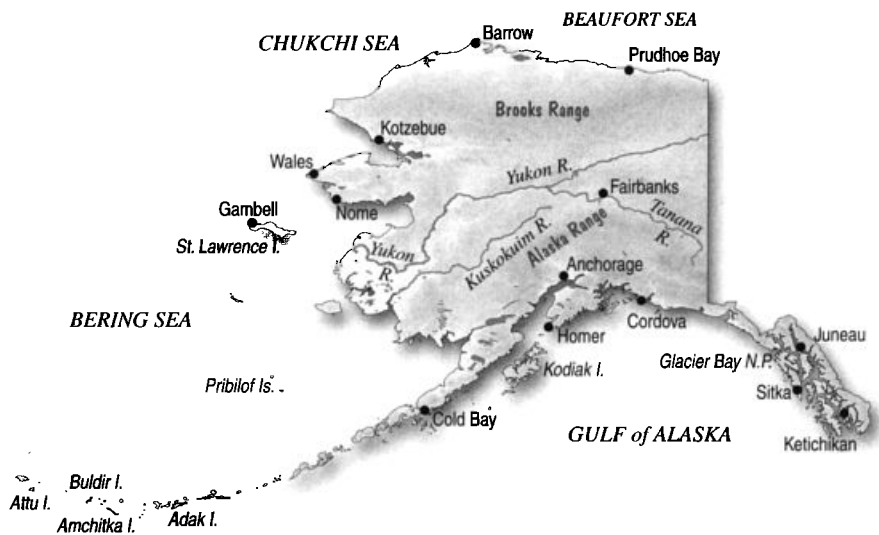


Alaska



The de Tobish

2510 Foraker Drive
Anchorage, Alaska 99517
(tgt@alaska.net)

As the later phases of spring break-up accelerated in April and May, the summer 2005 season unfolded quickly under warming and dry conditions Regionwide. Most of the Region fell under a continuous unseasonably warm and storm-free spell that spanned the summer. Record-high temperatures, with several stretches for days in a row, punctuated the summer across mainland Alaska. These conditions suited widespread early onset of nesting of up to two weeks ahead of normal, especially for shorebirds in Western Alaska. Residents, however, showed little to no early nesting, although at least Common Redpolls and Pine Siskins did double-clutch in parts of South-coastal Alaska. An extension of sub-par precipitation totals from the 2003 water season persisted through July most everywhere, and the 2005 fire season was the worst in Alaska's history. Some 6.4 million acres of mostly boreal forest burned this year, mostly in the second half of the season, which may have spared this year's breeding success. The dry conditions certainly benefited ground nesters, but few data were submitted for this report on the season's nesting

trends. As in past summer seasons, input and documentations from bird tours and from Alaska's periphery was sporadic. Our knowledge of movements of wandering non-breeders across the Region, and the timing and onset of post-breeding forms, remains irregular, so it is essential that visitors and Alaska birders submit summer-season highlights. As always, good North Slope coverage again produced surprises and extralimitals in June and July.

Abbreviations: S.E. (Southeast Alaska); S.C. (South-coastal Alaska). Referenced details, specimens, photographs, and videotape are on file at the University of Alaska Museum.

LOONS THROUGH CRANES

At least two pairs of Arctic Loons were again noted from coastal stretches along the road e. of Nome 14–16 Jun (VENT, Field

Guides), where they have been consistent for the past several years. A Western Grebe inshore n. of Juneau 4 Jul (GVV) provided a rare summer record for the Region and likely was an individual that did not depart one of the Region's wintering areas. Cruise ships crossing the w. Aleutians/Bering Sea interface continue to turn up Short-tailed Albatross, with 3 documented 12 Jun around upwellings se. of Shemya I. (JP, MB, ph. RC, ph. NM), where a few have been noted fairly consistently over the past four years. The only other Short-tailed report was an imm. w. of St. Matthew I. in the cen. Bering Sea 14 Jul (RAM). The same Aleutian cruise reported the season's peak of 20 Mottled Petrels off the se. corner of Attu earlier the same day (fide MB).

Another lone Turkey Vulture was reported this year from the North Slope along the beach at Barrow 19 Jun (p.a., Field Guides; †MEC). This would be the Northern section's first report and about the 5th overall for the state with details—and one of the latest, as most come from May and early Jun. Summer waterfowl highlights are frequently meager, with drought displacements often producing extralimital reports, which this season centered on the Seward Pen. In the Safety Lagoon vicinity, a mid-Jun influx of mostly dabblers included the following, most of which are rare to uncommon here: a pair of Gadwalls 16–23 Jun, 4 Eurasian Wigeons 16–28 Jun, an amazing 250 American Wigeons and 500 Northern Pintails 17 Jun+, a pair of Blue-winged Teal e. of Nome 5 Jun (4th Seward Pen. record), 25 Canvasbacks 16–17 Jun, and a single drake Redhead 17–18 Jun (†MJ); all VENT, Field Guides, WP, PB). Elsewhere, a casual-in-summer Bean Goose settled into St. Paul I. 3–14 Jul (St. Paul), while 2 drake Redheads 23 & 29 Jun (GVV, PS) and a male Cinnamon Teal 28 Jun–3 Jul (PS) were rare season finds for S.E. A Northern Shoveler pair at Kalsin Pond on Kodiak I. Jun 22 (SB) may have been investigating nest sites; they are not known to nest in the archipelago and are almost unknown in Jun/Jul. Three Ruddy Ducks were the season's lone report, from Kenny L. in the s. Interior/S.C. interface 3

SA United States Fish & Wildlife Service staff surveyed longitudinal transects within 5 km of shore off Yakutat 6–15 Jul with significant results, highlighted by a Pink-footed Shearwater off Ocean Cape 13 Jul and at least 5 Manx Shearwaters, mostly between Cape Fairweather and Lituya Bay 8–10 Jul (ph., †PS). Pink-footed has only recently been elevated to the main Alaska list, with photographs from the North Gulf. This trip produced decent photographs of one of the Manx, which, unfortunately, were not detailed enough for a definitive documentation. With these Manx reports, we now have upwards of 15 Alaska sight records since the first 1975, nearly all from the North Gulf and most from the e. sections, in the vicinity of these transects. Also interesting during these surveys were counts of up to 20 Yellow-billed Loons, an unusually high summer concentration for the North Gulf and probably related to the area's high productivity. Scattered non-breeding Yellow-billeds are found in summer from Glacier Bay and into S.E. Surprisingly abundant in the survey lines were Ancient Murrelets, with 1000 estimated mostly s. of Dry Bay 8–13 Jul (PS). These numbers clearly reflected the peak fledgling movements from adjacent nest sites. This section of the North Gulf of Alaska has always been productive for seabird concentrations, and it has provided for some of the Region's better tallies of our rarer pelagic bird species.

Jul (RLS), where there are few prior observations. For at least the 4th consecutive summer, a waif ad. Steller's Sea-Eagle appeared along the Nushagak R. in the Dillingham area 28 Jun (*fide* RM), while the Taku R. Steller's went unreported this summer. Observation of a female White-tailed Ptarmigan with young discovered at 1350 m elevation on Mt. Juneau 12 Jul (MB) provided a first confirmed breeding record for the Juneau area. Other than early Jun sightings of the returning bird near Wasilla (RW), only one other Sora was reported from Keny L. 3 Jul (RLS).

PLOVERS THROUGH ALCIDS

With such widespread storm-free and mild conditions, the southbound shorebird passage was characterized by few concentrations, ill-defined arrival dates, and few highlights across the Region. Only a few Asian species dropped into St. Paul I., where favorable weather can produce good diversity in some years. Highlights there (all St. Paul) were a single Lesser Sand-Plover 15–24 Jul, perhaps up to 6 wandering/southbound Wood Sandpipers 11 Jun–10 Jul, a casual Bering Sea Short-billed Dowitcher 14–29 Jul, and Alaska's first summer-season Jack Snipe (St. Paul, ph. GB), photographs of which were not diagnostic.

Other shorebird finds of consequence were widely scattered, mainly extralimitals. Another Killdeer overshot n. to Barrow 11 Jun (Field Guides), in line with most of the other half-dozen North Slope records. Kayakers located an American Avocet on an islet near Haines in n. Lynn Canal 20 Jun (SL, CK, *fide* AD), where it was refound 30 Jun (AD) and 2 Jul (DE, ph. SZ), only the Region's 2nd ever, following the first from May 1981 in Valdez. Fair details accompanied an account of 3 ad. Black-tailed Godwits on the North Slope along the Colville R. delta Jul 23 (†JH), which, if accurate, would represent a first for Northern Alaska and one of few for the Mainland. An injured Bar-tailed Godwit summered in the Gustavus area 10 Jun–9 Jul (ph. ND), a rare event for S.C. Several parties noted above-average numbers of Least Sandpipers in the greater Nome area between the Kougarok Rd., Pilgrim Hot Springs, and the Teller Rd., 30 May–17 Jun+, including a pair with a downy chick at the Penny R. crossing 17 Jun (VENT). Least are at their w. periphery in the e. Seward Pen. and rare and local farther west. A dozen Buff-breasted Sandpipers near Barrow 11–12 Jun (Field Guides) was a decent pre-lek count of probable arrivals in an area where they are known to breed in small numbers.

An ad. Franklin's Gull was at Womens Bay on Kodiak I. 2 Jun (ph. RAM, BQ), the season's only report and about the 4th for S.C. overall and 2nd in summer. An ad Black-tailed Gull was documented 15 Jul



This Western Kingbird 4 June 2004 at Hyder, Alaska, followed by two there on 7 June, were earlier than most other records from the southeastern mainland of Alaska; a casual species in the state at any time of year, Westerns are mostly recorded in the second half of June. Photograph by Gary H. Rosenberg.

well n. in the Bering Sea (ph. RAM), where it spent most of the day on and around a vessel near the U.S./Russian border w. of St Matthew I. Two new Mew Gull nest locations were discovered on Revillagigedo I. in the greater Ketchikan area, at Lower Silvas L. 13 Jun and in the Traitors Cove drainage 22 Jun (SCH, CF), where they are distinctly rare. A second-year Mew Gull was unusual for the North Slope near Barrow 26 Jun (BPG, VENT), where most of the few reports are after early Jul. The annual mid-season arrival of Ring-billed and California Gulls in S.E. included a single and 2 juv. Ring-billeds in Juneau 17–19 Jul (PS) and Ketchikan 30 Jul (SCH), respectively, and a count of 40

Californias in Ketchikan 18 Jul (SCH). Harbors and coves between Petersburg and Ketchikan produce the Region's best concentrations of these regular non-breeding visitors each summer.

The summer's peak count of dispersed Caspian Terns was a group of 14 in Gustavus 5 Jul (ND, PV). Three *longipennis* Common Terns at St. Paul I. 15 Jun constituted the season's only report (St. Paul), while the White-winged Tern that hung around St. George I. 3–8 Jun+ (p.a., *fide* GVB, MR, †HR) follows last year's Fairbanks bird. Hikers flushed a Marbled Murrelet off an active nest on a ridge at 120 m elevation on Shuyak I., off Kodiak I. 24 Jun (*fide* RAM, ph. JW), one of few documented breeding records for the Kodiak Archipelago.

DOVES THROUGH PIPITS

Always noteworthy are Western Screech-Owl reports; 2 fledglings on Douglas I. in early Jul were in the same area as an active nest last year and represented one of few successful Juneau area nest attempts. An ad. and a juv. Barred Owl appeared in an area of Ketchikan where this rare S.E. breeder has nested previously 28 Jul (DP).

The Juneau area, the Region's most consistent spot for Cassin's Vireo, was the only locale reporting the species: 2 singing males 6 & 15 Jun (SM, MB, PS). A Tree Swallow at Barrow, where casual, 27 Jun (BPG, VENT) was the best of only a few extralimital swallow reports. A new Cliff Swallow colony with nine nests discovered near Juneau 16 Jun+ (GVV) was certainly newsworthy. Cliff Swallows are rare but regular migrants across Mainland S.E., and usually singles are found mostly in Jun around S.E. communities. Locals continue to piece together a better understanding of Black-capped Chickadee summer occurrence in n. S.E., particularly in the Glacier Bay–Gustavus area, where perhaps 4 birds were seen around Russell I. 4 Jun–30 Jul (ND), in areas

SA Sampling unique habitats of birch/willow/alders copses interspersed on steep, open slopes in the w. White Mts. in the cen. Interior near Eureka out the Elliot Hwy n. of Fairbanks, biologists found a fairly large assemblage of territorial *Empidonax*, which included Alder, Hammond's (from an area where few breeding data exist), and an enclave of Yellow-bellied Flycatchers. Through most of Jun, they located "perhaps dozens" of singing Yellow-bellieds and an active nest with four eggs (Alaska's first ever; PM) and later 4 young (PM, DDG), all along the accessible sections of habitat along the local access roads. Given the breadth of the habitat type and the number of birds occupying territories, the presence of Yellow-bellieds here must surely be a regular phenomenon. Was this a singular event or an isolated breeding "colony" in the Interior? Or, if similar patches of habitat span the area between this area and known nesting areas in the Yukon, is the breeding range contiguous? This will be difficult to assess because of the remoteness of the country, but it is distinctly possible that the species is far more widespread than suspected previously. The few previous Alaska summer records from considerably farther e. in the upper Yukon R. watershed were originally thought to be w. outliers in the species' Canadian breeding range, which may extend n. and w. into the cen. Yukon, in areas of the extreme upper Yukon watershed. A single vocal Yellow-bellied in Juneau 29 Jun–4 Jul (RG, MB, PS, SZ) was a local first and followed a handful of summer S.E. reports.

where they had been located only last summer. Most coastal sites in this zone of transition between S.C. and n. S.E. are void of Black-capped in summer.

Up to 3 singing Arctic Warblers in the willow thickets on the w. face of Kasugi Ridge near Ermine Cr. 11 Jul (TT, LJO) were at the poorly understood s. limit of their known cen. Alaska Range distribution. I know of no sites in the cen. Alaska Range s. of this area where Arctic have held territories. The Region's first mid-summer Dark-sided Flycatcher (p.a.) and one of few post mid-Jun Gray-streaked Flycatcher reports emanated from St. Paul I. 24 Jun and 18 Jun, respectively (St. Paul). One other Dark-sided had been photographed there in early Jun. Of the few remnant spring migrant Siberian Rubythroat observations, a single female at Barrow 3 Jul (JB, DF, DMT, BPG) would be the most significant as the North Slope's first and one of few from the Mainland. Also rare on the North Slope was a Varied Thrush at Barrow 7 Jun (DW, BW), where it is not annual.

WAGTAILS THROUGH FINCHES

Difficult to judge as a spring or fall migrant was a single Eastern Yellow Wagtail at St. Paul I. 5 Jul (St. Paul); there are few Bering Sea or Aleutian reports past the 3rd week of Jun and prior to mid- to late Aug. Cedar Waxwings were common and widespread in S.E. following the first arriving migrants detected in Hyder in early Jun. They were relatively well dispersed around Juneau 5 Jun-Jul, with a local one-day maximum of 12 on 18 & 20 Jun (GVV, MBr). Several pairs appeared to be searching for nest sites at that time. Farther n. in the Gustavus area 7-30 Jul, where there were only three prior records, a local peak of 14 was counted 18 Jul (BP). An active nest was observed 7 Jul+, with young seen through 23 Jul (ph. ND). Although the species is certainly a rare and irregular nester on parts of Mainland S.E., these Gustavus observations represent the Region's northernmost.

Tennessee Warblers were well represented around Juneau, where they are typically at best an occasional late spring migrant, with at least 10 birds on ephemeral territories along the road system 5 Jun-14 Jul (MS, GVV, GB, MB). These may be the most ever from one location for the Region. Another Tennessee surfaced at Gustavus 18 Jul (BP). A Palm Warbler holding a song territory in W. Alaska near Dune L. on Kanuti N.W.R. 19-21 Jun (†CH) was a total fluke and the Region's 2nd mid-summer report of this rare migrant. Although we have records from all sections of the Region, nearly all come from coastal sites between mid-

Sep and Oct. Chipping Sparrow was documented breeding in the Kenny L. area in the extreme s. Interior, when an ad. was found carrying food 3 Jul (RLS). The long established B.B.S. here has recorded Chippings



This Cassin's Vireo was one of two territorial singing males found at Hyder, Alaska in spring 2004. This individual was present 29 May through 5 June (here 30 May). Photograph by Gary H. Rosenberg.

along the Edgerton Hwy. sporadically since the mid-1980s. The closest known nesting or suspected nesting areas are considerably n. of here in the Mentasta Mts. and the Tok R. valley. A White-throated Sparrow wandered to the Chukchi Sea coast near Barrow 5-7 Jul (BPG, DMT, JB), where there is at least one previous Jun report.



Spring and summer 2004 in Alaska saw numerous Tennessee Warblers (at least 10) around Juneau, one at Gustavus, and this one at Hyder 1 through 6 (here) June. Photograph by Gary H. Rosenberg.

On the heels of this spring's and the past few summers' reports came another Black-headed Grosbeak, a male in the Juneau area 13-17 Jun (*vide* SZ, GB, VM). After the first Alaska sight record from fall 1982, this species has steadily increased to its current status as an annual visitant in late spring and early summer in S.E. Following the historic

pattern of an appearance every two to five years, 2 Yellow-headed Blackbirds were reported, one at Anchorage, a 2nd local report there 21-10 Jul+ (SS, DWS), and one at Gustavus, a first there 20-22 Jul (JB, JD, BP).

The season's only Bramblings were 3 together at St. Paul I. 7 Jul (St. Paul). Bramblings are casual and not expected in midsummer. A male House Finch was a one-day visitor to Hyder's only feeder 18 Jun (ph. JD, SZ). A waif Red Crossbill was odd offshore in the Bering Sea at St. Paul I. 17 Jul (St. Paul), all the more so because this was not a flight year like the summer of 2003. White-winged Crossbills did exhibit an irruption northward beginning in mid-Jun, at least into the Alaska Range, where they were ubiquitous in spruce forests from the Kenai Pen. to Denali N.P. A few Red Crossbills were noted in this flight, but the only out-of-place birds were in the Anchorage area in mid-Jun (TT).

Contributors and observers: A.B.O.

(Alaska Bird Observatory: N. DeWitt et al.), B. Alger, J. B. Allen, R. Armstrong, P. Baicich, G. Baluss, J. Barry, A. M. Benson, M. Berlijn, S. Berns, L. Blecker, L. Bower, M. Brooks, M. Brown, J. Burr, G. V. Byrd, D. Coates, R. Coomber, J. Dearborn, L. DeCicco, D. F. Delap, A. DeMartini, B. Dinneford, B. Dittrick, R. Dodelson, N. Drumheller, J. Duckett, D. Ego, T. Evans, Field Guides (Field Guides, Inc.: D. Stejskal, C. Benesh, M. Crewe, M. E. Crewe et al.), C. Flatten, R. M. Fowler, R. Fritz, D. Forehlich, C. Fultz, B. P. Gibbons, D. D. Gibson, R. E. Gill, R. J. Gordon, T. L. Goucher, H. Griese, C. Harwood, N. Haydukovich, K. Hart, S. C. Heinl, J. Helmericks, P. Hunt, B. Hunter, T. Hurley, M. J. Iliff, M. L. King, C. Knight, R. Knight, J. F. Koerner, A. Lang, J. Levison, S. Libenson, M. Litzow, T. & R. Lohse, R. MacDonald, M. & R. A. MacIntosh, C. Mackey, D. MacPhail, J. Mason, M. McCafferty, N. McCall, R. Meyers, P. Martin, E. Mills, L. J. Oakley, B. Paige, A. Palmer, W. Pawuk, D. Person, W. Petersen, J. Phillips, A. W. Piston, P. Pourchot, B. Quaccia, C. Ranney, M. & H. Renner, K. Ripley, G. H. Rosenberg, D. Rudis, K. Russell, L. Sanders, J. Sauer, S. Savage, R. L. Scher, M. A. Schultz, W. Schuster, M. Schwan, M. T. Schwitters, D., P. & S. Senner, D. Shaw, D. W. Sonneborn, St. Paul (St. Paul Tour: G. Bieber, R. Knight et al.), S. Studebaker, P. Suchanek, A. Swingley, M. E. Tedin, T. Tobish, D. M. Troy, R. Uhl, L. Valie, G. Van Vliet, P. Vanselow, VENT (Victor Emanuel Nature Tours: K.J. Zimmer, M. J. Iliff et al.), M. L. Ward, B. & D. Williams, E. White, R. Winckler, J. Withrow, K. Zervos, S. Zimmerman. 🐦

State of the Region

The Tobish • 2510 Foraker Drive • Anchorage, Alaska 99517 • (tgt@alaska.net)

With dozens of appropriate geographic superlatives, Alaska has historically been considered immune to broad-scale environmental threats. With mounting evidence of both direct and secondary impacts from global warming, to consider the state beyond the reach of such problems would now be contrary to research findings from across the state. Perhaps because of the Region's position in the hemisphere, spanning nearly 20 lines of latitude, climate change and its associated negative effects are especially visible in Alaska bird populations and habitats. Indeed, already chronicled are continual declines in wholly insular populations, including Steller's and Spectacled Eiders, which remain poorly understood and unresolved. Coupled with cumulative local and larger-scale human induced stressors—for instance, chronic, low-level, and catastrophic hydrocarbon pollution in sections of the coastal zone, commercial fisheries methods and over-harvests, timber production and related infrastructure—Alaska's traditionally harsh and dynamic environ-



Steller's Eider was listed as federally "Threatened" in 1997, after a lengthy review period. Population estimates are difficult to compare, but the population in Alaska appears to have declined from about 200,000 in 1965 to 126,000 in 1991. Intensive aerial surveys in the past five years have located just a few thousand pairs, mostly limited to the private lands around Barrow and in the western Arctic Plains in the area designated the National Petroleum Reserve, an ecologically sensitive area that the Bureau of Land Management approved for oil-drilling and development by ConocoPhillips on 12 November 2004. Photograph by J. P. Myers/VIREO.

ment and tenuous growing seasons coincide to create a nexus of problems unimaginable even a generation ago. What makes these looming conservation threats still more ominous is our collective lack of understanding of many environmental variables in the North: for many sections of the state, and for many avian populations, we are in a race to understand the basic dynamics and statuses of bird populations, even as they change rapidly in response to the effects of climate change.

Among Alaska's alterations arising from climate change are: landscape-level shifts in plant communities and structures; persistent, devastating insect infestations; loss and retreat of permafrost; changing ice-free seasons; transformations in the dynamics and location of sea ice; and long-term droughts and local drying conditions in wetlands and ponds. How these and other environmental stressors will interact with and alter the dynamics of bird communities is only marginally understood and in many cases yet to be addressed. Some representative examples of climate-change impacts to Alaska birds include the following, indexed to Bird Conservation Regions (BCR):

- Documented declines in the Kittlitz's Murrelet population around the Kenai Peninsula (in BCR 1), where recent significant glacier retreats have led to diminished or compromised breeding habitats, leading to the species' listing as Critically Endangered by the IUCN;
- Documented and presumed declines in certain White Spruce forest breeders in South-coastal Alaska (BCR 5)—such as Townsend's Warbler, thrushes, White-winged Crossbills—where tremendous loss of mature trees has continued during the longest spruce bark beetle outbreak ever recorded (devastation of over 2.3 million acres);
- Lengthening of the fire season and increase in the extent of burns, the result of drier conditions, longer, warmer summers, and shorter, warmer winters; the summer 2004 fire season burned some 6.4 million acres, a record amount (BCRs 4, 5). Coupled with growing logging efforts, old-

growth forests are doubly impacted; and

- Documented changes in the pack-ice seasonal advances and retreats in the Bering, Chukchi, and Beaufort Seas (bounding BCRs 1, 2, 3) relative to timing and distribution of migrant staging sites and coastal nesting. The extent of sea ice has shrunk by 15–20% in the Arctic in the past 30 years and is predicted to disappear by 2100 (Arctic Climate Impact Assessment [ACIA]).

Direct and secondary effects on birds in Alaska from various aspects of global warming and local climate changes were particularly evident in 2004. Following a trend from the past two decades, summer 2004 produced near-record warm conditions across the Region. These circumstances emphasized how quickly breeding season conditions and even habitats can be altered, and how, if these continue, Region-wide environmental changes could affect populations of Alaska's birds. For instance, summer-season temperatures on Alaska's North Slope (BCR 3, the Arctic Plains and Mountains) have been consistently warming, with an annual average increase of five degrees Fahrenheit. The ACIA, funded by the United States, Canada, Russia, Denmark, Sweden, Iceland, Finland, and Norway, finds that Arctic temperatures are rising at twice the global average and may top a 13° F increase by 2100. Local habitat changes, including northward advances in the *Salix*-shrub communities, earlier and widespread melting of permafrost soils, and flooding and drying microhabitats parallel these temperature fluxes in a manner that may, rather quickly and abruptly, affect breeding chronologies and successes of many summer visitors. Anecdotal evidence is mounting that, at least in Western (BCR 2), South-coastal (BCR 5, the Northern Pacific Forest), and Northern Alaska (BCR 3), there is a continuing advancement of early-spring conditions—in some cases as much as two weeks ahead of what had been considered a consistent historical trend. Certainly, these habitat issues related to annual and cyclical weather patterns may prove to be ephemeral, but there is growing scientific consensus otherwise. There is also growing evidence that these conditions are modifying breeding chronologies such that new or pioneering species are out-competing traditional breeders in certain areas—e.g., Horned Puffins vs. Black Guillemots on the North Slope islands.

Other prominent pressing bird conservation issues in Alaska relate to direct habitat losses from timber harvests. Timber extraction throughout the Region ebbs and flows with market conditions, but Alaska may now have more widespread existing or planned logging in all of the main forest types than ever before. Because such logging targets old-growth forests, we are seeing an advance of and replacement by seral forb, shrub, and mainly deciduous stages. And timber harvest and related infrastructure also contributes to habitat fragmentation, which is quite severe in some locations. Surveys are starting to show population effects for especially resident and migrant breeders of the climax/old-growth forests. Fourteen of the state's priority species use mature coniferous or mixed forest types, all of which are being negatively impacted or are threatened by logging actions. Because projections show that upwards of 25% of Southeastern Alaska's old-growth forest (BCR 5) could be harvested in the next 100 years, there is cause for major concern for those species, including already threatened Neotropical migrants and Marbled Murrelet. The current federal administration is moving to permit logging in the Tsongas National Forest, as well as oil extraction in the Arctic National Wildlife Refuge.

Many of Region's anthropogenic impacts and climate-change problems combine in ways that threaten birds in complex and compounded aspects—e.g., Townsend's Warbler, whose mature White Spruce forest type is both logged and severely declining because of a persistent spruce bark beetle epidemic. Originally this beetle's presence was cyclic and short-lived, as beetles were killed back in colder (historically average) winters. Since the late 1980s, warmer winters have failed to limit these infestations, and vast spruce forests in South-coastal Alaska (BCR 5) have been killed. Additionally, with colonization by aggressive grasses in these dying forests, these forests are in the midst of dramatic long-term changes.

In the marine environments, the combination of commercial over-harvests, pollution of many sorts, and sea-temperature fluctuations may be wreaking havoc on both summer and winter prey and on nesting conditions for many of the Region's seabirds.

Alaska Boreal Partners in Flight have identified 30 smaller landbirds as priority species for conservation across most biogeographic regions. The Alaska Watchlist comprises 37 species or races, taxa that are threatened by phenomena outlined above, or with populations so localized such that singular events such as marine oil spills could impact an entire population (Whiskered Auklet, Pribilof Rock Sandpiper). On a positive note, land managers and others are working on protection methods for sites that support certain of these populations, including a statewide Important Bird Area program. The fact that millions of acres of Alaska's bird habitats fall under some form of conservation protection provides some long-term hope for stability and protection for most of Alaska's avian populations. Research efforts and monitoring for population status, the dynamics of external threats to populations and life cycles of numerous species, and related methodologies are underway across the Region. Results of these efforts are already producing effective and relevant positive answers for bird conservation.