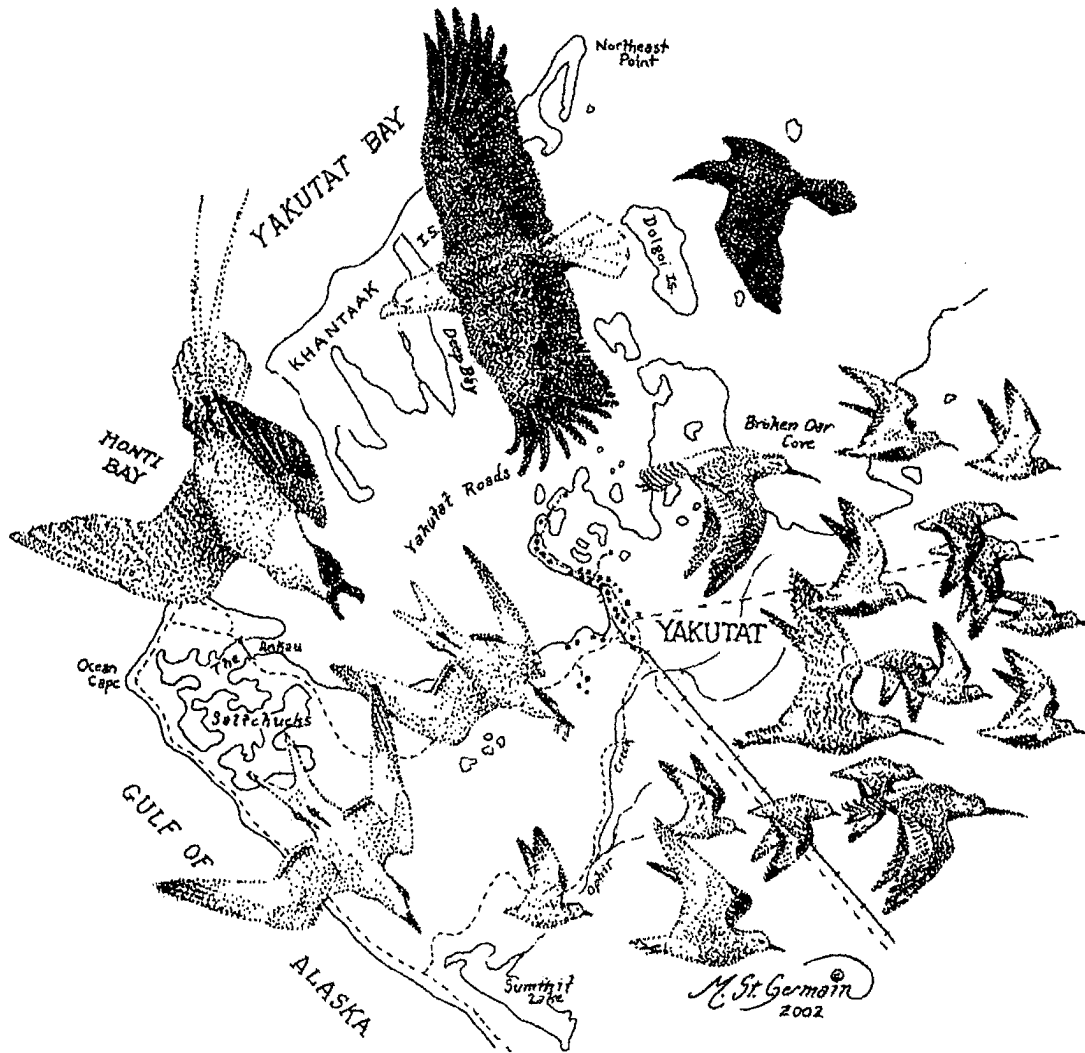


The Birds of Yakutat, Alaska



United States
Department of
Agriculture

Forest Service
Alaska Region

R10-TP-141
August 2010
Reprint



Cover illustration by Michael St. Germain and used with his permission. From Bald Eagle counter clockwise: Bald Eagle (*Haliaeetus leucocephalus*), Long-tailed Jaeger (*Stercorarius longicaudus*), two Aleutian Terns (*Sterna aleutica*), Western Sandpiper (*Calidris mauri*), Red Knot (*Calidris canutus*), three Semipalmated Sandpipers (*Calidris pusilla*), two Short-billed Dowitchers - downstroke (*Limnodromus griseus*), Long-billed Dowitcher - upstroke (*Limnodromus scolopaceus*), three Dunlins (*Calidris alpina*), two Least Sandpipers - between two dunlins and dowitchers (*Calidris minutilla*), four Western Sandpipers (*Calidris mauri*), Common Raven (*Corvus corax*).

The Birds of Yakutat, Alaska

Region 10 Technical Publication 141
August 2010
(reprint)

by

Brad A. Andres, Division of Migratory Bird
Management, U. S. Fish and Wildlife Service,
Lakewood, Colorado

and

Brian T. Browne, Department of Natural Resources
Science, University of Rhode Island, Kingston, Rhode
Island

from
tailed
ern
ed

en

Citation: Andres, B. A., and B. T. Browne. 2007. The Birds of
Yakutat, Alaska. Unpublished report, U. S. Forest Service, Yakutat,
Alaska. 92 pp.

dedicated to:

the late Dorin Walter
who lured us to his bird Mecca

and

the late M. E. "Pete" Isleib
who greatly furthered our knowledge of
the birds of the North Gulf Coast

TABLE OF CONTENTS

INTRODUCTION 1

DESCRIPTION OF THE REGION..... 4

 Physiography..... 5

 Climate..... 7

 Vegetation and Bird Habitats..... 8

AVIAN USE OF THE REGION 12

 Patterns of Distribution..... 12

 Seasonal Use 14

ANNOTATED LIST OF BIRDS..... 19

 Status and Abundance Definitions..... 19

 Species List..... 20

LITERATURE CITED 86

INTRODUCTION

Situated at the mid-point along the arc of Southcoastal Alaska, Yakutat lies in a region of transitions – ocean tides rise against the icy cliffs of active glaciers, indigenous people and animals from the interior mingle with those of the coast, deep ocean waters mix with the outflows of freshwater rivers. The potent forces of earthquakes, ocean storms, and glaciation are immediately evident on the landscape; few places so easily reveal their recent geologic history. This combination of lofty peaks, recently exposed glacial valleys, extensive sandy beaches, productive coastal estuaries, shrub-dotted bogs, and dense needleleaf forests provides for a diverse and interesting avifauna.

The earliest recorded information on Yakutat area birds came from collections made by Clark P. Streator, of the U. S. Biological Survey, in 1895 (Gabrielson and Lincoln 1959). Members of the Harriman Expedition made a few observations and collected some specimens during a brief stop at Yakutat in 1899 (Fuertes 1899, Gabrielson and Lincoln 1959). However, Grinnell (1910) considered information on Yakutat's birds too scant to include the region in his analysis of southeastern Alaska's avifauna. Shortt (1939) conducted the first intensive survey of Yakutat's breeding birds. Based out of the village of Yakutat, he made numerous excursions throughout the region between May and August of 1936. Ira Gabrielson visited Yakutat Bay in 1940 and 1945 and included his observations in the *Birds of Alaska* (Gabrielson and Lincoln 1959).

Publication of the *Birds of the North Gulf Coast - Prince William Sound Region, Alaska* by Isleib and Kessel (1973) was the first major work to address the region's birdlife throughout all seasons. Most of their detailed observations came from the Copper River Delta, Prince William Sound, and Middleton Island. Their work provided a comprehensive review of bird distribution and abundance within the entire southcoastal region of Alaska and was an invaluable reference; additional observations made through 1989 were added to subsequent re-printings in 1989 and 1992. Information in our report was modeled after the structure presented in Isleib and Kessel (1973). In the 1970's, de Laguna (1972) provided Tlingit names of Yakutat's common birds and commented on their role in native culture. Information she presented on abundance and distribution was mostly taken from Gabrielson and Lincoln (1959).

Increased interest in off-shore oil development in the late 1970s and early 1980s prompted several Yakutat area bird studies. The most comprehensive survey, in terms of time and area, was conducted by Patten (1982) intermittently between 1975 and 1981; the most intense work occurred during 1980–1981. He also presented a review of other unpublished, Yakutat area bird surveys conducted by several individuals (A. R. Batten, S. Murphy, and D. F. Murphy; M. E. Isleib; P. Mickelson). Concurrently, U. S. Department of the Interior biologists studied bird abundance and coastal habitat use, during spring and fall migration, on the Yakutat Foreland (Petersen et al. 1981). During the same decade, Swem (1982, 1983, 1985) observed spring and fall raptor movements at the Malaspina Glacier terminus, seabird colony counts in Yakutat Bay were included in the first catalog of Alaska's seabird colonies (Sowls et al. 1978), and a Christmas Bird Count was conducted from 1985 to 1987 (see *American Birds* volumes 39–41).

Beginning in the 1990s, the U. S. Department of Agriculture Forest Service (USFS) increased the number of bird surveys undertaken on the Yakutat Ranger District (USFS 1991, Harke 1992, Martin 1994, Harke and Leach 1996). Besides prepared reports, biologists also kept

notes on birds observed during other field work. A breeding-season banding station, as part of the Monitoring Avian Productivity and Survivorship (MAPS) program, has been operated annually by USFS staff since 1994. A breeding bird survey of Icy Bay was conducted by the National Park Service (NPS) during this period (Burgess 1992). In 1994, the U. S. Fish and Wildlife Service (USFWS), in cooperation with the USFS, began studying various components of Yakutat's birdlife. Counts were made annually along two Breeding Bird Survey routes between 1993 and 2000 (see Cotter and Andres 2001). A songbird banding station was operated for six years, between 1994 and 1999, during August and September (Andres et al. 2003). Ground counts of shorebirds were made in the Seal Creek-Ahrnklin River estuary during 1996 and 1997 (Andres and Browne 1998), and, lastly, waterbirds were surveyed on marine waters and along shorelines of Yakutat Bay and Russell and Nunatak Fiords (Stephensen and Andres 2001). Ancillary observations of the Yakutat's birds were also made during these studies.

Because of the increased amount of information available over the last two decades, an updated overview of the distribution and abundance Yakutat's birds is warranted. This report provides a description of the region, a general discussion of seasonal bird abundance and distribution, and detailed accounts for all species recorded in the Yakutat vicinity. Bird nomenclature follows that of the American Ornithologists' Union (American Ornithologists' Union 1988, 2000; Banks et al. 2002, 2003), and all scientific names are provided in the species accounts.

The USFWS, Division of Migratory Bird Management, supported the authors' field work in Yakutat. None of these studies could have been completed without the cooperation of the USFS Yakutat Ranger District staff. We especially thank Vince Harke and Bill Lucey and are grateful for the assistance provided by the late Dorin Walter during the early years of our data collection. We appreciate the hospitality offered by the residents of Yakutat during our visits. Ellen Campbell, USFS, provided financial support for publishing this report and has provided much appreciated support to the senior author on innumerable projects. Karen Kozie, NPS, also provided logistic support in Yakutat. Frank Heppner, University of Rhode Island, made helpful editorial comments. Michael St. Germain graciously contributed the cover artwork.

Many individuals contributed unpublished observations and are indicated as follows in the species accounts: Brad Andres (BA); John Bailey (JB), seasonal resident, Dry Bay; Gwen Baluss (GB), wildlife technician, USFS; Diana Brann (DB), wildlife technician, USFWS; Brian Browne (BB); Jim Capra (JC), backcountry ranger, NPS; Octavio Cruz (OC), wildlife biologist, Pronatura Veracruz, Mexico; Rich Capitan (RC), wildlife technician, USFWS; Mike Freeman (MF), biological technician, Alaska Department of Fish and Game (ADFG); Dan Gillikan (DG), biologist, USFS; Michael St. Germain (MG), wildlife technician, USFWS; Vince Harke (VH), biologist, USFS; Glen Israelson (GI), forestry technician, USFS; Jim Johnson (JJ), graduate student, Utah State University; John Latham (JL), outfitter guide; Talli Leach (TL), biological technician, ADFG; Bill Lucey (BL), biologist, USFS; Jeff Martin (JM), backcountry ranger, USFS; Patricia O'Connor (PO), district ranger, USFS; Julie Melton-Stotts (JS), wildlife technician, USFWS; Matt Stotts (MS), wildlife technician, USFWS; Todd Trapp (TT), wildlife technician, USFWS; and, Dorin Walter (DW), biologist, USFS.

DESCRIPTION OF THE REGION

For this report, the Yakutat area is defined as the section of Alaska between the ocean and border of Canada that lies between Icy Bay in the northwest (59°59'24"N, 141°23'25"W) and the Doame River (59°04'12"N, 138°20'53"W) in the southeast (hereafter referred to as Yakutat). Much of the area is contained within the boundaries of the Tongass National Forest, Wrangell-St. Elias National Park and Preserve, and, to a lesser extent, Glacier Bay National Park and Preserve. Although out-of-print, a good, general description of the region was produced by the Alaska Geographic Society (1975). The city of Yakutat, with a population of about 800 year-round residents, is the only permanent settlement. Commercial fishing, sport-fish guiding, and outdoor recreation tourism are primary sources of income for most residents. Timber harvest on public and private lands has occurred in the past. A maintained, but limited, road system and an ample source of services provide for good birding opportunities. Marine and terrestrial habitats are more accessible at Yakutat than at many locations along Alaska's southern coast.

Physiography

The Saint Elias Mountains, with elevations from 3,048 to 5,486 m (10,000 to 18,000 feet), provide a prominent barrier between the moist environment of the Pacific Ocean and the dry interior of Yukon and northern British Columbia. These mountains appear even more impressive as they rise steeply from sea level on the northwestern shore of Yakutat Bay. The Brabazon Range, with elevations up to 1,829 m (6,000 feet), forms a western flank to the Saint Elias Mountains and lies between the Dangerous and Alsek rivers. Ice fields, glaciers, and barren rock are characteristic of higher elevations.

The Malaspina Glacier, one of the most famous examples of a piedmont glacier (a type of glacier that originates as a steep valley glacier but spills out onto flat plains in numerous, spreading lobes), covers more than 3,108 km² (1,931 square miles). The Malaspina is reminiscent of the great continental ice sheets that covered northern North America 18,000 years ago. The Yakutat Glacier terminates in Harlequin Lake and sends its icebergs oceanward down the Dangerous River. Numerous other glaciers spill into Russell and Nunatak Fiords, Disenchantment Bay, and onto the Yakutat Foreland.

The Hubbard Glacier is a tidewater glacier that lies at the head of Disenchantment Bay. Stretching for 122 km (76 miles) before it reaches the ocean, Hubbard Glacier is the longest valley glacier in Alaska. In 1986, the glacier advanced across the mouth of Russell Fiord and created the largest extant glacier lake. The Hubbard subsequently receded and tidal flow was restored to the fiord. During summer 2002, the Hubbard again rapidly advanced, sealed the entrance to the fiord, and flooded adjacent lowlands. The entrance to Russell Fiord remained blocked for two and one-half months and water levels in the fiord rose 19 m (61 feet). The glacier dam finally broke in mid-August and tidal exchange between Russell Fiord and Disenchantment Bay was restored (see <http://ak.water.usgs.gov/glaciology/hubbard>).

Throughout the region, current and past actions of glaciers are evident on the landscape. The Yakutat Foreland is narrow (less than 48 km wide [30 mile]) coastal plain that was largely glaciated as recently as 600 years ago, as were Yakutat Bay and Russell Fiord (Alaska Geographic Society 1975). The foundation of the coastal plain consists of late Tertiary and Quaternary sedimentary rocks that are overlain by more recent glacial, fluvial, and marine

deposits (Miller 1958). Old glacial moraines and past shorelines are visible as raised ridges across the Foreland. Numerous rivers and streams, both turbid and clear, bisect the Yakutat and Malaspina Forelands; past and current glacial lakes are fairly common on these plains. The succession of previous shorelines have formed a network of saltwater lagoons (known as salt chucks), freshwater ponds, and forested ridges on the Phipps Peninsula. Wide, sandy beaches, uncharacteristic for southeastern Alaska, form a rather regular shoreline from Ocean Cape in the north to the Doame River in the south (105 km [65 miles]). Large silt, sand, and gravel deposits have formed an extensive network of tidal flats, sand dunes, and barrier islands at the Yakutat Foreland's river mouths. Tidal flats are most extensive at the Situk-Ahrnklin river estuary and Dry Bay. The inshore ocean current's northwesterly flow and frequent severe fall and winter storms influence the structure of the shoreline. Tremors in this earthquake-prone region can also cause rapid changes in the shoreline. Landward of the sandy, beach-dune shoreline, vegetation consists of wetlands, bogs, shrublands, and needleleaf forests. Broadleaf vegetation increases along riparian areas, particularly along the Alsek River, and close to glacier fronts.

Most of the region's shoreline directly abuts the open waters of the Gulf of Alaska. The edge of the continental shelf, where the ocean plunges to depths of more than 1,829 m (6,000 feet), lies about 80 km (50 miles) offshore. Shallower water occurs landward of the shelf edge, although deep water troughs penetrate landward in the vicinity of Yakutat and Dry Bays. Long coastal sections are exposed to Gulf storm surges, and Yakutat Bay provides the region's only protected waters. Average tidal change at the mouth of Yakutat Bay is about 3 m (10 feet), and maximum tidal range can be more than 4 m (14 feet). Two high and two low tides occur every 25 hours.

Climate

Yakutat has a typical maritime climate of cool summers and mild winters. With its flow impeded by tall coastal mountains, moisture-laden air from the Gulf of Alaska brings Yakutat about 371 cm (146 inches) of precipitation annually (Table 1). The wettest month is October, with an average of 53 cm (21 inches) of rainfall, and the driest is June, with an average precipitation of 15 cm (6 inches). Measurable snowfall has occurred in all months of the year except June, July, and August, and the average annual snowfall is 490 cm (193 inches). A record 1,024 cm (403 inches) of snow fell in the winter of 1975–76. Snow can remain into June at Harlequin Lake and in Russell Fiord.

An ever-present low pressure system in the Gulf of Alaska assures many cloudy days; the annual diurnal cloud cover exceeds eight-tenths. Although average wind speeds average are only 9–13 km/hr (6–8 miles/hr), Yakutat is subjected to numerous storms during spring, fall, and winter months. Between September and April, winds are generally from the east; from May to August, they are from east-southeast. The highest wind speed recorded at Yakutat was 130 km/hr (81 miles/hr) and occurred in January.

Daily and seasonal temperatures show little variation, and average monthly maximum temperatures range from -1°C (31°F) in January to 16°C (60°F) in August (Table 1). The average annual temperature is 7°C (45°F). Although temperatures below -29°C (-20°F) have been recorded, lows of this magnitude are rare. Temperatures above 29°C (80°F) have occurred in June, July, and August. Coastal mountains and their associated glacial features cause great local variations in weather over relatively short distances.

Vegetation and Bird Habitats

Yakutat lies within the Pacific Coastal Mountains and Coastal Western Hemlock-Sitka Spruce Forests ecoregions (Gallant et al. 1995). The unique landscape characters associated with the extensive Yakutat Foreland provide a mosaic of avian habitats that, except for the Copper River Delta, are not found elsewhere in the Alaska portions of these ecoregions. Vegetation and bird habitat classification schemes developed by Kessel (1979), Isleib and Kessel (1973), and Viereck et al. (1992) were combined into 12 habitats, described below, that were relevant to Yakutat's birds. Petersen et al. (1981) and Patten (1982) also provided some descriptions of bird habitats in Yakutat. Scientific names of plant species follow those used by Viereck et al. (1992); Viereck and Little (1986) provide additional, detailed information on woody plants and plant communities. A generalized vegetation progression on the Yakutat Foreland, as distance from the coast increases, would be: sandy beach → dune → even-age spruce forest → freshwater marsh/tall shrub → older spruce-hemlock forest/bog → broadleaf/mixed forest → tall shrub → glacier/alpine. Descriptions of major habitat types follow.

Inshore Waters. Inshore waters include all marine waters of Yakutat Bay, Disenchantment Bay, Russell Fiord, Nunatak Fiord, Monti Bay, Ankau salt chucks, coastal estuaries of river mouths, and those marine waters within 6 km (3.5 miles) of the outer coast. As indicated by Isleib and Kessel (1973), these shallow, inshore waters are significantly influenced by the adjacent terrestrial areas. Observations on offshore marine waters (those more than 6 km [3.5 miles]) of the Gulf of Alaska were limited and species specific to offshore waters are not included here. Occurrence in offshore waters is noted for species that also occur in other landward habitats.

Rocky Shore/Cliff. Boulder-strewn shorelines are typical of the mainland and islands of Yakutat and Disenchantment Bays and Russell and Nunatak Fjords. Shallow gravel reefs regularly exposed at low tides are common in southeastern Yakutat Bay and Russell Fiord. Rocks and gravel covered by high tides often support rockweed (*Fucus distichus*) and other marine algae. Alluvia deposited by avalanches and glaciers at or near sea-level are included in this habitat type. Rocky cliffs that rise vertically from the sea are rare and found only in Disenchantment Bay and Russell Fiord.

Sandy Beach/Dune. Sandy beaches and dunes line the outer, exposed coast. Above the high tide line, dunes are primarily vegetated by dunegrass (*Elymus arenarius*), beach strawberry (*Fragaria chiloensis*), beach pea (*Lathyrus maritimus*) and northern yarrow (*Achillea borealis*). Sitka spruce (*Picea sitchensis*) and alder (*Alnus spp.*) often colonize older dunes (Shephard 1995). Structure of dunes and beaches are strongly influenced by storms.

Tidal Flat. Silt and gravel tidal flats occur at Foreland river mouths and are generally devoid of vascular plants. Although tidal flats are often protected from the open Gulf of Alaska by dunes or barrier islands, storms can alter their structure. Uplifting caused by earthquakes, silt deposition, and glacial rebound can greatly alter tidal flat configuration. Most extensive tidal flats occur behind the dune systems of the outer coast.

Salt Marsh. Salt marshes are found in the major Foreland estuaries and lie immediately landward of tidal flats. Often inundated by the highest tidal levels, vegetation consists mainly of halophytic sedges (*Carex spp.*); other grasses and herbaceous plants are sometimes present.

Lake/Pond. Lakes and ponds include all fresh lacustrine waters and their shorelines. Shallow basins and lake and pond edges are vegetated by mare's tail (*Hippurus spp.*), pondweed

(*Potamogeton spp.*), pondlily (*Nuphar spp.*), buttercup (*Ranunculus spp.*), burreed (*Sparganium spp.*), and water milfoil (*Myriophyllum spp.*). Lakes on the Foreland are generally shallow.

River/Stream. Rivers and streams include all fluvial freshwater and the immediate shoreline. Aside from the Alsek River, which bisects the coastal mountains, all other rivers and streams originate on the seaward side of the coastal mountains. The turbidity of flowing waters is influenced by glacial run-off. Steep, unvegetated banks cut by river channels are included in this habitat.

Bog/Meadow. Bogs, or muskegs, are a dominant feature of the Yakutat Foreland. The foundation of a freshwater bog consists of a base of sphagnum moss (*Sphagnum spp.*) and sedges (primarily *Carex* and *Eriophorum spp.*). Small ponds often occur and support emergent vegetation (see above). Soils are moist to saturated. Low (0.4–1.1 m [1.3–3.6 feet]) and dwarf shrubs (less than 0.4 m [1.3 feet]) are present in varying amounts and include sweet gale (*Myrica gale*), nagoonberry (*Rubus arcticus*), and numerous heath shrubs. Drier sites tend to have a greater prevalence of heath species. Meadows, often associated with freshwater and vegetated by sedges, rushes, grasses (e.g., *Calamagrostis*), and herbaceous plants, form near the coast. Stands of Sitka spruce or hemlock (*Tsuga spp.*), and rarely lodgepole pine (*Pinus contorta*), are often scattered throughout bogs and create a bog-woodland. Bogs vary considerably in their wetness and the amount of shrub and needleleaf tree cover; these attributes are used to describe bogs, and sometimes meadows, in the species accounts.

Tall Shrub. Tall shrub thickets, those more than 1.5 m (5 feet) in height, are composed primarily of alders and willows (*Salix spp.*). Dense alder thickets occur at higher elevations and on recently disturbed sites (either artificial or natural). Willow thickets, which vary in stem density among sites, often develop along stream courses and in wet bogs and meadows. Narrow strands of alders form along the edges of roads in needleleaf, broadleaf/mixed forest, and bogs.

Broadleaf/Mixed Forest. Black cottonwood (*Populus trichocarpa*) is the prevalent broadleaf tree on recently disturbed sites and in riparian areas. Along river courses, stands of cottonwoods often have a dense understory of alders and willows. Red alder (*Alnus rubra*) also forms broadleaf forest stands and can be present in the understory of needleleaf forest. Grasses, horsetail (*Equisetum spp.*), and other herbaceous plants occur where the canopy is open. Broadleaf and mixed forest were combined because young Sitka spruces are often present in cottonwood stands; both types differ substantially from needleleaf forest in composition and structure.

Needleleaf Forest. The Yakutat needleleaf forest is dominated by Sitka spruce, particularly in early successional stages; western hemlock (*Tsuga heterophylla*) becomes more abundant as the forest ages. Young spruce stands are dense and often virtually impenetrable. Devil's club (*Oplopanax horridus*), salmon berry (*Rubus spectabilis*), blueberries (*Vaccinium spp.*), and alders are common in the understory. Needleleaf forests are most developed at low elevations, and the largest needleleaf trees occur along streams relatively close to the coast.

Alpine. Aside from the prevalent rock and ice present at high elevations throughout the region, vegetation in alpine areas consists of mats of dwarf heath shrubs, grasses, sedges, lichens, and mosses. Low or stunted shrubs are sometimes present. Rocks occur as scree, outcrops, or are mixed within dwarf shrub vegetation. Because of inaccessibility, bird use of Yakutat's alpine is the least known of all habitats.

AVIAN USE OF THE REGION

Patterns of Distribution

The habitats described above were used to characterize the seasonal occurrence of birds in Yakutat (Table 2). Although the entire area was considered, most information was obtained from studies or surveys on Yakutat Bay, Russell Fiord, the inshore waters of the Gulf of Alaska, the Malaspina Glacier Foreland, and especially, the Yakutat Foreland (mainly northwest of the Alsek River). Where first-hand information from Yakutat did not exist, we relied on Isleib and Kessel (1973) to provide a regional perspective. To date, 201 species of birds have been recorded at Yakutat. Of the 177 species that occur regularly sometime during the year, 60% (106 species) are known to breed or are suspected of breeding in the area. Compared to areas north of the North Gulf Coast, a large number of species (80) regularly winter in Yakutat.

The terrestrial breeding avifauna is an interesting mix of species and sub-species associated with either coastal and interior ecological regions. Danby (2003) suggested that the Wrangell-St. Elias mountains were a convergent zone of avifaunal elements from six different regions. Species such as the Chestnut-backed Chickadee, Steller's Jay, and Orange-crowned Warbler occur throughout most of the coastal forest ecoregion, and the relative abundance of some species, such as the Hermit Thrush and Varied Thrush, on Yakutat BBS routes is as high as, or higher, than anywhere else in the ecoregion. Isleib and Kessel (1973) suggested that the Malaspina Glacier and adjacent environment may impede northward dispersal of species that primarily dwell farther to the south. Also, glacial advances on the Yakutat Foreland and in Yakutat Bay were likely barriers to movement. The Northern Pygmy-Owl, Western Screech-Owl, Red-breasted Sapsucker, and Pacific-slope Flycatcher reach the northern limits of their breeding ranges at Yakutat. These peripheral species are much less abundant at Yakutat than in areas further south. In general, species richness in coastal, needleleaf forest becomes more depauperate northwest of Yakutat (Kessel and Gibson 1978).

Populations within species show the same effects of isolation. Sub-species of Golden-crowned Kinglet and Brown Creeper, for example, differ between Yakutat and the Kenai Peninsula (Gibson and Kessel 1997), and coastal forms of the Fox and Song Sparrows unique to Yakutat have been described (Gabrielson and Lincoln 1959). Another interesting geographic break in distribution is that of the Townsend's Warbler. The species is a common breeder in southeastern Alaska and at Cordova and on the Kenai Peninsula but is virtually absent at Yakutat. Townsend's Warblers may require multi-layered canopies that are absent in Foreland forests (Cotter and Andres 2000).

The Alsek River bisects the coastal mountain range and provides a corridor from the interior to the coast. For example, the Alder Flycatcher, Gray-cheeked Thrush, and Yellow-rumped Warbler (Myrtle race) likely colonized the Foreland via this river route. The broadleaf forest along the Alsek is less developed than riparian forests farther to the southeast and does not support as diverse of a breeding bird assemblage (Johnson 2003). However, the Gray-cheeked Thrush, a common breeding bird in interior Alaska, is more abundant on the Alsek than on any other trans-mountain river in southeastern Alaska (Johnson 2003). Species wintering on the coast of Alaska may also use the riverine corridor to travel to interior breeding sites (Patten 1982).

Foreland estuaries provide important stopover habitat for migrant waterbirds traveling along the Pacific Flyway. Although only moderate numbers of ducks and geese use the

Foreland's estuaries Petersen et al. (1981), tidal flats support hundreds of thousands of migrant shorebirds (Andres and Browne 2003). Western Sandpipers and Dunlins were the most abundant migrants observed in the Seal Creek-Ahrnklin River estuary.

Yakutat is at the easternmost edge of the breeding range of the Aleutian Tern, a species of Beringian origin. Patten (1982) suggested that Aleutian Tern colonies at Yakutat were some of the largest described for the species. Another species of Beringian origin, the Yellow-billed Loon, winters on inshore waters of Yakutat, and non-breeding individuals usually remain throughout summer. No other seabirds that are common breeders in southwestern Alaska reach Yakutat in substantial numbers.

Seasonal Use

Spring

Spring migration is surely the most exciting time to observe birds at Yakutat. As noted by Isleib and Kessel (1973), the spring migration at Yakutat is spectacular for several reasons: nearby tall mountains restrict migration to a narrow coastal corridor; the region lies at the northern terminus of migration flyways; coastal estuaries, tidal flats, and expanses of shrublands are rare farther south along the Alaskan coast; and the migration schedule is compressed. Although most birds arriving at Yakutat travel along the Pacific flyway, some species arrive from pelagic areas to the west and south and from the interior (Isleib and Kessel 1973). Migrant shorebirds arrive from wintering sites that stretch along the Pacific Coast from southeastern Alaska to southern Chile, and waterfowl arrive from wintering grounds in northern Mexico to British Columbia. Recoveries of banded landbirds suggest that many travel along a coastal migration route. Contrastingly, the Aleutian Tern winters in Indonesia and the Phillipines and flies directly across the Pacific Ocean to reach Yakutat nesting sites. Murrelets and kittiwakes spend the non-breeding season on the Gulf of Alaska's offshore waters.

The start of spring bird migration corresponds with the spawning runs of an anadromous smelt, the Eulachon (*Thaleichthys pacificus*), into rivers and streams on the Yakutat Foreland. Large numbers of Bald Eagles, gulls, and mergansers congregate at stream and river mouths in late February or early March to feed on fish and their eggs. During early spring 1981, Patten (1982) observed more than 1,500 eagles on the Foreland and suggested that concentrations there were second only to those reported along the Chilkat River in Haines, Alaska. During the spawning period, gulls (mainly Glaucous-winged Gulls) can number in the tens of thousands.

By early April, Trumpeter Swan, goose, and duck numbers begin increasing in the Foreland's estuaries, particularly in salt marshes, tidal flats, and freshwater ponds associated with the Situk-Ahrnklin and East Alsek-Doame river estuaries (Petersen et al. 1981, Patten 1982). The major pulse of spring migration occurs during the last week of April and the first two weeks of May. With favorable weather conditions of clear skies and tail winds, numbers of birds passing Yakutat can be staggering. Standing on Canon Beach, one can observe thousands of shorebirds, loons, brants, scoters, and kittiwakes heading northward along the coast. Between late April and early May, hundreds of Sandhill Cranes and raptors pass Yakutat (Table 7; Swem 1983). More than 300,000 shorebirds use the Foreland's tidal flats and salt marshes to feed and rest during spring migration (Table 3; Andres and Brown 1998). The Dunlin and Western Sandpiper are the most abundant species observed in the Foreland's estuaries, and a high

percentage of the Beringian population of the Marbled Godwit passes through the Foreland. A reasonable estimate of the number of songbirds passing Yakutat in the spring is difficult to determine but is likely substantial. Many songbird species are most abundant in shrub habitats during migration. Significant numbers of songbirds may migrate through snow-free alpine areas, along beaches, and some may migrate through the Alsek River corridor (Isleib and Kessel 1973). Patten (1982) suggested that some gulls, jaegers, and phalaropes staging or wintering along the coast use this corridor to reach inland breeding sites. Numerous landbirds, seabirds, shorebirds, and waterfowl are known or suspected to migrate over offshore waters of the Gulf of Alaska (Myres 1965, Isleib and Kessel 1973).

Breeding

By late May or early June, breeding activity is underway for most Yakutat-nesting species. Needleleaf forest, tall shrub, bog, and marsh habitats support the greatest number of breeding species, primarily songbirds. Winter Wrens, Hermit Thrushes, Varied Thrushes, Golden-crowned Kinglets, and Wilson's Warblers are common breeders in the canopy or understory of needleleaf forest, whereas Ruby-crowned Kinglets, Dark-eyed (Oregon only) Juncos, and Yellow-rumped Warblers are more abundant in open needleleaf stands or in mixed forest stands (Table 4). Marbled Murrelets are also common breeders in needleleaf forests. Orange-crowned Warblers, Common Yellowthroats, Lincoln's Sparrows, and Fox Sparrows are common breeders in shrubby bogs or marshes. Proportional representation of breeding birds captured at the banding station is typical of the species composition of a mixed tall shrub-needleleaf forest habitat (Table 5). Yellowlegs, Wilson Snipes, Trumpeter Swans, and several ducks breed on the edges of lakes and ponds or in wet bogs and marshes. Willow Ptarmigans, American Pipits, and Golden-crowned Sparrows breed in low or dwarf shrubs of alpine or early successional habitats.

Compared to Prince William Sound and the Kenai Peninsula, the number of waterbirds breeding along the shorelines of inshore waters is low (Isleib and Kessel 1973). Aleutian and Arctic Terns are the most abundant breeding seabird; large colonies occur on sandy dunes, gravel bars, and alluvial deposits throughout the area. Glaucous-winged and Mew Gulls also nest throughout these same areas, but Black-legged Kittiwakes are restricted to the cliffs of Haenke Island. Pigeon Guillemots and Black Oystercatchers nest along the rocky shorelines of Yakutat Bay and Nunatak and Russell Fiords, and breeding Kittlitz's and Marbled Murrelets use inshore waters for feeding. A large number of Kittlitz's Murrelets were suspected of breeding on the terminal moraines of the Malaspina Glacier (Isleib and Kessel 1973). For most waterbird species, the number of non-breeding individuals greatly exceeds the number of breeding individuals during the summer (Patten 1982). Non-breeding Northern Fulmars, Sooty Shearwaters, cormorants, gulls, scoters, loons, Bald Eagles, and Northwestern Crows are often abundant on the inshore waters and shorelines of Yakutat.

Post-breeding

Post-breeding, or fall, migration begins in July with the southward passage of shorebirds. Due to differential movement of age and sex classes, post-breeding migrations occur over a longer time period relative to those in the spring. Migration pathways are generally reversed from routes used in spring, although some waterfowl and shorebirds are perhaps more likely to undertake southward trans-Gulf flights (Isleib and Kessel 1973). Landbirds banded during fall migration at Yakutat, including a Sharp-shinned Hawk, have been recovered along the Pacific coast from Juneau, Alaska, to southern California. Rufous Hummingbirds and flycatchers depart by the end of July, as do many terns. Isleib observed more than 10,000 Arctic Terns at Ocean Cape during the last week of July (Isleib and Kessel 1973). Songbird migration gradually increases throughout August and reaches a peak during late August to the middle of September. Species composition of songbirds during post-breeding migration is very similar to composition of the breeding period. The most abundant species captured at a post-breeding banding station were the Orange-crowned Warbler, Hermit Thrush, Lincoln's Sparrow, and Ruby-crowned Kinglet (Table 6). Warblers tended to migrate somewhat earlier than sparrows, but patterns vary markedly among species. Numbers of finches and Red-breasted Nuthatches were quite variable among years (Table 6). Most fall-migrant songbirds tend to use tall shrub and shrubby bog habitats rather than needleleaf forest.

Sandhill Crane and raptor migration occurs in September. The passage of cold fronts appears to trigger large southward movements of many migrant bird species (Petersen et al. 1981, Swem 1982, Andres et al. 2003). Migrant shorebirds use the Foreland's tidal flats, sandy beaches, and salt marshes from late July to the end of September, but concentrations are less dramatic than during spring migration. In September, carcasses of spawned salmon attract an increasing number of gulls, Bald Eagles, Northwestern Crows, and Common Ravens (Patten 1982). Dabbling ducks are present in greater numbers on lakes and ponds from early September to early October, and swans and geese are present in freshwater habitats and salt marshes from mid- to late October (Petersen et al. 1981, Patten 1982). Fall storms often force pelagic birds, such as Fork-tailed Storm-Petrels, into protected inshore waters. Black-capped Chickadees, Black-billed Magpies, and Willow Ptarmigan descend onto the Foreland from high elevations during September and October. By the end of October, seaducks arrive on inshore waters.

Winter

The number of landbird species wintering in Yakutat is only a small fraction of those breeding in the area. Abundances of wintering individuals can vary substantially among years (Table 8). Species that rely on inshore waters and shorelines are far more abundant in the winter than species that use shrub or bog habitats. Most wintering songbirds are associated with needleleaf forest. When estuaries freeze in December, seaducks, diving ducks, and other waterbirds move to protected, inshore waters of bays and fiords (Patten 1982). Pigeon Guillemots and gulls are present throughout the winter along rocky shorelines. Late season spawning of salmon supports a winter population of Bald Eagles (Patten 1982); gulls, crows, and ravens also exploit this resource.

ANNOTATED LIST OF BIRDS

Status and Abundance Definitions

Individual accounts describing the seasonal status and habitat use were produced for every species recorded at Yakutat. Inshore waters, rocky shore/cliff, sandy beach/dune, tidal flat, and salt marsh constitute coastal habitats. Residency status, which may be qualified by “probable” or “possible” if absolute evidence is lacking, was defined as follows.

Breeder – a species known to breed

Summer Resident – a non-breeding species present from 1 Jun to 31 Jul

Winter Resident – a species present from 1 Dec to 28 Feb

Migrant – a species transient between wintering and breeding ranges in either spring (1 Mar – 31 May) or fall (1 Aug – 30 Nov)

Visitant – a non-breeding species not directly en route between breeding and wintering ranges; can occur in any season

We constructed the following scale to describe the abundance of a species when it occurred in the proper habitat during the appropriate season. Categories were derived to correspond with various datasets collected at Yakutat. A day is defined as eight person-hours or one BBS route-year.

Abundant	more than 50 individuals/day, 6 birds/hour, or more than 8.33 birds/100 net-hour
Common	10–49 individuals/day, 2–5 birds/hour, or 1.67–8.32 birds/100 net-hour
Fairly Common	5–9 individuals/day, 1 bird/hour, or 0.83–1.67 birds/100 net-hour
Uncommon	2–4 individuals/day, less than 1 bird/hour, or 0.33–0.82 birds/100 net-hour
Rare	1 individual/day or 0.10–0.32 birds/100 net-hour
Occasional	less than 1 individual/day or 0.01–0.10 birds/100 net-hour
Casual	species beyond normal range, usually occurs in small numbers
Accidental	a species beyond its normal range, not to be expected

Species List

Greater White-fronted Goose (*Anser albifrons*). *Common Spring Migrant*. Migrates in large numbers over the outer Foreland sporadically from early Apr through early May with peak movement from 28 Apr to 6 May. Rarely stops on salt marshes and tidal mud flats in estuaries of the Foreland (Peterson et al. 1981) and stops almost exclusively on the Bering and Copper River Deltas (Isleib and Kessel 1973). *Common Fall Migrant*. Follows reverse of spring migration route but also migrates over offshore waters of the Gulf (Gabrielson and Lincoln 1959). Observed in estuaries from mid-Aug (BB) to peak in early Oct, rarely seen thereafter (Patten 1982). Few migrants observed over Yakutat in fall 1981 suggests most geese migrate offshore (Peterson et al. 1981).

Emperor Goose (*Chen canagica*). *Casual Visitant*. One on the exposed reef of Humpy Creek in Feb 2001 (GI, BL). Rare migrant and winter visitor of North Gulf Coast where it may occur from Oct through mid-May (Isleib and Kessel 1973).

Snow Goose (*Chen caerulescens*). *Common Spring Migrant*. Migration completed during a brief period. Over outer Foreland in four days with peak on 20–21 Apr (Peterson et al. 1981). On and over the Copper River Delta from 20 Apr to 5 May (Isleib and Kessel 1973). Large flocks sometimes occur later, migrants over Situk River estuary during early May (Isleib and Kessel 1973). Few flocks stop in estuaries (Patten 1982, BB, MG). *Common Fall Migrant*. Unlike spring, most migrants stop in all Foreland estuaries, especially the extensively used Seal Creek-Anhrnklin River flats from late Sep to mid-Oct. Peak migration in early Oct, nearly 11,000 geese counted on 10 Oct (Peterson et al. 1981, Patten 1982).

Canada Goose (*Branta canadensis*). Two subspecies are most common at Yakutat. **Vancouver Canada Goose** (*B. c. fulva*) *Summer Resident and Probable Breeder*. Flightless adults on Dangerous River on 11 Jul, and 6–15 Aug (Peterson et al. 1981). *Uncommon Winter Resident*. Only subspecies to winter in Alaska, primarily non-migratory within its breeding range (Armstrong 1995). On protected inshore waters (Table 8). More abundant in mild winters (BL, JC). **Dusky Canada Goose** (*B. c. occidentalis*) *Common Spring Migrant*. Migrates past Yakutat (Peterson et al. 1981) and arrives on the Copper River Delta by late Apr where the majority of the population nests (Isleib and Kessel 1973). Hundreds of Canada Geese on Russell and Nunatak Fiords, not identified to subspecies level (Stephensen and Andres 2001), are probable non-breeders of this subspecies or *B. c. fulva*. Breeding on the Foreland not confirmed but possible. Molting flocks on Harlequin Lake in late Jun. “Known or suspected to be breeding” on Malaspina Lake, Dangerous River, and Dry Bay (Patten 1982). *Common Fall Migrant*. In estuaries, especially Seal Creek - Ahrnklin River flats from 6 Aug to 14 Oct (Peterson et al. 1981). **Lesser Canada Goose** (*B. c. parvipes*). *Casual Fall Migrant*. Twelve flying over the East Alsek River on 2 Oct 1980 and 120 on 3 Oct (Patten 1982). **Taverner’s Canada Goose** (*B. c. taverneri*). *Fairly Common Spring Migrant*. Migrates from mid-Apr through early May (Isleib and Kessel 1973). Observed near Yakutat on 17 Apr (Peterson et al. 1981). *Probable Fall Migrant*. On inshore and over offshore waters of Gulf. Fairly common near Copper River Delta during Sep and early Oct (Isleib and Kessel 1973) but not observed near Yakutat (Peterson et al. 1981). **Cackling Canada Goose** (*B. c. minima*). *Rare Spring Migrant*. Migrates sporadically from 9 Apr to 5 May. A few stop in Yakutat estuaries (Peterson et al. 1981). Only subspecies to migrate regularly offshore in spring (Isleib and Kessel 1973). *Probable Fall Migrant*. Observed offshore in fall (Nelson and Hansen 1959). Brief, uncommon migrant of North Gulf Coast in Sep

and Oct, becomes more abundant in poor weather (Isleib and Kessel 1973). Not observed near Yakutat (Peterson et al. 1981).

Brant (*Branta bernicla*). *Uncommon Spring Migrant*. Over offshore waters along outer coast from early Apr to late May, sometimes into late Jun. Most migrate directly across the Gulf (Myers 1972, Isleib and Kessel 1973), although some flocks migrate over inshore waters of the Gulf at low altitudes (less than 3 m, [10 feet]) close to coastal beaches (BA, BB). *Occasional Summer Visitant*. Three on Yakutat Bay in Jun 2000 (Stephensen and Andres 2001) and small flocks (5–10 birds) on East Alsek River delta in late Jun and early July 2001 (JJ). *Uncommon Fall Migrant*. Most migrate directly across the North Pacific (Isleib and Kessel 1973), but also migrate over inshore waters of the Gulf. Most observed in late Sep and early Oct (BL). Rarely stops in Yakutat estuaries (Patten 1982). *Occasional Winter Resident*. One on inshore waters in Dec 1986 (Table 8).

Trumpeter Swan (*Cygnus buccinator*). *Uncommon Spring Migrant*. Migrates in flocks over the outer Foreland (BB, RC) from late Mar to mid-Apr with a rapid and compressed migration peak on 5–8 Apr (Peterson et al. 1981). Stops in estuaries to rest and feed, especially East Alsek and Akwe River flats (Peterson et al. 1981). *Uncommon Breeder*. Nesting pair on Summit Lake for several years (BL, TL). Pairs nest on small ponds from Point Mamby to Doame River. Several separate pairs dispersed in corners of larger Triangle Lake (Patten 1982). Heard on BBS routes (Table 4). *Uncommon Fall Migrant*. Fewer observed than in spring. Stops in estuaries (Patten 1982, JC), especially East Alsek – Doame River flats over a longer time period from late Sep to mid-Oct. Later arrival of adults with young suggests non-breeders depart breeding grounds earlier than breeders (Peterson et al. 1981). Also stops on lakes and ponds (Patten 1982, BL). *Common Winter Resident*. On unfrozen lakes, ponds and estuaries near Yakutat (Table 8; JC), also in Akwe River Estuary in Feb (Patten 1982).

Tundra Swan (*Cygnus columbianus*). *Common Spring Migrant*. Migrates in flocks at higher altitudes than Trumpeter Swan along eastern North Gulf Coast to the Copper River Delta, the only major staging area for these swans, from mid-Apr through mid-May with a peak in late Apr (Isleib and Kessel 1973). *Uncommon Fall Migrant*. Migrates along coast from mid-Sep until early Nov (Isleib and Kessel 1973) during night and day with peak movement past Yakutat on 11–12 Oct (Peterson et al. 1981). Rarely stops in estuaries (Patten 1982).

Gadwall (*Anas strepera*). *Rare Spring Migrant*. Fairly common migrant on ponds and estuaries of Copper River Delta from mid-Apr to mid-May (Isleib and Kessel 1973). Rare in Yakutat. Two on Situk River in late May (Patten 1982) but not observed by Peterson et al. (1981). *Rare Summer Resident*. Few non-breeders on inshore waters of bays and fiords (Stephensen and Andres 2001). Breeds on northern Copper River Delta (Isleib and Kessel 1973). *Fairly Common Fall Migrant*. Considered one of latest dabbling ducks to migrate. Occurs regularly on Copper River Delta in Oct, rare elsewhere (Isleib and Kessel 1973). Two in marsh of upper East Alsek River estuary (Patten 1982) but not observed by Peterson et al. (1981). *Uncommon Winter Resident*. On inshore waters, estuaries, and ponds (Table 8).

Eurasian Wigeon (*Anas penelope*). *Casual Visitant*. Sixteen in East Alsek River estuary on 5 Oct and one in Situk-Ahrnklin River estuary on 10 Oct 1980 (Patten 1982). One on Yakutat boat harbor in Dec 2001 (BL, JL).

American Wigeon (*Anas americana*). *Common Spring Migrant*. On lakes and ponds (Patten 1982) and rivers and estuaries (Peterson et al. 1981) from mid-Apr to late May (Isleib and Kessel 1973). *Uncommon Breeder*. Brood on Situk River (Shortt 1939) and in estuaries (Patten 1982). *Common Fall Migrant*. Most abundant dabbling to stop on the Foreland. Most frequent species on ponds with emergent vegetation, especially near the East River (Patten 1982). On inshore waters of fiords (Patten 1982), estuaries, rivers, lakes and ponds, especially the shallow Summit and Coast Guard Lakes (Peterson et al. 1981) from mid-Aug to mid-Oct (Isleib and Kessel 1973). No winter records at Yakutat, but small flocks winter with other dabbling ducks on tidal flats of Copper River Delta (Isleib and Kessel 1973).

Mallard (*Anas platyrhynchos*). *Common Spring Migrant*. On lakes, ponds, and estuaries, especially East Alsek River flats, from early Apr to late-May with peak in early May (Peterson et al. 1981, Patten 1982). *Common Breeder*. Broods on lakes and ponds near meadows and bogs (U. S. Department of Agriculture Forest Service 1991, Harke 1992, Martin 1994). Immatures on Situk Lake and Russell Fiord (Shortt 1939). Breeding status of summer birds difficult to determine. Both breeders and non-breeders on inshore waters of Russell and Nunatak Fiords (Stephensen and Andres 2001) and rivers and estuaries (Patten 1982). *Common Fall Migrant*. On inshore waters of shallow fiords (Patten 1982), lakes, ponds, and estuaries from early Sep to mid-Oct (Peterson et al. 1981, Patten 1982). *Common Winter Resident*. On inshore waters (Table 8).

Blue-winged Teal (*Anas discors*). *Casual Visitant*. Two on slough at upper East Alsek Forest Service cabin on 28 May 1980 (Patten 1982). Eight drakes at Yakutat airport on 8 Jun 1966 (Isleib and Kessel 1973).

Northern Shoveler (*Anas clypeata*). *Fairly Common Spring Migrant*. On Summit Lake and inshore waters, streams, and tidal flats of estuaries (Patten 1982). Often in mixed flocks with pintails and mallards from late Apr to early Jun (Isleib and Kessel 1981). *Possible Rare Breeder*. Breeds on northern Copper River Delta (Isleib and Kessel 1973). Adults on Summit Lake (Patten 1982) and ponds near Yakutat (Martin 1994, BL). Breeding status of summer birds difficult to determine. Observed near shorelines on Yakutat Bay and associated inshore waters (Stephensen and Andres 2001). Several adults with young of the year at the confluence of the Doame and East Alsek Rivers on 5 July 2001 (JJ). *Fairly Common Fall Migrant*. On ponds and estuaries (Patten 1982) from mid-Aug to mid-Oct (Isleib and Kessel 1973). No winter records at Yakutat, but a few winter with other dabblers on tidal flats of Prince William Sound (Isleib and Kessel 1973).

Northern Pintail (*Anas acuta*). *Common Spring Migrant*. One of earliest and latest ducks to arrive. Stops on lakes, ponds, streams, inshore waters, and estuaries (Peterson et al. 1981, Patten 1982) over a wide time period from early Apr to early Jun (Isleib and Kessel 1973) with peak at Yakutat in late Apr (Peterson et al. 1981). Most abundant species of waterfowl of North Gulf Coast in spring (Isleib and Kessel 1973). *Probable Common Breeder*. One of most common breeding dabbling ducks on Copper River Delta (Isleib and Kessel 1973). Most abundant dabbling duck near Yakutat, especially on mud flats of Situk River Delta (Shortt 1939). On Summit Lake, especially on ponds at the East Alsek River (Patten 1982), and on BBS routes (Table 4). *Common Fall Migrant*. On inshore waters of fiords, ponds, beaches, wet meadows and bogs, and especially tidal flats and salt marshes sporadically from mid-Aug to mid-Oct (Peterson et al. 1981, Patten 1982). Most pass without stopping (Isleib and Kessel 1973). No winter records at Yakutat, but hundreds are estimated to winter on inshore waters of Prince William Sound (Isleib and Kessel 1973).

Green-winged Teal (*Anas crecca*). *Common Spring Migrant*. On lakes, ponds, streams (Patten 1982), wet meadows and bogs, and especially inshore waters of estuaries, primarily the intertidal areas of the Anka saltchucks (Peterson et al. 1981). Migrates sporadically from mid-Apr to late May (Isleib and Kessel 1973). *Common Breeder*. Broods on lakes and ponds (Peterson et al. 1981). Drakes observed on tidal flats of Situk River Delta (Shortt 1939) and Dangerous, Italio, and East Alsek River estuaries during summer (Patten 1982). *Common fall migrant*. On ponds and estuaries, primarily Seal Creek-Ahrnklin River, and East Alsek-Doame Rivers (Peterson et al. 1981). Migrates sporadically from Aug to mid-Oct with peaks in mid-Aug and mid-Sep, which indicates possible migration of two distinct segments of the population at different times (Peterson et al. 1981). No winter records at Yakutat, but occasionally individuals and small flocks winter on inshore waters of sheltered bays and tidal flats of Prince William Sound (Isleib and Kessel 1973).

Canvasback (*Aythya valisineria*). *Occasional Spring Migrant*. On lakes and inshore waters of the Copper River Delta during May with peak in mid-May (Isleib and Kessel 1973). Few observed migrating past Yakutat in mid-May (Shortt 1939). *Casual Summer Visitant*. Two on streams near Point Manby (Patten 1982). Breeding in region reportedly limited to Copper River Delta, apparently common there in marshes (Isleib and Kessel 1973). *Occasional Fall Migrant*. One on East Alsek River estuary on 6 Sep, and 28 on 5 Oct 1980 (Patten 1982). The delta breeding population, which apparently overflies Yakutat, migrates from Sep to mid-Oct (Isleib and Kessel 1973). Exceptional observation of nearly 600 individuals on East Alsek-Doame River estuary on 10 Oct 1981 (Peterson et al. 1981) probably storm-related.

Redhead (*Aythya americana*). *Occasional Spring Migrant*. On deep lakes, rarely estuaries (Peterson et al. 1981). Breeds mostly in east-central Alaska (Armstrong 1995). In North Gulf Coast, breeds only casually on Copper River Delta (Isleib and Kessel 1973). Most coastal migrant birds probably pass into the interior through trans-mountain river valleys south of the region, or conversely, come from the interior. *Casual Summer Visitant*. Adults on Aka Lake and Beanbelly Pond (U. S. Department of Agriculture Forest Service 1991). *Occasional Fall Migrant*. Thirty on East Alsek River estuary in early Oct (Patten 1982).

Ring-necked Duck (*Aythya collaris*). *Common Spring Migrant*. On Summit Lake, Schooner Stream, and East River estuary (Patten 1982). *Common Breeder*. Broods on Aka Lake (U. S. Department of Agriculture Forest Service 1991, Harke 1992, Martin 1994). Probable breeders on Pike Lakes (Martin 1994) and non-breeders on lower East Alsek River estuary in Jun (Patten 1982). No breeding records for Copper River Delta (Isleib and Kessel 1973). May use the Alsek River corridor to disperse to coastal sites. *Common Fall Migrant*. On lakes and inshore waters (Peterson et al. 1981).

Greater Scaup (*Aythya marila*). *Common Spring Migrant*. On inshore waters of fiords and estuaries (Patten 1982) from late Apr to mid May (Isleib and Kessel 1973). *Casual Summer Visitant*. Breeds primarily on Copper River Delta, rare elsewhere in region (Isleib and Kessel 1973). Not observed at Yakutat in 1936 (Shortt 1939). Only adults on ponds of the Foreland in 1994 (Martin 1994) and most likely non-breeders on Yakutat Bay in 1996 (Harke and Leach 1996). *Common Fall Migrant*. On lakes (Peterson et al. 1981, Patten 1982) and estuaries, especially East Alsek, River from early Sep until early Nov with peak movement in late Sep and early Oct (Isleib and Kessel 1973). *Fairly Common Winter Resident*. On inshore waters (Table 8).

Lesser Scaup (*Aythya affinis*). *Casual Spring Migrant*. Two on Summit Lake in late May (Patten 1982). *Possible Breeder*. Adults on Pike Lakes (Martin 1994). Breeds primarily on lakes and ponds in the interior (Armstrong 1995). None identified during breeding season on Copper River Delta (Isleib and Kessel 1973) or near Yakutat in summer 1981 (Patten 1982). Observed as rare fall migrant on Copper River Delta (Isleib and Kessel 1973), but not at Yakutat (Peterson et al. 1981, Patten 1982).

Harlequin Duck (*Histrionicus histrionicus*). *Common Year-round Resident*. Breeds along rapidly flowing streams and rivers (Armstrong 1995). Broods on Ahrnklin River in May (BB, OC, MG). Nests in heavily timbered river valleys (Shortt 1939). Adults on Italio Lake and River (Patten 1982, Harke 1992), and pairs on Alsek River (JJ). Moves from rocky shores of bays, fiords, and islands into river systems to breed (Isleib and Kessel 1973). Individuals that remain on inshore waters in summer are probably non-breeders. On Yakutat Bay and associated rocky shores of inshore waters (Patten 1982), more abundant on fiords than bays (Stephensen and Andres 2001). On rocky shores of Harlequin Lake (Patten 1982) and Icy Bay (Burgess 1992). Breeders, immatures, and non-breeders form flocks that winter on rocky shores along inshore waters (Table 8).

Surf Scoter (*Melanitta perspicillata*). *Common Spring Migrant*. Difficult to separate migrants from residents for all scoter species. Migrates over inshore waters of Gulf (Isleib and Kessel 1973) from early Apr to Jun with peak in mid- to late May (Peterson et al. 1981). Scoters on inshore waters of bays and fiords during spring and fall migration (Patten 1982) are probably residents or transitional migrants. *Occasional Breeder*. Broods on Disenchantment Bay and Russell Fiord in summer, but nesting sites not found (Shortt 1939). *Common Summer Resident*. Breeding status of summer birds difficult to determine. Mostly non-breeders near shorelines of bays and especially Russell and Nunatak Fiords (Stephensen and Andres 2001). Most frequently observed seaduck on the Gulf (Harke and Leach 1996) and inshore waters of bays and fiords with more than 10,000 individuals present during summer (Patten 1982). *Common Fall Migrant*. Migrates over inshore waters of Gulf from early Aug through mid-Oct (Peterson et al. 1981) and migrates past Copper River Delta through Nov (Isleib and Kessel 1973). *Common Winter Resident*. On shallow inshore waters of bays, fiords, and the Gulf (Table 8; BL). Estimated tens of thousands on North Gulf Coast and Prince William Sound (Isleib and Kessel 1973).

White-winged Scoter (*Melanitta fusca*). *Common Spring Migrant*. On lakes occasionally but migrates mostly over inshore waters of the Gulf from early Apr through May (Isleib and Kessel 1973, Peterson et al. 1981). *Occasional Breeder*. Brood on Disenchantment Bay on 5 Aug (Shortt 1939). *Common Summer Resident*. Near shorelines of inshore waters of bays, fiords (Patten 1982, Stephensen and Andres 2001), and the Gulf (Harke and Leach 1996). *Common Fall Migrant*. Migrates over inshore waters of Gulf from early Aug through Oct (Isleib and Kessel 1973, Peterson et al. 1981). *Abundant Winter Resident*. On shallow inshore waters of bays, fiords, and the Gulf (BL), most abundant seaduck in winter (Table 8). Estimated tens of thousands on North Gulf Coast and Prince William Sound (Isleib and Kessel 1973).

Black Scoter (*Melanitta nigra*). *Fairly Common Spring Migrant*. Migrates over inshore waters of Gulf from early Apr to late May (Peterson et al. 1981). *Uncommon Summer Resident*. Least numerous of all scoter species (Isleib and Kessel 1973). Non-breeders near shorelines of Icy Bay (Burgess 1992), Yakutat Bay, and Russell Fiord. Often in mixed flocks with other scoter species (Patten 1982, Stephensen and Andres 2001) which feed over mussel beds (Isleib and Kessel 1973). *Fairly Common Fall Migrant*. Migrates over inshore waters of Gulf from Sep

(Isleib and Kessel 1973) through Oct (Patten 1982). *Common winter resident*. On shallow inshore waters of bays, fiords, and the Gulf (Table 8; BL).

Long-tailed Duck (*Clangula hyemalis*). *Common Spring Migrant*. More often on inshore waters of bays and fiords (Patten 1982) than on offshore waters from late Mar to late May with peak movement from late Apr to mid-May (Isleib and Kessel 1973). *Rare Summer Resident*. Near islands on Yakutat Bay (Shortt 1939, Harke and Leach 1996) and associated inshore waters of estuaries (Patten 1982), bays, and fiords (Stephensen and Andres 2001). Breeding plumage male on East Alsek River 3 July 2001 (JJ). *Common Fall Migrant*. On inshore waters of estuaries, bays, and fiords (Patten 1982) from late Sep to early Nov. Fewer migrants observed in fall, more might pass over offshore waters (Isleib and Kessel 1973). *Fairly Common Winter Resident*. On inshore waters (Table 8). Estimated thousands on North Gulf Coast and Prince William Sound in winter (Isleib and Kessel 1973).

Bufflehead (*Bucephala albeola*). *Common Spring Migrant*. Migrates along coast and stops on lakes, ponds, rivers, and estuaries (Peterson et al. 1981) from late Mar to late May with peak in mid-Apr (Isleib and Kessel 1973). *Occasional Breeder*. Nests in tree cavities (Armstrong 1995). Broods on Redfield Lake in summer 1991 (U. S. Department of Agriculture Forest Service 1991) and historically near Yakutat Bay in 1895 and 1899 (Gabrielson and Lincoln 1959). *Common Fall Migrant*. Migrates along coast and stops on lakes, ponds, rivers, estuaries (Peterson et al. 1981), and rarely fiords (Patten 1982) from early Sep to early Nov (Isleib and Kessel 1973). *Common Winter Resident*. On inshore waters (Table 8).

Common Goldeneye (*Bucephala clangula*). *Common Spring Migrant*. Migrates over the Foreland and stops on lakes, ponds, and rivers from late Mar through early May with peak in late Apr (Isleib and Kessel 1973). *Fairly Common Probable Breeder*. Nests in tree cavities (Armstrong 1995). Broods on most lakes and ponds (U. S. Department of Agriculture Forest Service 1991, Harke 1992), although this species could have been mistaken for Barrow's Goldeneye. Pairs seen on Alsek River (JJ). Few breeding records from the Copper River Delta and only Barrow's Goldeneye previously observed near Yakutat (Peterson et al. 1981, Patten 1982). Less abundant than Barrow's near shorelines on Yakutat Bay and associated inshore waters (Stephensen and Andres 2001), but in equal abundance on BBS routes (Table 4). *Common Fall Migrant*. Migrates along outer coast from mid-Sep to mid-Nov (Isleib and Kessel 1973). *Common Winter Resident*. On inshore waters (Table 8).

Barrow's Goldeneye (*Bucephala islandica*). *Common Spring Migrant*. Migrates along outer coast and stops on lakes, ponds, rivers, and estuaries, especially East Alsek-Doame Rives (Peterson et al. 1981) from late Mar to early May with peak in Apr (Isleib and Kessel 1973). *Common Breeder*. Nests in tree cavities and holes among rocks and cliffs (Armstrong 1995). Numerous young on Ahrnklin River (BB, MG), Situk River, Disenchantment Bay, and Russell Fiord (Shortt 1939). Near shorelines of Yakutat Bay and associated inshore waters (Stephensen and Andres 2001) and on BBS routes (Table 4). *Common Fall Migrant*. Migrates along outer coast and stops on lakes, ponds, rivers, fiords, and estuaries, especially Russell Fiord and East Alsek – Doame River estuary (Peterson et al. 1981, Patten 1982) from mid-Sep to late Oct (Isleib and Kessel 1973). *Common Winter Resident*. On inshore waters, lakes, and rivers (Table 8).

Hooded Merganser (*Lophodytes cucullatus*). *Casual Summer Visitant*. On lakes, ponds, streams, and sheltered inshore waters of Copper River Delta, although not occurring every year (Isleib and Kessel 1973). No confirmed breeding records as of 1973, but species may have expanded range since then. Spring migrants not observed (Peterson et al. 1981, Patten 1982), but

present given summer occurrence. *Rare Breeder*. Nests in tree cavities (Armstrong 1995). Broods on Redfield and Aka Lakes (U. S. Department of Agriculture Forest Service 1991, Harke 1992) and annually on Tahwah Creek (BA). Yakutat is at the northern limit of breeding range. *Rare Fall Migrant*. On ponds, small streams, and inshore waters from Aug through Nov (BA, BB, BL). *Rare Winter Resident*. On streams and inshore waters (Table 8).

Common Merganser (*Mergus merganser*). *Common Spring Migrant*. Migrates along outer coast and stops on lakes, rivers, and estuaries, especially Alsek, Dangerous, and Italio River mouths (Patten 1982) from late Mar to early May (Isleib and Kessel 1973). *Common Breeder*. Nests in tree cavities, cliff crevices, and on ground under cover in forested areas along rivers (Armstrong 1995). Broods on Summit and Aka Lakes, and especially Situk River (U. S. Department of Agriculture Forest Service 1991, Harke 1992, Martin 1994) where a flock of about 100 young was observed in 1936 (Shortt 1939). Most abundant species on rivers and streams near Dry Bay (BB, JJ). Estimated thousands on the rivers of the Foreland (Patten 1982). Non-breeders at stream mouths on bays and especially fiords (Stephensen and Andres 2001). *Common Fall Migrant*. Stops on lakes, rivers, and along shorelines of nearshore waters of bays, fiords, estuaries, and rarely the Gulf (Patten 1982). Migrates along outer coast in large mixed flocks with Red-breasted Mergansers from early Sep (Peterson et al. 1981) through Nov (Isleib and Kessel 1973). *Fairly Common Winter Resident*. On inshore waters, rivers, rocky shores, sandy beaches (Table 8). Concentrated population of more than 400 individuals in Akwe River Estuary in Feb (Patten 1982).

Red-breasted Merganser (*Mergus serrator*). *Common Spring Migrant*. Migrates along outer coast and stops on rivers and especially estuaries, mostly in Dry Bay (Peterson et al. 1981) during Apr and May (Isleib and Kessel 1973). *Fairly Common Breeder*. Broods on lakes, ponds (Harke 1992) and rivers (BB, MG). Non-breeders along shorelines of Yakutat Bay and associated inshore waters (Stephensen and Andres 2001) and on Alsek River (JJ). *Common Fall Migrant*. Migrates along coast and stops in estuaries, especially East Alsek-Doame Rivers (Peterson et al. 1981, Patten 1982) from Sep through Nov (Isleib and Kessel 1973). *Abundant Winter Resident*. On inshore waters, only season when more abundant than Common Merganser (Table 8).

Willow Ptarmigan (*Lagopus lagopus*). *Fairly Common Year-round Resident*. Breeds on ground in shrubs and dwarf shrub of valleys 305–762 m (1,000–2,500 feet; Isleib and Kessel 1973), also in shrubby habitats near sea level. Young collected along western Disenchantment Bay and crowing males throughout the alpine, especially near Malaspina Glacier, Disenchantment Bay, and Russell Fiord (Fuertes 1899, Shortt 1939). On recently de-glaciated alluvia on the Arrowhead Peninsula in Icy Bay (Burgess 1992) and northern Harlequin Lake (BB, BL). Near Malaspina Lake and in shrubs near East Alsek River (Patten 1982). Forms large flocks in fall and winter between Yakutat and Dry Bay where adjacent hills and valleys provide the most abundant breeding habitat in the area (Isleib and Kessel 1973). Flock of ten in willows near airstrip in Dry Bay in Oct (Patten 1982), and near Harlequin Lake airstrip in January (BL).

Rock Ptarmigan (*Lagopus mutus*). *Fairly Common Year-round Resident*. Breeds on ground in shrubs, especially on rocky alpine ridges. At higher elevations and less abundant than Willow Ptarmigan. Breeding pair at 610 m (2,000 feet) along western Russell Fiord. Individuals along western Disenchantment Bay (Shortt 1939).

Blue Grouse (*Dendragapus obscurus*). *Accidental*. One individual 14 km (nine miles) northeast of mouth of Alsek River on 8 May 1973 (Isleib and Kessel 1973), possibly an escapee

(K. Fanning, Yakutat Lodge, personal communication). Breeds in Alaska only in the Southeast, common on slopes in needleleaf forests along the Chilkat River (BA). Fairly common to the south at Lituya Bay (Weisbrod 1977). May be able to disperse through the Alsek River corridor to the Foreland in the future.

Red-throated Loon (*Gavia stellata*). *Common Spring Migrant*. On Malaspina Lake, inshore waters of estuaries, bays, fiords (Patten 1982), and especially the Gulf of Alaska from mid-Apr to late May (Isleib and Kessel 1973). *Uncommon Breeder*. Breeds on shallow ponds at the Malaspina Glacier (Patten 1982). Unlike other loons, flies to lakes and inshore waters to feed (Isleib and Kessel 1973). Immatures with adults on inshore waters of Russell Fiord (Shortt 1939). *Uncommon Summer Resident* on inshore waters of estuaries (Patten 1982), Yakutat and Disenchantment Bays, and Russell and Nunatak Fiords (Stephensen and Andres 2001). *Common Fall Migrant*. On inshore waters of estuaries, bays, fiords (Patten 1982), and the Gulf from early Sep to early Nov (Isleib and Kessel 1973). *Probable Winter Resident*. Estimated hundreds to thousands on inshore waters of Prince William Sound and North Gulf Coast (Isleib and Kessel 1973).

Pacific Loon (*Gavia pacifica*). *Common Spring Migrant*. Most abundant loon on Yakutat Bay in May (Shortt 1939). On offshore (Armstrong 1995) and inshore waters of estuaries, bays (Patten 1982), and especially the Gulf from late Apr through mid-May (Isleib and Kessel 1973). Often migrates close to coastal beaches (BA, BB). *Uncommon Summer Resident*. On Yakutat Bay and associated inshore waters. More abundant on smaller fiords than larger bays (Andres and Stephensen 2001). On inshore waters of estuaries (Patten 1982) and the Gulf (Harke and Leach 1996). *Common Fall Migrant*. On offshore waters (Armstrong 1995) and inshore waters of bays (Patten 1982) and the Gulf from late Sep through early Nov (Isleib and Kessel 1973). *Common Winter Resident*. On offshore waters (Armstrong 1995) and inshore waters (BL). Only loon that forms large, dense aggregations in the North Gulf Coast (Isleib and Kessel 1973).

Common Loon (*Gavia immer*). *Common Spring Migrant*. On lakes (BL) and inshore waters of estuaries, bays, fiords, and the Gulf (Patten 1982) from mid-Apr to mid-May (Isleib and Kessel 1973). *Fairly Common Breeder*. Breeds on lakes in needleleaf forest (Isleib and Kessel 1973). A pair on Situk Lake for several years (BB, BL). Feeds and rests on inshore waters adjacent to their breeding lakes (Isleib and Kessel 1973). Young with adults on Monti Bay near Khantaak Island in late Aug (Shortt 1939). Breeding status of summer birds often difficult to determine. Both breeders and non-breeders on Yakutat Bay and associated inshore waters, more abundant on bays than fiords (Stephensen and Andres 2001). On inshore waters of estuaries (Patten 1982) and the Gulf (Harke and Leach 1996). *Common Fall Migrant*. On Situk Lake and inshore waters of estuaries, bays, fiords (Patten 1982) and the Gulf from early Oct through early Nov (Isleib and Kessel 1973). *Common Winter Resident*. On protected inshore waters (Table 8; Isleib and Kessel 1973).

Yellow-billed Loon (*Gavia adamsii*). *Uncommon Spring Migrant*. Difficult to separate migrants from winter residents. Probable migrants along outer coast from late Mar to Jun (Isleib and Kessel 1973). On offshore waters (Armstrong 1995) adjacent to Malaspina Glacier (Shortt 1939) and inshore waters of bays (BL). *Uncommon Summer Resident*. In breeding and non-breeding plumage on Yakutat Bay and associated inshore waters (Stephensen and Andres 2001, BA). On inshore waters of the Gulf (Harke and Leach 1996). *Uncommon Fall Migrant*. On offshore waters (Armstrong 1995) and inshore waters of bays (Patten 1982, BA) and the Gulf

from late Sep through mid-Nov (Isleib and Kessel 1973). *Uncommon Winter Resident*. On inshore waters (Table 8).

Horned Grebe (*Podiceps auritus*). *Common Spring Migrant*. On lakes, ponds, and especially inshore waters of protected bays and estuaries from late Apr through the third week of May with peak in second week of May (Isleib and Kessel 1973). No breeding evidence at Yakutat, but nests on ponds of the Copper River Delta (Isleib and Kessel 1973). *Common Fall Migrant*. On lakes, ponds, and protected inshore waters of estuaries, bays, and fiords (Patten 1982) from Sep to early Nov (Isleib and Kessel 1973). *Uncommon Winter Resident*. On inshore waters of estuaries and bays (Isleib and Kessel 1973, BL).

Red-necked Grebe (*Podiceps grisegena*). *Common Spring Migrant*. On inshore waters of bays (Shortt 1939, Patten 1982) and especially the Gulf from late Apr through mid-May (Isleib and Kessel 1973). *Casual Summer Visitant*. Two on inshore waters near Knaantak Island on 9 Jun 1980 (Patten 1982). *Common Fall Migrant*. On Situk Lake, East River, and inshore waters of estuaries, bays, and fiords (Patten 1982) from late Aug to late Oct (Isleib and Kessel 1973). *Uncommon Winter Resident*. On shallow, protected inshore waters (Table 8; Isleib and Kessel 1973).

Black-footed Albatross (*Phoebastria nigripes*). *Casual Visitant*. One on inshore waters of the Gulf about 1.6 km (1 mile) from Yakutat Bay on 5 Jul 1936 (Shortt 1939). Common on offshore waters along North Gulf Coast between May and Oct (Isleib and Kessel 1973).

Northern Fulmar (*Fulmarus glacialis*). *Common Visitant*. Common on offshore waters of the Gulf year-round and inshore waters of the Gulf in summer (Isleib and Kessel 1973). On inshore waters of the Gulf near Yakutat in spring (Laing 1925 in Isleib and Kessel 1973) and summer (Shortt 1939). Estimated thousands on Yakutat and Disenchantment Bays in summer (Stephensen and Andres 2001). On Yakutat Bay in fall and winter (BL).

Sooty Shearwater (*Puffinus griseus*). Migrates over offshore waters of the Gulf with peak during late May (Myers 1972). *Common Summer Visitant*. Most abundant pelagic, southern-latitude breeder with flocks of millions on offshore waters of the North Gulf Coast (Isleib and Kessel 1973). Becomes less common inshore, and south towards Yakutat. Thousands on inshore waters of the Gulf adjacent to Cape Suckling (Isleib and Kessel 1973), considerably fewer on inshore waters of the Gulf near Yakutat (Shortt 1939, Harke and Leach 1996). Often observed from shore and known to escort boats (JS, MS). *Common Fall Migrant*. On inshore waters in mid-Sep (BB). Status of the **Short-tailed Shearwater** (*P. tenuirostris*), which is similar in appearance to the Sooty, on the inshore waters of Yakutat is uncertain, but at least a few individuals are likely to occur as summer visitants.

Fork-tailed Storm-Petrel (*Oceanodroma furcata*). *Common Spring Migrant*. Migrates over offshore waters of the Gulf and arrives on inshore waters of Prince William Sound in May (Isleib and Kessel 1973). Strong winds displace petrels from the Gulf onto inshore waters of estuaries and bays during storms (Isleib and Kessel 1973, BB, MG). *Rare Summer Resident*. On offshore waters (Isleib and Kessel 1973) and inshore waters of Yakutat and Disenchantment Bays (Stephensen and Andres 2001) and the Gulf (Harke and Leach 1996). *Common Fall Migrant*. On inshore waters of estuaries and bays during storms (BA, BB), otherwise migrates offshore from mid-Sep to mid-Nov (Isleib and Kessel 1973). *Probable Winter Visitant*. On offshore and inshore waters of the North Gulf Coast (Isleib and Kessel 1973).

Brandt's Cormorant (*Phalacrocorax penicillatus*). *Casual Visitant*. One in breeding plumage released from a subsistence fishing net near the fuel dock in Monti Bay in May 1998 (BL, MF).

Double-crested Cormorant (*Phalacrocorax auritus*). *Common Spring Migrant*. On rocky shores, and adjacent inshore waters of estuaries, bays, fiords (Patten 1982) and the Gulf from late Mar through May with peak from late Apr to early May (Isleib and Kessel 1973). *Rare Breeder*. Only cormorant on freshwater and shallow estuaries. Breeds on cliffs, islands, and in trees near marine or freshwater (Armstrong 1995). Historical colonies on Russell and Nunatak Fiords (Shortt 1939) not present in 2001 (Stephensen and Andres 2001). Breeding status of summer birds difficult to determine. Both breeders and non-breeders rest on rocky shores adjacent to the inshore waters of bays and fiords (Stephensen and Andres 2001). *Common Fall Migrant*. On lakes, rocky shores, and adjacent inshore waters of estuaries, bays, fiords (Patten 1982) and especially the Gulf from Aug to Nov (Isleib and Kessel 1973). *Uncommon Winter Resident*. On rocky shores and inshore waters (BL).

Red-faced Cormorant (*Phalacrocorax urile*). *Casual Visitant*. One in breeding plumage in Seal Creek - Ahrnklin River Estuary on 12 May 1997 (OC).

Pelagic Cormorant (*Phalacrocorax pelagicus*). *Common Spring Migrant*. Difficult to separate migrants from winter residents. Migration occurs as a population shift on inshore waters of bays (Patten 1982) and especially along outer coast in Apr (Isleib and Kessel 1973). *Uncommon breeder*. Colonies at Cape Enchantment and Nunatak Fiord (Shortt 1939) not present in 2001 (Stephensen and Andres 2001). Breeding status of summer birds difficult to determine, as both breeders and non-breeders on inshore waters of Yakutat and Disenchantment bays (Patten 1982, Stephensen and Andres 2001) and the Gulf (Harke and Leach 1996). *Common Fall Migrant*. Migration occurs as a population shift on inshore waters of bays, rarely in estuaries (Patten 1982), and especially along outer coast in Sep and Oct (Isleib and Kessel 1973). *Occasional Winter Resident*. On inshore waters (Table 8).

Great Blue Heron (*Ardea herodias*). *Uncommon Spring Migrant*. Often migrates over sandy beaches of the outer coast and turns inland adjacent to suitable breeding and resting habitat (BB, MG). *Rare Breeder*. Breeds in colonies in tall trees and uses a variety of habitats to feed (Armstrong 1995). Heronry in needleleaf forest at Port Frederick reported (JC), and unconfirmed heronry near Humback Creek (Shortt 1939). On rocky shores along Yakutat Bay and associated inshore waters (Harke and Leach 1996, Stephensen and Andres 2001). *Uncommon Fall Migrant*. Roosts in spruce trees on Monti Bay. On rocky shores of inshore waters, especially the Ankau Saltchucks (BB, BL). In salt marshes and adjacent shallow brackish waters of East Alsek River estuary (Patten 1982, BB). Difficult to separate migrants from residents, timing of migration uncertain. *Occasional Winter Resident*. In needleleaf forest edge and rocky shores along sheltered inshore waters (Table 8; BL).

Osprey (*Pandion haliaetus*). *Uncommon Spring Migrant* (Table 7). Migrates during late Apr and early May (Isleib and Kessel 1973, Swem 1983). *Occasional Breeder*. Nests in trees near water (Armstrong 1995). One nest along Situk River on 29 May 1936 (Shortt 1939), an adult carrying food over Seal Creek in May 1996 (BB, RC), and one at Situk Lake in Jul (GI). *Occasional Fall Migrant* (Table 7). Migrates from late Aug to mid-Oct (Isleib and Kessel 1973).

Bald Eagle (*Haliaeetus leucocephalus*). *Common Spring Migrant*. Difficult to separate migrants from residents. Apparently migrates during Apr and early May (Isleib and Kessel 1973). *Common Breeder*. Nests in spruce and cottonwood trees along most rivers (Shortt 1939,

Patten 1982) and shorelines of inshore waters of bays, fiords (Patten 1982, Stephensen and Andres 2001), estuaries (BB, MG), and the Gulf (Harke and Leach 1996). Most abundant raptor on BBS routes (Table 4). Both breeders and non-breeders present, especially on rivers during salmon runs (BB, BL). *Common Fall Migrant*. Migrates from late Aug to mid-Nov (Isleib and Kessel 1973). *Common Winter Resident*. In almost all habitats, especially rivers, rocky shorelines, estuaries, and beaches (Table 8). Feeds on late-spawning salmon in early winter (Patten 1982). Concentrated population of more than 500 individuals in Dangerous and Akwe river estuaries in late Feb in response to spawning of eulachon (Patten 1982). Concentrations continue in estuaries through early spring

Northern Harrier (*Circus cyaneus*). *Common Spring Migrant*. Most abundant raptor during spring migration (Table 7). Migrates through various habitats, especially bogs, meadows, and estuaries from late Apr to early May (Isleib and Kessel 1973, Swem 1983). *Fairly Common Breeder*. Nesting pair near wet meadow on Blacksand Island (BB, MG) and single adults on Alsek River in July (JJ). *Common Fall Migrant* (Table 7). Observed in estuaries, meadows, bogs, dunes (Patten 1982), and other various habitats throughout the Foreland, also over nearshore waters and alpine ridges along ice fields and glaciers from late Aug through Sep (Isleib and Kessel 1973). *Probable Winter Resident*. Observed irregularly on Copper River Delta, mostly in years with mild winters and high rodent populations (Isleib and Kessel 1973).

Sharp-shinned Hawk (*Accipiter striatus*). *Common Spring Migrant*. With the harrier, constitutes most spring and fall raptor observations (Table 7). Migrates from late Apr to early May (Isleib and Kessel 1973, Swem 1983). *Rare Breeder*. Nest with young in hemlock tree near Situk Lake (Shortt 1939). On BBS routes (Table 2). *Common Fall Migrant*. Most abundant raptor during fall migration (Table 7). Observed in various habitats during Sep (Isleib and Kessel 1973). One banded at Yakutat recovered near Vancouver, British Columbia (BA). *Occasional Winter Resident*. One in Dec 1985 and 1987 (Table 8).

Northern Goshawk (*Accipiter gentilis*). Essentially non-migratory in North Gulf Coast (Isleib and Kessel 1973). Resident near Harlequin Lake (BL). *Rare Spring Migrant*. A few migrants observed in spring and fall (Table 7). *Occasional Breeder*. Two immatures collected in needleleaf forest near Yakutat in mid-Aug 1936 (Shortt 1939). Occasionally observed on BBS routes (Table 4). *Rare Fall Migrant*. Present throughout fall (BA, BB). One in shrub in vicinity of Forest Service East River Cabin and Bear Island on 30 Sep 1980 (Patten 1982). *Probable Occasional Winter Resident*. Tends to disperse to areas where ample food sources are available (Isleib and Kessel 1973).

Red-tailed Hawk (*Buteo jamaicensis*). *Occasional Spring Migrant*. Usually along coast (Table 7). Migrates to southcoastal Alaska through valleys (Isleib and Kessel 1973, BA, BB) from the interior where it is a common breeder (Armstrong 1995). *Probable Occasional Breeder*. Breeds rarely in North Gulf Coast (Isleib and Kessel 1973). Apparently breeding near Miller Creek in 2002 (PO). One collected at Yakutat on 17 Jul 1895 (Gabrielson and Lincoln 1959). One adult near Malaspina Glacier on 11 Jul 1936 (Shortt 1939), and one in cottonwood along East Alsek River (Patten 1982). On BBS routes (Table 4) and annually near clear cuts (BA). *Occasional Fall Migrant*. Present along coast from late Aug to mid-Sep (Table 7; BA, BB).

Rough-legged Hawk (*Buteo lagopus*). *Rare Spring Migrant* (Table 7). Migrates from mid-Apr to mid-May (Isleib and Kessel 1973). Occasional summer visitant. Individuals observed twice at Malaspina Glacier (Shortt 1939). *Occasional Fall Migrant* (Table 7). Migrates from late Aug to late Oct (Isleib and Kessel 1973). Two in shrub in vicinity of Forest Service East River

Cabin and Bear Island in late Sep, and one in shrub along Dangerous River in mid-Oct (Patten 1982). One on cliffs of the Arrowhead Peninsula in Icy Bay in late Aug (Burgess 1992).

Golden Eagle (*Aquila chrysaetos*). *Casual Summer Visitant*. Spring migrants observed in the North Gulf Coast (Isleib and Kessel 1973) but not observed passing the Malaspina Glacier (Table 7). *Possible Occasional Breeder*. A pair “evidently” nesting on Mount Tebenkoff Cliffs (Shortt 1939). *Occasional Fall Migrant*. One observed passing Malispina Glacier in fall 1982 (Table 7). One migrating along lower East Alsek River estuary in late Aug and another in mid-Sep. Two migrating along ridge near north Harlequin Lake in mid-Oct (Patten 1982).

American Kestrel (*Falco sparverius*). *Occasional Spring and Fall Migrant*. More abundant but rare during fall migration (Table 7). One captured at migration banding station in shrubby meadow and observed there in early Sep (BA, BB). One observed in shrub in vicinity of Forest Service East River Cabin and Bear Island in late Sep (Patten 1982). Observed on Copper River Delta only in fall (Isleib and Kessel 1973).

Merlin (*Falco columbarius*). *Uncommon Spring Migrant* (Table 7). Stops in estuaries to hunt migrant shorebirds and waterfowl (BB, MG) from late Mar through early May (Isleib and Kessel 1973). *Rare Breeder*. Nesting pair several years in needleaf forest near Monti Bay and Ankua salt chucks (BL, MF, BA). One adult on Khantaak Island (Shortt 1939). *Rare Fall Migrant* (Table 7). Stops in shrubs and estuaries (Patten 1982) to hunt from early Sep to late Oct (Isleib and Kessel 1973). Frequently observed on the Arrowhead Peninsula in Icy Bay hunting songbirds, especially flushing abundant Orange-crowned Warblers from shrubs, and several plucking posts found (Burgess 1992). No winter records at Yakutat, but rare winter resident near Copper River Delta. Most abundant in winters when songbirds are abundant (Isleib and Kessel 1973).

Gyrfalcon (*Falco rusticolus*). *Casual Migrant*. One in Dry Bay in spring (JC), one near migration banding station in fall 1995 (TT), and one near the station on 11 Sep 1997 (BB).

Peregrine Falcon (*Falco peregrinus*). *Occasional Spring Migrant* (Table 7). Stops in estuaries to hunt migrant shorebirds and waterfowl (BB, MG) from mid-Apr to mid-May (Isleib and Kessel 1973). *Rare Probable Breeder*. Breeds along North Gulf Coast near seabird colonies and waterfowl breeding grounds (Isleib and Kessel 1973). At Cape Latouche on Sitkagi Bluffs near proper nesting habitat (Shortt 1939). *Occasional Fall Migrant* (Table 7). Migrates in estuaries (Patten 1982) from early Sep to mid-Oct synchronous with peak waterfowl movement (Isleib and Kessel 1973). Regular winter resident along North Gulf Coast (Isleib and Kessel 1973), but not recorded in winter at Yakutat.

American Coot (*Fulica americana*). *Casual Visitant*. Few post-breeders on Tahwah Creek every Oct (VH, BL). Two observations on Cordova boat harbor (Isleib and Kessel 1973).

Sandhill Crane (*Grus canadensis*). *Common Spring Migrant*. Migrates over the Foreland from late Apr to early May (Peterson et al. 1981). Occasionally stops in estuaries and open meadows near landing strips (BL, JL). *Common Fall Migrant*. Most migrate during a few days in mid-Sep. Flocks of thousands flying and circling in thermals on clear weather days 17–19 Sep (Peterson et al. 1981, Patten 1982, BB). Weather conditions may result in earlier or later migration. Eight hundred passed in two hours on 6 Sep 1994 (BA), and 450 passed on 6 Sep 1980 (Patten 1982). An additional 4,000 passed on 17–18 Sep 1980 (Patten 1982). Two peaks might indicate earlier movement of non-breeders or possible separate breeding populations. Rarely stops in estuaries, bogs, or meadows. Some present into Oct (Patten 1982).

Black-bellied Plover (*Pluvialis squatarola*). *Common Spring Migrant* (Table 3). Unless noted otherwise, all spring shorebirds migrate from mid-Apr through late May with the peak of movement in first week of May (Andres and Browne 1998). Like many medium to large (length more than 23 cm [9 cm]) shorebirds, plovers stop in estuaries to rest and feed for several days (Andres and Browne 1998). Roosts in small (less than 50 individuals) flocks in salt marshes and feeds on tidal mudflats (BA, BB). One collected on Khantaak Island and on Malaspina Glacier near Icy Bay in May (Shortt 1939). *Common Fall Migrant*. Migrates in estuaries and along beaches from Aug to mid-Sep (Isleib and Kessel 1973, Patten 1982) with peak of movement in late Aug (Peterson et al. 1981). Fall migrants typically use similar habitats as in spring. Fall migration in all shorebirds extends over several months due to the differential migration of age and sex classes.

American Golden-Plover (*Pluvialis dominica*). *Rare Spring Migrant* (Table 3). Stops in estuaries and stays several days to rest in salt marshes and feed on tidal mudflats (BA, BB). *Rare Fall Migrant*. Migrates from mid-Jul until early Sep, present until mid-Oct (Isleib and Kessel 1973). In East Alsek River estuary in late Sep (Patten 1982).

Pacific Golden-Plover (*Pluvialis fulva*). *Uncommon Spring Migrant* (Table 3). Stops in estuaries, and stays several days to rest in salt marshes and feed on tidal mudflats (BA, BB). *Uncommon Fall Migrant*. Migrates from mid-Aug to mid-Sep (BB, JS).

Semipalmated Plover (*Charadrius semipalmatus*). *Fairly Common Spring Migrant* (Table 3). Stops on tidal mudflats and sandy beaches of estuaries and the Gulf (BA, BB), rarely along rivers and streams (Patten 1982). *Fairly Common Breeder*. Breeding population increase in North Gulf Coast attributed to increased amount of gravel beaches from uplift of 1964 Alaska earthquake (Isleib and Kessel 1973). Nests in sand dunes on Lost River and Situk River deltas (Shortt 1939) and on gravel bars of Alsek River (JJ). Breeding status of summer birds difficult to determine. Both breeders and non-breeders on sandy beaches of estuaries the Gulf on Blacksand Spit, and on sandy and gravelly shores of lakes and rivers (Patten 1982). *Fairly Common Fall Migrant*. Stops in estuaries and on beaches from early Aug to late Sep (Patten 1982, BB).

Killdeer (*Charadrius vociferus*). *Casual Visitant*. One on rocky shore near Situk River Delta on 27 Jul 1936 (Shortt 1939), and one at Yakutat airport on 19–20 May 1966 (Isleib and Kessel 1973). One on tidal meadows in Seal Creek-Ahrnklin River estuary in spring 1997 (Table 3), and a single bird sometime during 1980–1981 (Patten 1982).

Black Oystercatcher (*Haematopus bachmani*). *Fairly Common Spring Migrant*. Migrates over sandy beaches of the Gulf and also uses inshore waters of bays and fiords (BA, BB). *Common Breeder*. Breeds on rocky shores above tidal zone near grass line (Isleib and Kessel 1973). Nesting pairs on Osier Island in Disenchantment Bay (Shortt 1939) and on rocky shorelines of Yakutat Bay and associated inshore waters (Patten 1982, Stephensen and Andres 2001). Possible breeders in Haenke Island seabird colony (Patten 1982) and Icy Bay (Burgess 1992). Highest density in Russell and Nunatak Fiords (Stephensen and Andres 2001). *Fairly Common Fall Migrant*. Difficult to separate migrants from residents, but passage birds observed over beaches of the Gulf. Peak of movement apparently in Sep (BA, BB). Flock of 80 individuals observed in Monti Bay in Sep (JS, MS). *Probable Winter Resident*. Flocks of more than 100 birds in Sep winter on rocky shores of islands in eastern Prince William Sound (BA)

Greater Yellowlegs (*Tringa melanoleuca*). *Fairly Common Spring Migrant*. Stops in salt marshes, tidal mudflats, wet meadows, bogs (Peterson et al. 1981, BA, BB), and along rivers (Patten 1982). *Fairly Common Breeder*. “Obviously bred in considerable numbers” in bogs from

Ocean Cape to Antlen River Mouth (Shortt 1939). Pairs with young in shrubs near creeks in eastern Dry Bay (BB, JJ). In bogs and bog-woodlands on BBS routes (BA). In broadleaf forest edge near lakes, rivers, and estuaries (Patten 1982). *Fairly Common Fall Migrant*. Passes and stops in various habitats, especially estuaries, with two peaks of movement in early Aug and mid-Sep (Peterson et al. 1981). Migrants present in estuaries into early Oct (Patten 1982).

Lesser Yellowlegs (*Tringa flavipes*). *Uncommon Spring Migrant*. Regularly associates with more abundant Greater Yellowlegs (Isleib and Kessel 1973). Stops in salt marshes and tidal mudflats, wet meadows, bogs, ponds (BA, BB), forest edge and along rivers (Patten 1982). *Uncommon Breeder*. Breeds on Situk River flats (Shortt 1939). In bogs on BBS routes (BA), and in wet meadows, and shrubby bogs near lakes and rivers (Patten 1982, BB). Small flocks of adults and young on Alsek River in early July (JJ). *Uncommon Fall Migrant*. Passes and stops in various habitats, especially estuaries (Peterson et al. 1981, Patten 1982) from early Aug to late Sep (BB, MS).

Solitary Sandpiper (*Tringa solitaria*). *Rare Spring Migrant*. Stops on muddy shores of ponds and streams in forested areas. Rarely occurs near salt water (Armstrong 1995). None in estuaries (BA, BB). *Rare Fall Migrant*. “Numerous” along Situk and Antlen rivers in early Aug (Shortt 1939). One feeding along a shallow unvegetated pond on the moraine of the Guyot Glacier in Icy Bay in mid-Aug (Burgess 1992). Regularly observed on the Foreland in late Aug (BA, BB, DB).

Wandering Tattler (*Heteroscelus incanus*). *Uncommon Spring Migrant*. Migrates singly or as scattered individuals exclusively along rocky shores in May (Shortt 1939, Isleib and Kessel 1973). On rocky shores at Ocean Cape (BA, BB). One on East Alsek River on 1 Jun (Patten 1982) probably a late migrant. Breeding not reported, but gravel shorelines in Russell and Nunatak Fiords appear similar to breeding sites in Prince William Sound (BA). *Uncommon Fall Migrant*. On rocky shores of the Gulf from Aug through early Sep with peak of movement in Aug (Isleib and Kessel 1973, BB). One collected on Khantaak Island in late Jul (Shortt 1939).

Spotted Sandpiper (*Actitis macularia*). *Fairly Common Spring Migrant*. Stops in estuaries (Table 3) and rivers (Patten 1982) with peak movement in late May (Isleib and Kessel 1973). *Fairly Common Breeder*. Nests in gravel and grass along the length of the Foreland’s rivers and streams including junctions with estuaries (Shortt 1939, Patten 1982, BB, BL, JJ). Less abundant on rocky and sandy shores of Yakutat Bay and associated inshore waters (Patten 1982, Stephensen and Andres 2001). *Fairly Common Fall Migrant*. In estuaries, rivers, and rocky shores of Icy Bay (Burgess 1992), Yakutat Bay and associated inshore waters (BL, MF) from Aug to mid-Sep (Isleib and Kessel 1973, BB). Occasional migrants on East Alsek River into early Oct (Patten 1982).

Upland Sandpiper (*Bartramia longicauda*). *Accidental*. One in a meadow at fall migration banding station on 3 Sep 1997 (BB, MS). Only three historical sightings in the North Gulf Coast (Isleib and Kessel 1989).

Whimbrel (*Numenius phaeopus*). *Fairly Common Spring Migrant* (Table 3). Stops on sandy shores of estuaries, and migrates along sandy beaches of the Gulf (Patten 1982). *Rare Summer Resident*. No breeding records in southeastern or southcoastal Alaska (Armstrong 1995). Non-breeders on sand dunes with sparse shrub near fish camps in eastern Dry Bay (BB, JJ), and on sandy beaches of Yakutat Bay (Stephensen and Andres 2001), Khaantak Island, Blacksand Spit during Jun and Jul (Patten 1982). *Fairly Common Fall Migrant*. Along sandy beaches of the

Gulf from mid-Jul through Aug with peak of movement in Aug (BB, MS). Migrants present into early Oct (Isleib and Kessel 1973).

Hudsonian Godwit (*Limosa haemastica*). *Uncommon Spring Migrant*. Stops on sandy beaches and tidal mudflats of Seal Creek-Ahrnklin River estuary (Table 3). Stays several days to rest and feed, especially, on small clams. Sometimes in association with Marbled Godwits (BA, BB). *Rare Summer Visitant*. A flock of 30 feeding on a sandbar on East Alsek River early July 2001 (JJ). *Uncommon Fall Migrant*. On tidal flats of Seal Creek-Ahrnklin River estuary in mid-Aug (BB, MG). On East Alsek River delta in early Jul (JJ, JM), probably an early migrants.

Marbled Godwit (*Limosa fedoa*). *Common Spring Migrant*. Stops on sandy beaches and tidal mudflats of Seal Creek-Ahrnklin River estuary (Table 3), and stays several days to rest and feed, especially, on small clams (BA, BB). Besides the Alaska Peninsula staging areas, large aggregations of this godwit previously unreported in Alaska (Kessel and Gibson 1978). Annual estimates of 400 individuals on Seal Creek-Ahrnklin River Estuary could represent up to 40% of the flyway population (Andres and Browne 1998). Casual fall migrant in the region (Isleib and Kessel 1973).

Ruddy Turnstone (*Arenaria interpres*). *Uncommon Spring Migrant*. Rarely stops in estuaries (Table 3). More abundant on sandy beaches and rocky shores of the Gulf, especially at Ocean Cape (BA, BB). *Uncommon Fall Migrant*. On sandy beaches and tidal mudflats of estuaries, and sandy beaches of the Gulf until mid-Sep (Patten 1982). Some migrants present into Oct (Isleib and Kessel 1973).

Black Turnstone (*Arenaria melanocephala*). *Fairly Common Spring Migrant* (Table 3). Migrates over sandy beaches of the Gulf (Peterson et al. 1981) and through Seal Creek-Ahrnklin River estuary (BB, MG), often without stopping (Peterson et al. 1981, BB, MG). Most migrants apparently pass within a varying, few-day period. All but one of 257 seen on 4 May by Peterson et al. (1981). "In large numbers about the middle of May" (Shortt 1939). Not observed after early May in later years (BB, MG). *Rare Summer Visitant*. Ten birds on East Alsek River gravel bar July 2001 (JJ). *Fairly Common Fall Migrant*. Migrants appear in Jul. Four individuals in Old Italo Estuary on 1 Jul (Patten 1982). On East Alsek River delta in first week of Jul (JJ), 75 near Yakutat on 11 Jul (Peterson et al. 1981), and two immatures near Yakutat on 20 Jul (Shortt 1939). Rare until mid-month (Isleib and Kessel 1973), migrants in Yakutat in early Jul are possibly non-breeders that summer in the North Gulf Coast. Migrants stop on salt marshes, tidal mudflats, and sandy beaches of estuaries, and on sandy beaches and rocky shores of the Gulf (Patten 1982) and islands in Yakutat Bay (Shortt 1939). Most pass by late Aug (Peterson et al. 1981). Some migrants present into early Sep (Patten 1982). No winter records at Yakutat. Individuals and small flocks present in North Gulf Coast in winter, sometimes in association with Surfbirds and Rock Sandpipers (Isleib and Kessel 1973).

Surfbird (*Aphriza virgata*). *Uncommon Spring Migrant*. Stops on rocky shores of the Gulf, especially at Ocean Cape, and along the shores of Monti Bay (BA, BB). Breeds in alpine tundra along mountain ranges (Armstrong 1995), but not recorded in alpine areas of Yakutat. Small flocks of non-breeders occur during summer in Prince William Sound (Isleib and Kessel 1973). Although breeding has not confirmed, little effort has been spent in the alpine areas of the North Gulf Coast or Yakutat. *Uncommon Fall Migrant*. Stops on rocky shores of estuaries (Patten 1982) and the Gulf from early Aug to mid-Sep (BB, DB). Occasional migrants into mid-Oct (Isleib and Kessel 1973). Regularly forms small winter flocks in the North Gulf Coast (Isleib and Kessel 1973), but not recorded in winter at Yakutat.

Red Knot (*Calidris canutus*). *Common Spring Migrant* (Table 3). Stops on tidal mudflats in estuaries to rest and feed (BA, BB). Migrants present into early Jun (Patten 1982). Not observed near Yakutat in fall and rarely observed in North Gulf Coast. Southbound migrants use another migration route or over-fly the region (Isleib and Kessel 1973).

Sanderling (*Calidris alba*). *Common Spring Migrant*. Migrates over sandy beaches of the Gulf and stops to feed at edge of surf, rarely stops on sandy beaches of estuaries (Patten 1982, BB). *Casual Summer Resident*. Non-breeders remain on sandy beaches during summer (Patten 1982). *Common Fall Migrant*. Difficult to separate migrants from summer residents. On sandy beaches of estuaries, and especially sandy beaches of the Gulf (Patten 1982) from early Aug to late Sep (BB, DB). Migrants present into mid-Oct (Peterson et al. 1981). *Occasional Winter Resident*. Present on protected sandy beaches in Dec 1987 (Table 8).

Semipalmated Sandpiper (*Calidris pusilla*). *Common Spring Migrant* (Table 3). Like many small (length less than 20 cm [9 inch]) sandpipers, stops to rest and feed for only a short time on salt marshes and tidal mudflats (Patten 1982, BA, BB). *Common Fall Migrant*. Stops in estuaries from early Jul (Patten 1982) through late Aug (Isleib and Kessel 1973).

Western Sandpiper (*Calidris mauri*). *Abundant Spring Migrant*. Tens of thousands stop on tidal mudflats of estuaries. Most abundant shorebird on the Foreland in spring (Peterson et al. 1981, Table 3). *Rare Summer Resident*. Non-breeders on Situk River during Jun (Shortt 1939), and tidal mudflats of estuaries during summer (Patten 1982, BB). *Abundant Fall Migrant*. Migrates and stops in estuaries from late Jun into early Sep with peak of movement during Jul and Aug (Isleib and Kessel 1973). Estimated 5,000 individuals on inner tidal mudflats and outer sandy beaches of Blacksand Spit on 5 Jul (Patten 1982). A few migrants present into mid-Oct (Peterson et al. 1981).

Least Sandpiper (*Calidris minutilla*). *Abundant Spring Migrant* (Table 3). Thousands to tens of thousands stop in estuaries. Unlike most small shorebirds, usually rests in salt marshes and meadows above the high tide line (BB, MG). Some stop inland along rivers and streams, occasionally found on sandy beaches of Khaantak Island (Patten 1982). *Rare Breeder*. Nest with eggs near Situk River (Shortt 1939) and defensive adults in meadows and bogs at Dry Bay (BB, JJ). Breeding status of summer birds difficult to determine. Breeders and non-breeders occur in meadows, bogs, lakes, rivers, ponds, estuaries, and beaches (Patten 1982). *Abundant Fall Migrant*. In various habitats from early Aug to early Sep (Isleib and Kessel 1973, BB).

Baird's Sandpiper (*Calidris bairdii*). *Uncommon Spring Migrant*. Stops on sandy beaches of the Gulf and feeds along surf (BA, BB). *Uncommon Fall Migrant*. On sandy beaches of the Gulf (BB, MS) with peak of movement in Aug (Isleib and Kessel 1973).

Pectoral Sandpiper (*Calidris melanotos*). *Common Spring Migrant* (Table 3). Migrates diurnally over salt marshes through Seal Creek-Ahrnklin River estuary without stopping, peak of movement in mid-May (BB, RC). Stops on edges of lakes and ponds and in wet meadows and bogs (Armstrong 1995). One around freshwater pool north of Forest Service Alsek River cabin on 1 Jun (Patten 1982). Displaying males noted in salt marshes and meadows in May (Peterson et al. 1981). *Common Fall Migrant*. Stops in wet bogs, meadows, and estuaries (Peterson et al. 1981, Patten 1982) with peak of movement from mid-Aug through mid-Sep (BB, JS). Some migrants present into Oct (Isleib and Kessel 1973).

Rock Sandpiper (*Calidris ptilocnemis*). *Uncommon Spring Migrant*. Passes along outer coast and stops on rocky shores, especially Ocean Cape (BA, BB). Undetected in Seal Creek-Ahrnklin River Estuary in 1996 and 1997 (Table 3). Present in small numbers in 1981. More

abundant in Dangerous-Italo River and Akwe River estuaries from late Apr to early May (Peterson et al. 1981). *Uncommon fall migrant*. Passes in estuaries from mid-Jul through Aug (Peterson et al. 1981). No winter records at Yakutat, but probably the most abundant shorebird of North Gulf Coast in winter (Isleib and Kessel 1973).

Dunlin (*Calidris alpina*). *Abundant Spring Migrant*. Tens of thousands stop in Seal Creek-Ahrnklin River Estuary. Dunlins and Western Sandpipers account for nearly 80% of all shorebird migrants in spring (Table 3). Rests and feeds on tidal mudflats of estuaries, migrants present into early Jun (Patten 1982). *Abundant Fall Migrant*. Passes and stops in estuaries from early Aug until mid-Oct with peak of movement in early Aug (Isleib and Kessel 1973). Forms wintering flocks with Rock Sandpipers in North Gulf Coast (Isleib and Kessel 1973) but not recorded at Yakutat.

Short-billed Dowitcher (*Limnodromus griseus*). *Common Spring Migrant*. Thousands to tens of thousands stop on salt marshes and tidal mudflats in estuaries to rest and feed (Table 3), less abundant in wet meadows (Peterson et al. 1981). *Probable Breeder*. Breeds in bogs (Armstrong 1995). Female containing an almost fully developed egg, “but without shell”, collected in bog near Situk River on 29 May where it is common in summer (Shortt 1939). In bog and bog-woodlands on BBS routes (BA). Often indistinguishable from Long-billed Dowitcher. One dowitcher, likely a short-billed, in Italo River estuary in late Jun (Patten 1982). *Common Fall Migrant*. Migrates and stops in wet meadows, bogs (Peterson et al. 1981), and estuaries from Jul through Sep with peak of movement in Aug (Isleib and Kessel 1973). One on East Alsek River delta in early Jul (JJ).

Long-billed Dowitcher (*Limnodromus scolopaceus*). *Common Spring Migrant*. Less abundant than Short-billed Dowitcher, stops on salt marshes and tidal mudflats in estuaries (Table 3) and freshwater ponds (Patten 1982). *Common Fall Migrant*. Migrates and stops in estuaries from early Aug through early Sep. Some migrants present into Oct (Isleib and Kessel 1973).

Wilson’s Snipe (*Gallinago delicata*). *Common Spring Migrant*. Stops in bogs, wet meadows, ponds, along rivers (Patten 1982) and occasionally on salt marshes in estuaries (Table 3). *Common Breeder*. Males display in shrubby meadows, bogs, and bog-woodlands near the Alsek River (BB, JJ), Dangerous River (Patten 1982), and uncommonly along BBS routes (Table 4). Also near the coast between the Situk and Lost Rivers, where they frequently perched on top of needleleaf trees (Shortt 1939). Nest with eggs in Alsek River wetlands (JJ). *Common Fall Migrant*. Stops in bogs and meadows from early Aug through mid-Oct (Patten 1982), occasional migrants into late Nov (Isleib and Kessel 1973). Roosts in meadows at migration banding station and is sometimes captured in mist nets (DB, JS). Not recorded at Yakutat, but a few remain in winter in the North Gulf Coast (Isleib and Kessel 1973). Most abundant during mild winters.

Red-necked Phalarope (*Phalaropus lobatus*). *Abundant Spring Migrant*. Migrates over offshore waters of the Gulf (Armstrong 1995) to breed in southwestern and western Alaska with peak of movement during late May (Myers 1972). Migrates past Yakutat over inshore waters of the Gulf to breed in southcoastal and Central Alaska and becomes abundant on Copper River Delta in May. Uncommon in ponds, streams (BB, RC), and estuaries (Patten 1982, Table 3), which are probably local breeders. *Fairly Common Breeder*. Several nests with eggs located in salt marshes near Situk River (Shortt 1939) and wet meadows near Tahwah and Seal Creeks (BB, RC). Post-breeders congregate on inshore waters of estuaries (Patten 1982) and the Gulf in Jul (Harke and Leach 1996). *Abundant Fall Migrant*. Most migrate on offshore and inshore

waters of the Gulf from late Jul through Oct with peak of movement during Aug and Sep (Isleib and Kessel 1973). Flocks of mostly immatures on Yakutat Bay in Aug (Shortt 1939). Some migrants present into early Oct (Patten 1982).

Red Phalarope (*Phalaropus fulicarius*). Abundant spring migrant on offshore waters (Armstrong 1995). Can be common migrant on inshore waters of the North Gulf Coast (Isleib and Kessel 1973) but not observed on Yakutat's inshore waters in spring migration. *Common Fall Migrant*. Hundreds on Dangerous-Itallo River Estuary from mid- to late Aug (Peterson et al. 1981).

South Polar Skua (*Catharacta maccormicki*). *Casual Visitant*. One with numerous jaegers, gulls, and terns on inshore waters of the Gulf three km (two miles) off Ocean Cape on 26 Jul 1968 (Isleib and Kessel 1973).

Pomarine Jaeger (*Stercorarius pomarinus*). *Uncommon Spring Migrant*. On offshore and inshore waters from mid-Apr to mid-May (Isleib and Kessel 1973). *Casual Summer Visitant*. Rare on inshore waters of the Gulf off Yakutat Bay (Isleib and Kessel 1973, Harke and Leach 1996). *Uncommon Fall Migrant*. On offshore and inshore waters off Ocean Cape from late Jul through Oct with peak of movement in late Jul and early Aug, 40 on 26 Jul 1968 (Isleib and Kessel 1973). A few seen on inshore waters of Yakutat Bay and the Gulf near Ocean Cape during fall (BA, BB).

Parasitic Jaeger (*Stercorarius parasiticus*). *Common Spring Migrant*. On Malaspina Lake, inshore waters of estuaries (Patten 1982) and the Gulf (BB, MG) from late Apr through mid-May (Isleib and Kessel 1973). *Fairly Common Breeder*. Nests with downy young on gravel bar in extensive sand dunes of lower Dry Bay in Jul (JJ), and breeding also noted at Dry Bay by Patten (1982). Breeding status of summer birds difficult to determine. Most abundant summer jaeger near Yakutat. On Malaspina Lake (Patten 1982) and particularly Malaspina Glacier (Shortt 1939). On beaches and inshore waters of estuaries and bays, particularly near river deltas. Probable predators near Haenke Island seabird colony (Patten 1982). More abundant on bays than fiords (Stephensen and Andres 2001). May breed in alpine areas at Yakutat as in Prince William Sound (BA). On inshore waters of the Gulf (Harke and Leach 1996). *Common Fall Migrant*. On inshore waters of estuaries, especially Dry Bay (Patten 1982). On Yakutat Bay and the Gulf near Ocean Cape (BA, BB) and Lost River (Patten 1982) from late Jul to mid-Oct with peak of movement from late Jul until mid-Sep. Migrants present into Nov (Isleib and Kessel 1973).

Long tailed Jaeger (*Stercorarius longicaudus*). *Rare Spring Migrant*. Migrates in small flocks without stopping during May (Isleib and Kessel 1973). *Possible Breeder*. Nests in upland tundra of the interior. Rare, but confirmed, breeding in southcoastal Alaska (Armstrong 1995). One flying along Fairweather Range near Yakutat in Jun (Gabrielson and Lincoln 1959). One near Disenchantment Bay in early Jul (Shortt 1939), and one near Yakutat Bay in Jun (Stephensen and Andres 2001). *Rare Fall Migrant*. On inshore waters of Yakutat Bay and the Gulf near Ocean Cape (BA, BB) from late Jul until early Sep (Isleib and Kessel 1973).

Bonaparte's Gull (*Larus philadelphia*). *Common Spring Migrant*. Difficult to separate migrants from residents. Noted flying along coast in northward and southward directions in spring and fall (Peterson et al. 1981). On lakes, rivers, beaches, tidal mudflats, and all inshore waters (BB, MG) from late Apr to early May, often near river deltas synchronous with Eulachon and other small fish runs (Isleib and Kessel 1973, BB, MG). *Common Breeder*. Nests in bog-woodlands, often in association with Mew Gulls (Isleib and Kessel 1973). Fledged juvenile

collected on Malaspina Glacier in mid-Jul (Shortt 1939). Breeding status of summer birds difficult to determine. Breeders and non-breeders along the shorelines of Yakutat and Disenchantment Bays (Patten 1982, Stephensen and Andres 2001). On inshore waters of estuaries (Patten 1982) and the Gulf (Harke and Leach 1996), especially north of Yakutat Bay (Patten 1982). *Common Fall Migrant*. On rivers, all inshore waters and nearby habitats (Patten 1982, BL) from late Jul to mid-Oct. Hundreds feed on inshore waters near Ocean Cape in late Jul and gather on river deltas of spawning salmon streams into early fall (Isleib and Kessel 1973).

Mew Gull (*Larus canus*). *Common Spring Migrant*. Difficult to separate migrants from residents. Noted flying along coast in opposite directions in spring and fall (Peterson et al. 1981). On lakes, rivers (Patten 1982), offshore waters (Armstrong 1995), and all inshore waters and nearby rocky and sandy shores (Patten 1982, BB, MG) from mid-Mar through May (Isleib and Kessel 1973). Especially in Akwe River and Cannery Creek feeding on Eulachon during last week in Apr and first week in May (Peterson et al. 1981). *Abundant Breeder*. Nesting colonies on Malaspina (Shortt 1939) and nearby glaciers. Most frequently observed species on moraines and outwashes (Patten 1982, JJ), colonies on avalanche alluvia in Russell and Nunatak Fiords. Breeding status of summer birds difficult to determine. Breeders and non-breeders on lakes, rivers, and all inshore waters and nearby habitats (Patten 1982). Especially on inshore waters along the shorelines of Yakutat and associated bays (Stephensen and Andres 2001), and inshore waters of the Gulf near the Malaspina Glacier (Patten 1982). Flocks often feeding near fish processing plant in Monti Bay (BL). *Common Fall Migrant*. On all lakes, rivers, and all inshore waters and nearby unvegetated habitats (Patten 1982) from Aug through Nov (Isleib and Kessel 1973) with peak of movement from early Aug to mid Sep (Peterson et al. 1981). *Common Winter Resident*. Concentrated population (more than 350 individuals) in Akwe River Estuary in Feb (Patten 1982).

California Gull (*Larus californicus*). *Casual Visitant*. One adult on 20 Sep 1994 (BA). One adult in feeding flock of mixed gulls in the Ahrnklin River estuary spring 1997 (BB, MG).

Herring Gull (*Larus argentatus*). *Common Spring Migrant*. Difficult to separate migrants from residents. Noted flying along coast in opposite directions (Peterson et al. 1981). On lakes, rivers, and all inshore waters and nearby unvegetated habitats from mid-Apr to early May (Isleib and Kessel 1973). Migrants most abundant in lower Dry Bay in late May and early Jun. Observed migrating up Alsek River at altitudes of greater than 488 m (1,600 feet; Patten 1982), possibly to breed near Alsek Lake. *Fairly Common Breeder*. Large nesting colony on sandy island on Alsek River near Williams Creek (JJ, JM). Difficult to determine breeding status of summer birds. Non-breeders on Yakutat Bay associated inshore waters (Stephensen and Andres 2001). *Common Fall Migrant*. Difficult to separate migrants from residents. On lakes, rivers, and all inshore waters and nearby habitats from mid-Sep to mid-Oct (Isleib and Kessel 1973). Local birds limited mostly to Dry Bay–Alsek River estuary in fall from mid-Sep to mid-Oct (Patten 1982). *Uncommon Winter Resident*. On inshore waters and nearby unvegetated habitats, especially beaches (Table 8). *L. glaucescens* x *L. argentatus* interbreed and are present year-round (Isleib and Kessel 1973), especially on Alsek River delta (Isleib and Kessel 1973, Peterson et al. 1981, Patten 1982).

Thayer's Gull (*Larus thayeri*). *Casual Resident*. Present in all seasons, but most abundant from Oct through Apr (Isleib and Kessel 1973). On inshore waters near Yakutat on 1 Sep 1994, 15 Sep 1994, 25 Aug 1995 (BA). One collected on 21 Aug 1936 (Shortt 1939). Ninety in East Alsek estuary on 5 Oct 1981 (Patten 1982). One adult in feeding frenzy of mixed gulls in

Ahrnklin River estuary spring 1997 (BB, MG). Patten (1982) suggested coastal wintering birds use the Alsek River to reach interior breeding sites.

Glaucous-winged Gull (*Larus glaucescens*). Most abundant species of gull on the Foreland during all seasons. *Abundant Spring Migrant*. Difficult to separate migrants from residents. Noted flying in opposite directions up and down the coast with peak of movement in south rather than north direction from mid-Apr to mid-May (Peterson et al. 1981). On lakes, rivers, all inshore waters and nearby unvegetated habitats. Most frequent species on rivers and sandy beaches. Concentrated on all estuaries of the Foreland, especially Akwe River. Large numbers, more than 11,000 birds, observed at eulachon spawning run on 3 Apr (Patten 1982). *Abundant Breeder*. Most abundant of large gulls in region. Nests on Haenke and other islands on Disenchantment Bay (Shortt 1939), and possibly Malaspina Glacier. Numbers on Haenke Island similar between 1979 (400 gulls) and 2,000 (342 gulls; Stephensen and Andres 2001). More than 1,000 birds on Egg Island, Alsek River (JJ). Breeding status of summer birds difficult to determine. Thousands of breeders and non-breeders on Yakutat Bay (Stephensen and Andres 2001) and all inshore waters and nearby unvegetated habitats. Less abundant on lakes, rivers, and meadows (Patten 1982). *Abundant Fall Migrant*. On all inshore waters and nearby unvegetated habitats (Patten 1982) from mid-Aug to mid-Oct. Migration may be based on search for food, “rather than a true migration to a specific wintering area” (Peterson et al. 1981). *Abundant Winter Resident*. On all inshore waters and nearby unvegetated habitats (Table 8). Concentrated population of more than 1,000 individuals in Akwe River Estuary in Feb (Patten 1982).

Glaucous Gull (*Larus hyperboreus*). *Rare Year-round Resident*. On beaches and inshore waters of bays, estuaries, and the Gulf in spring (Patten 1982, BB, MG), summer (Patten 1982, BB), fall (Patten 1982, BA, BB), and winter (Isleib and Kessel 1973, BL).

Sabine's Gull (*Xema sabini*). *Rare Spring Migrant*. Most migrate on offshore waters from early May until early Jun, rarely on inshore waters (Isleib and Kessel 1973). One on Monti Bay near Point Carew during a storm with high easterly winds in May 1997 (BB, MG).

Uncommon Fall Migrant. On offshore and inshore waters from mid-Jul through early Oct. A flock of more than 100 birds lingering for several days in late Jul near Ocean Cape (Isleib and Kessel 1973). Single immatures regularly seen along beaches from Aug through Sep (BA).

Black-legged Kittiwake (*Rissa tridactyla*). Most numerous gull of the North Gulf Coast on offshore and inshore waters from early Apr through Oct. Highly pelagic during non-breeding season (Isleib and Kessel 1973). *Abundant Spring Migrant*. Migrates over the Gulf during from mid-Mar through May (Isleib and Kessel 1973) with peak of offshore movement in late May (Myers 1972). Inshore, 1,500 on sandy beaches of Italio River Delta, more than 1,000 individuals on lower East Alsek estuary in early Jun (Patten 1982), and 2,300 on upper Alsek River. *Abundant Breeder*. Breeds on Haenke Island (Patten 1982, Stephensen and Andres 2001), where numbers on were similar between 1979 (1,200 birds) and 2000 (1,361 birds). Possible colonies in Icy Bay (Patten 1982), Harlequin Lake (BL), and Alsek Lake (BB, JJ). Immatures on Yakutat Bay (Shortt 1939, Stephensen and Andres 2001) and the Gulf (Harke and Leach 1996). *Abundant Fall Migrant*. Depart colonies from mid-Aug to mid-Sep (Isleib and Kessel 1973). Migrates on offshore and all inshore waters and nearby unvegetated habitats (Patten 1982) in a gradual steady movement (Peterson et al. 1981). *Abundant Winter Resident*. Concentrated population of more than 1,000 individuals in Akwe River Estuary in Feb (Patten 1982), but many move offshore for most of winter (Isleib and Kessel 1973).

Caspian Tern (*Sterna caspia*). *Occasional Spring Migrant*. Observed annually since first confirmed sighting in summer 1983 (1989 addendum to Isleib and Kessel 1973). Migrates over sandy beaches of the Gulf and stops on the sandy beaches of estuaries along Blacksand Spit (BA, BB). Earliest arrival on Copper River Delta is in mid-May (Isleib and Kessel 1989). *Occasional Summer Resident and Probable Breeder*. Adults in mid-Jul at Dry Bay (BB, JJ), and agitated adult in tern colony at Pt. Carew (BA). A few on Yakutat Bay and associated inshore waters of bays and fiords (Stephensen and Andres 2001). *Occasional Fall Migrant*. Latest observation on Copper River Delta in early Oct (Isleib and Kessel 1989), and latest observation on Blacksand Spit on 6 Sep (BB).

Arctic Tern (*Sterna paradisaea*). *Abundant Spring Migrant*. On lakes, rivers, offshore waters, inshore waters, and nearby unvegetated habitats (Patten 1982) from late Apr through mid-May (Isleib and Kessel 1973). Colony counts on Blacksand Spit indicate earlier arrival than the more abundant Aleutian Tern — 250 Arctic Terns and 100 Aleutian Terns on 25 May 1981 (Patten 1982), 850 Arctic Terns and 450 Aleutian Terns on 20 May 1996 (BB, RC), 180 Arctic Terns and 3,000 Aleutian Terns on 5 Jul 1980 (Patten 1982), and 950 Arctic Terns and 2,700 Aleutian Terns on 12 Jul 2001 (GB, BB). *Common Breeder*. Main breeding colony in sand dunes on Blacksand Spit, majority of colony at northern end of the spit, segregated and north of Aleutian Tern colony (BB, RC). Additional and considerably smaller colonies located on sandy shores of Point Carew (BA), rocky Haenke Island, gravely Malaspina Glacier moraine (Shortt 1939), numerous alluvial fans in Russell and Nunatak Fiords, and on Alsek River (JJ). Possible breeders on Harlequin, Alsek, and Italio Lakes and associated river deltas (Patten 1982). Adults fly to lakes, rivers, and all inshore waters to capture food and return to colonies to feed young. Estimated thousands on Yakutat Bay and associated inshore waters of bays and fiords (Stephensen and Andres 2001). *Abundant Fall Migrant*. Most depart from late Jul through mid-Aug, but some migrants into early Sep (Isleib and Kessel 1973).

Aleutian Tern (*Sterna aleutica*). *Abundant Spring Migrant*. Arrives from offshore waters of the Gulf during early May (see above; Isleib and Kessel 1973). *Abundant Breeder*. Colony count of 2,700 individuals on Blacksand Spit in Jul 2001 (BB) similar to count made there (3,000 birds) in 1980 (Patten 1982). Smaller colonies at Point Carew (BA), Dry Bay (Patten 1982), and other gravelly or sandy shorelines. Patten (1982) estimated 3,500 breeding individuals on the Foreland. Nests on ground in matted dry grass (Walker 1923). On grass in shrubs near Alsek Lake (BB, JJ). Adults fly to lakes, rivers, and all inshore waters to capture food for young. Estimated hundreds on Yakutat Bay and associated waters (Stephensen and Andres 2001). Complete absence of Blacksand Spit nesting colony in summer 1936 suspected because of lack of mention by Shortt (1939) despite visiting area. *Abundant Fall Migrant*. Young fledge in late Jul and depart Foreland by mid-Aug (Isleib and Kessel 1973). Hundreds of post-breeders on Yakutat Bay, Situk River Delta, and Dry Bay (DW).

Common Murre (*Uria aalge*). *Fairly Common Summer Resident*. On inshore waters of Yakutat and Disenchantment Bays (Stephensen and Andres 2001) and the Gulf (Harke and Leach 1996). No breeding records. *Occasional Winter Resident*. On offshore (Isleib and Kessel 1973) and inshore waters (Table 8). Spring and fall migration occurs as a population shift to offshore waters (Isleib and Kessel 1973).

Pigeon Guillemot (*Cephus columba*). *Common Year-round Resident and Breeder*. On Yakutat Bay islands during summer, including Haenke Island seabird colony (Patten 1982). Nests in burrows and caves on Fitzgerald and Khantaak Islands on Yakutat Bay (Shortt 1939)

and boulder-strewn shorelines of Russell and Nunatak Fiords. On Yakutat Bay and associated inshore waters of bays, fiords (Stephensen and Andres 2001) and the Gulf (Harke and Leach 1996). *Common Winter Resident*. On inshore waters (Table 8).

Marbled Murrelet (*Brachyramphus marmoratus*). *Abundant Year-round Resident and Breeder*. Nests in spruce trees along inshore waters, sometimes far inland (Harke and Leach 1996), and in alpine up to 305 m (1,000 feet; Isleib and Kessel 1973). Detected making pre-dawn foraging commutes on BBS routes (BA). On shoreline of Harlequin Lake (Patten 1982), but usually on inshore waters of estuaries (Patten 1982), bays, fiords (Harke and Leach 1996, Stephensen and Andres 2001) and the Gulf (Patten 1982, Harke and Leach 1996). Moves to offshore waters in fall (Petersen et al. 1981), but some stay in inshore waters (Isleib and Kessel 1973). *Fairly Common Winter Resident*. Some on inshore waters (Table 8).

Kittlitz's Murrelet (*Brachyramphus brevirostris*). *Common Year-round Resident and Probable Breeder*. Breeds on alluvia of glaciers and scree slopes, where females tend to lay only one egg (Armstrong 1995). Abundant on inshore waters abutting the Malaspina Glacier where they are thought to nest on the Foreland (Isleib and Kessel 1973). On Yakutat Bay and associated inshore waters of bays and fiords (Patten 1982), more abundant on fiords (Stephensen and Andres 2001). Concentrations among islands of eastern Yakutat Bay (Stephensen and Andres 2001). No evidence of migratory movement, but disperses throughout offshore and inshore waters in fall and becomes less abundant on inshore waters in winter (Isleib and Kessel 1973). Probable winter resident on inshore waters. Recent evidence from Prince William Sound and Glacier Bay suggests substantial declines in population.

Rhinoceros Auklet (*Cerorhinca monocerata*). *Casual Visitant*. On Yakutat Bay on 8 Jun 1936 (Shortt 1939). One specimen collected on Cannon Beach in summer 1995 (BA, BB).

Horned Puffin (*Fratercula corniculata*). *Occasional Visitant*. Breeds in large colonies from Cape St. Elias westward, does not breed east of Cape St. Elias (Isleib and Kessel 1973). Two on Yakutat Bay on 17 Jul 1996 (Harke and Leach 1996).

Tufted Puffin (*Fratercula cirrhata*). *Uncommon Spring Migrant*. Migrates over offshore (Armstrong 1995) and inshore waters of the Gulf (BA, BB). Near Yakutat in May (Shortt 1939). Breeds in large colonies from Cape St. Elias westward, does not breed east of Cape St. Elias (Isleib and Kessel 1973). *Uncommon Summer Visitant*. Non-breeders observed from Cape St. Elias to Cape Fairweather (Isleib and Kessel 1973). Four in Haenke Island seabird colony in late May and early Jun, probably non-breeders (Patten 1982).

Mourning Dove (*Zenaida macroura*). *Casual Fall Visitant*. One on 6 Sep 1997 on upper Tahwah Creek bridge above Summit Lake (JS, MS). Observed only during fall in the North Gulf Coast (Isleib and Kessel 1973).

Western Screech-Owl (*Megascops kennicottii*). *Occasional Summer Resident and Probable Breeder*. Breeds in cavities of needleleaf trees (Armstrong 1995). Three in needleleaf forest 32 km (20 miles) inland near Situk River in early Aug, one of which was collected (Shortt 1939). One calling near Alaska Department of Fish and Game compound in Aug (BB, MF), and one heard in mature needleleaf forest along Ophir Creek in Jun (BA). One bird along the lower Situk River summer 1994 (DW). Possible winter resident. Small number of individuals likely present year-round.

Great Horned Owl (*Bubo virginianus*). *Occasional Summer Resident and Probable Breeder*. Confirmed breeding in abandoned hawk nests near Cordova (Isleib and Kessel 1973). In needleleaf forest on Khantaak Island in Jul (Shortt 1939), and present in mixed forest on BBS

routes (Table 4). In riparian cottonwoods in Upper East Alsek River estuary (Patten 1982) and spruce trees near lower Situk River (BB) in Sep. Possible winter resident, but not recorded at Yakutat. Near Cordova in Jan (Isleib and Kessel 1973).

Snowy Owl (*Bubo scandiaca*). *Casual Winter Resident*. In meadows and on sandy beaches near Dry Bay in some winters (JB, JC).

Northern Hawk Owl (*Surnia ulula*). *Casual Resident and Possible Breeder*. Year-round resident and confirmed breeder of open needleleaf and broadleaf forests and woodlands of the North Gulf Coast (Isleib and Kessel 1973). One in shrubs in vicinity of Forest Service East River Cabin and Bear Island on 30 Sep 1980 (Patten 1982). One adult in alder shrub near lateral moraine of Grand Plateau Glacier in early Jul 2002 (JJ).

Northern Pygmy-Owl (*Glaucidium gnoma*). *Occasional Breeder*. One in needleleaf forest near Situk Lake mouth and Mount Tebenkoff in mid-Aug (Shortt 1939). Agitated adult in mixed forest on BBS route (Table 4). Present throughout Aug and Sep 1999 and 2000 at banding station (BA, BB, BL). Possible winter resident, but not recorded at Yakutat. Only one winter record north of Yakutat.

Great Gray Owl (*Strix nebulosa*). *Casual Summer Resident and Possible Breeder*. One in needleleaf forest near Lost River on 28 Jul 1936 (Shortt 1939). Possible winter resident, but not recorded at Yakutat. Breeds and resides year-round on the Kenai Peninsula.

Short-eared Owl (*Asio flammeus*). *Occasional Spring Migrant*. Migrates past Malaspina Glacier (Table 7) from late Apr to early Jun (Isleib and Kessel 1973). *Uncommon Breeder*. One nest with eggs on Situk River Delta in mid-Jul (Shortt 1939), and one nest in dry meadow at abandoned landing strip near fish camps on eastern Dry Bay (BB JJ). Occasional in bogs and meadows of the Foreland in Jun (BA). *Occasional Fall Migrant*. Migrates from mid-Aug through Oct (Isleib and Kessel 1973), most observed near Yakutat from mid-Aug to mid-Sep (BA, BB, BL). One in Dry Bay on 23 Aug, and 14 birds along Lost River Road on 28 Aug (Patten 1982). Possible winter resident, but not recorded at Yakutat. Winters irregularly on Copper River Delta (Isleib and Kessel 1973).

Northern Saw-whet Owl (*Aegolius acadicus*). *Occasional Resident and Possible Breeder*. In needleleaf forests on BBS routes (Table 4). One calling in shrubs and broadleaf forest near Bear Island in Dry Bay in early Jul (JJ), and one calling from spruce near Forest Service bunkhouse for several years in early fall. One captured in mist net at fall migration banding station in 1997 (BB). May migrate south to spend winter.

Common Nighthawk (*Chordeiles minor*). *Casual Visitant*. One over Situk River on 8 Aug 1936 (Shortt 1939) and one in 1978 (in Patten 1982).

Rufous Hummingbird (*Selasphorus rufus*). *Common Spring Migrant*. Males begin to arrive during early May and most arrive during late May (Isleib and Kessel 1973). One agitated male on Blacksand Island in early May 1996 (BB, RC) appeared again in 1997 (BB, MG). *Fairly Common Breeder*. Breeds in woodland bogs and needleleaf and mixed forests (Patten 1982, Cotter and Andres 2001). Local young captured at MAPS station (Table 5). Frequently visits feeders in town of Yakutat and fish processing plant in Dry Bay (JB, JJ). *Common fall migrant*. Departs Yakutat by mid-Aug (Andres et al. 2003).

Belted Kingfisher (*Ceryle alcyon*). *Uncommon Spring Migrant*. Migrates on rivers and along beaches of the Gulf from mid-Apr to mid-May (Isleib and Kessel 1973), along the Situk during this time (Patten 1982). *Occasional Breeder*. Nests in burrows on Situk, Lost (Shortt 1939), Italio, Dangerous (Patten 1982), and Alsek (BB, JJ) River banks. On BBS routes (Table

4). Visits rocky shores of bays and fiords (Patten 1982, Stephensen and Andres 2001). *Uncommon Fall Migrant*. Migrates from mid-Aug to early Oct in similar habitat as spring (Isleib and Kessel 1973). *Rare Winter Resident*. On rivers and rocky shores of inshore waters (Table 8).

Red-breasted Sapsucker (*Sphyrapicus ruber*). *Occasional Resident and Breeder*. Unrecorded in the North Gulf Coast prior to 1978. Casual occurrences including the presence of drumming males near Cordova in late Apr to Jun in 1983-1985 (1989 addendum to Isleib and Kessel 1973) probably indicative of northern expansion of range from southeast Alaska. Breeding confirmed along the Situk River (BA). In needleleaf and mixed forest (Cotter and Andres 2001) on BBS routes (Table 4), often near clear cuts. *Occasional Fall Migrant*. Only a few observations during fall (BA, BB).

Downy Woodpecker (*Picoides pubescens*). *Rare Resident*. Only woodpecker to occur regularly year-round on Copper River Delta (Isleib and Kessel 1973). Less abundant than Hairy Woodpecker at Yakutat. In shrubs, needleleaf, and mixed forests, probably year-round, with confirmed sightings from late Jun to early Oct (Patten 1982; Table 6). Nest with young in cottonwood snag at the Alsek River (JJ).

Hairy Woodpecker (*Picoides villosus*). *Fairly Common Resident*. Nests in cavities of trees in woodlands along Alsek River (Patten 1982, BB, JJ). In needleleaf forest on Khantaak Island and along Lost River in summer (Shortt 1939). Confirmed nesting in needleleaf forest on BBS routes, and in mixed forest (Table 4). Probable year-round resident with observations during fall (Patten 1982, BA, BB).

Northern Flicker (*Colaptes auratus*). *Uncommon Summer Resident*. Recurrent summer observations, but no confirmed breeding evidence of “Red-shafted” Flickers at Yakutat (BA, DW). One “Yellow-shafted” Flicker collected in Jun 1935 (Shortt 1939). *Uncommon Fall Migrant*. “Yellow-shafted” form at fall migration banding station (BA, BB). In tall shrub, meadows, and perched atop spruce.

Olive-sided Flycatcher (*Contopus cooperi*). *Occasional Possible Breeder*. In bog-woodlands on BBS routes (Table 4). Numbers of possible breeding flycatchers highly variable among years (BA). *Rare Fall Migrant*. In bog-woodlands from mid-Aug to early Sep, and at fall banding station (BA, BB).

Western Wood-Pewee (*Contopus sordidulus*). *Casual Visitant*. Several on middle Ahrnklin River in late May 1997 (BB, OC, MG), and one at Forest Service bunkhouse on 9 Jun 2002 (GB, BL). Breeds in mixed and broadleaf forest along Chilkat River (BA), but no breeding evidence at Yakutat.

Yellow-bellied Flycatcher (*Empidonax flaviventris*). *Casual Fall Visitant*. Single hatching-year bird captured on 10 Aug 1996. No other records from the North Gulf Coast, but observed in Jun at Skagway (BA).

Alder Flycatcher (*Empidonax alnorum*). *Uncommon Spring Migrant*. Migrates mainly in shrubs (BA), appears in late May to early Jun (Isleib and Kessel 1973). *Uncommon Probable Breeder*. In wet meadows with tall shrubs on BBS routes (Table 4; BA), and in shrubs along Italio River (Patten 1982). *Rare Fall Migrant*. Departs Foreland by late Aug (Andres et al. 2003; Table 6). Only one, single Sep record (BA).

Pacific-slope Flycatcher (*Empidonax difficilis*). *Rare Breeder*. Adult female and immature in mixed forest at Situk Lake on 12 Aug 1936 (Shortt 1939). Small numbers, in most years, in needleleaf and mixed forests on BBS routes (Table 4; BA) and on Alsek River (JJ). Not recorded north of Yakutat, and no spring or fall migration noted.

Northern Shrike (*Lanius excubitor*). *Rare Fall Migrant*. One in shrubs in vicinity of Forest Service East River Cabin and Bear Island in Dry Bay in late Sep 1980 (Patten 1982). In open woodlands near fall migration banding station in early Oct in 1995, 1997, and 1999 (BB). Possible winter resident, but not recorded at Yakutat. In shrubs on Copper River Delta from Sep to Apr, birds likely migrants from interior Alaska (Isleib and Kessel 1973).

Warbling Vireo (*Vireo gilvus*). *Casual Fall Migrant*. Six hatching-year birds captured in four years at banding station between 23 Aug and 27 Sep (Table 6). Broadleaf forest on Alsek River too young to support breeding birds (Johnson 2003), but common in large cottonwoods along Chilkat River (Cotter and Andres 2001). Only one historical sighting in the North Gulf Coast on Middleton Island in mid-Sep (1989 addendum to Isleib and Kessel 1973).

Steller's Jay (*Cyanocitta stelleri*). *Fairly Common Year-round Resident and Breeder*. Local young captured at MAPS station (Table 5). Nest with young on timbered moraine on Malaspina Glacier (Shortt 1939). In needleleaf and mixed forests on BBS routes (Table 4). No apparent migration pattern, birds at fall banding station most likely local breeders (Table 6; Andres et al. 2003). *Uncommon Winter Resident*. In needleleaf forests and woodlands (Table 8).

Black-billed Magpie (*Pica hudsonia*). *Fairly Common Year-round Resident and Breeder*. Immature female collected near Russell Fiord in early Aug (Shortt 1939). Breeds primarily in shrub near timberline in valleys away from coast (Isleib and Kessel 1973). Will breed in shrubs and broadleaf forests on flat, low-elevation ground (BA). On BBS routes in broadleaf forests near Harlequin Lake (Table 4) and possibly nests along the Alsek River (JJ). *Uncommon Fall Migrant*. Altitudinal migrant. More abundant in non-breeding season (Isleib and Kessel 1973, Patten 1982), arrives on Yakutat Foreland from alpine in first week of Sep (BB, BL). Visits most lake, river, shrub, and forest habitats (Patten 1982). *Uncommon Winter Resident*. In shrub, needleleaf forest, and bog-woodland (Table 8).

Northwestern Crow (*Corvus caurinus*). *Common Year-round Resident and Breeder*. Forms flocks and scavenges in most habitats, including raids on Haenke Island seabird colony and Blacksand Spit tern colony (Patten 1982). Visits most needleleaf and mixed forests along inshore waters of bays, fiords (Cotter and Andres 2001, Stephensen and Andres 2001), and sandy beaches of the Gulf (Shortt 1939). Uncommon inland on BBS routes (Table 4; BA). Flocks present throughout the year along rocky shorelines, often in tidal zone (BA). Present but no apparent migration during spring and fall. More abundant in estuaries in fall (Patten 1982), presumably feeding on dying fish (Patten 1982, BB). Common winter resident in needleleaf forests and especially along rocky shores of inshore waters (Table 8).

Common Raven (*Corvus corax*). *Common Year-round Resident and Breeder*. Nests on cliffs (Shortt 1939) and in spruce trees (BB, MG). Visits and scavenges in most habitats, including lakes, rivers (Patten 1982), sandy and rocky shorelines of all inshore waters (Patten 1982, Stephensen and Andres 2001), needleleaf and mixed forests (Cotter and Andres 2001), and the Yakutat city dump (BB, BL). Present but no apparent migration during spring and fall. More abundant in estuaries in fall, presumably feeding on dying fish (Patten 1982, BB). Common winter resident in various habitats (Table 8).

Horned Lark (*Eremophila alpestris*). Uncommon breeder in mountains north of North Gulf Coast Region (Isleib and Kessel 1973) and in the vicinity of Haines and Skagway (BA). Although no records from Yakutat, would likely be encountered in alpine areas.

Tree Swallow (*Tachycineta bicolor*). *Common Spring Migrant*. Migrates along coast and arrives in late Apr with peak in mid-May (Isleib and Kessel 1973). *Uncommon Breeder*. Nests in tree cavities along Situk River (Shortt 1939) and likely in mixed forest. On most lakes, rivers, and streams, and coastal areas (Patten 1982). Forages over meadows and bogs on BBS routes (Table 4; BA). *Common Fall Migrant*. Departs during late Jul (Isleib and Kessel 1973). Some migrants remain until Aug (BB). One fall migrant landed on a boat 97 km (60 miles) off Cape Fairweather on 16 Sep 1969 (Isleib and Kessel 1973).

Violet-green Swallow (*Tachycineta thalassina*). *Common Spring Migrant*. Migrates along coast and arrives in first week of May (Isleib and Kessel 1973). *Rare Breeder*. On Situk River (Shortt 1939), and small numbers on BBS routes (Table 4). *Common Fall Migrant*. Departs by early Aug (Isleib and Kessel 1973).

Bank Swallow (*Riparia riparia*). *Rare Spring Migrant*. Arrives in mid-May (Isleib and Kessel 1973). Lack of migrant Bank Swallows along coast indicates that most pass through river valleys of the interior (Isleib and Kessel 1973). *Occasional Breeder*. Nesting probably limited to steep unvegetated banks of glacial rivers. Burrows along Alsek River (BB, JJ) and Dangerous - Italo Rivers, and visits Harlequin (Patten 1982) and Alsek Lakes (BB, JJ). *Rare Fall Migrant*. Departs during late Jul, but some migrants remain into late Aug (BB).

Cliff Swallow (*Petrochelidon pyrrhonota*). *Rare Spring Migrant*. Latest swallow to arrive, migrates along coast and appears in late May to early Jun (Isleib and Kessel 1973). *Rare Breeder*. Nests in small colonies in Gulf Air hanger at airport and under bridges on the road system (BA, BB). Unidentified swallows along high bluffs of Akwe River (Patten 1982) probably Cliff Swallows. *Rare Fall Migrant*. Departs by late Aug (Isleib and Kessel 1973).

Barn Swallow (*Hirundo rustica*). *Uncommon Spring Migrant*. Migrates along coast and arrives in mid-May (Isleib and Kessel 1973). *Uncommon Breeder*. Nests in human dwellings at airport, Yakutat city, and Alsek River (BA, BB, JJ). On most lakes, rivers, and streams and on sandy beaches of Blacksand Spit and the Gulf (Patten 1982, BB). *Uncommon Fall Migrant*. Last swallow to depart (Isleib and Kessel 1973), migrants observed into mid-Sep (BB).

Black-capped Chickadee (*Poecile atricapillus*). *Rare Spring Migrant*. Difficult to separate migrants from residents, but some migration occurs as winter flocks disperse. *Rare Breeder*. Prefers broadleaf forests (Armstrong 1995). Common on moraines of Malaspina and Guyot Glaciers (Shortt 1939), but undetected near city of Yakutat (Shortt 1939). In shrubs and broadleaf forests along Alsek (JJ), East Alsek (Patten 1982), and Italo Rivers (Patten 1982). Likely in the vicinity of Harlequin Lake and other inland mixed and broadleaf forest. *Occasional Fall Migrant*. Migrates with warblers and kinglets from late Aug to mid-Oct (Isleib and Kessel 1973; Table 6). *Uncommon Winter Resident*. Some migrants remain (Table 8) in flocks and are highly mobile in search of food (BB, BL).

Chestnut-backed Chickadee (*Poecile rufescens*). *Fairly Common Resident*. Difficult to separate migrants from residents, but some migration occurs as winter flocks disperse. Prefers needleleaf forests (Armstrong 1995) and nests in tree cavities on south side of Yakutat Bay (Shortt 1939) where needleleaf forests are abundant. In needleleaf forests on BBS routes (BA; Table 4). Captured in mist nets at fall migration banding station (Table 6), but likely residents. Numerous individuals re-captured in subsequent years (BA). Forms flocks in fall and winter

(Patten 1982). Visits all shrub and forest habitats, may move from inland forests in summer to coastal forest edges in fall and winter.

Boreal Chickadee (*Parus hudsonicus*). *Casual Visitant*. One in Dec 1987 (Table 8). Breeds primarily in the interior (Armstrong 1995). May use Alsek River as a migration corridor as the Copper River near Cordova where it is observed occasionally (Isleib and Kessel 1973).

Red-breasted Nuthatch (*Sitta canadensis*). *Uncommon Spring Migrant*. Difficult to separate migrants from residents, timing of migration uncertain. *Uncommon Breeder*. Breeds in tree cavities (Armstrong 1995). Local young captured at MAPS station (Table 5). *Uncommon Fall Migrant*. In shrubs near Icy Bay (Burgess 1992) and East River (Patten 1982). In canopy of spruce trees in Yakutat throughout fall (BB, JS). Rarely captured in mist nets near ground and highly variable among years (Table 6). Eruptive migrant, in only one of six years during fall migration (Table 6). Unreported in the North Gulf Coast until spring 1964, fall migrants have appeared annually since (Isleib and Kessel 1973). *Occasional Winter Resident*. In needleleaf forest, but not every year (Table 8).

Brown Creeper (*Certhia americana*). *Rare Spring Migrant*. Difficult to separate migrants from residents. Migration may occur as local dispersal of possible winter flocks. *Rare Breeder*. Local young captured at MAPS station (Table 5). In needleleaf forests on BBS routes (Cotter and Andres 2001; Table 4), but survey timing may under-estimate abundance. *Rare Fall Migrant*. More abundant during fall than any other season (Isleib and Kessel 1973). Captured only in mist nets located in needleleaf forest at fall migration banding station (Table 6; BB). Possible winter resident, but not recorded at Yakutat.

Winter Wren (*Troglodytes troglodytes*). *Uncommon Spring Migrant*. Difficult to separate migrants from residents. Migration may occur as local dispersal of possible winter flocks. *Common Breeder*. Local young captured at MAPS station (Table 5). Mainly in needleleaf forests on BBS routes (Cotter and Andres 2001; Table 4). Especially in old growth needleleaf and mixed forests (Shortt 1939, Patten 1982), but also in young coastal ridge needleleaf forests with a well-developed understory (BA). *Uncommon Fall Migrant*. Captured mostly in mist nets located in needleleaf forest at fall migration banding station (Table 6; BB). *Probable Winter Resident*. Individuals recaptured throughout fall probable winter residents.

American Dipper (*Cinclus mexicanus*). *Fairly Common Year-round Resident and Probable Breeder*. Essentially non-migratory, in equal abundance during all seasons (Armstrong 1995). On most fast moving rivers and streams including the Situk, Itatio (Patten 1982), Ahrnklin (BB, MG), Alsek (BB, JJ) Rivers, and several mountain streams that drain into Harlequin Lake (BB, BL). May use rocky shorelines. Generally moves out of higher elevations in winter.

Golden-crowned Kinglet (*Regulus satrapa*). *Fairly Common Spring Migrant*. Migrates in needleleaf forests in small flocks of mixed passerines during Apr and May (Isleib and Kessel 1973). *Common Breeder*. Local young captured at MAPS station (Table 5). Most abundant in needleleaf forest on BBS routes (Cotter and Andres 2001; Table 4). *Fairly Common Fall Migrant*. Migrates in needleleaf forests from mid-Aug to mid-Oct (Isleib and Kessel 1973), but often captured in nets set in willow thickets (BA). Recapture of some individuals throughout fall probably residents. *Rare Winter Resident*. In needleleaf forests in irregular years (Table 8), frequently found in small flocks with chickadees (Isleib and Kessel 1973).

Ruby-crowned Kinglet (*Regulus calendula*). *Common Spring Migrant*. Migrates in shrub (Patten 1982) and forest habitats from mid-Apr to mid-May (Isleib and Kessel 1973). *Common Breeder*. Local young captured at MAPS station (Table 5). Most abundant species of needleleaf forest birds reported by Shortt (1939), but not as abundant on more recent BBS routes (Table 4). In open needleleaf forest, mixed forest, and bog-woodlands on BBS routes (BA), and on the Alsek River (Johnson 2003). *Common Fall Migrant*. Fourth most abundant species captured in the fall and accounts for 8% of all captures (Table 6). Most depart in mid Aug, but some migrants remain into early Oct (Andres et al. 2003).

Townsend's Solitaire (*Myadestes townsendi*). *Casual Visitant*. One on Foreland BBS route in open needleleaf forest 9 Jun 1999 (BA). One on Foreland on 10 Sep 1999 (DB, JJ). One other fall record on the North Gulf Coast from Cordova (Isleib and Kessel 1992).

Gray-cheeked Thrush (*Catharus minimus*). *Rare Spring Migrant*. Arrives in shrubs along glacial lakes and rivers in May (Patten 1982). *Fairly Common Breeder*. Adults carrying food in mixed woodlands on Malaspina Glacier (Shortt 1939), and recently fledged young in mixed woodlands and tall shrubs along Alsek River (JJ). Nest with eggs found in alder/willow shrubs by Fuertes (1899) at 152 m (550 feet) elevation along Yakutat Bay. In shrubs along rivers and associated lakes (Patten 1982). On BBS routes only near Harlequin Lake (Table 4; BA). More abundant along Alsek River than other rivers in southeastern Alaska (Johnson 2003). *Rare Fall Migrant*. One captured at banding station (Table 6). Birds from western Alaska migrate through interior valleys (Isleib and Kessel 1973).

Swainson's Thrush (*Catharus ustulatus*). *Occasional Probable Breeder*. In mixed forest on BBS routes (BA; Table 4). Not nearly as abundant as further south along the Alaskan coast (Cotter and Andres 2001). *Occasional Fall Migrant*. In tall shrubs at Icy Bay on 22 Aug 1992 (Burgess 1992). One captured at fall banding station on 28 Aug 1999 (Table 6). Yakutat lies between interior populations to the north and coastal populations to the south.

Hermit Thrush (*Catharus guttatus*). *Abundant Spring Migrant*. Migrates along forest edge of the Gulf (Patten 1982), and inland in all shrub and forest habitats from mid-Apr to late May with peak in mid-May (Isleib and Kessel 1992). *Abundant Breeder*. Nests with eggs collected at four localities (Shortt 1939), and local young captured at MAPS station (Table 5). In tall shrub and broadleaf, mixed, and needleleaf forests (Cotter and Andres 2001). Most abundant bird on BBS routes (Table 4). Nests in scattered spruce trees in open shrubs and woodlands, and is second most abundant bird along Alsek River (Johnson 2003). Most frequently observed species in shrubs (Patten 1982). *Abundant Fall Migrant*. Second most abundant species captured, accounts for 15% of all captured migrants (Table 6). In all shrub and forest habitats from early Aug through first week of Oct with peaks in late Aug and late Sep. Captures in mid-Aug and late Sep can exceed 100 birds/day (Andres et al. 2003).

American Robin (*Turdus migratorius*). *Fairly Common Spring Migrant*. Migrates in all habitats from coast (Patten 1982) to above timberline from mid-Apr to mid-May (Isleib and Kessel 1973). *Common Breeder*. Nest with eggs at Situk River (Shortt 1939) and local young captured at MAPS station (Table 5). In shrub and all forest habitats (Patten 1982, Cotter and Andres 2001), on BBS routes (Table 4), and along Alsek River (Johnson 2003). *Fairly Common Fall Migrant*. Migrates in all habitats from Aug to early Oct (BB, BL) in greater abundance than indicated by capture rates (Table 6; Andres et al. 2003). Probable winter resident, but not

recorded at Yakutat. A few remain as winter residents in the North Gulf Coast (Isleib and Kessel 1973).

Varied Thrush (*Ixoreus naevius*) *Common Spring Migrant*. Migrates in all habitats from coast (Patten 1982) to above timberline from late Mar to mid-May (Isleib and Kessel 1973). *Abundant Breeder*. Collected nest with young in spruce tree in mixed forest at Situk River (Shortt 1939), and local young captured at MAPS station (Table 5). In shrub and all forest habitats (Patten 1982, Cotter and Andres 2001). Second most abundant species on BBS routes (Table 4) and common in similar habitats along Alsek River (Johnson 2003). *Common Fall Migrant*. In all habitats from mid-Aug to mid-Nov with peak of movement during Sep (Isleib and Kessel 1973). In greater abundance than indicated by capture rates (Table 6; Andres et al. 2003). *Rare Winter Resident*. In forest near protected inshore waters and open freshwater (Isleib and Kessel 1973), only irregularly at Yakutat (Table 8).

European Starling (*Sturnus vulgaris*). *Casual Visitant*. First appeared in the North Gulf Coast in 1962. Expansion of range throughout Alaska will possibly lead to local breeding and residency (Isleib and Kessel 1973), especially in areas occupied by humans where commensal nesting habitat is created. One on the Situk River mouth in 1978 (in Patten 1982).

American Pipit (*Anthus rubescens*). *Common Spring Migrant*. Migrates on sandy dunes and beaches along the Gulf (BB, MG), meadows, and various open habitats from mid-Apr through mid-May (Isleib and Kessel 1973). On Osier Island in Disenchantment Bay in May (Shortt 1939), and heard by Fuertes (1899) in Jun along the shoreline of Yakutat Bay, One of the most abundant birds in the alpine of the North Gulf Coast (Isleib and Kessel 1973). Although suitable, but unexplored habitat, not recorded at Yakutat. *Common Fall Migrant*. Migrates on tidal flats and sandy beaches of estuaries (Patten 1982), and sandy dunes and beaches along the Gulf from mid-Aug to early Oct (Isleib and Kessel 1973). Apparent post-breeders along the shores of Yakutat Bay in late Aug (Shortt 1939). Regularly recorded over banding station (BA).

Bohemian Waxwing (*Bombycilla garrulus*). No confirmed sightings near Yakutat. Flocks of waxwings appear as visitants on the Copper River Delta, and some remain during winter (Isleib and Kessel 1973). Suitable fall and winter habitat occurs on the Foreland, nomadic flocks in search of food could appear irregularly.

Tennessee Warbler (*Vermivora peregrina*). *Casual Visitant*. One captured at fall migration banding station on 15 Sep 1995 (Table 6). Breeds only rarely in southeastern Alaska (Armstrong 1995).

Orange-crowned Warbler (*Vermivora celata*). *Abundant Spring Migrant*. Migrates in all habitats from offshore waters to above timberline during May with peak of movement in late May (Isleib and Kessel 1973). *Common Breeder*. Most abundant warbler of the North Gulf Coast (Isleib and Kessel 1973). Prefers shrubs and broadleaf woodlands (Armstrong 1995). Nest with eggs in shrubs in needleleaf forest edge (Shortt 1939) and local young captured at MAPS station (Table 5). In shrub and all forest habitats, including alder fringe along needleleaf forest (Cotter and Andres 2001). Most abundant warbler on BBS routes (Table 4). One of two most abundant warblers in riparian habitat along Alsek River (Johnson 2003) and other lakes and rivers (Patten 1982). *Abundant Fall Migrant*. Most abundant migrant landbird, represents 16% of all birds captured (Table 6). Migrates in all habitats from offshore waters to above timberline (Isleib and Kessel 1973) from early Aug through early Oct with steady peak of movement from Aug through mid-Sep (Andres et al. 2003).

Yellow Warbler (*Dendroica petechia*). *Common Spring Migrant*. Migrates mainly in shrubs, arrives in late May and early Jun (Isleib and Kessel 1973). *Uncommon Breeder*. In willow shrubs and younger mixed and broadleaf forests (Shortt 1939). In broadleaf forest and shrubs (Cotter and Andres 2001) along BBS routes (Table 4), Alsek River (JJ), and other lakes and rivers (Patten 1982). *Common Fall Migrant*. Migrates mainly in shrubs from early Aug to late Sep with peak of movement from late Aug through mid-Sep, nearly absent by early Oct (Andres et al. 2003).

Yellow-rumped Warbler (*Dendroica coronata*). Only the Myrtle Warbler subspecies occurs at Yakutat. *Common Spring Migrant*. Migrates in shrubs and all forested areas (BA, BL) during May (Isleib and Kessel 1973). *Common Breeder*. Local young captured at MAPS station (Table 5). In shrub and all forest habitats (Cotter and Andres 2001) along BBS routes (Table 4), Alsek River (Johnson 2003), and other lakes and rivers (Patten 1982). *Common Fall Migrant*. Migrates in shrubs and all forest habitats from Aug through Sep with peak of movement from mid- to late Aug (Andres et al. 2003). Relatively high numbers caught during migration (Table 6).

Townsend's Warbler (*Dendroica townsendi*). *Occasional Spring Migrant*. Migrates from mid-May to early Jun (Isleib and Kessel 1973). *Occasional Summer Resident and Possible Breeder*. Breeds in shrubs and all forest habitats in southeastern and southcoastal Alaska (Cotter and Andres 2001), including the North Gulf Coast (Isleib and Kessel 1973), but only recorded once on BBS routes (Table 4) and one singing male along Alsek River (JJ). Previously unobserved near Yakutat in summer (Shortt 1939, Patten 1982). Appears to prefer needleleaf forests growing on slopes (BA). Abundance of breeders in a given vicinity fluctuate yearly. One of the most abundant breeders on the forested slopes above Cordova in 1996, but only a few individuals present in 1970 (Isleib and Kessel 1973). *Occasional Fall Migrant*. Migrates in shrubs (Burgess 1992) and woodlands (BB, JS) in mixed flocks of warblers, chickadees, and kinglets in Aug (Isleib and Kessel 1973). Some migrants into late Sep (BB). Captured only occasionally in mist nets (Table 6).

Blackpoll Warbler (*Dendroica townsendi*). *Casual Fall Visitant*. Captured in mist nets only twice (Table 6). Breeds only rarely in the North Gulf Coast as an expansion of range from the interior onto the Kenai Peninsula (Isleib and Kessel 1973).

Northern Waterthrush (*Seiurus noveboracensis*). *Occasional Summer Resident and Probable Breeder*. In shrub and broadleaf forests near water (Cotter and Andres 2001), occasional on BBS routes (Table 4). Not recorded by Shortt (1939) or Patten (1982). Uncommon breeder in the North Gulf Coast and regular along Chilkat River (Johnson 2003). *Occasional Fall Migrant*. Only seven individuals captured at fall banding station (Table 6).

Common Yellowthroat (*Geothlypis trichas*). *Occasional Summer Resident and Probable breeder*. A few individuals in shrubby meadows and bogs, usually near water on BBS routes (Table 4; BA). One in summer 1980 (Patten 1982). Considered accidental in the North Gulf Coast (Isleib and Kessel 1973), yellowthroats may be expanding their range northward. The Foreland provides good breeding habitat. *Occasional Fall Migrant*. Small numbers of captures at banding station (Table 6).

Wilson's Warbler (*Wilsonia pusilla*). *Common Spring Migrant*. Migrates in shrubs and all forest habitats (BA, BB), especially in coastal areas and over offshore waters of the Gulf during May with peak in late May (Isleib and Kessel 1973). *Common Breeder*. Nest with young on ground in tall shrubs (Shortt 1939) and local young captured at MAPS station (Table 5). In

shrubs and all forests (Cotter and Andres 2001) and common in understory of BBS routes (Table 4). Most abundant warbler at Alsek River (Johnson 2003) and along lakes and rivers (Patten 1982). *Common Fall Migrant*. Migrates in various habitats (Patten 1982) from coast to alpine (Burgess 1992) during Aug with peak of movement in early Aug (Andres et al. 2003). A few migrants into late Sep (BB). Moderate capture rates of Wilson Warblers (Table 6), suggest abundant northern populations use interior migration route or migrate over offshore waters.

American Tree Sparrow (*Spizella arborea*). *Rare Fall Migrant*. Migrates in shrubs in mixed flocks with other sparrows from late Aug (BB) to mid-Oct (Isleib and Kessel 1973), usually Sep. Small numbers captured at banding station (Table 6). A rare, but regular, fall and winter visitor in coastal areas near Cordova (Isleib and Kessel 1973).

Chipping Sparrow (*Spizella passerina*). *Accidental*. One captured on 21 Sep 1994 (BA), and one observed 24 Sep 1998. Breeds mostly along mainland rivers in Southeast Alaska and the Tanana River Valley in east-central Alaska (Armstrong 1995). One other fall record for the North Gulf Coast (Isleib and Kessel 1973).

Brewer's Sparrow (*Spizella breweri*). *Accidental*. One "Timberline" individual captured on 19 Aug 1997 and a second captured on 8 Sep 1997 (Table 6). Nearest known source population breeds in east-central Alaska and southwest Yukon.

Savannah Sparrow (*Passerculus sandwichensis*). *Common Spring Migrant*. Migrates in shrubby meadows and bogs (BA, BB, BL) and over offshore waters and coastal habitats from late Apr through May with peak of movement in mid-May (Isleib and Kessel 1973). *Fairly Common Breeder*. Four nests with eggs in meadows on Situk River Delta (Shortt 1939) and local young captured at MAPS station (Table 5). In various open habitats from shoreline to above timberline (Isleib and Kessel 1973). In meadows and bogs (Cotter and Andres 2001) along BBS routes (Table 4), Alsek River (Johnson 2003), and other lakes and rivers (Patten 1982). Especially in dry meadows near estuaries, most abundant in densely vegetated herbaceous sandy dunes on Blacksand Spit south of sparsely vegetated habitat of tern colonies (Patten 1982). *Common Fall Migrant*. Migrates over offshore waters, coastal habitats (Isleib and Kessel 1973), and open inland habitats (Patten 1982, BA) from early Aug to late Oct with peak of movement from late Aug through mid-Sep (Andres et al. 2003). Relatively high numbers captured at banding station (Table 6).

Fox Sparrow (*Passerella iliaca*). *Common Spring Migrant*. Migrates in shrubs, bogs, and all open forests (BA, BL) and especially in most coastal habitats from Apr through May with peak of movement in early May (Isleib and Kessel 1973). *Common Breeder*. Nest with eggs in spruce tree at Situk River (Shortt 1939) and local young captured at MAPS station (Table 5). One of the most abundant breeding species of the Forelands (Shortt 1939). Most frequent in shrubs and broadleaf forest (Cotter and Andres 2001). Fairly common on BBS routes (Table 2), along lakes and rivers, and on Haenke Island (Patten 1982). Most abundant passerine in shrubs and woodlands along Alsek River (Johnson 2003). *Common Fall Migrant*. Migrates inland in shrubs and forest edges (Patten 1982, BA) and in coastal habitats from Aug to mid-Oct with peak of movement in late Aug (Andres et al. 2003). One of the most abundant songbirds captured at banding station (Table 6). All individuals were of dark coastal subspecies.

Song Sparrow (*Melospiza melodia*). *Rare Spring Migrant*. Migrates in coastal habitats from mid-Apr through early May (Isleib and Kessel 1973). *Occasional Breeder*. Nest with young on ground in low willow shrub at Situk River (Shortt 1939) and local young captured at MAPS station (Table 5). In wet meadows (Patten 1982), shrubs, and all forests (Cotter and Andres

2001). Mostly near coast on BBS routes (Table 4), rarely ventures inland (Armstrong 1995). *Rare fall migrant*. Migrates in coastal habitats from Aug to mid-Sep. All captures are of dark, large coastal subspecies (Table 6).

Lincoln's Sparrow (*Melospiza lincolni*). *Common Spring Migrant*. Migrates in coastal and inland shrubs in May (Isleib and Kessel 1973). *Common Breeder*. Several nests on ground in meadows and bogs (Shortt 1939), and most abundant of local young captured at MAPS station (Table 5). Mostly in shrubs of moist bogs and meadows on BBS routes (Cotter and Andres 2001; Table 4). *Common Fall Migrant*. Third most abundant species captured at banding station (Table 6). Migrates in shrubs, upland meadows, and coastal habitats during Aug and Sep with peak of movement during early Aug (Andres et al. 2003).

White-throated Sparrow (*Zonotrichia albicollis*). *Accidental*. One captured on 19 Sep 1997 (Table 6). One other fall record from the North Gulf Coast (Isleib and Kessel 1973).

White-crowned Sparrow (*Zonotrichia leucophrys*). *Uncommon Spring Migrant*. Migrates in mixed flocks with other sparrows during May (Isleib and Kessel 1973). *Occasional Possible Breeder*. Five on Haenke Island in early Jun (Patten 1982). Common breeder in upper valleys adjacent to the North Gulf Coast (Isleib and Kessel 1973). *Uncommon Fall Migrant*. Migrates in shrubs, meadows, and bogs from mid-Aug to mid-Sep. A few captured at banding station (Table 6).

Golden-crowned Sparrow (*Zonotrichia atricapilla*). *Common Spring Migrant*. Migrates over offshore waters and through coastal habitats from late Apr through May with peak of movement in mid- to late May (Isleib and Kessel 1973). *Occasional Breeder*. Nest with young in willow shrub near Malaspina Glacier (Shortt 1939) and local young captured at MAPS station (Table 5). In shrubs along Dangerous River, Haenke Island (Patten 1982), and Yakutat Bay (Fuertes 1899). May breed at higher elevations where low shrubs transition to dwarf shrubs, or in early successional areas of Russell Fiord. Singing males heard along Alsek River (JJ). Current abundant nester in shrubs on upper Copper River Delta, but not observed in summer of 1908. Expansion of breeding range attributed to creation of second growth shrub habitat from logging (Isleib and Kessel 1973). *Common Fall Migrant*. Migrates in inland shrubs and bogs (Patten 1982, BA) and coastal habitats from late Aug to early Oct with peak of movement in mid-Sep (Andres et al. 2003). Relatively high numbers captured at banding station (Table 6).

Dark-eyed Junco (*Junco hyemalis*). Includes Oregon and Slate-colored subspecies. *Common Spring Migrant*. Both "Oregon" and "Slate-colored" subspecies migrate in most shrub and forest habitats from mid-Apr to late May with peak of movement in early May. "Oregon Junco" considerably more abundant (Isleib and Kessel 1973). *Common Breeder*. Only "Oregon Junco" breeds near Yakutat. Immatures collected in clearcut spruce forests (Shortt 1939) and local young captured at MAPS station (Table 5). Only "Oregon Junco" observed in forests and woodlands on Foreland BBS routes (BA). *Common Fall Migrant*. Both subspecies migrate in shrubs, bogs, meadows, and forests from early Aug to early Oct with two peaks in late Aug and mid Sep. "Oregon Juncos" considerably more abundant and migrates earlier than "Slate-colored Junco" (Andres et al. 2003). *Occasional Winter Resident*. Both subspecies together in mixed flocks (Isleib and Kessel 1973; Table 8).

Lapland Longspur (*Calcarius lapponicus*). *Rare Spring Migrant*. Migrates in flocks in most open habitats from sandy beaches to alpine from late Mar to late May (Isleib and Kessel 1973). Not recorded as breeder at Yakutat, but may be present in unexplored alpine. Breeds sparingly in southern Alaska (Armstrong 1995), but not recorded breeding mainland alpine of the

North Gulf Coast (Isleib and Kessel 1973). *Rare Fall Migrant*. In greater abundance than indicated by captures (Table 6). Migrates mostly along coast from late Aug to late Sep (Isleib and Kessel 1973). Some migrants into mid-Oct (Patten 1982, BB, BL).

Snow Bunting (*Plectrophenax nivalis*). *Uncommon Spring Migrant*. Migrates in small scattered flocks on sandy beaches (JC) and open habitats along the coast from mid-Mar to early May (Isleib and Kessel 1973). No breeding recorded at Yakutat, but likely breeder in alpine of the North Gulf Coast (Isleib and Kessel 1973). Pairs observed at 750–1,200 m (2,500–4,000 feet), and fairly common breeders in adjacent upper Glacier Bay (Isleib and Kessel 1973). *Rare Fall Migrant*. Migrates in small flocks along coast from late Oct through Nov (Isleib and Kessel 1973), not captured in mist nets. *Occasional Winter Resident*. Near fish camps at Situk River Delta in Jan (DG), but not present every year (Table 8).

Red-winged Blackbird (*Agelaius phoeniceus*). *Casual Spring Migrant*. One at Tahwah Creek near Yakutat airport on 25 Mar 1968 (Isleib and Kessel 1973). *Occasional Possible Breeder*. Singing males in wet meadows near coast in several summers (BA). Likely more common than indicated.

Rusty Blackbird (*Euphagus carolinus*). *Uncommon Spring Migrant*. Migrates in small flocks along coast during Apr and May (Isleib and Kessel 1973). *Occasional Possible Breeder*. Recorded only once on BBS routes (Table 4). May be more common in wet, shrubby meadows than indicated. *Fairly Common Fall Migrant*. In greater abundance than suggested by capture rates (Table 6; Andres et al. 2003). Migrates mostly in marshes and shrubs along coast (Patten 1982) from mid-Aug to late Oct (Isleib and Kessel 1973).

Common Grackle (*Quiscalus quiscula*). *Accidental*. One at Yakutat airport on 28–29 Aug 1966 (Isleib and Kessel 1973). No other records from the North Gulf Coast (Isleib and Kessel 1973).

Brown-headed Cowbird (*Molothrus ater*). *Casual Visitant*. One at Yakutat airport from 6–14 Aug 1997 (BA). Another, perhaps the same individual, observed on Tahwah Creek bridge, Cannon Beach road, in early Sep (JS, MS). Several other fall records from the North Gulf Coast (Isleib and Kessel 1973), and regular on the Chilkat River (BA).

Gray-crowned Rosy Finch (*Leucosticte arcota*). *Rare Spring Migrant*. Migrants in the North Gulf Coast in Mar and Apr (Isleib and Kessel 1973). *Possible Rare Breeder*. Specimen collected by J. Grinnell in Jun at Yakutat (Isleib and Kessel 1973). Breeding status at Yakutat uncertain. *Rare Fall Migrant*. A few individuals along alluvia and moraines of recently deglaciated land of the Arrowhead Peninsula in Icy Bay and Moore Nunatak on northwest edge of Malaspina Glacier in Aug (Burgess 1992).

Pine Grosbeak (*Pinicola enucleator*). *Fairly Common Year-round Resident and Probable Occasional Breeder*. Apparently breeding throughout Yakutat area (Shortt 1939), and collected from Yakutat village (Fuertes 1899). Occasionally in forests and woodlands on BBS routes (BA; Table 4), and along lakes and rivers (Patten 1982, JJ). Difficult to separate migrants from residents, some apparent movement in spring and especially fall (Isleib and Kessel 1973). *Uncommon Winter Resident*. Small numbers irregularly in Dec (Table 8).

Red Crossbill (*Loxia curvirostra*). *Common Year-round Resident and Breeder*. Local young captured at MAPS station (Table 5). In shrubs and needleleaf forests on BBS routes, but highly variable among years (BA; Table 4). Difficult to separate migrants from residents, movements dictated by availability of spruce cones. One apparently migrating north in woodlands on Blacksand Island in spring 1996 (BB, RC). A few apparent fall migrants captured

in mist nets (Table 6). Probable winter resident, but not recorded at Yakutat. Mixed flocks of crossbills winter irregularly in the North Gulf Coast (Isleib and Kessel 1973).

White-winged Crossbill (*Loxia leucoptera*). *Uncommon Year-round Resident and Breeder*. Local young captured at MAPS station (Table 5), and nest located in spruce woodland in Sep 1997 (JS). In open needleleaf and mixed forests on BBS routes, highly variable among years (BA; Table 4). Difficult to separate migrants from residents. Apparent migrant pair landed on boat 80 km (50 miles) off Yakutat in 1895 (Gabrielson and Lincoln 1959). Moderate numbers captured at banding station, but highly variable among years (Table 6). *Common Winter Resident*. Presence and abundance varies depending on seed crop (Armstrong 1995; Table 8).

Common Redpoll (*Carduelis flammea*). *Common Year-round Resident and Probable Breeder*. Some migration apparent on the North Gulf Coast in spring (Isleib and Kessel 1973). Difficult to separate migrants from residents. In proper nesting habitat in shrubs near Disenchantment Bay (Shortt 1939), Yakutat Bay (Fuertes 1899), Yakutat Glacier (BB, JJ), and along lakes and rivers (Patten 1982). Males observed in courtship flights near Alsek Lake (JJ). *Fairly Common Fall Migrant*. Overall, fairly common, but captures in mist nets highly variable among years (Table 6). *Fairly Common Winter Resident*. Presence and abundance varies depending on seed crop (Armstrong 1995), observed irregularly at Yakutat (Table 8).

Pine Siskin (*Carduelis pinus*). *Fairly Common Year-round Resident and Breeder*. Difficult to separate migrants from residents. Nest with young (Shortt 1939, Gabrielson and Lincoln 1959) and local young captured at MAPS station (Table 5). In needleleaf and mixed forests (Cotter and Andres 2001), variable numbers on Foreland BBS routes (Table 4). Moderate, but highly variable, numbers captured at banding station (Table 6). *Common Winter Resident*. Regular in most years (Table 8). Like redpolls, movement in response to variable food supplies.

LITERATURE CITED

- Alaska Geographic Society. 1975. Yakutat: the turbulent crescent. *Alaska Geographic* 2:1–82.
- American Ornithologists' Union. 1998. Check-list of North American birds, seventh edition. American Ornithologists' Union, Washington, D.C. 829 pp.
- American Ornithologists' Union. 2000. Forty-second supplement to the American Ornithologists' Union check-list of North American birds. *Auk* 117:847–858.
- Andres, B. A. 1998. Boreal Partners in Flight Working Group, 1997 annual report. Unpublished report, U.S. Fish and Wildlife Service, Anchorage, Alaska. 45 pp.
- Andres, B. A., and B. T. Browne. 1998. Spring migration of shorebirds on the Yakutat Forelands, Alaska. *Wilson Bull.* 110:326–331.

- Andres, B. A., B. T. Browne, and D. L. Brann. 2003. Species composition, abundance, and timing of post-breeding migrant landbirds at Yakutat, Alaska. Unpublished report, U.S. Fish and Wildlife Service, Anchorage, Alaska. 25 pp.
- Armstrong, R. H. 1995. Guide to the birds of Alaska, fourth ed. Alaska Northwest Books, Seattle, Washington. 322 pp.
- Banks, R. C., C. Cicero, J. L. Dunn, A. W. Kratter, P. C. Rasmussen, J. V. Remsen, Jr., J. D. Rising, and D. F. Stotz. 2002. Forty-third supplement to the American Ornithologists' Union check-list of North American birds. *Auk* 119:897–906.
- Banks, R. C., C. Cicero, J. L. Dunn, A. W. Kratter, P. C. Rasmussen, J. V. Remsen, Jr., J. D. Rising, and D. F. Stotz. 2003. Forty-fourth supplement to the American Ornithologists' Union check-list of North American birds. *Auk* 120:923–931.
- Burgess, D. 1992. Birds of the Arrowhead and Icy Bay, Alaska. Unpublished report, Wrangell-St. Elias National Park and Preserve, Glennallen, Alaska. 24 pp.
- Cotter, P. A., and B. A. Andres. 2000. Breeding bird habitat associations on the Alaska Breeding Bird Survey. U.S. Geological Survey, Biological Resources Division Information Technical Report USGS/BRD/ITR – 2000-0010. 53 pp.
- Danby, R. K. 2003. Birds and mammals of the St. Elias mountain parks: Checklist evidence for a biogeographic convergence zone. *The Canadian Field-Naturalist* 117:1–18.
- de Laguna, F. 1972. Under Mount Saint Elias: The history and culture of the Yakutat Tlingit, part one. *Smithsonian Contributions to Anthropology*, volume 7. Smithsonian Institution Press, Washington, D. C. 547 pp.
- Fuertes, L. A. 1899. Louis Aggasiz Fuertes and the Harriman Alaska Expedition. Cornell University. <<http://rnc.library.cornell.edu/Alaska/>>.
- Gabrielson, I. N., and F. C. Lincoln. 1959. Birds of Alaska. Wildlife Management Institute, Washington, D.C. 922 pp.
- Gallant, A. L., E. F. Binnian, J. M. Omernik, and M. B. Shasby. 1995. Ecoregions of Alaska. U.S. Geological Survey Professional Paper 1567, Washington, D. C. 73 pp.
- Gibson, D. D., and B. Kessel. 1997. Inventory of the species and subspecies of Alaska birds. *Western Birds* 28:45–95.
- Grinnell, J. 1910. Birds of the 1908 Alexander Alaska Expedition with a note on the avifaunal relationships of the Prince William Sound District. *University of California Publications in Zoology* 5:361–428.

- Harke, V. L. 1992. Yakutat Ranger District 1992 waterfowl brood surveys. Unpublished report, U.S. Department of Agriculture Forest Service, Yakutat, Alaska. 21 pp.
- Harke, V. L., and T. J. Leach. 1996. Surveys for Marbled Murrelets on the Yakutat Ranger District. Unpublished report, U.S. Department of Agriculture Forest Service, Yakutat, Alaska. 13 pp.
- Isleib, M. E., and B. Kessel. 1973. Birds of the North Gulf Coast-Prince William Sound Region, Alaska. Biological Papers of the University of Alaska, Number 14. Fairbanks. 149 pp.
- Johnson, J. A. 2003. Modeling avian community structure and composition in deciduous riparian habitats of the trans-mountain rivers of southeast Alaska. Master's thesis, Utah State University, Logan, Utah.
- Kessel, B. 1979. Avian habitat classification for Alaska. *Murrelet* 60:86–94.
- Kessel, B., and D. D. Gibson. 1978. Status and distribution of Alaska birds. *Studies in Avian Biology* Number 1. Cooper Ornithological Society, Lawrence, Kansas. 100 pp.
- Laing, H. M. 1925. Birds collected and observed during the cruise of the *Thiepval* in the North Pacific, 1924. Canadian Department of Mines Bulletin 40. 46 pp.
- Martin, W. 1994. Yakutat Ranger District 1994 waterfowl brood surveys. Unpublished report, U.S. Department of Agriculture Forest Service, Yakutat, Alaska. 17 pp.
- Miller, D. J., 1958. Gulf of Alaska area. Pages 19–29 *in* H. Williams, editor. *Landscapes of Alaska, their geologic evolution*. University of California Press, Berkeley.
- Myres, M. T. 1972. Radar observations of three probable transoceanic migratory movements across the Gulf of Alaska in spring 1965. *Syesis* 5:107–116
- Nelson, U. C., and H. A. Hansen. 1959. The Cackling Goose – its migration and management. *Transactions of the North American Wildlife Conference* 24:174–187.
- Patten, S. M. 1982. Seasonal use of coastal habitat from Yakutat Bay to Cape Fairweather by migratory seabirds, shorebirds and waterfowl. Annual Report of Principal Investigators, Outer Continental Shelf Environmental Assessment Program, Bureau of Land Management, National Oceanic and Atmospheric Administration, Juneau, Alaska. 16:296–603.
- Petersen, M. R., J. C. Greulich, and N. M. Harrison. 1981. Spring and fall migration, and habitat use by water birds in the Yakutat Forelands, Alaska - 1980. Unpublished report, U.S. Geological Survey, Alaska Science Center, Anchorage. 106 pp.

- Shephard, M. E. 1995. Structure and composition of a forested beach ridge chronosequence on the Yakutat Foreland, Alaska. Pages 129–135 *in* D. R. Engstrom, editor. Proceedings of the Third Glacier Bay Science Symposium, 1993. National Park Service, Anchorage, Alaska.
- Shortt, T. M. 1939. The summer birds of Yakutat Bay, Alaska. Contributions of the Royal Ontario Museum of Zoology Number 17. Toronto, Canada. 30 pp.
- Sowls, A. L., S. A. Hatch, and C. J. Lensink. 1978. Catalog of Alaskan seabird colonies. U.S. Fish and Wildlife Service FWS/OBS-78/78, Anchorage, Alaska. 200 pp.
- Stephensen, S. W., and B. A. Andres. 2001. Marine bird and mammal survey of Yakutat Bay, Disenchantment Bay, Russell Fiord, and Nunatak Fiord, Alaska. Unpublished report, U.S. Fish and Wildlife Service, Anchorage, Alaska. 24 pp.
- Swem, T. 1982. Results of the Malaspina Glacier Raptor Migration Study Fall 1982. Unpublished report, U.S. Fish and Wildlife Service, Anchorage, Alaska. 20 pp.
- Swem, T. 1983. Sitkagi Beach Raptor Migration Study, Spring 1982. Pages 13–26 *in* M. Harwood, ed. Proceedings of the Hawk Migration Conference IV, Hawk Migration Association of North America, Kempton, Pennsylvania.
- Swem, T. 1985. Raptor migration at Malaspina Glacier. Unpublished report, U. S. Fish and Wildlife Service, Juneau, Alaska. 10 pp.
- U. S. Department of Agriculture Forest Service. 1991. Yakutat Ranger District 1991 duck production survey. Unpublished report, U. S. Department of Agriculture Forest Service, Yakutat, Alaska. 3 pp.
- Viereck, L. A., C. T. Dyrness, A. R. Batten, and K. J. Wenzlick. 1992. The Alaska vegetation classification. U. S. Department of Agriculture Forest Service General Technical Report PNW-GTR-286. 278 pp.
- Viereck, L. A., and E. L. Little, Jr. 1986. Alaska trees and shrubs. University of Alaska Press, Fairbanks, 265 pp.
- Walker, E. P. 1923. Definite breeding record for the Aleutian Tern in southern Alaska. *Condor* 25:113–117.
- Weisbrod, A. R. 1977. Lituya Bay mining impact: avifaunal survey. Unpublished report, U. S. National Park Service, Seattle, Washington. 74 pp.

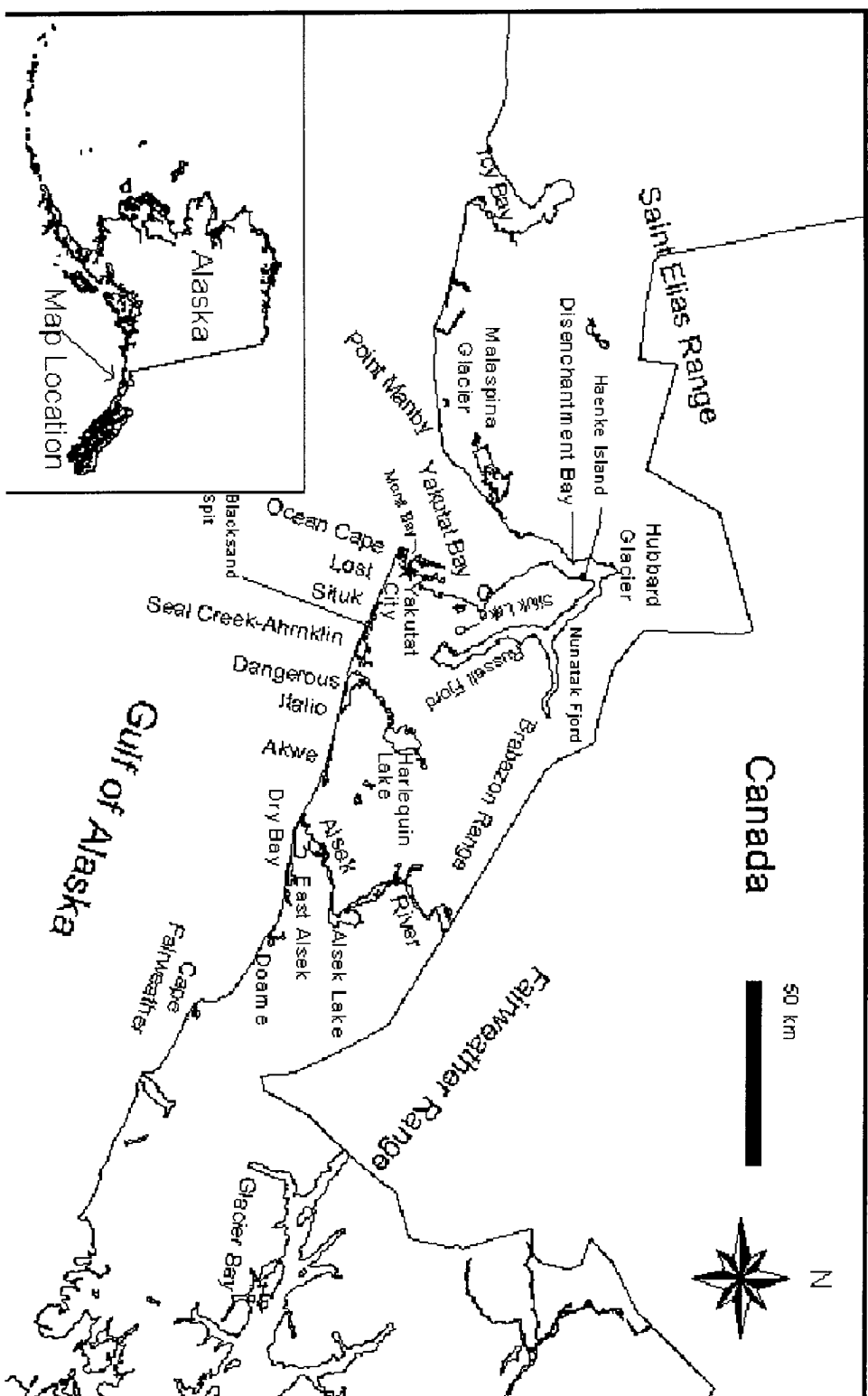


Figure 1. Delineation of the Yakutat region and locations mentioned in the text.

Table 1. Summary of monthly weather variables for Yakutat, Alaska, from 1949 to 2001. Observations made at the Yakutat airport, and data are from National Oceanic and Atmospheric Administration, Western Regional Climate Center (<http://www.wrcc.dri.edu>).

Average	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Maximum temp. (°F)	31.1	35.3	38.5	44.4	50.6	56.3	59.7	60.1	55.5	47.3	38.3	33.5	45.9
Minimum temp. (°F)	17.8	21.3	23.2	29.2	36.5	43.5	47.8	46.6	41.1	34.2	26.1	21.8	32.4
Total precip. (in)	11.3	10.5	10.4	9.3	9.3	6.4	8.1	12.1	18.3	20.9	15.0	14.4	145.9
Total Snowfall (in)	36.1	37.0	37.3	16.9	1.2	0.0	0.0	0.0	0.0	5.4	21.8	37.6	193.5
Snow Depth (in)	15	17	20	11	1	0	0	0	0	0	3	9	6
Wind speed (mph)	7.5	7.6	7.2	7.2	7.6	7.2	6.7	6.5	7.0	8.0	7.6	8.0	7.3
Maximum temp. (°C)	_0.5	1.8	3.6	6.9	10.3	13.5	15.4	15.6	13.1	8.5	3.5	0.8	7.7
Minimum temp. (°C)	_7.9	_5.9	_4.9	_1.6	2.5	6.4	8.8	8.1	5.1	1.2	_3.3	_5.7	0.2
Total precip. (cm)	28.7	26.7	26.4	23.6	23.6	16.3	20.6	30.7	46.5	53.1	38.1	36.6	370.6
Total Snowfall (cm)	91.7	94.0	94.7	42.9	3.0	0.0	0.0	0.0	0.0	13.7	55.4	95.5	491.5
Snow Depth (cm)	38	43	51	28	3	0	0	0	0	0	8	23	15
Wind speed (km/hr)	12.1	12.2	11.6	11.6	12.2	11.6	10.8	10.5	11.3	12.9	12.2	12.9	11.7

Andres and Brown • Birds of Yakutat

	Inshore Waters	Lake/Pond	River/Stream	Tidal Mud Flat	Rocky Shore/Cliff	Sandy Beach/Dune	Salt Marsh	Meadow	Bog	Tall Shrub	Needleleaf Forest	Broadleaf Forest	Mixed Forest	Woodland	Alpine
Bufflehead	Sp,S,F,W	Sp,S,F	Sp,S,F										Sp,S*,F		
Common Goldeneye	Sp,S,F,W	Sp,S,F	Sp		Sp,S,F,W										
Barrow's Goldeneye	Sp,S,F,W	Sp,S,F,W	Sp,S,F,W		Sp,S,F,W										
Hooded Merganser	Sp,S,F,W	Sp,S,F	Sp,S,F									Sp,S*,F	Sp,S*,F		
Common Merganser	Sp,S,F,W	Sp,S,F	Sp,S,F,W		Sp,S,F,W	Sp,S,F,W							Sp,S*,F		
Red-breasted Merganser	Sp,S,F,W	Sp,S*,F	Sp,S*,F		Sp,S,F,W										
Willow Ptarmigan								Sp,S*,F,W		Sp,S*,F,W					Sp,S*,F,W
Rock Ptarmigan															Sp,S*,F,W
Blue Grouse											Accidental				
Red-throated Loon	Sp,S,F,W	Sp,S*,F													
Pacific Loon	Sp,S,F,W														
Common Loon	Sp,S,F,W	Sp,S*,F													
Yellow-billed Loon	Sp,S,F,W														
Horned Grebe	Sp,F,W	Sp,S(*),F													
Red-necked Grebe	Sp,S,F,W	Sp,F	Sp,F												
Black-footed Albatross	Visitor														
Northern Fulmar	Sp,S,F,W														
Sooty Shearwater	Sp,S,F														
Fork-tailed Storm-Petrel	Sp,S,F,W														
Brandt's Cormorant	Visitor														
Double-crested Cormorant	Sp,S,F,W	Sp,S,F			Sp,S*,F,W										
Red-faced Cormorant	Visitor														
Pelagic Cormorant	Sp,S,F,W				Sp,S*,F										
Great Blue Heron	Sp,S,F,W	Sp,S,F	Sp,S,F		Sp,S,F,W		Sp,S,F						Sp,S*,F,W		
Osprey	Sp,S,F	Sp,S,F	Sp,S,F								S*		S*		
Bald Eagle	Sp,S,F,W	Sp,S,F,W	Sp,S,F,W	Sp,S,F,W	Sp,S,F,W	Sp,S,F,W	Sp,S,F,W	Sp,S*,F	Sp,S,F	Sp,S,F	Sp,S*,F,W	Sp,S*,F,W	Sp,S*,F,W	Sp,S*,F,W	
Northern Harrier						Sp,S,F	Sp,S,F,W	Sp,S*,F	Sp,S,F	Sp,S,F				Sp,S,F	Sp,S,F
Sharp-shinned Hawk										Sp,S,F	Sp,S*,F,W	Sp,S*,F	Sp,S*,F	Sp,S,F	Sp,S,F

Andres and Brown • Birds of Yakutat

	Inshore Waters	Lake/Pond	River/Stream	Tidal Mud Flat	Rocky Shore/Cliff	Sandy Beach/Dune	Salt Marsh	Meadow	Bog	Tall Shrub	Needleleaf Forest	Broadleaf Forest	Mixed Forest	Woodland	Alpine
Northern Goshawk										Sp,S,F	Sp,S*,F,(W)		Sp,S*(*),F	Sp,F	
Red-tailed Hawk									Sp,S,F		Sp,S*(*),F		Sp,S*(*),F	Sp,S*(*),F	(Sp,F)
Rough-legged Hawk					Sp,S,F				Sp,S,F						(Sp,S,F)
Golden Eagle					Sp,S*(*),F										
American Kestrel										Sp,F				Sp,F	
Merlin					Sp,S*(*),F	Sp,F	Sp,F	Sp,F		Sp,F	Sp,S*,F,(W)			Sp,F	(Sp,F)
Gyrfalcon										Sp,F				Sp,F	
Peregrine Falcon					Sp,F	Sp,S*(*),F	Sp,F	Sp,F							
American Coot			F												
Sandhill Crane	Sp,F						Sp,F	Sp,F							
Black-bellied Plover				Sp,F		Sp,F	Sp,F	Sp,F							
American Golden-Plover				Sp,F			Sp,F	Sp,F							
Pacific Golden-Plover				Sp,F			Sp,F	Sp,F							
Semipalmated Plover			Sp,S*,F	Sp,S,F	Sp,S,F	Sp,S*,F	Sp,S,F	Sp,S,F							
Killdeer					Visitor		Visitor	Visitor							
Black Oystercatcher					Sp,S*,F,W	Sp,F									
Greater Yellowlegs	Sp,S,F		Sp,S,F	Sp,S,F			Sp,S,F	Sp,S*,F	Sp,S*,F					S*	
Lesser Yellowlegs	Sp,S,F		Sp,S,F	Sp,S,F			Sp,S,F	Sp,S*,F	Sp,S*,F					S*	
Solitary Sandpiper	Sp,F		Sp,F												
Wandering Tattler			Sp,F		Sp,S*(*),F										
Spotted Sandpiper	Sp,S*,F		Sp,S*,F	Sp,F	Sp,S*,F	Sp,S*,F	Sp,S,F	Sp,S,F							
Whimbrel						Sp,S,F									
Hudsonian Godwit				Sp,F		Sp,F									
Marbled Godwit				Sp,F		Sp,F									
Ruddy Turnstone				Sp,F		Sp,F									
Black Turnstone				Sp,F		Sp,F	Sp,F	Sp,F							
Surfbird					Sp,F										
Red Knot				Sp,F											

Andres and Brown • Birds of Yakutat

	Inshore Waters	Lake/Pond	River/Stream	Tidal Mud Flat	Rocky Shore/Cliff	Sandy Beach/Dune	Salt Marsh	Meadow	Bog	Tall Shrub	Needleleaf Forest	Broadleaf Forest	Mixed Forest	Woodland	Alpine
Aleutian Tern	Sp,S,F	Sp,S,F	Sp,S,F	Sp,S,F	Sp,S*,F	Sp,S*,F		Sp,S*,F	Sp,S*,F						
Common Murre	Sp,S,F,W														
Pigeon Guillemot	Sp,S,F,W														
Marbled Murrelet	Sp,S,F,W										S*				S*
Killitz's Murrelet	Sp,S,F,W														S*
Rhinoceros Auklet	Visitor														
Horned Puffin	Visitor														
Tufted Puffin	Sp,S,F													S	
Mourning Dove		Visitor							Visitor						
Western Screech-Owl											Sp,S*,F,(W)				
Great Horned Owl											Sp,S*(*)F,(W)	Sp,S*(*)F,(W)	Sp,S*(*)F,(W)		
Snowy Owl						W		W				Sp,S*,F,W		Sp,S*,F,W	
Northern Hawk Owl										S					
Northern Pygmy-Owl											Sp,S*,F,(W)		S*		Sp,S*(*)F,(W)
Great Gray Owl											Sp,S*(*)F,(W)				
Short-eared Owl						Sp,F		Sp,S*,F,(W)	Sp,S*,F,(W)						
Northern Saw-whet Owl									Sp,S,F,W			Sp,S*,F,W		Sp,S*(*)F	
Common Nighthawk			Visitor							Sp,S,F		Sp,S*(*)F		Sp,S*(*)F,W	
Rufous Hummingbird									Sp,S*,F		Sp,S*,F		Sp,S*,F		Sp,S*,F
Belted Kingfisher		Sp,S,F,W	Sp,S*,F,W		Sp,S*,F,W					Sp,S,F	Sp,S*,F				Sp,F
Red-breasted Sapsucker										Sp,S,F	Sp,S*,F				Sp,F
Downy Woodpecker										Sp,S,F,(W)	Sp,S*(*)F,(W)	Sp,S,F,(W)	Sp,S*(*)F,(W)		Sp,F
Hairy Woodpecker										Sp,S,F,(W)	Sp,S*,F,(W)	Sp,S,F,(W)	Sp,S*,F,(W)		Sp,F
Northern Flicker						Sp,F		Sp,F	Sp,F	Sp,S,F	Sp,S*,F	Sp,S,F	Sp,S*,F		Sp,F
Olive-sided Flycatcher												Sp,S,F	Sp,S*,F		S*,F
Western Wood-Pewee												Visitor			
Yellow-bellied Flycatcher													Visitor		Visitor
Alder Flycatcher										Sp,S*,F			Sp,S,F		Sp,S*,F

Andres and Brown • Birds of Yakutat

	Inshore Waters		Lake/Pond	River/Stream	Tidal Mud Flat		Rocky Shore/Cliff	Sandy Beach/Dune	Salt Marsh	Meadow	Bog	Tall Shrub	Needleleaf Forest	Broadleaf Forest	Mixed Forest	Woodland	Alpine			
Pacific-slope Flycatcher													Sp,S*,F		Sp,S*,F					
Northern Shrike																F,(W)				
Warbling Vireo																F				
Stellar's Jay													Sp,S,F,W	Sp,S*,F,W		Sp,S*,F,W	Sp,S,F,W			
Black-billed Magpie		Sp,F,W					Sp,F,W	Sp,F,W					Sp,S,F,W	Sp,S*(*),F,W	Sp,F,W	Sp,(S*),F,W	Sp,F,W	Sp,S*,F,W	Sp,S*	
Northwestern Crow		Sp,S,F				Sp,F,W	Sp,S*,F,W	Sp,S*,F,W					Sp,S*,F,W			Sp,S*,F,W	Sp,S,F,W			
Common Raven		Sp,S*,F,W		Sp,S*,F,W	Sp,S*,F,W	Sp,S*,F,W	Sp,S*,F,W	Sp,S*,F,W	Sp,S*,F,W	Sp,S*,F,W	Sp,S*,F,W	Sp,S*,F,W	Sp,S*,F,W	Sp,S*,F,W	Sp,S*,F,W	Sp,S*,F,W	Sp,S*,F,W	Sp,S*,F,W		
Horned Lark																		(Sp,S*,F)		
Tree Swallow		Sp,S,F		Sp,S,F				Sp,S,F	Sp,F							S*	S*	Sp,S*,F		
Violet-green Swallow		Sp,S,F		Sp,S,F				Sp,S,F	Sp,F							S*	S*	Sp,S*,F	Sp,S*,F	
Bank Swallow		Sp,S,F		Sp,S*,F				Sp,S,F										Sp,S*,F	Sp,S*,F	
Cliff Swallow		Sp,S,F		Sp,S*,F				Sp,S,F										Sp,S*,F	Sp,S*,F	
Barn Swallow		Sp,S,F		Sp,S,F				Sp,S,F										Sp,S*,F	Sp,S*,F	
Black-capped Chickadee													Sp,S,F,W	Sp,F,W		Sp,S*,F,W	Sp,S*,F,W	Sp,S*,F,W	Sp,S*,F,W	
Chestnut-backed Chickadee													Sp,S,F,W	Sp,S*,F,W		Sp,S*,F,W	Sp,S*,F,W	Sp,S*,F,W	Sp,S*,F,W	
Boreal Chickadee													Sp,F	Sp,S*,F,W		Sp,S*,F,W	Sp,S*,F,W	Sp,S*,F,W	Sp,S*,F,W	
Red-breasted Nuthatch													Sp,F	Sp,S*,F,W		Sp,S*,F,W	Sp,S*,F,W	Sp,S*,F,W	Sp,S*,F,W	
Brown Creeper													Sp,S*,F,W			Sp,S*,F,W	Sp,S*,F,W	Sp,S*,F,W	Sp,S*,F,W	
Winter Wren													Sp,S*,F,W	Sp,S*,F,W		Sp,S*,F,W	Sp,S*,F,W	Sp,S*,F,W	Sp,S*,F,W	
American Dipper			Sp,S*,F,W															Sp,S*,F,W	Sp,S*,F,W	
Golden-crowned Kinglet													Sp,S,F,W	Sp,S*,F,W		Sp,S*,F,W	Sp,S*,F,W	Sp,S*,F,W	Sp,S*,F,W	
Ruby-crowned Kinglet													Sp,S,F,W	Sp,S*,F,W		Sp,S*,F,W	Sp,S*,F,W	Sp,S*,F,W	Sp,S*,F,W	
Townsend's Solitaire																		Sp,S*,F,W	Sp,S*,F,W	Sp,S*,F,W
Gray-cheeked Thrush													Sp,S*,F		Sp,S,F	Sp,S*,F	Sp,S*,F	Sp,S*,F	Sp,S*,F	S*
Swainson's Thrush													F		S*	S*,F				
Hermit Thrush													Sp,S*,F	Sp,S*,F	Sp,S*,F	Sp,S*,F	Sp,S*,F	Sp,S*,F	Sp,S*,F	
American Robin													Sp,S*,F	Sp,S*,F	Sp,S*,F	Sp,S*,F	Sp,S*,F	Sp,S*,F	Sp,S*,F	
Varied Thrush													Sp,S*,F	Sp,S*,F,W	Sp,S*,F	Sp,S*,F,W	Sp,S*,F	Sp,S*,F	Sp,S*,F	

Andres and Brown • Birds of Yakutat

	Inshore Waters	Lake/Pond	River/Stream	Tidal Mud Flat	Rocky Shore/Cliff	Sandy Beach/Dune	Salt Marsh	Meadow	Bog	Tall Shrub	Needleleaf Forest	Broadleaf Forest	Mixed Forest	Woodland	Alpine
	Visitor						Accidental					Accidental			
European Starling															
American Pipit				Sp, F	Sp, F	Sp, F	Sp, F	Sp, F	Sp, F					Sp, F	(Sp, S*, F)
Bohemian Waxwing											(Sp, F, W)			(Sp, F, W)	(Sp, F, W)
Tennessee Warbler														Visitor	
Orange-crowned Warbler									Sp, S*, F	Sp, S*, F	Sp, S*, F	Sp, S*, F	Sp, S*, F	Sp, S*, F	Sp, S*, F
Yellow Warbler										Sp, S*, F	Sp, S*, F	Sp, S*, F	Sp, S*, F	Sp, S*, F	Sp, S*, F
Yellow-rumped Warbler										Sp, S*, F	Sp, S*, F	Sp, S*, F	Sp, S*, F	Sp, S*, F	Sp, S*, F
Townsend's Warbler										Sp, F	Sp, S(*), F	Sp, S*, F	Sp, F	Sp, F	Sp, F
Blackpoll Warbler														F	F
Northern Waterthrush			Sp, S, F							Sp, S*, F	Sp, S*, F	Sp, S, F		Sp, F	Sp, F
Common Yellowthroat								Sp, S*, F	Sp, S*, F	Sp, S*, F	Sp, S*, F	Sp, S*, F	Sp, S*, F	Sp, S*, F	Sp, S*, F
Wilson's Warbler								Sp, S*, F	Sp, S*, F	Sp, S*, F	Sp, S*, F	Sp, S*, F	Sp, S*, F	Sp, S*, F	Sp, S*, F
American Tree Sparrow								F	F	F				F	F
Chipping Sparrow														Accidental	Accidental
Brewer's (Timberline) Sparrow														Accidental	Accidental
Savannah Sparrow					Sp, F	Sp, S*, F	Sp, F	Sp, S*, F	Sp, S*, F	Sp, S*, F	Sp, S*, F	Sp, S*, F	Sp, S*, F	Sp, S*, F	Sp, S*, F
Fox Sparrow			Sp, S, F					Sp, F	Sp, S*, F	Sp, S*, F	Sp, S*, F	Sp, S*, F	Sp, S*, F	Sp, S*, F	Sp, S*, F
Song Sparrow					Sp, S, F	Sp, S*, F		Sp, S*, F	Sp, S*, F	Sp, S*, F	Sp, S*, F	Sp, S*, F	Sp, S*, F	Sp, S*, F	Sp, S*, F
Lincoln's Sparrow								Sp, S*, F	Sp, S*, F	Sp, S*, F	Sp, S*, F	Sp, S*, F	Sp, S*, F	Sp, S*, F	Sp, S*, F
White-throated Sparrow														Accidental	Accidental
White-crowned Sparrow								Sp, S(*), F	Sp, S(*), F	Sp, F				Sp, S(*), F	(Sp, S*, F)
Golden-crowned Sparrow					Sp, F			Sp, F	Sp, F	Sp, S*, F	Sp, S*, F	Sp, S*, F	Sp, F	Sp, F	(Sp, S*, F)
Dark-eyed Junco								Sp, F	Sp, S*, F	Sp, S*, F	Sp, S*, F	Sp, S*, F	Sp, S*, F	Sp, S*, F	Sp, S*, F
Lapland Longspur					Sp, F	Sp, F		Sp, F	Sp, F				Sp, S*, F	Sp, F	(Sp, S*, F)
Snow Bunting		Sp, F, W			Sp, F, W	Sp, F, W	Sp, F, W	Sp, F, W	Sp, F, W	Sp, F, W	Sp, F, W	Sp, F, W	Sp, F, W	Sp, F, W	(Sp, S*, F)
Red-winged Blackbird								Sp, S*, F	Sp, S*, F	Sp, S*, F	Sp, S*, F	Sp, S*, F	Sp, S*, F	Sp, S(*), F	Sp, S(*), F
Rusty Blackbird								Sp, F	Sp, S(*), F	Sp, S(*), F	Sp, S(*), F	Sp, S(*), F	Sp, S(*), F	Sp, S(*), F	Sp, S(*), F
Common Grackle								Accidental						Accidental	Accidental

Andres and Brown • Birds of Yakutat

	Inshore Waters	Lake/Pond	River/Stream	Tidal Mud Flat	Rocky Shore/Cliff	Sandy Beach/Dune	Salt Marsh	Meadow	Bog	Tall Shrub	Needleleaf Forest	Broadleaf Forest	Mixed Forest	Woodland	Alpine
Brown-headed Cowbird								Visitor							
Gray-crowned Rosy Finch					(Sp,S*),F										(Sp,S*,F)
Pine Grosbeak										Sp,F,W	Sp,S(*),F,W		Sp,S*,F,W	Sp,S*,F,W	
Red Crossbill											Sp,S*,F,(W)		Sp,S*,F,(W)	Sp,F	
White-winged Crossbill											Sp,S*,F,W		Sp,S*,F,W	Sp,S*,F,W	
Common Redpoll								Sp,S,F,W	Sp,S,F,W	Sp,S*,F,W	Sp,S,F,W	Sp,S,F,W	Sp,S*,F,W	Sp,S(*),F,W	(Sp,S*,F)
Pine Siskin										Sp,S,F,W	Sp,S*,F,W		Sp,S*,F,W	Sp,S*,F,W	

Table 3. Number of individuals and percentage of total for each shorebird species observed in the Seal Creek-Ahrnklin River estuary, Yakutat, Alaska, during spring 1996 and 1997 (data from Andres and Brown 1998). Species are ordered by decreasing abundance.

	Number observed		% observed
	1996	1997	
Western Sandpiper	52,434	42,686	39.1
Dunlin	48,794	45,574	38.8
Long-billed/Short-billed Dowitchers	6,159	15,179	8.8
Least Sandpiper	5,305	14,741	8.2
Red Knot	2,406	1,576	1.6
Pectoral Sandpiper	932	1,03	0.8
Semipalmated Sandpiper	1,316	502	0.7
Marbled Godwit	882	818	0.7
Black-bellied Plover	373	1,217	0.7
Whimbrel	119	441	0.2
Semipalmated Plover	222	105	0.1
Black Turnstone	118	152	0.1
Hudsonian Godwit	27	41	<0.1
Red-necked Phalarope	22	31	<0.1
Spotted Sandpiper	12	33	<0.1
Greater Yellowlegs	19	19	<0.1
Pacific Golden-Plover	15	21	<0.1
Common Snipe	7	22	<0.1
Lesser Yellowlegs	4	20	<0.1
Ruddy Turnstone	1	15	<0.1
American Golden-Plover	10	5	<0.1
Killdeer	-	1	<0.1

Table 4. Abundance (mean number of birds/route-year) and occurrence (% of stops recorded) of birds on two Breeding Bird Survey (BBS) routes surveyed annually on the Yakutat Foreland, 1993–2000. For all eight years, surveys were conducted by the same observer (Andres) and consisted of a total of 15 route-years and 750 points.

Species	Mean no. birds/rt-yr	% of stops occurred	Species	Mean no. birds/rt-yr	% of stops occurred
Canada Goose	3.8	0.8	Pacific-slope Flycatcher	1.7	3.3
Trumpeter Swan	0.1	0.3	Tree Swallow	2.9	4.1
Mallard	0.6	0.8	Violet-green Swallow	0.1	0.1
Northern Pintail	0.3	0.1	Bank Swallow	0.3	0.3
Surf Scoter	8.5	0.9	Cliff Swallow	1.9	0.5
White-winged Scoter	0.7	0.1	Barn Swallow	2.9	2.1
Common Goldeneye	0.3	0.3	Steller's Jay	5.0	9.2
Barrow's Goldeneye	0.1	0.1	Black-billed Magpie	0.5	0.9
Common Merganser	4.1	4.8	Northwestern Crow	4.2	2.3
Pacific Loon	0.5	0.7	Common Raven	2.9	3.9
Common Loon	0.1	0.1	Chestnut-backed Chickadee	8.7	14.7
Bald Eagle	10.7	14.4	Brown Creeper	1.1	2.1
Sharp-shinned Hawk	0.1	0.1	Winter Wren	20.2	34.9
Northern Goshawk	0.1	0.1	Golden-crowned Kinglet	18.3	32.1
Red-tailed Hawk	0.3	0.5	Ruby-crowned Kinglet	19.1	30.8
Greater Yellowlegs	1.5	2.8	Townsend's Solitaire	0.1	0.1
Lesser Yellowlegs	0.1	0.1	Gray-cheeked Thrush	0.8	1.5
Spotted Sandpiper	0.1	0.3	Swainson's Thrush	0.9	1.7
Short-billed Dowitcher	0.9	0.8	Hermit Thrush	73.8	84.8
Common Snipe	2.0	3.9	American Robin	15.1	23.7
Parasitic Jaeger	0.3	0.4	Varied Thrush	73.1	87.7
Bonaparte's Gull	0.9	3.5	Orange-crowned Warbler	38.5	59.3
Mew Gull	9.2	2.5	Yellow Warbler	3.5	6.3
Herring Gull	0.1	0.1	Yellow-rumped Warbler	11.1	19.6
Glaucous-winged Gull	2.1	1.5	Townsend's Warbler	0.1	0.1
Black-legged Kittiwake	32.9	1.6	Northern Waterthrush	0.3	0.5
Arctic Tern	9.5	2.7	Common Yellowthroat	0.7	1.5
Aleutian Tern	28.5	3.1	Wilson's Warbler	38.1	60.7
Common Murre	0.1	0.1	Savannah Sparrow	5.9	8.8
Marbled Murrelet	6.7	7.2	Fox Sparrow	14.5	23.3
Great Horned Owl	0.1	0.1	Song Sparrow	0.7	1.3
Northern Pygmy-Owl	0.1	0.1	Lincoln's Sparrow	12.3	20.3

Species	Mean no. birds/rt-yr	% of stops occurred	Species	Mean no. birds/rt-yr	% of stops occurred
Northern Saw-whet Owl	0.1	0.3	Golden-crowned Sparrow	0.7	1.2
Rufous Hummingbird	0.9	1.6	Dark-eyed Junco	10.9	18.9
Belted Kingfisher	0.1	0.3	Rusty Blackbird	0.1	0.1
Red-breasted Sapsucker	0.8	1.5	Pine Grosbeak	0.5	1.1
Hairy Woodpecker	0.6	1.2	Red Crossbill	23.9	8.8
Olive-sided Flycatcher	0.1	0.3	White-winged Crossbill	3.1	2.1
Alder Flycatcher	4.5	7.5	Pine Siskin	8.8	12.5

Table 5. Numbers and percentage of young birds caught at a Monitoring Avian Productivity and Survivorship (MAPS) station at Yakutat, Alaska, from 1994 to 2001 (1997 data excluded). Ten nets were annually operated by U. S. Forest Service personnel at station on six annual banding occasions that extended from the first week of June to the first week of August. Data retrieved from annual reports of the Boreal Partners in Flight Working Group (<http://www.absc.usgs.gov/research/bpif/bpif.html>).

	Number of birds caught				% young ¹
	all ages	adults	young		
Rufous Hummingbird	6	5	1		-
Alder Flycatcher	1	1	0		-
Pacific-slope Flycatcher	1	1	0		-
Steller's Jay	6	5	1		-
Chestnut-backed Chickadee	3	3	0		-
Red-breasted Nuthatch	3	0	3		-
Brown Creeper	6	2	4		-
Winter Wren	4	0	4		-
Golden-crowned Kinglet	4	0	4		-
Ruby-crowned Kinglet	43	19	24		56
Hermit Thrush	159	90	69		43
American Robin	23	19	4		17
Varied Thrush	34	20	14		41
Orange-crowned Warbler	237	165	72		30
Yellow Warbler	12	12	0		-
Yellow-rumped Warbler	12	8	4		-
Wilson's Warbler	273	189	84		31
Savannah Sparrow	10	9	1		-
Fox Sparrow	43	19	24		56
Song Sparrow	2	0	2		-
Lincoln's Sparrow	175	67	108		62
Golden-crowned Sparrow	2	1	1		-
Dark-eyed Junco	24	4	20		83
Red Crossbill	16	10	6		-
White-winged Crossbill	12	8	4		-
Pine Siskin	7	3	4		-

¹ calculated for species that had more than 30 captures.

Table 6. Relative abundance of small landbirds caught in mist nets from 1 August to 4 October at Yakutat, Alaska, 1994–1999. Total numbers caught, percentage of all captures, and capture rate (birds/100 net-hours) are presented. Variability in capture rates among years was determined by the coefficient of variation (CV = standard error/mean) for species where more than 10 individuals were captured. Data are from Andres et al. (2003).

Species	Post-breeding period (<i>n</i> = 6 years)			
	total captures		birds/100 net-hours	
	number	% of total	all years	CV (%)
Rufous Hummingbird	8	<0.1	0.03	-
Downy Woodpecker	7	<0.1	0.03	-
Hairy Woodpecker	1	<0.1	<0.01	-
Yellow-bellied Flycatcher	1	<0.1	<0.01	-
Alder Flycatcher	50	0.4	0.21	29
Warbling Vireo	6	<0.1	0.03	-
Stellar's Jay	7	<0.1	0.03	-
Black-capped Chickadee	14	0.1	0.06	28
Chestnut-backed Chickadee	218	1.6	0.93	19
Red-breasted Nuthatch	81	0.6	0.34	100
Brown Creeper	26	0.2	0.11	41
Winter Wren	97	0.7	0.41	20
Golden-crowned Kinglet	366	2.7	1.55	26
Ruby-crowned Kinglet	1,069	7.9	4.54	16
Gray-cheeked Thrush	1	<0.1	<0.01	-
Swainson's Thrush	1	0.1	0.01	-
Hermit Thrush	2,016	14.9	8.56	11
American Robin	12	0.1	0.05	47
Varied Thrush	106	0.8	0.45	19
Tennessee Warbler	1	<0.1	<0.01	-
Orange-crowned Warbler	2,128	15.8	9.04	5
Yellow Warbler	803	6.0	3.41	18
Yellow-rumped Warbler	456	3.4	1.94	30
Townsend's Warbler	16	0.1	0.07	20
Blackpoll Warbler	2	<0.1	0.01	-
Northern Waterthrush	7	<0.1	0.03	-
Common Yellowthroat	7	<0.1	0.03	-
Wilson's Warbler	559	4.1	2.37	24

Species	Post-breeding period ($n = 6$ years)			
	total captures		birds/100 net-hours	
	number	% of total	all years	CV (%)
American Tree Sparrow	25	0.2	0.11	44
Chipping Sparrow	1	<0.1	<0.01	-
Brewer's Sparrow	2	<0.1	0.01	-
Savannah Sparrow	529	3.9	2.25	14
Fox Sparrow	898	6.7	3.81	30
Lincoln's Sparrow	1,871	13.9	7.95	15
Song Sparrow	40	0.3	0.17	26
White-throated Sparrow	1	<0.1	<0.01	-
White-crowned Sparrow	86	0.6	0.37	65
Golden-crowned Sparrow	552	4.1	2.35	23
Dark-eyed Junco	548	4.1	2.33	36
Lapland Longspur	2	<0.1	0.01	-
Rusty Blackbird	1	<0.1	<0.01	-
Pine Grosbeak	1	<0.1	<0.01	-
Red Crossbill	4	<0.1	0.02	65
White-winged Crossbill	142	1.1	0.60	92
Common Redpoll	444	3.3	1.89	41
Pine Siskin	275	2.0	1.17	83

Table 7. Counts of hawks and owls made on the Foreland of the Malaspina Glacier, Alaska, during spring and fall migration. Data are from Swem (1982, 1983, 1985).

	April-May 1982		September		
	number	birds/day ¹	number (1983)	number (1985)	birds/day
Osprey	44	2.1	18	24	0.9
Northern Harrier	856	41.4	212	358	12.2
Sharp-shinned Hawk	369	17.9	175	537	15.3
Northern Goshawk	1	0.0	3	1	0.1
Red-tailed Hawk	6	0.3	7	11	0.4
Rough-legged Hawk	20	1.0	2	10	0.3
Golden Eagle	0	0.0	1	0	0.0
American Kestrel	2	0.1	61	12	1.6
Merlin	62	3.0	36	33	1.5
Peregrine Falcon	11	0.5	4	4	0.2
Short-eared Owl	14	0.7	0	0	0.0
Hours of observation	165		267	105	

¹ based on an eight-hour day.

Table 8. Annual numbers and average number of birds/day (eight hours) observed on Christmas Bird Counts in Yakutat, Alaska, 1985–1987. Data are from Birdsource of the National Audubon Society and Cornell Laboratory at <http://audubon.birdsource.org/cbdata/>.

	1985	1986	1987	Birds/day
Canada Goose	30	cw	-	4
Brant	-	1	-	<1
Trumpeter Swan	24	77	42	18
Gadwall	1	0	13	2
Mallard	181	157	49	48
Greater Scaup	9	56	-	8
All scaup	9	56	181	31
Harlequin Duck	9	119	87	27
Surf Scoter	18	70	82	21
White-winged Scoter	31	242	154	53
Black Scoter	40	39	26	13
Long-tailed Duck	1	26	22	6
Common Goldeneye	29	45	18	11
Barrow's Goldeneye	18	68	3	11
All goldeneyes	18	68	319	51
Bufflehead	86	140	160	48
Hooded Merganser	3	-	3	1
Common Merganser	3	2	20	3
Red-breasted Merganser	98	81	17	25
All mergansers	104	83	40	28
Willow Ptarmigan	-	-	cw	-
All ptarmigan	cw	-	cw	-
Common Loon	36	27	14	10
Yellow-billed Loon	-	16	-	2
All loons	36	43	66	18
Red-necked Grebe	-	19	12	4
All grebes	-	37	110	18
Pelagic Cormorant	6	-	-	0.8
All cormorants	7	49	26	10
Great Blue Heron	cw ¹	3	1	<1
Bald Eagle	93	40	33	33

	1985	1986	1987	Birds/day
Sharp-shinned Hawk	1	-	1	<1
Sanderling	-	-	cw	-
Herring Gull	4	24	-	3
Glaucous-winged Gull	49	23	5	10
All gulls	53	95	81	29
Common Murre	-	-	3	<1
Pigeon Guillemot	1	60	30	11
Marbled Murrelet	-	22	39	8
Belted Kingfisher	3	3	3	1
Steller's Jay	6	10	15	4
Black-billed Magpie	14	2	3	2
Northwestern Crow	32	105	24	20
Common Raven	57	15	8	10
Black-capped Chickadee	13	-	3	2
Chestnut-backed Chickadee	66	13	36	14
Boreal Chickadee	-	-	1	<1
Red-breasted Nuthatch	2	-	-	<1
Golden-crowned Kinglet	-	7	-	1
Varied Thrush	5	-	-	1
Dark-eyed Junco	cw	cw	cw	-
Snow Bunting	-	cw	-	-
Pine Grosbeak	15	-	cw	2
White-winged Crossbill	161	-	-	20
Common Redpoll	41	-	-	5
Pine Siskin	112	5	82	25
party hours	12	30	38	

¹ observed during count week but not on official count day.