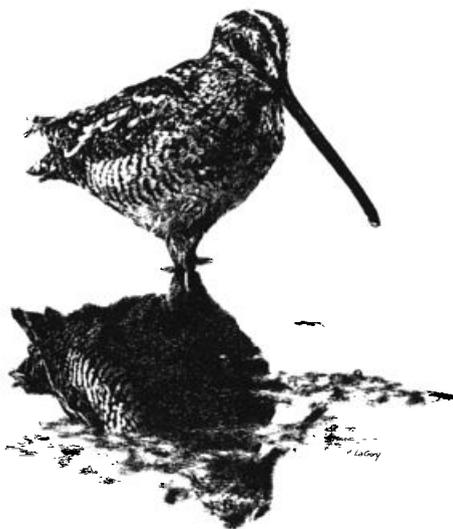


The Changing Seasons

Ted L. Eubanks Jr.



Common Snipe (Gallinago gallinago). Illustration/Michelle LaGory.

The traditions of *The Changing Seasons* had twisted my psyche into subliminal half-nelsons. My synapses were quivering from data overload; the back of my soul arched above the mat, inches away from a crushing defeat. I had conjured the script—start with a glance at the weather, toss a few bones to the regional editors, then plunge headfirst into an endless reprise—bird by bird, feather by feather, record by record. I would mark the predictable—northern species pushing south, southern species venturing north, east moving west, west moving east, early arrivals, late departures, trends. Then I would top it off with a flurry of vagrants, and close the curtains by leaving 'em laughing (the roadrunner courting the canary). At heart, I had yearned to write the GREAT AMERICAN BIRD NOVEL. In reality, I feared that *American Birds* wanted only *Cliff Notes*.

I misjudged. In our final conversation the Editor offered *carte blanche*, and I lept upon this unforeseen gift—freedom—with the glee of a refugee. Skip this chance to join

illusionaries such as DeBenedictis, Lehman, and Dunne in the quest for unequivocal ornithological truth? Miss my shot at shaking our pastime down to the foundation? Hold my place in line while I grab my pad and pencil! Now, with anxieties at rest, let us unite in the pursuit of hidden miracles and transcendent magic. For above all spring is *magical*—a season when the rigid notions and predestinations of science are dissolved in gentle April showers and waves of dazzling, polychromic beauty.

Busted Flat in Baton Rouge, Waiting for the Rain

Spring's weather is contradictory—a meteorological hodge-podge more paradoxical than patterned. In 1988, Spring rolled across America with early steam, late frost, and the choking grip of drought on the throat of the heartland. Imhof declared that “drought is the word for the weather this season—this year—(this decade?),” while

Armistead experienced a "cold, windy spring" with rain in May actually hindering migration. Berkey stated that drought diminished wetlands in the Northern Great Plains by as much as 50%, and the outlook for nesting waterfowl in that region appeared the worst since the 1930s. He added that "observers mentioned difficulty seeing birds in blowing dust." Ponds were down by 39% in Alberta, and 26% in Saskatchewan. Yet McCaskie noted that "storms pushed south from Alaska during April, leaving us [Southern Pacific Coast Region] with above-average rainfall in early May, and appearing to delay the main push of spring migrants." Such vagaries are typical of this contrarian season—one person's deluge becomes another's drought.

March's weather divided the continent, divorcing shining seas from amber waves of grain. The Atlantic and Pacific coasts were moist and mild, while the central states agonized through heat, dust, and drought. Only the deep South experienced moderate temperatures, and Florida even set several record lows. By the end of the month the Tennessee Valley, the Northern Great Plains, and the Great Basin were withered and parched. However, a blizzard dumped 14 inches of snow on northern Minnesota March 11-12, and snow blanketed the Texas Panhandle on four occasions during the month (although providing little in the way of moisture). Alaska's March came straight from the text—stormy and unsettled.

April echoed March in the Northern Plains—bone dry and blisteringly hot. Berkey lamented that "the lack of moisture was emphasized when a cold front in early April brought a temperature drop of 30°F, but not a single cloud (except, of course, for dust)." A late-season storm, however, surprised Minnesota with 11 inches of snow April 26. Above-normal temperatures in the West were accompanied by generous rainfall, helping to alleviate drought conditions in the Southwest. The Southern Great Plains and the Atlantic Seaboard were mild. A mid-April Pacific front grounded an "amazing variety" of waterbirds in Arizona. Gale force winds April 11-15 caused flooding along the Middle Atlantic coast, and drifted numbers of Old World waders into Newfoundland and Labrador.

Dry weather prevailed again in May as the Northern Great Plains and Corn Belt slipped deeper into a present-day dust bowl. The aridity spread into the Mississippi River Valley and much of the Southeast. However, both the Pacific Coast and the northern Atlantic states were soggy. Rain fell in New Jersey on 19 days in May, including 10 in a row May 16-25. Major storm systems pushed out of the Rockies the last week of April and the first week of May, grounding passerines along the upper Texas coast and in southern Florida. Kingery said that two May snows in Nevada and Wyoming "killed a number of migrants." The Arizona editors credited a very late Pacific front with depositing the state's first documented Elegant Tern. The same front precipitated late migrants, particularly Yellow-bellied Flycatchers, along the upper Texas coast May 29-31.

Yet, I am curious as to what degree these high-profile weather patterns, no matter how dramatic the effect on any given location, influenced the *broad-scale* distributional patterns of the American birds. Beyond our flirting with the sciences of weather and climate, we must consider a more serious dalliance with biometeorology—the *relationship* between these atmospheric phenomena and living organisms. After reviewing the regional reports I realized that for each cause/effect relationship described in one location, an editor in another region would present a countering interpretation for the same set of circumstances. In part this may have been due to simple geographical variations. Yet these radical differences in opinion and perspective also indicate troubling inconsistencies in criteria by which we quan-

tify the effects of weather on bird distribution, migration, and population.

Differences aside, water-dependent species such as herons, waterfowl, and shorebirds, were impacted by the drought to an extent too obvious to ignore. Migratory species using ephemeral inland wetlands discovered that nesting and staging sites had simply vanished. Siddle noted that "waterfowl were much more common than usual" in northwestern Canada as a result of the Southern Prairie drought (which forced more southerly nesters northward). With wetland nesting habitat reduced in the Northern Great Plains, and only a few flooded agricultural fields available, waterfowl concentrated into the remaining wet spots. Such focusing resulted in record peak counts in North Dakota. Rogers commented that low water levels in the Northern Rocky Mountain-Intermountain Region "appeared to favor migrating shorebirds and nesting marsh birds but created hardship for waterfowl." Peterjohn, in the Middlewestern Prairie Region, said that "herons, waterfowl, shorebirds, and other species frequenting wet fields and shallow marshes suffered as these habitats completely dried up."

The warm temperatures and following winds of early spring, credited with a profusion of early arrival dates, were a less explicit, but no less discussed example of the weather's impact. Armistead stated that "a warm March yielded some earlier than usual migrants." The Quebec Region editors noted "persistent southerly flows of warm air that prompted a number of early arrivals" during the latter part of March. Early arrival dates were registered for 22 species in the Regina area, eclipsed only by the 25 in Thunder Bay, Ontario. The Middlewestern Prairie regional editor speculated that "the warm weather in March encouraged a number of species to return at or near early dates."

The opinions of the regional editors differed on this issue as well. The Hudson-Delaware Region termed the bulk of the passerine migration late in arriving. Berkey noted "not an inordinate number of earliest ever arrivals" in the Northern Great Plains. Most observers in the Northeastern Maritime Region bemoaned a "late and dull" spring. Grzybowski (Southern Great Plains Region) said that "some individuals commented on late arrival dates, particularly of insectivorous birds." McCaskie remarked that the main push of migrants along the Southern Pacific Coast appeared delayed.

Early arrivals are intriguing curiosities, and a customary method by which we score this game of birding. The scientific value of early arrival/late departure compilation, however, is arguable. I am skeptical when such dates, in the absence of a discernible early migratory wave, are offered as proof of the effects of a specific weather event on continental migratory currents. Yes, these dates will ultimately define a "window" for a species in a circumscribed location, but I agree with Richardson (1978) that "first arrivals are easily overlooked, constitute only a small (and in many ways atypical) fraction of the total passage, and usually represent the interruption of a movement begun elsewhere rather than migration in progress." To Richardson's comments I will add that the detection of early arrivals is also a function of the duration and regularity of observation (which is patchy and inconsistent throughout most of our country), and the breadth of the habitats surveyed by those afield. Such reservations as these are not, by the way, limited to contemporary students of migration. As early as 1951 researchers such as Gunn and Crocker lamented the lack of analysis comparing continental disturbances and migratory movements. As they noted:

The difficulty with such an analysis lies in the scattered and fragmentary nature of data on birds. If more were known about bird distribution and movements during migration, the correlation with weather data

would probably be more evident. Such factors as irregularity in time and duration of observation-periods, the attendant emphasis on week-ends, and the lack of a central clearing-house for the detailed information collected make it impossible to reduce the data on birds to figures that may be compared quantitatively with those obtained by the network of weather stations.

Early arrival dates, like late departures, are blatant and easy to distinguish. They mark unique points in time (the outer limits.) Late arrival and early departure dates, however, are off-the-cuff estimates that, by being indeterminate, are unlikely to be recognized by the casual observer. For example, hundreds of thousands of Snow Geese winter along the Texas coast. How do I know when the first northbound geese leave? If the first Blackthroated Green Warbler of the spring is reported one week later than the "norm", how can I be sure that this tardiness is not just an artifact of observer activity (or lack thereof)? Be careful of jumping from "a few individual migrants were recorded early" to "migration was early." An increase in interest in early arrivals may be more responsible for this year's profusion than the weather patterns themselves. On the upper Texas coast, where bird records have been published monthly since George Williams began "The Gulf Coast Migrant" in 1936, it is not unusual for a spring to pass with no early arrival dates being supplanted. *Sample size cures all ills.* As Janos remarked in the Mountain West report, "one searches out ever earlier records. A good proportion of early dates reported each year may represent artifacts of birder's habits and their record keeping."

Through the Looking Glass

Countless personal experiences are gathered, filtered, refined, molded, and eventually synthesized by the editors into the regional reports. The focus and tone of a regional report reflect the knowledge, insight, and whims of its author. The fundamental building block of this structure, however, is the individual contribution. At each season's end we shape our hours of field observation into a submittal that best portrays the natural world as we experienced it. With emphasis upon the word "experienced," I wonder about the relationship between our perceptions and reality, that is, the reality of the birds', rather than the birders', world. For while *what* we see is affected by external forces (season, habitat, geography, weather), *how* we see is shaded by bias, preference, and prejudice. Therefore we must be cautious about the assumptions we make that draw upon these entertaining, thought-provoking, yet inherently imperfect, data. Over the past several springs, as I have joined the hordes of birders that migrate to High Island, Texas, I have made note of the most common of these subconscious prejudices and biases. Perhaps my observations can serve as a guide by which birders may improve the reliability of their data through a conscious modification of field techniques, survey methods, and record keeping.

Ralph and LeValley, writing in the spring 1986 *Changing Seasons*, commented that "the report from the Upper Texas Coast of the 'year the warblers returned' is quite possibly due to fallouts of migrants on the weekends." I have chosen this as a starting point for my list of reporting biases—the often-discussed and much-maligned convergence of field activity on Saturday and Sunday. Of course there are banding stations and observatories with personnel monitoring bird populations round-the-clock. The rest of us "office stiffs" hit the woods on the weekends. Even those with professions that allow some weekday birding opt for days when the weather appears propitious for migrant ac-

tivity. During peak periods the migrants in an area may change perceptibly each day. An absence of weekday birding results in populations, movements, or waves being missed. Conversely, should a push or grounding occur on a weekend and be witnessed by the masses, the migration as a whole may be judged exceptional. Note the comments of the editors of the Hudson-Delaware Region, and the emphasis they place on this point.

Birding is a numbers game, therefore field activity is more intensive at the peak of a migratory cycle than at the extremes. Editors are inundated with accounts of peak-period migrants, while early or late species may pass virtually unreported. For example, how do we treat those spring migrants that are moving before March 1 (herons, hawks) or after May 31 (shorebirds, flycatchers)? Do we publish these out-of-date, yet not out-of-season movements in the spring reports, or do they fall through the cracks of the winter and summer issues?

Activity is as imperfectly apportioned in space as in time. Geographical coverage is clumped and discontinuous. Migrant birders are as lured to the traps as are migrant birds, whether it's an oak motte in Texas, a chenier in Louisiana, or an oasis in Death Valley. As a result, extensive lands remain untouched, lying fallow until some enterprising pioneer tires of the crowd and strikes out into unbirded territory. Consider this point—*most of the land in North America is never birded.* Lasley and Sexton found that "increased coverage in observer-sparse regions provided documentation (even rediscovery) of poorly-known distribution patterns" in Texas. Armistead noted that "a much-needed increase in Piedmont reporting has taken place" now that Bob Ringle has moved to Carroll, Maryland. Lehman confirmed that "the Carson Lake/Stillwater area does contain some mind-boggling concentrations of birds," rivaling *better-known* areas such as Malheur, Bear River, or Cheyenne Bottoms. Researchers in these states will no doubt be forced in the future to reassess concepts of bird distribution and abundance due to this simple reapportionment of labor rather than resource.

Coverage may be as spotty in one's "own backyard" as it is on a continental scale. Have you ever wondered how an outside birder can come onto your "turf" and begin seeing a species that you had heretofore missed? Have you noticed that these birds are often found at spots that you had never covered? A great advantage of birding a region "blind" is not knowing where to bird, and being forced to rely instead upon base senses and instincts.

Birds are manipulated in space through artificial means. Birders have developed an array of techniques for attracting birds, from crude "pishing" and squeaking to the playing of recordings of the bird's own songs and calls. A silent birder will observe a significantly different set of birds than one whistling an owl call, for example, even though the two may walk the same transect. My personal experience, particularly with the use of tape recordings in the tropics, is that the impact of these tools upon what is ultimately seen is profound. Yet I seriously doubt that regional editors are informed as to whether or not the data they receive are gathered with the use of these types of aids.

Philopatry and habitat preference are characteristics of birds and birders alike. In coastal regions the littoral zone, with a greater diversity of species, attracts more attention than adjacent inland sites. "Hotspots" receive exaggerated coverage, particularly when vagrants or rarities are present; in this sense the "Patagonia Picnic Table Effect" is a simple redistribution of birdwatching labor. Aerial migrants, such as swifts and swallows, are rarely surveyed accurately. The open spaces where their broad-scale movements are most visible, such as coastal prairies or broad river deltas,

hold little appeal for birders who are busy watching warblers in the woods or waders on the sand flats. Hawks are intensively censused only at sites where they concentrate. And what about inaccessible habitats? What can be said about the distribution and relative abundance of the Rallidae in most regions (look at LeGrand's comment on the Black Rail in South Carolina)? Or pelagics? Or desert species? Or arctic species? Or alpine species?

Habitat preference and site specificity influence the distribution of both resident and migrant birds. Observers might diversify habitat coverage, and develop a sensitivity to the partialities of the species in their area. Consider these examples. The Prairie Warbler, a fairly common fall migrant on the upper Texas coast, is almost exclusively associated with coastal salt cedar groves. A birder who is unaware of this association can easily go several seasons without seeing a single Prairie Warbler, and conclude that the species is an extremely rare upper Texas coast migrant. During the April 30 grounding of passerines along Bolivar Peninsula, we observed thousands of migrants packed in the scrub and grasses that line the coastal highway. The flocks in the scrub were comprised of a significantly different migrant constituency than those we had observed in the woods in the early morning. An observer who had limited his activity to the major migrant traps at High Island (as many did) went home with a different view of the grounding than did one who had expanded his habitat coverage. Yet we all experienced the same event.

A bird's habits and behavior contribute to the likelihood of its being detected. In a woodland, for example, terrestrial and understory species are reported more frequently than canopy feeders. Exposed or conspicuous species attract more attention than concealed or secretive types. How precisely, then, can we describe the seasonal movements of Swainson's Warblers based upon our infrequent observations of migrating individuals? Birds that congregate in flocks are more noticeable than those that are solitary. Vocal species are reported more often than those that are silent. Which is more likely to be detected—a singing Carolina Wren or a silent Winter Wren? Resource-focused species, such as Rose-breasted Grosbeak, Scarlet Tanager, and Indigo Bunting ("the mulberry birds"), are popular entertainment for birders, so their food sources receive magnified coverage.

The more obvious the bird, the greater the odds of its being seen. A bird's conspicuousness is in part a function of physical appearance and structure. Naturally, large birds are easier to detect than small birds. On the upper Texas coast in winter, Lapland Longspurs outnumber (in absolute terms) American White Pelicans by ten to one, but guess which is reported more frequently? In scanning a large flock of mixed shorebirds, do you survey from top to bottom, such as Hudsonian Godwits down to Least Sandpipers? If so, which vagrant would you be more likely to notice—a Barred-tailed Godwit or a Long-toed Stint? Which would you count most accurately—the godwits or the peeps? Another example—brightly plumaged birds are more perceptible than drab or cryptic species. What if the Bar-tailed Godwit above was in alternate plumage? Yet another example—white-morph Snow Geese are relatively easy to census, for their light plumage contrasts well with a dark substrate. However, blue-morphs look like dark spaces between light birds and are therefore under-reported. Yet if the flock is on snow, the reverse is true!

Ease of identification increases the probability of a species being reported. The more apparent the identity of a bird, the greater the chance that the bird will be recognized and recorded. This bias is most profound among those species that are difficult to identify, such as immature hawks, peeps, Empidonax flycatchers, female orioles, etc. The Ari-

zona editors' remark concerning the Semipalmated Sandpiper illustrates this point well "Arizona birders have only recently begun to determine the true status of this species." The implication is that, as the keys to identifying this species are better known, the number of sightings reported will increase proportionately. Imhof noted that "as Pacific Loons become easier to identify, we are beginning to find that they are possibly regular in the Region," and that "10 reports of Baird's Sandpiper indicate that many birders are taking long, hard looks at shorebirds." None of us would criticize the progress that is being made in field identification. Yet will future researchers be able to separate a species with an authentic shift or variation in population from one whose increased reporting is due solely to advances in identification techniques?

Birders are not immune to the whims of fashion. Have you noticed how certain species become "popular" when a field guide or bird magazine provides new identification techniques, or the American Ornithologists' Union creates two species where before there was only one? What impact has *Shorebirds: An Identification Guide to the Waders of the World*, had on the types and quantities of waders being reported to the regional editors? How have Whitney and Kaufman's Empidonax articles in *Birding* affected the reports of this genus? What about the split of Western Grebe? The two morphs were always identifiable in the field, but Clark's went virtually unreported in many areas before attaining species status; i.e., began to "count." Shorebirds are in (they have received good press). Other "in" species? Try Arctic/Pacific Loon, Tundra/Bewick's/Trumpeter/Mute Swans, *dominica* vs *fulva* in Golden-Plover (guide book effect), *hendersonii* vs *griseus* in Short-billed Dowitcher (same book), Eurasian Collared-Dove vs Ringed Turtle-Dove (about as interesting as escaped parrots, yet demonstrating the effect of a well-written article), any sapsucker (splits), Empidonax flycatchers (particularly Western, since its split is pending), the subspecies of Cave Swallow. . .

The most pervasive and influential of all the biases is choice. For we see only what we want to see, and we report only what we want to report. Preference profoundly affects what is passed on to the regional editors, and what eventually works its way onto the pages of *American Birds*. As a rule, the rare are emphasized at the expense of the commonplace. For example, while in the Rio Grande Valley to see the Crane Hawk, did you count the Loggerhead Shrikes on the telephone lines? Did you forward your sightings of Red-tailed Hawks, Ruby-crowned Kinglets, or Orange-crowned Warblers to Lasley and Sexton, or did you cull the "trash" and coffer up only the "good birds." How did a Crane Hawk become a better bird than a Red-shouldered, or a Blue Bunting better than an Indigo, or a Crimson-collared Grosbeak better than a Black-headed?

When It Rains, It Pours

Now, with eyes opened, thoughts cleared, and minds bogged, let's sift through these trailings and see what gold lies within. A major grounding along the Texas coast, an arrested wave of waterbirds in Arizona, a westward drift of Old World waders into Newfoundland, an incursion of Caribbean specialties into Florida, a spectacular fall-out in the Dry Tortugas—such stuff birding legends are made of. A quick note of caution, however. The following review of events and personages will concentrate on the commonplace at the expense of the unusual. Therefore, for those of you whose interest is limited to the "rare birds," I suggest a leap ahead to the various regional reports. The respective regional editors are infinitely more capable of illuminating

the dark recesses of rarity than I am, so into their talented hands I will refer you

Bagg (1950) defined the "arrested wave" as a migratory movement checked by adverse weather, and an "onrushing wave" as one impelled forward by favorable conditions. Consistent high pressure, southerly following winds, and mild temperatures in the eastern United States contributed to a uneventful passerine migration. Few onrushing waves developed, and as a result many observers in the Northeast termed the season dull. Blair Nikula, on Cape Cod, went so far as to characterize the season as "the worst spring I have ever suffered through."

Wave-arresting weather conditions, however, developed along the Gulf from the end of April through the first few days of May. The groundings along the upper Texas coast and on the Dry Tortugas were especially significant. I do acknowledge the inherent weaknesses in grounded migrant data, particularly the dependency of volume on the proximate weather conditions. Yet I value the insight such an event gives us into the composition and dynamics of migratory flights. Assuming that weather conditions effect each species and individual equally (which is unlikely), a grounding represents a cross-section of migration that has been fixed by weather in place and time.

My friend and birding compadre for the past 15 years, Jim Morgan, set the stage for the Texas grounding:

As has been the case through much of this decade, April 1988 had no significant rainfall; that is until April 29, when the skies broke loose and dropped as much as 5 inches of rain along parts of the upper Texas coast. Rain continued in lighter amounts overnight, ending during the early morning hours of April 30. Total rainfall on Galveston Island during this 24-hour period amounted to 7 inches in some locations. This heavy storm was caused by the interaction between a warm front moving off the Gulf of Mexico and an upper level low pressure cell moving in from the west. This system was quickly followed by a line, or trough, of low pressure from the northwest that developed into a cold front as it passed through central Texas and off the upper Texas coast early on April 30.

Morgan has described the classic conditions for a Gulf Coast grounding. The warm front moving onshore, with the attendant strong southeasterly (following) winds, created the proximate weather conditions over the Gulf and Yucatan Peninsula that are requisite for an onrushing wave. These onrushing migrants, however, were met in Texas by rainfall associated with the upper level low moving in from the west, and opposing north winds associated with the cold front that developed April 30. The results were predictable. As has been the case many times over the past 15 years, I was fortunate enough to witness this spectacle.

By dawn April 30, every twig, branch, and sliver of vegetation along the upper Texas coast played host to a passerine (or two, or three. . . .) Flock after flock plummeted out of the leaden sky, each bird making a beeline for the nearest bush or shrub. Two observers on the Bolivar beach counted mixed flocks flying in low off of the Gulf that morning at a rate of 100 birds per minute. Migrants were still arriving at the same pace when the observers finally left for High Island one hour later.

Migrants were not packaged in neat flocks; they swarmed the coast like locusts. Swell after swell of orioles, buntings, grosbeaks, thrushes, and warblers broke like an avian tidal wave upon the upper Texas coast. As cars whizzed pass on Highway 87, clouds of migrants would erupt in kaleidoscopic cartwheels from the brush along the shoulder. Then, just as quickly, each particle of this fragmented rainbow

would settle back into the grass to continue the feeding frenzy. For car after car, truck after truck, eruption after eruption, this amazing cycle continued. The spectacle of April 30 was bare, exposed, glaring, and unmistakable.

And predictable. For any birder with basic knowledge of meteorology, and access to a television or newspaper, could have seen this grounding coming. It escapes me how a perfectly sane human being that would fly at a moment's notice to God-knows-where to see one vagrant that is a "trash bird" somewhere else in the world, would never dream of traveling a comparable distance to witness one of the remarkable phenomena of nature—a grounding of tens of thousands of migrants along the Gulf. For detailed totals of the Texas grounding, see the Texas regional report. Otherwise, on to the Dry Tortugas.

Greg Lasley, and participants in a VENT expedition, arrived at Ft. Jefferson April 30. Lasley writes,

On April 30 at Ft. Jefferson it was sunny and hot. Very little passerine movement was apparent. My notes written that evening indicate I had the following totals: Yellow-billed Cuckoo (2), Wood Thrush (1), Gray Catbird (1), Northern Mockingbird (1), Tennessee Warbler (1), Yellow Warbler (1), Magnolia Warbler (1), Palm Warbler (1), Prairie Warbler (4), Blackpoll Warbler (3), Black-and-white Warbler (3), American Redstart (5), and Indigo Bunting (10).

Make note of the total of migrants—13 species, 33 individuals (I have excluded the Northern Mockingbird). Lasley continues:

At 12:30 a.m. on May 1 a powerful thunderstorm began over Ft. Jefferson. It rained hard most of the night, ending about dawn. From about 7:45 until 10:00 a.m. I was inside Ft. Jefferson with 20 birders on the tour. The following birds are my personal totals from inside the Fort during that time period. Certainly similar or greater numbers were encountered by other folks outside the Fort: Yellow-billed Cuckoo (25), Eastern Wood-Pewee (15), Eastern Kingbird (10), Barn Swallow (50), Veery (25), Gray-cheeked Thrush (5), Gray Catbird (40), Cedar Waxwing (30), Red-eyed Vireo (5), Blue-winged Warbler (1), Tennessee Warbler (20), Yellow Warbler (25), Magnolia Warbler (10), Cape May Warbler (5), Black-throated Green Warbler (2), Prairie Warbler (5), Palm Warbler (15), Bay-breasted Warbler (5), Blackpoll Warbler (15), Cerulean Warbler (1), Black-and-white Warbler (5), American Redstart (20), Ovenbird (20), Northern Waterthrush (5), Kentucky Warbler (2), Common Yellowthroat (25), Hooded Warbler (5), Wilson's Warbler (1), Summer Tanager (8), Scarlet Tanager (5), Rose-breasted Grosbeak (15), Blue Grosbeak (5), Indigo Bunting (50), Painted Bunting (3), Dickcissel (50, and Orchard Oriole (5).

Post-weather migrant totals—36 species, 488 individuals

Here we had the same identical cause-and-effect drama (weather and birds) played out at opposite ends of the Gulf of Mexico within a two-day span. But what about in between? I chased clouds of migrants April 30 to Sabine Pass (on the Texas/Louisiana border,) so surely the Cameron Parish birders witnessed the same weekend grounding. A search for reports of grounded vireos or warblers in the Central Southern Region, however, yielded only two April 30/May 1 references—one Cape May Warbler at Cameron May 1, and a Pine Warbler there April 30. Beyond these, nothing Florida contributors mentioned a major grounding at Ft. Lauderdale and Birch State Park April 27, yet that is a bit early for the event in question. However, J. Hallett reported good numbers from the Dry Tortugas May 2, no doubt the residual from the day before. In addition, Common Yellowthroats were on the ground by the "uncountable hundreds"

May 1 at Cape Florida. So while I found the April 30/May 1 fall-out widespread and well-reported in both southern Florida and along the upper Texas coast, the Gulf Coast between either experienced no such event, or failed to report it.

Richardson (1978) stated that "crosswinds reduce the favourability of travelling conditions. Crosswinds drift some birds off their normal migration routes, and reduce the ground speeds of those that compensate for drift; no bird can maintain its preferred track when crosswinds become sufficiently strong (Emlen 1975, Alerstam 1976)." From April 11-15, 1988, gale force northeastern crosswinds blew "direct from Iceland to Newfoundland." The result—the "biggest invasion of Eurasian birds to eastern North America since the 1927 Northern Lapwing" incursion. Greater Golden-Plovers "flooded" Newfoundland. At least 350 Greater Golden-Plovers were observed at more than twenty locations in Labrador, Newfoundland, and St. Pierre at Miquelon between April 13 and May 22. The plovers were in breeding plumage, and of the Iceland race *Pluvialis apricaria altifrons*. Also likely to be associated with this movement were 500 Northern Fulmars off Newfoundland April 15, an origin-questionable "Bewick's" Swan in Labrador May 17 and 18, large numbers of seaducks of Maine and Rhode Island April 15, a Black-tailed Godwit at Grand Barachois from late April to May, a Ruff at Kilbride April 26, and both Eurasian Wigeons and "Eurasian" Green-winged Teal. Also, the Quebec Region possibly participated in this east-to-west drift, but the failure of observers to consider the Old World possibilities left many identifications unresolved. A coot May 24 may have been Eurasian. Several suspect golden-plovers were reported without Greater being eliminated from consideration. The Whimbrel on the extremely early date of April 22 is similarly suspect.

One Person's Trash Is Another's Treasure

What do rare birds and real estate values have in common? Location, location location. Any species can be rare somewhere (even a House Sparrow makes news in Alaska.) The following vignettes are of "rare" species—rare not in location or population, but in the now-arcane sense being unique or special.

Pacific Loon

Either Pacific Loons (I am using "Pacific" as the generic name for both Pacific and Arctic Loon) shifted eastward this spring, or, to paraphrase Imhof, they are becoming easier to identify. Or both. The Appalachians presented a barrier to the eastward movement of the species, however, for all eastern states reporting the species were to the immediate west of that range. Noteworthy sightings included the Pensacola area's fourth record on June 1 (two individuals), Alabama's seventh on April 24, Tennessee's first on March 6-13, Michigan's fourth May 25, and two records from southern Ontario, where the species is rare in any season. Mississippi and Louisiana were the only two Gulf states which failed to report the species.

Double-crested Cormorant

Double-crested Cormorant continued its expansion, yet comments to that effect were limited to the East and Midwest. West Coast states ignored the species, so I assume that observers there experienced a "normal" spring. Jerry McWilliams, from Presque Isle State Park, captures the feelings of eastern observers when he wrote that Double-crested Cormorants were "far too numerous to list individual sightings." Virginia recorded the most significant single concentration, with 4,000 feeding with 2,100 Northern Gannets

at the Chesapeake Bay Tunnel and Bridge March 12. Florida, North Carolina, and Mississippi experienced increased numbers in migratory flocks. Peripherals were reported from the Bahamas, west Texas (record numbers at El Paso and Hudspeth), New Mexico, and northeast Arizona. Observers in the Middlewestern Prairie Region noticed a migratory peak between April 16-20. Nevertheless, a few individuals moved considerably earlier, and the five in Thunder Bay April 5 set an early arrival date. The growth of the Young Island colony in Vermont is reflective of regional trends; 555 nests were active this spring.

The Double-crested Cormorant is increasing in East Texas as a wintering species, I believe, because of the construction of numerous artificial reservoirs for recreation and water supply. These inland lakes are rarely cleared of timber before impoundment, and the combination of snags for perching and abundant prey (fish stocking programs) provides ideal wintering habitat for cormorants. Perhaps we are seeing a similar correlation between water projects and Double-crested Cormorant numbers in other southeastern states

Glossy Ibis

Sightings of Glossy Ibises are inching west as more observers become competent in identifying *Plegadis ibis*. The spring of 1988 furnished solid evidence that the Glossy wanders along the Gulf Coast as far west as Texas. Six individuals were reported from 4 locations along the upper Texas coast between March 12 and May 20, and an additional 2 birds were recorded this spring in Cameron, Louisiana. Although Mississippi and Alabama made no special note of the species (I assume because they are commonplace there), the 25 at St. Marks NWR is the highest count ever for north-west Florida. The Glossy Ibis in Greeley from May 24-25 will be the first record for Colorado if accepted by the state bird record committee. The species also ventured north into Quebec, where possibly the same flock of nine appeared in Sainte-Julie April 14 and on Berthier Island April 21-28. A final note—I title this an east-to-west expansion with reservation. The recent rash of sightings in Mexico (Bob Behrstock *pers. comm.*) hints at the possibility of a south-to-north movement.

Cooper's Hawk

Few editors mentioned this accipiter, and no major movements were noted. Nevertheless, the news for this Blue-Listed hawk could be termed "marginally encouraging." The Hudson-Delaware experienced increased nesting in New Jersey, with nests found in Cumberland, Monmouth, and Sussex; several others were suspected. No similar increases were noticed in Pennsylvania and New York. A Cooper's Hawk nested at Sherbrooke, Quebec, in May. The species was reported from all Middlewestern Prairie states except Iowa; the maximum, 18, passed along west Lake Erie March 23. The species again nested as far south as northern Florida.

The physical similarity between Cooper's and Sharp-shinned hawks leads to widespread identification problems, and, I suspect, massive reporting errors for both species. Hawk watching is a sophisticated form of censusing as practiced at sites such as Hawk Mountain. Unfortunately, only a fraction of the continental raptor population passes over these fixed locations and is tallied. The majority of migrating hawks are either completely missed, or are seen by birders only marginally interested in taking the time to make an accurate identification or to record details of their movements. Where do all of the "accipiter species" go?

Piping Plover

The Piping Plover, an endangered/threatened species, continued its ominous decline this season. Information, how-

ever, was typically sketchy and incomplete. This plover is a one-shot migrant, with the bulk of the population passing between breeding and wintering sites without en route staging. Therefore reports during migration from the states between the Gulf Coast wintering beaches and the northern breeding grounds are scarce. This season, reports included one from the Mountain West, where a Piping stopped at Sundance, Wyoming, on May 6, presumably migrating to a western Canada breeding site. Only 20 were noted from the Southern Great Plains between April 16 and May 22, a region through which the bulk of the western segment of the breeding population must pass. The editor of the Middlewestern Prairie Region felt that "the fortunes of the Piping remained bleak," with five reports of one to three plovers from Iowa (breeders?), and only one from Indiana on May 9. The only nonwintering site record in Texas came from Hagerman NWR, where a single plover was observed May 24 (very late for a potential breeder).

A lack of information similarly obscured the picture from the breeding grounds. Pippings arrived on Montana nesting sites April 12, and two new latilong records were obtained there. The Piping in Jackson, South Dakota, on April 13 set a new early arrival date. The species continued to be scarce in the Western Great Lakes, with only five Michigan and three Wisconsin reports. Shifting our attention to the eastern segment of the population, we see that four pair nested near Hampton, Virginia, and 3 had young by mid-June. An attempt to restrict access to the Tom's Cove Hook-Fishing Pt area of Chincoteague has been met with resistance from local businesses and beach-goers. The plover filled in the "apparent hiatus between Sunset Beach and Shackelford Banks, North Carolina," with two nesting reports from the south coast of the state.

Hudsonian Godwit

The tight corridor of this Great Plains spring migrant bulged at the seams this season. Wisconsin had an "excellent movement statewide," although no details were reported. Michigan had 18 in 8 locations, well above average. Less than annual in spring in the Northeast Maritime, a Hudsonian appeared in Connecticut on May 22 and in Maine on May 24. The three at Willcox, Arizona, May 17-22 and one May 27-30 represent either the third or fourth record of the species for the state. Ontario reported an unprecedented flight, with 49 individuals this spring compared to seasonal average of only three. Southwest winds produced a sizable incursion into Iowa, with 284 in Greene May 10, 80 in Guthrie May 13, and 80 at Forney Lake May 7. Small flocks were reported from Missouri, and singles in Indiana were noteworthy. High counts included 420 on Devil's Lake, North Dakota, May 21, and 1,300 at Cheyenne Bottoms April 21.

Boreal Owl

The Boreal Owl, from the proliferation reports this spring, would appear to the uninitiated to be expanding its range. The season produced an excellent northward flight. Banders netted 164 at Whitefish Point Bird Observatory, triple the previous high total for the season. Observers' abilities to detect this species have progressed, and certainly account for the increased number of reports, particularly in the Rocky Mountains. The species is more common than previously thought in the Mountain West, with spring reports including 17 at Jackson, Wyoming, eight at Cameron Pass, Colorado, and additional individuals at Rocky Mountain National Park and Eldora. A single Boreal calling at Alma, Quebec, is "highly suggestive of local nesting." Montana notched its first nesting record—a pair at Lolo Pass. Finally, a male called April 2 near Cumbres Pass, New Mexico.

Veery/Gray-cheeked/Swainson's Thrushes

Many observers termed the spotted thrush migration poor, particularly the movements of Veery, Gray-cheeked, and Swainson's thrushes. The Prairie Provinces, Middle Atlantic, Middlewestern Prairie, and Appalachian regions noted unimpressive or nonexistent passages. LeGrand, in the Southern Atlantic Coast, stated his case most emphatically "Again this spring, the thrush migration was just a shadow of that of 5 or 10 years ago, and it is likely never to return to former numbers. Tropical deforestation appears to be the primary culprit, particularly as the Hermit Thrush, which winters north of the tropics, has not shown a decline in the Region."

Yet Swainson's were numerous at Rondeau, Ontario, May 21-22, when 350 per day were tallied. The Ontario editor credits an apparent overflight of the major thrush passage for otherwise low numbers. Peterjohn agreed with this theory of a weather-related bypass (or overpass.) He stated that the thrush migration in the Middlewestern Prairie was not impressive, and only small numbers appeared in each state "Favorable weather probably allowed most thrushes to quickly pass through (or over) the Region."

The thrushes in question are remarkably resilient fliers, and capable of protracted non-stop migratory flights (just look at the status of Veery and Gray-cheeked as migrants in Mexico.) Data collected by Gulf Coast observers at least superficially counter the idea of a decline in absolute numbers, and support the theory of overpass forwarded by the two editors above. Imhof supplied a fascinating historical comparison of thrush numbers in Alabama. Compared with spring counts conducted in Birmingham, Alabama, from 1965-77, the per-party-hour rate experienced on May 7, 1988, shows Veery up from 0.027 to 0.061, Gray-cheeked up from 0.012 to 0.053, and Swainson's 0.068 to 0.145. Single-day grounding counts along the upper Texas coast in 1987 and 1988 were the most significant of the past decade, particularly for Veery. On May 7, 1987, two observers, along a 30-mile stretch of Texas coast between High Island and Sabine Pass, tallied 905 Veery, 33 Gray-cheeked, and 410 Swainson's. On April 30, 1988, the same two observers, birding the same coastal route, recorded 135 Veery, 31 Gray-cheeked, and 325 Swainson's. Jon Dunn and Gary Rosenberg witnessed a significant wave at High Island May 4, when a passing dry front (wind shift, no precipitation) grounded 400 Swainson's Thrushes there. As Dunn stated in a letter to Greg Lasley, "This was the first time that I could literally stand on the beach and watch the Swainson's Thrushes arriving." Our concern for dwindling numbers of tropical forest species is authentic. Yet we must be careful about the quality of the data upon which we base our assumptions.

High Counts and Low Mileage

Birds still gather in immense flocks, oblivious to the fact that the natural world has been worn down to a nub. To experience one of these massings is to be transported back to a time when North America possessed a biological bounty without a conceivable limit. Many of the birds listed below nest in northern latitudes, where mankind's influence is comparatively slight. Others, such as the Chimney Swift, are able to prosper alongside man.

Common Loon (8,318 at White Point Bird Observatory, Michigan, for the season). *Grebes* (530 Red-necked April 24 in Prairie Provinces; 4,720 Western and 722 Clark's May 17-18 in Soquel Cove, Santa Cruz, California). *Procellariiformes* (239 Greater, 228 Sooty, 103 Cory's, 12 Manx and 1 Audubon's shearwaters, 450 + Wilson's Storm-Petrels May 30 out from Virginia Beach). *Blackbellied Whistling-Duck*

(1,200 in Texas April 1) *Tundra Swan* (6,500 in North Dakota the first week of April) *Trumpeter Swan* (800 on M'Clintock Bay, Yukon, April 13). *Oldsquaw* (7,000 March 24 at Swan Point, Maryland, and 6,700 in the Choptank River April 1). *Seaducks* (22,000 Black, 1,200 Surf, 100 White-winged scoters, and 6,000 Common Eiders in five hours April 15 of Petit Manan Point, Maine). *Hawks* (50,000 Broad-winged April 8 in South Texas, 1,628 Red-tailed and 1,414 Red-shouldered at Braddock Bay, New York, March 26). *Whooping Crane* (131 in Texas at beginning of season). *Baird's Sandpiper* (2,000 at Cheyenne Bottoms April 3 & 8). *Purple Sandpiper* (1,500 at Isle au Haut, Maine, March 20). *Red-necked Phalarope* (50,000 between Santa Rosa and Santa Cruz Islands May 9). *Shorebirds* (150,000 May 14 at Big Quill Lake, Saskatchewan; 830,000 of 28 species April 16-18 in the wetlands which surround San Francisco and San Pablo bays; 280,000 on Delaware Bay June 1; 12,000 in one mile of Devils Lake, North Dakota, shoreline May 21); *Bonaparte's Gull* (22,000 passing Pigeon Point, San Mateo, California, March 31). *Chimney Swift* (2,500 at Corpus Christi, Texas, April 19). *Tree Swallow* (10 to 100 million at Sabine NWR, Louisiana). *Swallows* (100,000 near Silt, Colorado, along the Colorado River, with approximately 70% Violet-green, 20% Tree, and 10% Rough-winged). *Snow Bunting* (28,000 April 26 north of Humboldt, Saskatchewan). *Rosy Finch* (5,000 forced down by a May 3 snowstorm at Evanston, Colorado).

Birds Are What They Eat

A pair of Northern Harrier dined regularly at a Common Grackle colony near Milo, Oklahoma. Laughing Gulls harrassed a Veery crossing a channel in the Dry Tortugas until it ditched and succumbed. Black-crowned Night-Herons, or "night ravens," depredated nesting waterfowl in San Mateo, devouring over 90% of the Mallard, Gadwall, and Northern Pintail chicks. Cattle Egrets tried to consume an amazing array of grounded migrants on the Dry Tortugas this spring. On the upper Texas coast flocks of Cattle Egrets fly out to near-offshore oil platforms each morning to spend the day dining upon the exhausted migrants that land there.

Econotes

- Farallon Island seabirds nested 7-10 days early, and that, combined with high ocean productivity, bade well for a productive breeding season.

- Five nesting island colonies at Malheur NWR, Oregon, contained over 1,500 American White Pelican nests. Yet the species suffered a "wipe out" at Anaho Island Refuge, Nevada, as only 50 of last year's 7,000 nesting pair successfully bred. "The refuge was strewn with many dead pelicans, underweight, apparently starved"—a disaster, I presume, that is a direct result of the drought.

- Virginia Beach residents, armed with axes, fireworks, and blank-firing guns supplied by the state agriculture department (yes, Virginians, your tax dollars at work,) bravely stormed Great Egret colonies after tiring of the "mess." Three heron colonies were bulldozed this spring in Arkansas. Herons nesting at Stillwater, Nevada, suffered a precipitous plunge in numbers as water levels continued to drop.

- As many 12 Bald Eagles were poisoned, and at least six shot, around breeding sites in Maryland. At least 10 were poisoned in Colorado, most likely by illegal bait put out for coyotes.

- Cowbird trapping appears to be aiding the Black-capped Vireo in the Wichita Mountains, Oklahoma, where over 170

adult vireos were located on territory First-year males increased from 18% to 28% of the total breeding population. This percentage of young birds is exceedingly important, inasmuch as the serious population decline in the Wild Basin colony in Austin, Texas, is probably due to poor reproduction in the recent past.

- This spring, astonished biologists discovered that the Japanese Bush-Warbler, first recorded on Moloka'i in 1979, has become the most abundant higher mountain species there. The failure of surveyers to find any Moloka'i Creepers raised the fear that the Bush-Warbler's population explosion in the creeper's prime habitat "may well have been the final blow" to the species. An Oloma'o on Moloka'i May 18 appeared at the same location where it was last seen a decade ago. Hawaiian Honeycreepers of interest in the Hanawā Natural Area Reserve on Maui (as if any are not!) were a Maui 'Akepa on March 11 and 19 (the first observed on Maui in more than a decade), and the Po'ouli (observed five times in eight observation days). The several reports of Nene with large young were encouraging, since "the loss of eggs and small goslings has been a major problem in attempts to re-establish" the bird in the wild.

Happy Trails

So we have reached the end of our jaunt through the spring season. Let me finish by offering a simple suggestion—search for ways that the data we gather, even if only an incidental product of a recreational activity, can be standardized and strengthened. For example, next spring why don't we follow Imhof's lead and attempt a comprehensive survey of migrating spotted thrushes? If the tropical rainforest destruction is affecting these species as detrimentally as some researchers have argued, then we should be able to quantify that decline over time. An pay a little more attention to the commonplace. Of course it's easy to discount an abundant species like Mallard. But the Passenger Pigeon exhibited the same abundancy during the last century, and blind indifference led to its tragic demise.

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