. The northernmost point on the coastal mainland where males with yellow apteria have been found is near Bella Coola, British Columbia, about 275 km south-southeast of where we examined birds near Terrace.

Our survey of Sooty Grouse is not complete. We may yet find a north-coastal area where males have yellow apteria or a south-coastal area where males have red apteria. We may also determine where the two phenotypes meet, likely between Terrace and Bella Coola. Expansion of the genetic surveys to northern British Columbia and Alaska might help address this issue. This phenotypic variation highlights another instance where the southeast Alaska/coastal British Columbia area emerges as a focus for biogeographical research.

We thank Dan Gibson and Leslie Robb for their very helpful reviews of our manuscript.

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WESTERN FIELD ORNITHOLOGISTS 34TH ANNUAL MEETING

Boise, Idaho, 10–13 September 2009

Join us for WFO's 34th annual meeting at the Oxford Suites of Boise, phone 208-322-8000, website www.oxfordsuitesboise.com. Hotel reservations are by phone only for the rooms discounted for WFO. Rooms are limited, so make your reservation quickly. Information on presenting a paper submission, registration, and the hotel are at www.westernfieldornithologists.org. If you are without a computer, request a registration form and details from Ed Pandolfino, 55350 Del Rose Court, Carmichael, CA 95608.

Located along a major pathway of fall migration of both raptors and songbirds, the Boise area is rich in observable bird life. Do not pass up this opportunity to see this unique region and to meet the scientists of our hosting organization, the Idaho Bird Observatory of Boise State University. Western Field Ornithologists' meetings are noted for their science programs, hospitality, field trips, identification panels, and lively social activities, and this year we can add special location to this list.

This year's agenda includes science sessions, expert identification panels, workshops, field trips, exhibitors, social activities, featured speakers, and banquet. Dr. Craig Benkman (www.uwyo.edu/benkman/) of the University of Wyoming will give the keynote address on the South Hills Crossbill, *Loxia sinesciuris*, which he and others recently described (<http://birding.typepad.com/peeps/2009/03/south-hills-crossbill-idaho.html>). The ever affable and knowledgeable Terry Rich, Partners in Flight national coordinator for the U.S. Fish and Wildlife Service, will be a featured speaker on the birds of Idaho. For the adventurous, this meeting also affords the opportunity to see North America's newest and Idaho's first endemic bird, the South Hills Crossbill.

Our science sessions and identification panels are coordinated this year by Debbie Van Dooremolen, Jay Withgott, Ed Harper, and Nathan Pieplow. To submit and present a paper, contact WFO through our website, www.westernfieldornithologists.org. To express an interest in participating in the panels on sound and/or visual identification (don't be shy), send a message to contact@westernfieldornithologists.org.

Workshops will be offered on both Friday and Saturday mornings of the meeting. Preparation of bird skins, how to write and submit a scientific paper to a journal, the art of listening for bird sounds, and techniques for digiscoping are this year's topics, presented by Daniel Gibson and Robert Dickerman, David Krueper and Philip Unitt, Jay Withgott and Catherine Waters, and Jim Danzenbaker and friends.

This year's diverse field trips will visit the Lucky Peak banding station, staging areas for shorebirds and waterfowl, and the amazing Boise River Walk, as well as others. This year's pelagic trip will be by raft down the Snake River! Other sites of interest in the area include the Peregrine Fund's World Center for Birds of Prey (www.peregrinefund.org), the Morrison Knudsen Nature Center (www.fishandgame.idaho.gov/cms/education/mknc), the Idaho Botanical Garden (www.idahobotanicalgarden.org), and the Boise State University campus (www.boisestate.edu), to name a few.

Logistics for reaching and staying in Boise are excellent. Multiple national air carriers from multiple cities serve the city daily. Besides fine hotels and motels, there are a number of nearby RV parks and campgrounds. The Boise Visitors Bureau (phone 800-635-5240, website www.boise.org) has complete information and maps (state and local), flight schedules, transportation alternatives to flying and driving, nearby camping/RV locations, etc.

We look forward to seeing you in Boise!

WESTERN BIRDS

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The California Bird Records Committee of Western Field Ornithologists revised its 10-column Field List of California Birds in July 2005. The last list covered 613 accepted species; the new list covers 630 species. Please send orders to WFO, c/o Robbie Fischer, Treasurer, 1359 Solano Drive, Pacifica, CA 94044. California addresses please add 8.25% sales tax.

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