

The Changing Seasons

Rarities may, and often do, indicate extensions of breeding range

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LAST SUMMER, KENN KAUFMANN ILLUSTRATED (VIA feline analogy) that the regional reports of *American Birds* cannot serve as a repository for all the population dynamics of North American birds. Rather, they tend to concentrate on the unusual: records of vagrants and massive increases or decreases of commoner species. He said this in response to previous authors of this column who have bemoaned the fact that this magazine concentrates too much on the occurrence of rarities, and thus ignores the plight of commoner species that may be declining. What Kenn and others have already shown in this column is that an analysis of rarities and obvious population changes in themselves can reveal a substantial amount of information in a much shorter time than would be possible in a more detailed scientific publication. In fact, phenomena such as irruptions of northern owls or finches that occur on a continent-wide scale cannot be efficiently documented in any format other than that provided by *American Birds*.

The Weather

Many of the regions reporting described the same general weather pattern this summer—a cool and wet June followed by a comparatively hot and dry July. The departures from more normal conditions seemed greatest the farther northwest one went, such that in Alaska they experienced “only three weeks of summer” and many species there, especially ducks, had disastrous seasons. In the extreme southeastern and southwestern parts of the continent, weather conditions were described as near normal. Hurricane *Bob* brought some rain to the Atlantic Coast in late July and grounded some shorebird migrants, but carried no seabirds inland.

Swallow-tailed Gull — An alternate-plumaged adult Swallow-tailed Gull was seen at Monterey, California, June 6-8. Some controversy surrounds this occurrence, as some observers have generated the opinion that this bird was “probably” an escape from a zoo or aviary. The basis for this opinion seems to be a lack of understanding how this bird could have made it from the Galapagos Islands to California under its own steam. The implication inherent to this view is that we *do* understand how and why most other vagrants appear where they do. Actually, I believe that many authors have confused the process of categorization with that of explanation; thus, when a vagrant record fits a previously described pattern, we have the largely erroneous impression that we have “explained” the occurrence, whereas all that has been accomplished is to pigeonhole the record into a framework entirely of our own creation. For example, if a Wood Stork were to appear in Maine during August, we would confidently “explain” the occurrence as a case of post-breeding dispersal, but if the stork were to appear during February, we would probably feel unable to “explain” it. Stories of “southern swamps drying up” notwithstanding, we don’t really know why vagrant birds appear at the places they do on the dates they do.

Thus, the Swallow-tailed Gull is viewed with a suspicious eye simply because it defies categorization. However, we have no basis for stating that its occurrence in California during June is *unlikely*, other than the apparent lack of similar records during the last 150 or so years.

Approaching the question from the other side, I have been assured by Larry Grahn of the Minnesota Zoo and the International Species Inventory System (ISIS) that no Swallow-tailed Gull has ever been legally imported into the United States, nor are they now kept by any North American zoo. The likelihood of anyone illegally obtaining one from the Galapagos Islands is remote given the

strict regulations that apply to shipping near the islands, and it is difficult to think of a plausible motive for doing so. As to "ship-assisted passage," there is no precedent for a marine bird following a ship through several different oceanographic zones unless restrained, and if restrained, the gull would have been noticeably abraded. There *is* a precedent for extensive dispersal of this species as Jehl (J.R. Jehl, Jr. 1973. The distribution of marine birds in Chilean waters in winter. *Auk* 90: 130) reported one collected off the Chilean coast at 36° S, or as far south of the equator as central California is north. In sum, the chance of this bird being anything other than a *bona fide* vagrant is vanishingly small.

Grebes through Pelicans — Since they have been seriously declining in many parts of the east, it was encouraging to note that Pied-billed Grebes had "good nesting success" in the northern part of the Middlewestern Prairie Region, and were recorded nesting for the first time at Zion Refuge in Utah, at the northern edge of their range in Quebec, in Hawaii (!), and at Midland, Texas. They were also found breeding at three new localities in the Middle Atlantic Coast Region.

The most interesting news on pelagic birds came from the northern California coast, where a Solander's Petrel, a Townsend's Shearwater, six *cookilaria* (most likely *Pterodroma cookii*) Petrels, and a Laysan Albatross were found off Point Reyes during June. A Masked Booby was seen off Texas, while several Magnificent Frigatebirds wandered inland from the Gulf of California, with a maximum of six at Yuma, Arizona, on July 10, and seven were reported along the southern California coast. A single Magnificent Frigatebird was seen off Great Gull Island in Long Island Sound, New York.

As has already been pointed out during the last two summers in this column, Double-crested Cormorants have launched a massive population increase on all fronts. Much of this expansion involves a re-occupation of areas from which they were excluded during the nineteenth century, when cormorants were killed by hunters and fishermen. The increase and expansion continues unabated as 18 of 25 regions reporting mentioned new colonies, increased numbers within colonies, or larger numbers of summering nonbreeders. The more peripheral records included: eight nests near Hopewell, Virginia, that break an almost entirely unoccupied stretch between New England and Florida, while Paxton *et al.* suggested that they are "surely nesting in New Jersey;" nest with three eggs at Sachigo Lake, Ontario, for a northward extension of 500 km; 2200+ chicks reported from three lake colonies in Saskatchewan, and a new colony on Santa Rosa Reservoir, New Mexico. It is difficult to imagine a common factor that could be driving the increase of these birds at such disparate localities as the rocky coast of New England and the deserts of the Salton Sea, California. Interestingly, Olivaceous Cormorants also dispersed farther than usual this season, with individuals found at the Salton Sea; Julesberg, Colorado; Willcox, Arizona, and St. Pierre, South Dakota.

Hérons — In part owing to the efforts of breeding bird atlasers, a substantial quantity of information on colony sizes of nesting herons was included with the regional reports. The most conspicuous trends were the general increase of Great Blue Herons, primarily east of the Mississippi River, and a slight decline of several species along the Atlantic Coast, after their northward surge during the 1970s. Great Blue Herons seem to be profiting from an increase in beaver ponds, which provide numerous dead trees for nesting platforms, and also from man-made nesting platforms in the Middle Atlantic Coast Region. American Bitterns were reported as declining throughout the northeast, west to the Middlewestern Prairie Region, whereas they were said to be increasing in the Prairie Provinces. Somewhat surprisingly, Least Bitterns were reported in increased numbers in the Middlewestern Prairie, Hudson-Delaware, Middle Atlantic Coast and Central Southern regions, and a nest at Cap-Tourmente, Quebec, was the northernmost in that province to date. Peripheral Great Egret nests were found at Morro Bay, California, and Collingwood, Ontario, while Jerry Jackson expressed "special concern" over their decline in the Central Southern Region. Snowy Egrets continued to expand, with "phenomenal success" reported from Utah, and peripheral nesting records from Lake Champlain on the New York-Vermont border, along the Maine Coast, and in northwestern Florida. The presence of summering nonbreeders in Arizona, Nova Scotia, New Brunswick, and Quebec suggested that this species is still spreading. A first Indiana nesting of Little Blue Heron was reported, as were second nesting records for Kentucky and South Dakota, and five adults and one nest were found near San Diego. There were widespread sightings of summering Tricolored Herons, and a pair raised three young at Cheyenne Bottoms, Kansas. Cattle Egrets nested in Minnesota and Michigan, the latter for a first state record, and counts such as 2200+ feeding at the Minnewaukan Flats of South Dakota, or 2250+ nests along the Mississippi River in the Middlewestern Prairie Region drove home once again the extraordinary success of this recent colonist. Black-crowned Night-Hérons didn't rock the boat much, except for a big increase noted at Malheur Refuge, Oregon.

A slight northward dispersal of White Ibises included Colorado's first record, three individuals in New Jersey and five-seven in the Middle Atlantic Coast Region, some of these after Hurricane *Bob*. *Plegadis* ibises were generally said to be doing well, or weren't mentioned, a count of 296 nests of Glossies in Narragansett Bay, Rhode Island, was the highest ever for the Northeastern Maritime Region, and 1220 pairs of White-faced at Malheur Refuge was also a high count for that locality. Wood Storks wandered north to Virginia and Central California, but were found in much reduced numbers in the Central Southern Region.

Waterfowl — Trumpeter Swans seemed to be faring well in the Mountain West, where the total population in Wyoming-Montana-Idaho was 1516, or more than twice that in 1976. They also had their "best production in

years," with five-nine cygnets raised, at Red Rock Lakes, Montana. Those at Malheur Refuge, Oregon, however, only raised two cygnets.

American Black Ducks should be carefully monitored in coming years in the northeast, as they have seriously declined, perhaps, suggested former Massachusetts State Ornithologist J.A. Hagar, due to the decline of prey populations in northern lakes and bogs caused by acidification. Mottled Ducks may have nested in Alabama, a first Gadwall nest was found in Oklahoma, and a Northern Shoveler with three chicks constituted Virginia's first breeding record. Redheads did very well in the Prairie Provinces and in the Mountain West, where they were parasitizing Canvasbacks at Ruby Lake, Nevada. Two pairs of Redheads also bred unusually far east at Presque Isle Park, Quebec. Two male Barrow's Goldeneyes were seen at Regina, Saskatchewan, and others were reported in *farmlands* near Grande Prairie, while Minnesota noted its first summer Harlequin Duck.

Black-bellied Whistling Ducks were found at the south end of the Salton Sea in California, and at Patagonia Sanctuary, Arizona; larger numbers than usual were also found at sewage ponds around Austin, Texas. Fulvous Whistling-Ducks were found in Hawaii and at Tulare Lake, California. Wood Ducks are spreading in the southwest, with a first Rio Grande Valley nesting record from New Mexico.

Raptors — On the bright side, Ospreys, Bald Eagles and Peregrine Falcons are all continuing their upswing, as is clearly shown by the data on fledging success within several of the regional reports. Kites of various species continued to float around the continent: Mississippi were seen in California, New Mexico, New Jersey, and Wisconsin, and two-three pairs nested in Colorado. Black-shouldered Kites were seen in Washington and New Mexico, but seemed to disappear from Louisiana and Mississippi, and a Swallow-tailed Kite was seen in New York.

Broad-winged Hawks were said to have declined in the Hudson-Delaware Region, whose regional editors have suggested this was due to the exposure of nests as the trees were defoliated by gypsy moth caterpillars. A first nesting of the Black Hawk in Arizona since 1977 was noted, and a Gray Hawk was unusually far north at Brooks, Texas.

Purple Gallinules and Shorebirds — Purple Gallinules were found north to Fort Worth, Texas, Indiana, Pennsylvania, and Quebec during June, and Common Moorhens were seen at Salt Lake City, and in Wyoming for a first state record. Arizona's first Jacana, also the first for the United States west of Texas, appeared at Kino Springs June 7, and remained until at least early October.

Piping Plovers continue to decline around the Great Lakes and in the Middle Atlantic Coast Region, while those in the northeast appeared to have stabilized in response to protective measures. Snowy Plovers along the Gulf Coast are experiencing troubles similar to those

of Piping Plovers farther north, and deserve more attention, according to Jerry Jackson. For someone having field experience limited mainly to both coasts, such as myself, the following counts of migratory shorebirds are amazing: 10,000 Stilt Sandpipers and 8500 Lesser Yellowlegs at Big Quill Lake, Saskatchewan, July 6; 2000 Baird's Sandpipers at Texas, Oklahoma, August 1 and 2200 Pectoral Sandpipers at Mason, Illinois, July 29. Vagrant shorebirds included a smattering of stints in the northeast during July: Little Stints in New Jersey and Massachusetts and a Rufous-necked Stint in New York; Long-toed Stint and Greenshank in the Pribilof Islands and a Bar-tailed Godwit just outside New York City. Wilson's Phalaropes continued to disperse; a juvenile was seen at Fairbanks, Alaska, and a pair appeared to be prospecting on the northern California Coast. Shorebird enthusiasts searching for color banded birds found a Sanderling in the Northwest Territories that had been banded in Peru the previous spring, and a Red Knot in Quebec that had been banded in Brazil during spring 1984.

Jaegers to Terns — A Pomarine Jaeger was seen in Arizona during early June for a fourth state record. Parasitics were seen at the Salton Sea and in Wyoming, and Long-tailed Jaegers were seen in Michigan and possibly in Utah. Laughing Gulls, mainly one-year-olds, dispersed widely throughout the continent: three were seen at Hawaii, four in the Mountain West Region, one in Saskatchewan, five-six around the Great Lakes and one in Arizona for an eighth state record. An estimated 12,000 pairs of Laughing Gulls nested on Gaillard Island, Alabama, after a successful conservation program initiated by the U.S.F.&W. Service; Laughing Gulls did not previously nest in Alabama. Nests of Common Black-headed Gulls were finally found near Stephenville Crossing, Newfoundland, and one found dead in Connecticut was wearing a band from the Netherlands. California Gulls are following the lead of other large gulls with expanding populations; they forced Caspian Terns out of a colony site in Yellowstone National Park, and vagrants were found on Long Island, New York, at Manitowoc, Wisconsin, and in Springfield, Illinois (two birds). A Great Black-backed x Herring Gull hybrid was at least the third such cross reported from Massachusetts, and a pure Great Black-backed Gull in Manitoba provided a fourth provincial record. A Slaty-backed Gull was found in the southwestern Yukon, and an Ivory Gull was seen July 5 on the Hudson Bay Shore in northwestern Ontario.

An outstanding record is that of an almost certain Elegant Tern at Chincoteague, Virginia. The possibility of its being Lesser Crested Tern (*Sterna bengalensis*) has not been confidently eliminated, but I would point out the little publicized occurrence of an Elegant Tern, *banded in San Diego*, on Johnston Atoll some 3000 miles to the southwest of San Diego April 19, 1969 (A.B. Amerson and P.C. Shelton, 1975. The natural history of Johnston Atoll, central Pacific Ocean. Atoll Research Bulletin, no 192. Smithsonian Inst. p. 322), which at least sets a precedent for long distance vagrancy of this species. Other

vagrant tern records include a Sandwich Tern at San Diego June 12-24, and a Roseate Tern at Long Point, Ontario, in late July. See the West Indies report for data on the Caribbean population of Roseate Terns, which is comparable in size to that of the northeastern United States. Forster's Terns are increasing and pushing north on the middle Atlantic coast, while Least Terns show mixed results, with declines in the Hudson-Delaware, Southern Great Plains and Middlewestern Prairie regions, but at least localized increased in northern California and in the Central Southern Region. Least Terns, which nest in very exposed situations, frequently shift colony sites, even in mid-season. Because of this, they are particularly difficult to census. Thus, reports of increases or decreases in single seasons should be used only with caution; the disappearance of a large colony from a traditional site does not necessarily reflect an alarming decline. Two Sooty Terns occurred in Virginia and Massachusetts, and a Bridled Tern was reported off New Jersey, the latter perhaps a result of Hurricane *Bob*. Most interestingly, a White-winged Tern paired with a Black Tern in Quebec and raised three young, which were said to be indistinguishable from juvenile Black Terns.

Doves through Owls — Inca Doves have extended their breeding nesting range to Louisiana and a White-tipped Dove was unusually far north at Brooks, Texas. Two *Cuculus* cuckoos were noted in the Aleutian Islands. The antics of our *Coccyzus* cuckoos were fuel for gossip: two Yellow-billed Cuckoos, but no cardinals, were fledged from a Northern Cardinal nest in southern Texas, and a Black-billed Cuckoo nest in North Dakota contained the egg of a Brown Thrasher! To top it off, a fully feathered juvenile Black-billed Cuckoo was collected in southern Louisiana on the exceptionally early date of June 13. The first Common Barn-Owl nest in South Dakota was found this summer, and 16 Flammulated Owls were heard during one night near Kamloops, British Columbia. Six pairs of Barred Owls were found in eastern Washington, while seven nests of Great Gray Owls found in Oregon must represent diligent searching. Short-eared Owls have continued a steady decline along the southern edge of their nesting range; they have disappeared from Long Island, New York, and none were found in central California for the first time in ten years.

Goatsuckers through Woodpeckers — *Caprimulgids* displayed some non-coordinated population fluctuations in the southeast: Chuck-will's-widows increased and Whip-poor-wills declined in the Middle Atlantic Coast Region, while Arkansas observers reported the converse pattern. Northward prospecting Chuck-will's-widows were in Pennsylvania and Minnesota, and a first Poor-will nest for South Dakota was discovered. More noteworthy still was the first United States nesting of Buff-collared Nightjar in Arizona.

The southwest had a banner year for hummingbirds. One Colorado home burned through 280 pounds of sugar for their hummers, while most of the excitement was down in Arizona, where there were three-four White-eared (including a first United States nesting), four Berylline, two Plain-capped Starthroats, seven Lucifer and a Violet-crowned Hummingbird nest. Allen's Hummingbirds were found in Idaho (first state record), Arizona, and possibly in Louisiana, and Rufous Hummingbirds were seen east to Saskatchewan, Missouri, and Ontario. A possible Ruby-throated Hummingbird was reported from northern California.

Flycatchers through Swallows — A northward dispersal of Scissor-tailed Flycatchers which began in May continued to the first week of July, with individuals found in Colorado, California (two), Virginia, New York, Massachusetts, Maine, Ontario (fourth this year) and northeastern Arizona. Field work on breeding bird atlas projects this summer helped to delimit the nesting range of the Willow Flycatcher; they were said to be "extending east" in Manitoba, and territorial or breeding birds were reported from northwestern California, the eastern shore of Maryland and the San Pedro River in Arizona. Eighty singing males were counted by one observer near Montreal, and they were said to be replacing Alder Flycatchers in Ontario, as bogs and wooded swamps are converted to farmland. Least Flycatchers were confirmed as breeding in Washington and Oregon, and a first nesting record for Kentucky was established.

A *Myiarchus* mist-netted in Arizona may have been *nuttingi*; a consensus awaits further examination of photographs. A Thick-billed Kingbird at Prescott, Arizona, was the northernmost ever in that state. Cliff Swallows appeared to be regaining their numbers in New Jersey and Delaware, following a long and rather unsuccessful war with House Sparrows; and Manitoba's third Violet-green Swallow was seen at Churchill.

Hawaiian Endemics — Field work on Kauai in June revealed the continued presence of five endangered honeycreepers: Hawaiian Thrush, Small Kauai Thrush, O'o'a'a', O'u, and Nuku-pu'u, but not the Kauai Akialoa, last seen in 1965 and feared extinct. The population of Palilas on the main island was surveyed in June and found to have increased substantially in the last year.

Corvids through Wrens — One of the Jackdaws on Saint Pierre and Miquelon Islands (off Newfoundland) was briefly paired with an American Crow, but no further evidence of breeding could be obtained. A first South Dakota nesting of Clark's Nutcracker, as well as a rare sighting east of the Missouri River there, followed a mild incursion of these birds last winter. Red-breasted Nut-

hatches gave many early warning signals of a major southward emigration this coming winter: exceptional numbers were noted during late July in the Hudson-Delaware and Northeastern Maritime regions and in the Northern Great Plains; they were found earlier and at lower elevations than normal in Arizona, and a general increase in numbers, with several nests noted, was reported from the Middlewestern Prairie Region. A "40-50% reduction" in the Carolina Wren population was reported from the Knoxville, Tennessee area, as was a general decline in the northern portion of the Appalachian Region. Sedge Wrens were infrequently mentioned, but a report of 30 together at one location in Ontario indicated that "suitable" habitat can still be found.

Kinglets through Shrikes — Golden-crowned Kinglets have exploited a widespread artificial habitat: ornamental spruce plantations, thereby extending their breeding range considerably to the south of the extent of "natural" spruce-fir forests. Sixty were found in such a spruce grove in Carroll, Maryland, and others were reported in Pennsylvania; nesting in this habitat has been known in Massachusetts southeast to Cape Cod since the mid 1970s.

Alaskan Muscicapids included a Red-breasted Flycatcher that came aboard a ship in the Bering Sea, a Siberian Rubythroat at Attu, and several Bluethroats along the Dalton Highway. A number of Asian Arctic Warblers (*P.b. borealis*) were present on St. Matthew Island in July, and a Fieldfare was found in the Brooks Range.

Mixed pairs of Bluebirds (Mountain x Eastern) successfully raised young in Ontario and Nebraska. Loggerhead Shrikes continued to decline along the northern edge of their range, with declines this summer mentioned in the Middlewestern Prairie and Prairie Province regions.

Vireos through Warblers — Cowbirdbusters in southern Texas reported encouraging success with Black-capped Vireos; by trapping Brown-headed and Bronzed cowbirds in the vicinity of vireo nests, the reproductive success of the vireos markedly increased. Twenty-four young were produced from 33 nests this year compared to only four last year before trapping. In addition, a search in Oklahoma revealed 30 male Black-capped Vireos at 14 localities. Cowbird trapping could perhaps be a solution to the Bell's Vireo decline in the southwest; this year, they were said to be gone entirely from the Lower Colorado River, although several were found along the San Pedro River in Arizona.

The interesting interaction between Blue-winged and Golden-winged warblers continues in the east. In most areas within the ranges of these species, Blue-wingeds seem to be increasing at the expense of Golden-wingeds. A general transition in favor of Blue-wingeds has oc-

curred in southern New England, south-central New York, Ontario, and in the Middlewestern Prairie Region. The only area reporting colonies consisting primarily of Golden-winged Warblers was north-central New York. It seems that Golden-wingeds have more specialized habitat preferences and may therefore be at a competitive disadvantage.

In northern California, a fourth nesting record of American Redstarts was obtained, and Northern Parulas present there all summer continued to evade attempts to prove their breeding. The more unusual vagrant warblers reported included "Brewster's" in Denver, Colorado, Yellow-throated in Wisconsin and Oregon, Cerulean (first nesting) in Kansas, two Worm-eaters in Arizona, and a Connecticut in New Hampshire on July 7.

Tanagers through Orioles — Hepatic Tanagers were found to be of regular occurrence at Kim in southeastern Colorado, Summer Tanagers were found breeding in Ontario and Illinois, and Tennessee got its third vagrant Western Tanager. The Flame-colored Tanager at Cave Creek Canyon, Arizona, fledged one young in a second nesting this year with a female Western Tanager.

Dickcissels were found breeding in Maryland, a general increase was noted in the Middlewestern Prairie Region and in western Tennessee, and two extralimital males were heard singing in New Mexico. Field Sparrows press farther west, with a first summer record for Greenville, New Mexico, and a singing male found in Nebraska during June, while Clay-colored Sparrows were found in southern Quebec, Pennsylvania, and at eight sites in Ontario. Lark Buntings appeared to recover following a "crash two years ago" in Wyoming, and a vagrant was found in Indiana on June 2 for a fifth state record, and a decline was reported from the Dakotas. Breeding atlas work has revealed Grasshopper Sparrows to be somewhat more numerous than expected in the Appalachian, Hudson-Delaware and Middle Atlantic Coast regions, and two new colonies were found in Quebec. Henslow's Sparrows, on the other hand, declined in the Hudson-Delaware Region and in Ontario, but, two were found in southern Quebec for the first time since 1970. Orchard Orioles continued to expand, with significant records from Newfoundland and Colorado, a nest from New Mexico, and a male paired with a female Hooded Oriole, also in New Mexico.

Crossbills — Following major irruptions last winter, crossbills of both species remained at southerly localities late into the summer, and some probable and certain breeding records were established. Reds unusually far south were at Long Beach, California, Phoenix, Arizona, Guadeloupe Mountain, Texas, and Hot Spring, Arkansas. A "major invasion" of both species was noted in the southern portion of the Prairie Provinces in July, and "record levels" of both species were reported in the Niagara-Champlain Region, where the cone crop was described as excellent. The most southerly White-winged

Crossbills were at Crawford, Pennsylvania, and Windsor, Massachusetts, both in mid-July. There were two possible reports from New Mexico, a vagrant was seen at St. Paul Island, Alaska, June 22, and a possible family group was found in Provo, Utah, July 16. A major northwesterly movement of White-wingeds was noted in northwestern Ontario June 20-23, with a maximum of 1000 passing over on the 20th. Large numbers were found in northern Idaho and in British Columbia associated with an excellent cone crop, while in Alaska they were reported as common in the central part of the state but scarce elsewhere.

Finally, certain House Finch-eating grackles from Ontario have considerable wildlife management potential at feeders on Long Island, New York, and I've met many participants on northerly breeding bird atlas projects who would support the theory that Spruce Grouse hatch as adults.

And (I thought you'd never ask) I did *not* see the Swallow-tailed Gull.

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Abbreviations Frequently Used in Regional Reports

ad.: adult, Am.: American, c.: central, C: Celsius, CBC: Christmas Bird Count, Cr.: Creek, Com.: Common, Co.: County, Cos.: Counties, *et al.*: and others, E.: Eastern (bird name), Eur.: European, Eurasian, F: Fahrenheit, *fide*: reported by, F.&W.S.: Fish & Wildlife Service, Ft.: Fort, imm.: immature, I.: Island, Is.: Islands, Isles, Jct.: Junction, juv.: juvenile, L.: Lake, m.ob.: many observers, Mt.: Mountain, Mts.: Mountains, N.F.: National Forest, N.M.: National Monument, N.P.: National Park, N.W.R.: Nat'l Wildlife Refuge, N.: Northern (bird name), Par.: Parish, Pen.: Peninsula, P.P.: Provincial Park, Pt.: Point, not Port, Ref.: Refuge, Res.:

Reservoir, not Reservation, R.: River, S.P.: State Park, sp species, spp.: species plural, ssp.: subspecies, Twp.: Township, W.: Western (bird name), W.M.A.: Wildlife Management Area, v.o.: various observers, N,S,W,E,: direction of motion, n., s., w., e.,: direction of location, >: more than, < fewer than, ±: approximately, or estimated number, ♂ male, ♀: female, ø: imm. or female, *: specimen, ph.: photographed, †: documented, ft: feet, mi: miles, m: meters, km kilometers, date with a + (*e.g.*, Mar. 4 +): recorded beyond that date. Editors may also abbreviate often-cited locations or organizations.