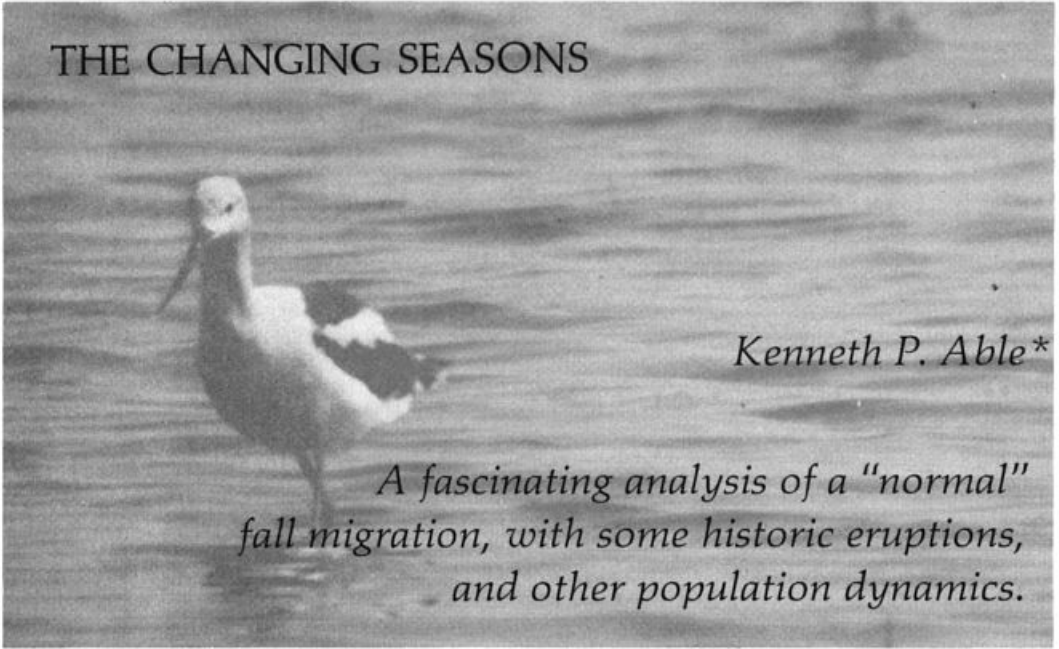


THE CHANGING SEASONS



*Kenneth P. Able**

A fascinating analysis of a "normal" fall migration, with some historic eruptions, and other population dynamics.

*American Avocet, Buffalo Harbor, N.Y., Aug. 22, 1972
Photo | Paul Benham*

Each season of every year probably has unique features which set it apart from all others. Despite the overall constancy inherent in the broad pattern of migratory movements, there are usually peculiarities or perturbations which characterize a given migration. Such peculiarities were less evident this fall than in any recent year. Nearly all regional editors reported the migration as "average" or "normal", noting few obvious waves or groundings of birds. The weather throughout much of the nation was mild and uneventful, giving rise to coast-to-coast reports of record late departure dates. Peculiarly, these late departures were accompanied by early arrivals of migrants in nearly all U.S. areas. Undoubtedly, the mild weather directly induced some individual migrants to linger (do they have faulty endogenous timing mechanisms or is the programming just flexible?) as it induces lesser numbers of them to attempt to overwinter. Given slowly changing environmental conditions these individuals could be the pioneers of a northward extension of the species' wintering range. The early arrival of migrants was probably due to other factors.

THE INVASION

The generally uneventful migration stands in stark contrast to the unprecedented eruption of boreal and montane species. Virtually every species known to stage periodic invasions took

part in some area of the country this year. Hawks, owls, woodpeckers, corvids, chickadees, thrushes, nuthatches, finches — all were involved in a major way in at least a small region. The factors responsible for these massive movements are surely diverse: Goshawks and crossbills eat vastly different things. Yet all the factors converged on the fall of 1972. One can only hope their co-occurrence was fortuitous and not a general environmental quality indicator.

It is difficult to single out one most spectacular aspect of the invasions. The Goshawk flight strikes this reviewer as perhaps the most historic. The species was mentioned in virtually every regional report. One origin of the flight was certainly the forests north of the Great Lakes; there may also have been an epicenter in the western mountains. While Goshawks were more numerous than usual by winter, New England observers did not detect the fall invasion and it was certainly markedly reduced eastward from the Great Lakes. Nevertheless, the 200+ at Raccoon Ridge, N.J., 428 at Hawk Mountain Pa., and 50 at Cape May were sufficient to render it the greatest flight since the winter of 1926. While none were reported from the Southern Atlantic Coast Region, two immatures in Florida were the first in 45 years. As one moves west

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the numbers become staggering. Over 5000 individuals were reported in the Western Great Lakes Region with an absurd count of 984 on October 14 alone at Duluth. From the same region comes a hint of a cause: snowshoe hares reportedly crashed north of Lake Superior, the classic cause of influxes of this species. Did the crash catch the hawks at a peak in their own population following a summer of high nesting recruitment? We can only guess, but data from Alberta, where the flight was not nearly so large, suggest otherwise. Only 15% of birds there were immatures as opposed to 67% in the 1950 flight. Larger-than-usual numbers were reported throughout the West with three reports in the Southwest Region and a bird at Amarillo, Texas in October.

Shadowing last winter's historic Gyrfalcon flight, a larger-than-usual number of these spectacular birds was reported. There were three in New England and the Northwest Pacific Region, the Northern Great Plains had five, but Ontario had the most (6), including five at Moosonee on one day.

Among the other raptors, there were lesser movements of some rare owls and shrikes. Rough-legged Hawks and Snowy Owls were scarce everywhere, but Hawk Owls appeared in the North with seven Ontario records, three in the Western Great Lakes and one in Connecticut. Great Gray Owls were reported five times in Ontario and twice in the Western Great Lakes, the areas in both cases corresponding with those in which large numbers of Goshawks were seen. An influx of Great Horned Owls was reported in northern Minnesota, but nowhere else. A fairly good flight of Northern Shrikes developed in the Northeast in mid-late October. There was a suggestion (Ontario) that the flight may have moved through usual wintering areas toward more southerly ones: Beverly, Ohio got its first record of the species and three were reported in the northern Midwest. The Northwest saw the biggest flight ever.

For diversity of species involved, the corvids capture the prize in this year of mass movements. . . Virtually every North American species was involved. Gray Jays moved into the Northeast in moderate numbers — seven were in western Massachusetts by late October. In the West they moved into the lowlands of the Great Basin. It is difficult to monitor the movements and population fluctuations of common resident birds in an area. Thus birders in New England noticed nothing worth mentioning about Blue Jays during the fall, but by mid-winter even casual feeder watchers realized that they were largely absent. Observers in the deep South knew where they

were. Heavy flights were observed in October on the Outer Banks and in northern Florida. A few reached the Keys by mid-October. Further west, spectacular things were happening. Birmingham tallied 773 on a count September 16th and by mid-October there were 8,000 in the Fort Morgan — Dauphin Island area. Large concentrations were seen in Louisiana coastal areas and on October 7-8 Bob Newman and Bob Hamilton counted 5,000 on the coast in southwestern Louisiana, most moving west along the shore. Some of these same birds undoubtedly contributed to the influx into South Texas where the birds found a good live oak acorn crop. There were fewer in the West, but birds reached Idaho which had only two previous records and one came to a feeder in New Mexico.

Clark's Nutcrackers poured out of the western mountains in all directions. Three reached northwestern Ontario, five were reported in the Western Great Lakes and three birds provided the first Missouri record at Kansas City. They were all over the plains and Great Basin, hundreds reached southeastern Arizona, and one was seen on Hawkins Island, Prince William Sound, Alaska. They occurred in the desert in Arizona and southwest Texas and reached the California coast in exceptional numbers in early fall. They were accompanied by numbers of magpies. The 40 reports in Ontario were the greatest in fifty years and were all north of Lake Superior. The Western Great Lakes had 75 records. Smaller numbers were seen on other areas of the West.

The montane jays moved into the lowlands both east and west of the mountains. Steller's Jays appeared early in the lowlands of the Northern Pacific Coast. Piñon pines had a poor nut crop, at least in the Great Basin, and Pinyon Jays were widespread in lowland areas out of habitat.

Common Ravens made a large incursion into the Northern Great Plains. Common Crows were seen in impressive numbers in that region and were mentioned in several other areas as well. It appears that these species played some part in the mass movement of corvids.

As with Goshawks, the center of the country got the chickadee invasion. There is no doubt that they didn't invade the Northeast. Manomet Bird Observatory banded only 124 Black-capped Chickadees (4537 during fall, 1971). But from north of Lake Huron they came, Boreal Chickadees in numbers never before seen. While the movement was called mild but noticeable in the Hudson-St. Lawrence Region, it was the biggest ever in Ontario. Beginning suddenly in early October, the birds moved south along Georgian Bay. Soon every flock of chickadees had *several*

Boreals in it; the wheezy call emanated from every group of conifers (or even in downtown Toronto). At Pt. Pelee Boreals ran 8-10% of over 1,000 chickadees banded. They arrived in September west of the Great Lakes and were numerous by the end of the period. Two records in South Dakota were the first for the state and eastern Washington had several reports. Mountain Chickadees joined Boreals in the Northwest and participated in the exodus from the mountains at least throughout the western part of their range.

Red-breasted Nuthatches engaged in a large movement, the first in three years. At least in the north-central part of the country the flight began early. It reached the Southeast in September and the species was very common by October. More than the other invading species, nuthatches were mentioned nearly everywhere, including the southern extremities. On the West Coast their arrival with waves of migrants was remarked, a phenomenon familiar to New England migration watchers. In the Southern Pacific Coast Region a massive flight of Red-breasted was joined by numerous Pygmy Nuthatches, an unusual invader.

With the exception of Red Crossbills and Evening Grosbeaks, the finch flight tended to be somewhat local in nature, but the crossbill movement was one of the heaviest ever. Red Crossbills massed in large numbers in the Northeast in summer and began moving in August. The invasion was much heavier in the East where it reached the Central Southern and South Texas Regions. Crossbills disappeared from the northern Rockies where cone crops were poor, but only small numbers were reported on the Pacific coast. Did the montane birds move eastward? We may also wonder in which direction the flock in Omaha flew after feeding on *Cannabis*. Maybe it remained to overwinter! White-winged Crossbills were scarce everywhere and redpolls were largely unreported except in Alaska where they were numerous. Pine Siskins made a brief early appearance in the Appalachian Region but were not numerous anywhere east of the Rockies. Some numbers apparently moved out of the western mountains into the Pacific coastal areas where they were more numerous than usual. One wonders why the same factors which brought Red Crossbills and other boreal conifer feeders failed to elicit a movement of White-winged Crossbills and siskins. Certainly all of the Red Crossbills didn't come from the mountains.

Evening and Pine Grosbeaks moved in good numbers. The movement of Pine Grosbeaks was widespread although numbers were not large.

They reached the Middle Atlantic Coast Region by early November and one was recorded in Missouri. In the West they moved into lowland areas from the mountains and there were three records from the Southwest. Evening Grosbeaks were in invasion numbers almost everywhere. The biggest flights occurred in mid-October in the East with 600 - 1,500 passing daily in the Hudson-St Lawrence Region. They pushed into the Deep South, reaching southern Louisiana by November 26, the earliest ever. They moved through the northern Rockies early and a major invasion was underway on the Pacific coast in late September. They swarmed across southern California by early October. The origin of the western birds is, of course, unknown. They could have come from the mountains or from further north, probably from both.

Several other species showed smaller-scale invasive movements which were probably causally related to the more obvious flights. Lewis' Woodpeckers left the mountains with extralimital records as far away as Pt. Pelee. Most seemed to move into the Pacific coast lowlands, however, where they occurred in unprecedented numbers. In the East, Red-headed Woodpeckers moved southward in large numbers, perhaps related to the Blue Jay flight. They concentrated in the Santee Swamp and occurred in unusual numbers along the Gulf coast. In the Northeast, Black-backed Three-toed Woodpeckers were more in evidence than usual and birds in such unlikely places as Cape Cod (4) and Nantucket suggested a flight. Townsend's Solitaires were mentioned in several western reports as were Acorn Woodpeckers, Brown Creepers, Varied Thrushes, Golden-crowned Kinglets and Gray-crowned Rosy Finches.

While the causes of these invasions remains obscure there were hints of widespread failures of tree crops. Throughout the western mountains a sparse cone and pine nut crop was reported, presumably in response to a very dry summer. On the west slope it was the driest summer in 1,200 years according to tree ring data.

Presumably unrelated to these flights was another inexplicable movement of Fulvous Tree Ducks into the East. They were found at several places along the Atlantic coast with a large number (45) at Brunswick, Georgia.

MIGRATION EVENTS

Migration is a complex behavior influenced by many environmental and internal variables. To make much sense of it requires a large amount of information about what is happening in time and space. Unfortunately, the type of observations made by most casual field birders usually

only give tantalizing hints of what is really happening. In the first place, deriving a picture of migration from daytime observations of grounded migrants is very risky business. Several students of migration have attempted to find a consistent correlation between censuses of grounded migrants and the magnitude of migration on the nights preceding and following the observations. No such correlation exists except in very special circumstances or certain geographic localities. An isolated rain shower can ground a group of nocturnal migrants in a woodlot and give the appearance that a large migration has occurred when this need not be so. Huge flights (e.g., the 33 birds/minute across the face of the moon in Florida on September 23-24) can occur, but the near-random dispersal of birds over a large area will make it invisible to the ground observer the next day.

By observing during both day and night one can get a better picture. In this regard, it is unfortunate that the enthusiasm among birders for moon-watching has waned. There are now methods available (Nisbet, 1959, *Wilson Bull.*, 71: 237-243) which allow anyone to calculate flight densities and directions from his own observations. The technique of making similar observations with an inexpensive portable ceilometer light (Gauthreaux, 1969, *Bird-Banding*, 40: 309-320) can be used on nearly all nights during migration. It is a shame that these techniques have not found wider use among amateurs who wish to understand more about migration in their areas. It can be fascinating fun, besides.

Events during the past several years have led some to suggest that TV towers were losing their potency as migrant killers in the manner of light-houses some decades ago. The reports herein do not confirm this suspicion. Kills of over 1,000 birds are mentioned in two reports: Florida and Tennessee. Smaller ones occurred in several other areas. The Ontario Power Company can be held directly responsible for two September kills of over 1,000 birds each: in spite of requests from conservationists they insisted on wasting some of the power they generated by floodlighting a huge new chimney at their Lennox Power Plant (everyone knows that chimneys are works of modern art!). We are not in an age of enlightenment yet.

The cold front that moved across the nation during early November produced obvious results. Along with the major movement of Goshawks in the Midwest, it brought Purple Sandpipers, Red Phalaropes and a big waterfowl flight. November 18 saw huge concentrations of ducks, grebes and loons throughout the Midwest

— 30 Common Loons, 400 Horned Grebes, 4 Red-necked Grebes and 1500 Red-breasted Mergansers covered the Ohio River at Louisville. A large sparrow migration was noted in Kansas during the same period. During the rest of the season, the few waves of migrants noted by observers accompanied the passage of cold fronts with their extra-large migrations coupled frequently with grounding conditions. This is an expected pattern that is no longer newsworthy.

Of more interest is the still enigmatic West Coast vagrant problem. Several noticeable waves of migrants and vagrants reached the California coast this fall and more were seen on the mainland coast than usual. As is pointed out in the Middle Pacific Coast Region report, the arrival of these waves is accompanied by the breakdown of the usual high pressure system over the Pacific and the establishment of a high over the Great Basin to the east of the region. Among other things, this produces a flow of air across the Southwest toward the coast, in some cases all the way from Texas and the Gulf coast. It also produces low overcast and fog on the coast of California. It is hard to know how much the grounding effect of such weather coupled with the concentrating effect of the coastline contributes to these waves. This reviewer is still convinced that the wind patterns associated with the arrival of these birds play a major role in causing their occurrence.

Coupled with the lateness of many migrant departures (Wilson's Warbler in Alaska, November 18!) were unusually early arrivals, especially of Tennessee and Myrtle Warblers. Both species were noted well south of breeding areas in July and Myrtles began moving in August in Ontario. Several regions reported peak movements of Myrtles and other species to be about three weeks earlier than usual. Does this indicate nesting failure in northern areas? This seems the most reasonable explanation. The after-effects of *Agnes* were noted in the Western New York and Appalachian Regions with many late nesting records.

There were several peculiar migration events. Offshore storms apparently stimulated large northward flights along the Atlantic coast: Baltimore Orioles on Cape Hatteras in early September; Gannets and kittiwakes in New Jersey in November. Apparent migrations of Cardinals were noted in the East. It is possible they were related to the boreal invasion, but may mark the emergence of a new pattern.

POPULATION TRENDS

Both extremes of population changes are apparent in the reports which follow. Peregrine

Falcons continue to decline slowly. Both Hawk Mountain and Cedar Grove reported the lowest totals ever. There were numerous Bald Eagle reports, but no trend is obvious unless it is the paucity of immatures. In spite of the ballyhoo given the case, it is very depressing to note that the infamous Wyoming eagle killers were liberated from federal courts with light fines and probation. In Utah two men were sentenced to 90 days in jail for shooting an eagle for coyote bait — hardly a fitting punishment for such incredible, aggressive ignorance.

Red-shouldered Hawks were thought to be down in the Appalachian Region but there was no noticeable decrease in New England or the Central Southern Region. Several species of waterfowl apparently had a very poor nesting season. Numbers of immature Brant and Snow Geese were very low on the Atlantic coast. Further west in Illinois a ratio of one immature per adult was reported for the Canada Goose kill and in the Canadian prairie provinces the lowest numbers of immatures ever recorded were noted among Whistling Swans, White-fronted Snow and Ross' Geese and Sandhill Cranes. This may account for the early arrival of many waterfowl species during migration (cf. Southern Atlantic Coast). All grouse species were down in the western mountains. Swainson's Hawk should be added to the Blue List for California and Henslow's Sparrow has virtually vanished from the Northeast. Whooping Cranes declined markedly from last year's high.

On the other hand, Monk Parakeets are spreading at an incredible rate with first records for Western New York, Appalachian, Middle-western Prairie and Southern Great Plains Regions. House Finches continue to spread, though not so rapidly. Ontario got its first record. Great Black-backed Gulls continue to increase in the Great Lakes and Cattle Egrets increased in several areas, especially the Midwest. Groove-billed Anis exploded in South Texas, becoming common along all roadsides.

STATUS CHANGES

Each year we learn more about the distribution and occurrence of pelagic species off our coasts, especially in the Atlantic where boat trips are gaining in popularity. And there is every reason why they should — the incredible table in the Southern Atlantic Coast Region report lists White-tailed Tropicbird, Black-capped Petrel, and two Black-browed Albatrosses. White-faced and Storm Petrels were seen off New Jersey and Skuas, Manx Shearwaters, and Fulmars were again seen in the Northeast. On the west coast, New Zealand Shearwaters were in greater numbers than last year.

Sharp-tailed Sandpipers continue to increase in the West with the first inland records (Washington, Arizona) and numbers to 75 at Adak in October. Anna's Hummingbirds occurred in many areas of the Northwest. It remains to be seen if this is a trend. Inland occurrences of sea ducks and gulls increase with the numbers of large impoundments (cf. Appalachian Region) and birding coverage (Lake Mead).

RARITIES

In addition to the unbelievable list of pelagics above, there were plenty of land-bound rarities to go around. White-fronted Goose (*flavirostris*) for Rhode Island's first record; Wilson's Plover and an unbelievable (had it not been collected) Swainson's Warbler in Nova Scotia; Bar-tailed Godwit and Ash-throated Flycatcher in Massachusetts; Black-throated Gray Warblers in many places in the East including one at a tower kill in Pennsylvania; Sage Thrasher on Long Island; European Kestrel, Spotted Redshank and Fork-tailed Flycatcher in New Jersey; Vermilion Flycatchers in the Southeast in invasion proportions; the first Ipswich Sparrow in Florida; Black Brant for the first Louisiana record; Rufous-backed Robin in South Texas; and Wyoming's first Ground Dove. And a possible Tropical Kingbird in British Columbia. The most startling reports of all were two unverified records of the seemingly unmistakable *Terek Sandpiper* at Churchill, Manitoba and in Washington. Observations at Point Barrow, Alaska throughout much of the fall revealed incredible numbers of Ross' Gulls (up to 1,000!) between September 16 and November 5. Of perhaps greater interest were up to six Ivory Gulls which occurred with them in October.

Each season a careful reading of the individual regional reports reveals bizarre and amusing occurrences. This year a Sanderling was seen running along the street in Vernon, British Columbia and a Saw-whet Owl walked (?) into an apartment in Montana. But nothing in the reports can equal the events which occurred in the parking lot of the Las Vegas Hilton Hotel on the night of October 17. The story is scattered through the Southwest Region report. Piece it all together and it will blow your mind.

