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To enhance understanding, observation, and enjoyment of birds.

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SILVICULTURAL OPTIONS FOR MANAGING BIRDS IN NORTHERN HARDWOODS FORESTS IN EXTENSIVELY FORESTED LANDSCAPES

by David I. King and Richard M. DeGraaf

Developing silvicultural guidelines that consider the biological, aesthetic, and commercial values of forests can be a delicate balancing act. Because forests in the United States are to some degree under public control, either through the management review process in the case of public lands, or through legislative avenues in the case of private lands, the perceptions and opinions of the public are important factors shaping approaches to forest management. It is our opinion that much of the public debate on forest management issues suffers from a lack of good information on the effect of different management practices on the biological integrity of the forest. Without this information, efforts at a constructive dialogue are hampered by personal biases and uninformed emotional reactions. Our goal in this paper is to review and summarize the results of research we have conducted on the effects of silviculture on forest birds in the White Mountains of New Hampshire in an attempt to provide the building blocks for a constructive exchange on the appropriate manner in which to manage our forests.

Definition of Terms

First, we must define the silvicultural treatments we will consider. Our terminology differs in some cases from that of a silviculturalist, primarily because the silviculturalist is interested in what will eventually regenerate on the site, whereas we are interested in the structure of the forest at the time the management activity is carried out, or for a relatively short period of time thereafter. The management practices we will consider are the following:

- clearcutting, a practice in which all trees in the treated area are removed. In some cases, scattered trees are left standing to provide a seed source. Because this method results in trees beginning to grow at the same time, it belongs to a category of silvicultural techniques referred to as "even-aged management."
- partial cutting, in which as much as three-quarters of the trees are removed ("partial cutting" corresponds to methods the silviculturalist's lexicon refers to as the initial stages of a shelterwood cut, or to single tree selection).
- group selection, a specialized form of selective cutting in which small (half-acre or so) clearcuts are dispersed throughout a stand.

We have conducted research on all of the treatments mentioned above from 1979 to the present (DeGraaf 1991, DeGraaf 1995, DeGraaf et al. 1991, 1998, King et al. 1996, 1997, 1998a, 1998b, King and DeGraaf In Press). During the

course of our studies, we were fortunate to have the benefit of numerous studies on the effect of these treatments on the distribution of different bird species (e.g., Franzreb 1977, Webb et al. 1977, Franzreb and Ohmart 1978, Titterington et al. 1979, Crawford et al. 1981, Freedman et al. 1981, DeGraaf et al. 1991, Tobalske et al. 1991, Hagan et al. 1997, Norton and Hannon 1997). In some of these studies, bird distribution was described using the point-count method (Ralph et al. 1995), in which the researcher makes 1-3 visits to each survey point and records all the species seen or heard within a prescribed radius, which yields a measure of the relative abundance of each species, but not the actual number or position of bird territories. Alternatively, some researchers use the spot-mapping method to describe bird distribution (Robbins 1979). This is a more intensive method in which a greater number of visits are made to each site (generally more than ten). At each visit, the researcher records the location of all birds seen or heard. Using this information in combination with records of counter-singing individuals, the observer can describe the number, size, and location of bird territories. This information permits an analysis of the response of birds to silvicultural treatments that is far more detailed than a description of relative abundance (which is all that is yielded by the point-count technique); for example, spot mapping allows researchers to describe the positions of bird territories relative to clearcut edges (as in King et al. 1997).

Although studies employing these bird-survey techniques have yielded important information about the effect of silvicultural practices on the distribution of birds, at the inception of our studies very little was known about the effect of these treatments on avian reproductive success. This is an important omission, because birds often occupy habitat which is too marginal to support successful breeding (Gibbs and Faaborg 1990). Although in some cases we based our evaluation of a silvicultural system on its effect on bird community composition, we used reproductive success as the standard by which the quality of habitat must ultimately be measured. To accomplish this, we located bird nests in each study area by following individuals carrying nesting material or food. Once nests were found, we monitored their success by visiting them every 3-5 days. This allowed us to calculate a nest survival rate, which could then be compared with survival rates observed in areas subjected to other silvicultural treatments. However, the actual productivity of individual pairs is the ultimate indication of the success of individual pairs, and because birds often renest after initial failure, nest success is not necessarily an accurate indication of productivity. Therefore, we also mark birds with unique combinations of colored leg-bands, which allows us to assign renesting attempts, as well as periodic attempts at polygamy, to individual pairs. This allows us to quantify and compare the net reproductive success of individual birds living in different habitats.

Clearcutting

Clearcutting is perhaps the most reviled technique in the silviculturalist's repertoire. This is largely because clearcutting is too often employed not as a silvicultural technique, which implies attention to the effect of the treatment on the health of the regenerating stand, but as a resource extraction technique, in which it is simply the most efficient way to remove the maximum amount of wood fiber from a site.

Clearcutting has a dramatic effect on the forest bird community. Nearly all bird species present at the inception of clearcutting are no longer present at its completion (Conner and Adkisson 1977, Titterington et al. 1979, Costello 1995, DeGraaf 1991, King and DeGraaf In Press). However, clearcutting represents the initial stages in the development of a bird community as ecologically important as the mature forest bird community: the early-successional shrubland bird community (DeGraaf 1991, Schulte and Neimi 1998, King and DeGraaf In Press). The species diversity of the early-successional shrubland bird community is as high as the diversity found in mature forest (DeGraaf 1991, King and DeGraaf In Press). Furthermore, a large proportion of mature-forest birds that exhibit territorial behavior (for example, singing behavior) in early successional stands (such as 5-10 year old clearcuts) actually build nests in these habitats (King et al. In Prep). These include Red-eyed Vireo (*Vireo olivaceus*), Rose-breasted Grosbeak (*Pheucticus ludovicianus*), Black-and-white Warbler (*Mniotilta varia*), American Redstart (*Setophaga ruticilla*), and Swainson's Thrush (*Catharus ustulatus*). In contrast, few early-successional shrubland bird species, such as Common Yellowthroat (*Geothlypis trichas*), Chestnut-sided Warbler (*Dendroica pensylvanica*), and Alder Flycatcher (*Empidonax alnorum*), nest in mature forest (King and DeGraaf, unpublished data). Finally, in the northeast, early-successional shrubland birds are declining at a greater rate than mature forest birds, a fact that is attributed to their relatively narrow habitat requirements and the loss of early-successional habitats due to forest maturation over the past century (Askins 1993).

We mentioned earlier that reproductive success is the gold standard of habitat quality; how do nest predation rates compare between mature forest and early-successional shrubland habitat? Nest survival (the probability of the average nest surviving to fledge at least one young) of Ovenbird nests was 50-60 percent in mature northern hardwoods forest (King et al. 1996), a figure similar to that cited for a variety of forest-nesting passerines (Martin 1992). In comparison, nest survival at our sites in 4-8 year old clearcuts of about 10 hectares (twenty-five acres) in size averaged 80 percent, and ranged as high as 100 percent (King and DeGraaf In Press). High nest survival rates in clearcuts are probably due to high levels of nest concealment (Rudnický and Hunter 1993) and low predator abundance (King et al. 1998a) in recently harvested areas.

Although clearcutting is beneficial to birds in some ways, clearcutting may negatively affect birds in adjacent forest. In one year of a two-year study, Ovenbird nests within mature forest that were 200 meters or less from clearcut borders were twice as likely to be depredated as nests farther than 200 meters from clearcut borders (King et al. 1996). Furthermore, nest predation rates on artificial nests (salvaged bird nests baited with domestic finch eggs designed to simulate actual nests) near clearcut borders were twice as likely to be depredated than nests farther away (King et al. 1998a). Although the use of artificial nests has been widely criticized (DeGraaf and Maier 1996), the use of salvaged bird nests baited with small-sized eggs may avoid many of the biases associated with egg size and nest appearance that are inherent in artificial nest studies that have employed *Coturnix* quail eggs and artificial wicker nests (King et al. 1999). Higher predation rates near clearcut borders are probably the result of the concentration of predator species near edges (King et al. 1997), a behavior that may enable them to utilize food resources within the clearcut yet also benefit from the cover provided by the mature forest. Increases in edge-related nest predation can potentially have serious consequences for mature-forest birds if the habitat becomes too fragmented (Thompson 1993). However, in heavily forested ecosystems, such as the White Mountain National Forest, where less than ten percent of the landscape is in the shrub/sapling stage (U.S. Forest Service 1986, page III-30), there is enough forest interior habitat to ensure the viability of mature-forest bird communities (DeGraaf and Angelstam 1993). Further, the species composition of mature-forest bird communities (Welsh and Healy 1993) and predation rates on artificial nests (DeGraaf 1995) do not differ between managed and unmanaged areas of the White Mountain National Forest.

Partial Cutting

The various forms of partial cutting are widely perceived as more benign forms of silviculture because the alteration of the structure of the stand is less dramatic than that resulting from clearcutting. However, this very feature of partial cutting — the fact that it results in a bird community that is intermediate between a clearcut and a mature forest (Freedman et al. 1981, Annand and Thompson 1997, King and DeGraaf In Press) — is the key to understanding its limitations in bird habitat management.

But because partial cutting creates forest conditions (basal area, canopy closure and shrub density) that are intermediate between clearcuts and mature forest (King and DeGraaf In Press), this treatment fails to provide habitat suitable for birds that are specialists of early-successional shrubland, such as the Alder Flycatcher, or mature forest, such as the Scarlet Tanager (*Piranga olivacea*) or the Brown Creeper (*Certhia americana*). Thus, partial cutting best accommodates bird species that have relatively wide habitat tolerances, and least accommodates bird species with specialized habitat requirements. As the result

of the overlap of relatively generalized early-successional shrubland and mature-forest bird species in partial-cut stands, species diversity is often greatest in these stands (King and DeGraaf In Press). However, it must be emphasized that when examined beyond the level of individual stands, species diversity is lower, because the most specialized early-successional shrubland and mature-forest birds are relatively scarce or absent from forests in which even-aged management is absent (Welsh and Healy 1993).

Group Selection

Group selection represents a special case of selective cutting in that the habitat conditions in terms of plant species composition and vegetation structure are similar to a clearcut. The primary difference is in habitat area: clearcuts on the White Mountain National Forest are by definition larger than 2-3 acres (about one hectare), whereas groupcuts are generally a fraction of an acre in size. Thus, although several early-successional shrubland bird species — such as Alder Flycatcher, White-throated Sparrow (*Zonotrichia albicollis*), and American Goldfinch (*Carduelis tristis*) — characteristic of clearcuts are less abundant or absent in groupcuts, it is because these species exhibit area sensitivity and avoid smaller habitat patches (Rudnický and Hunter 1993, Costello 1995, Annand and Thompson 1997).

Although there are differences between clearcuts and groupcuts in bird species composition, many species characteristic of clearcuts do occur in groupcuts (Costello 1995, Annand and Thompson 1997). However, it is important to know whether these birds are actually breeding successfully in clearcuts. In a three year study, we found that the nesting success of birds nesting in early-successional habitat, which included Chestnut-sided Warbler, American Redstart, Swainson's Thrush, Veery (*Catharus fuscescens*), Rose-breasted Grosbeak, Alder Flycatcher, Black-throated Blue Warbler (*Dendroica caerulescens*), Magnolia Warbler (*Dendroica magnolia*), White-throated Sparrow, Common Yellowthroat, Indigo Bunting (*Passerina cyanea*), Red-eyed Vireo, Gray Catbird (*Dumetella carolinensis*), Hermit Thrush (*Catharus guttatus*), American Goldfinch, and Cedar Waxwing (*Bombycilla cedrorum*), did not differ between clearcuts of about ten hectares (twenty-five acres) and groupcuts 0.2-0.7 hectares (about 0.5 to 1.7 acres) in size (King et al. In Prep). Furthermore, the fledging success of color-banded Chestnut-sided Warblers did not differ between clearcuts and groupcuts (King et al. In Prep).

This is good news for the subset of species that are characteristic of clearcuts but that occur in groupcuts, as well. However, groupcuts create more edge per unit area than clearcuts, and nest predation on birds nesting within forest adjacent to groupcuts is higher than in forest interior (King et al. 1998b), which could potentially compromise the viability of mature-forest birds nesting in stands managed by groupcutting (Thompson 1993). Thus, groupcutting

appears to present a similar condition to that of partial cutting: the resulting habitat conditions created are an unhappy compromise between the needs of early-successional and mature-forest birds.

In conclusion, both mature forest and early-successional habitat created by clearcutting have unique bird communities. The bird communities in stands of intermediate conditions, such as those treated with partial-cutting techniques, do not fully represent either mature-forest or early-successional bird communities as the result of the paucity of specialist species. We predict that reliance on partial-cutting techniques exclusively in the White Mountain National Forest would result in decreases of populations of mature-forest and early-successional shrubland specialist bird species. We believe that the purposes of bird conservation in forested landscapes can best be served by employing a variety of silvicultural techniques, including even-aged management.

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SELFISH GENEROSITY: COOPERATIVE BREEDING IN BIRDS

by Marta Hersek

For many East Coast birders, spring migration is the highlight of the year — the kettles of migrating raptors, the flocks of brightly-colored warblers passing through, and the occasional lost bird can all be added to our lists. But for those who really enjoy nature-watching, it's what follows that's most exciting; the long spring and summer days are spent watching birds set up territories and settle down for the breeding season. While mating behavior can be endlessly fascinating (Hersek 1997), it's the fruition of all that frantic activity that is really satisfying. Whether you watch a kingbird nest in the backyard, or Ovenbirds nesting in a forest, the drama is never-ending. By carefully observing songbirds, you will see one or both of the birds in each pair build the nest and one or both incubate the eggs; finally, the eggs hatch and nestlings are cared for. You will see that the young are altricial; that is, they hatch at a fairly early developmental stage, blind, mostly naked, and almost completely helpless. They require continual care from the parents for some days: they must be kept warm, since they cannot thermoregulate for the first few days after hatching; they must be fed; and they must be protected from predators.

For most songbirds in New England, this is the typical pattern, with both parents caring for the nestlings and, later, fledglings. There are, however, other systems of breeding and raising young. For example, Red-winged Blackbirds are polygynous; males have multiple mates and nests, so they do not provide care for all of their nestlings. Waterfowl nestlings are precocial (fairly advanced developmentally, and able to walk, thermoregulate, and feed themselves immediately), and often are protected mainly by the female. The system which is the focus of this essay, cooperative breeding, has yet a different twist to it. Cooperative breeding is generally defined as a breeding system in which one or more members of a social group (often referred to as "helpers-at-the-nest") care for offspring that are not their own, but there is great variation with respect to the particulars (Stacey and Koenig 1990). In species like the Florida Scrub-Jay (*Aphelocoma coerulescens*), the social group consists of a monogamous breeding pair plus their mature young from previous years. All group members take part in territory defense and protecting and feeding nestlings (Woolfenden and Fitzpatrick 1990). A more complex system is found in White-fronted Bee-eaters (*Merops bullockoides*). Bee-eaters nest in colonies of 50-300 birds, and each colony consists of smaller extended-family groups called clans. Within each clan there are a number of nesting pairs, each assisted by helpers (Emlen 1990). Finally, Acorn Woodpeckers (*Melanerpes formicivorus*) have a system in which the breeding is not done by one monogamous pair. In this species, groups consist of one to four breeding males, one or two breeding females, and up to

eight helpers, who are usually mature offspring from previous years (Koenig and Stacey 1990). There are no obvious pair bonds between individuals, and all breeding females lay in a communal nest. All group members care for the young, as well as take part in defending the territory and storing food. Overall, these cooperative breeding systems are fairly rare. This type of system is currently known to occur in about 220 species of birds.

The reason that cooperative breeding systems are so interesting to biologists, however, is not just that they are rare. The question that puzzles us is, "Why would an individual spend time and energy raising the offspring of another bird, instead of raising its own?" Because we work with the understanding that behaviors like parental care have evolved via the process of natural selection, we assume that a bird's behavior benefits that bird in some way. That is, behaviors evolve which further an individual's survival and/or reproductive success.

In fact there is new evidence that helping behavior by nonbreeding birds has indeed specifically evolved and is not just the result of an adult happening to be around when nestlings are begging, and therefore being stimulated to provide food. Brown and Vleck (1998) looked at two closely related species, the Mexican Jay (*Aphelocoma ultramarina*) and the Western Scrub-Jay (*A. californica*). Mexican Jays have helpers-at-the-nest, while the scrub-jays do not. They found that the hormone prolactin, which is important in stimulating parental behavior, was found at higher levels in the cooperatively breeding Mexican Jay than in the Western Scrub-Jay. Furthermore, the hormone begins to peak in the adults (including the helpers) even before the young of the year hatch. This suggests that the birds have evolved in such a way that they are prepared to care for young, even if they have not been involved in mating or egg-laying, and even if the young are not their own.

We can restate our question, then, and ask, "How does an individual benefit by caring for the offspring of others?" This puzzle is best understood by looking at its two parts. First, why the birds delay their own reproduction, and second, why, even if they don't breed, they assist others.

Delaying Reproduction

In some cases, delaying reproduction simply results from the inability to find a mate. For example, the adult sex ratio is highly male-biased in Pied Kingfishers (*Ceryle rudis*), and first-year males are often unable to breed (Reyer 1987). However, the most common reason that young birds stay in their natal territories and help their parents, rather than breeding on their own, is that they are constrained by a shortage of suitable breeding sites. If breeding is dependent upon having a territory with particular features, as is often the case for birds, and if such territories are not available, then a young bird might best stay in its natal territory and wait for an opening. Although it is difficult to test this hypothesis

because it is usually hard for us to determine exactly what constitutes suitable habitat, a convincing case has been made for a number of species. For example, Acorn Woodpeckers are cooperative breeders that also communally store and defend large food stores, called mast. Mast is comprised mainly of acorns, and it is stored in special mast trees that have had many holes pecked into them over years; single individuals are unable to store and defend mast (Koenig and Stacey 1990). This stored food is critical to winter survival and subsequent spring reproduction in much of the species' range, and it is aggressively defended from all who would steal it — including other Acorn Woodpeckers. In these birds, then, survival and reproduction depends upon being part of a group that has a territory and a dependable stored food source. Youngsters that stay in their group's territory apparently monitor nearby groups to watch for a breeding position to open, while remaining relatively safe at home. This is especially important because immigrating to a new territory and social group can be dangerous — entering new areas, often having to fight one's way into a group, and living in marginal habitat in the meantime can all lower a bird's chances of survival.

Assisting Others

Once we understand why young birds may not be able to breed during a particular year, the next question we can ask is why they should assist others. That is, if a young bird stays on its natal territory in order to wait for appropriate breeding positions or territories, why would it spend energy taking care of nestlings that don't belong to it? It may be that the extra birds are "obligated" to help, in order to stay on the territory. This would require the breeders to distinguish between birds that are and are not helping, and to expel the latter from the area. Such aggression toward auxiliary birds has not been observed. In some cases, helping may make it more likely that the individual inherits the breeding territory or position. For example, some young male Pied Kingfishers help unrelated pairs in one year, and return to breed with the female in the next (Reyer 1987). It may be that auxiliary birds are building alliances with others, so that they can emigrate together, when the time is right. In general, however, researchers have focused on two main hypotheses for why nonbreeders help. First, helpers may gain some direct benefit in terms of experience, which later makes them more successful in caring for their own offspring. Second, in accordance with the idea of natural selection, they may actually be passing on their own genes by assisting their parents, by a process called kin selection.

Experience

If birds gain some valuable experience by assisting their parents, then it would make sense to expend the energy to do so while still on the natal territory. There is some evidence that inexperienced birds can learn from helping. For

example, adult Long-tailed Tits (*Aegithalos caudatus*) perform helping duties if their own nest fails. Hatchwell et al. (1999) found that nest failure was very high, largely due to predation, and that nests built lower to the ground were more likely to succeed than higher nests. Interestingly, they found that birds that had helped at a successful nest were subsequently more likely to place their own nest lower to the ground, suggesting that they had learned about nest placement by helping a successful pair.

Kin Selection

In 1964, W.D. Hamilton gave us one way to think about behavior that appears to decrease an individual's own reproduction (Hamilton 1964). He recognized that an individual's genetic contribution to future generations can come about in two ways. Most obviously, individuals can pass on their genes through their own descendent kin. But individuals are also genetically related to others – such as their siblings, with whom they share an average of 50 percent of their genes. So if individuals help raise siblings, they are, in effect, passing on their own genes. In cooperative breeding systems, the auxiliary or helper individuals are usually offspring of the breeders, so they are in fact helping to raise nondescendent kin that share their genes. In evolutionary terms, this is as good as passing on your own genes directly. The question of how helpers benefit from their behavior, then, comes down to whether they increase the number of their parents' offspring over what their parents could raise alone — that is, if helpers are gaining some extra genetic benefit from helping. In a number of cases we see that helpers do increase the number of young that breeders raise. For example, a study of White-throated Magpie-jays (*Calocitta formosa*) found that breeding pairs with more helpers were able to reneest more frequently, and therefore raise more young, than breeding pairs with fewer helpers (Langen and Vehrencamp 1999). White-fronted Bee-eaters (Emlen 1990), and Galapagos Mockingbirds (*Nesomimus parvulus*; Curry and Grant 1990) both raise more offspring with more helpers.

One final example will make clear just how many factors affect the outcome for helpers. In Pied Kingfishers, a young male that cannot find a mate during his first year as an adult has a number of options (Reyer 1987). Some males become “primary helpers” to their parents. Others help unrelated pairs as “secondary helpers,” and still others do not help any nesting pairs. The primary helper works the hardest at his helping duties, and this is reflected in a much lower rate of survival into the next year. Furthermore, primary helpers that survive are less likely to find a mate than secondary helpers, who often mate with the female they helped the previous year. So primary helpers assist their parents at the cost of their ability to reproduce on their own in the future. Calculations of the number of young raised in nests with primary helpers (which, remember, are siblings of the helper) show that these males greatly

increase the reproductive success of the parents. Further calculations of the overall genetic contributions of primary and secondary helpers demonstrate that, even with the lowered chances of future reproduction, males that become primary helpers generally have higher success at passing on their genes than other males (Reyer 1987).

Often we see things that do not make sense to us because we're thinking in terms of our own behavior, or in terms of preconceived ideas about how things work. Cooperative breeding systems fell into this category for some years. As is so often the case, careful observation and experimentation have helped us begin to make sense of a system that was at first quite puzzling. In fact, in this case it was really Hamilton's theoretical insight that opened new avenues of thought and allowed us to better understand complex behavior patterns.

Although we have no truly cooperatively breeding birds in New England, we do see interesting examples of helping behavior. For example, House Sparrows (*Passer domesticus*) are frequently observed feeding or otherwise caring for chicks that are not their own (Skutch 1999; Hudson, this issue). These examples are not considered to be cooperative breeding because the birds do not regularly form cohesive social groups, but we can consider them as part of a continuum of possibilities. Why is it that we see certain systems in particular geographic regions, and not in others? Why are cooperative systems more common in the southern and western United States, and in the tropics? Scientists have some thoughts on this matter, which could fill many more pages. For now, next time your travels take you to the far reaches of our country, or into the tropics, spend a little time really watching the birds that you find, and you might be rewarded with some surprises — some behaviors that don't fit your preconceived ideas about how animals "should" behave.

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INTERSPECIFIC HELPING BEHAVIOR: HOUSE SPARROWS AT BALTIMORE ORIOLE AND EASTERN KINGBIRD NESTS

by Kenneth Hudson

During the summer of 1999, I observed several instances of interspecific helping behavior involving House Sparrows (*Passer domesticus*). On June 22, 1999, at 11:20 a.m., I was checking up on a Baltimore Oriole (*Icterus galbula*) nest in the Boston Public Garden. This was the second year in a row that a pair of orioles bred there, building their nest in a weeping willow at the edge of the lagoon both times. On this occasion I was very surprised to see a female House Sparrow apparently feeding the nestlings. At least six times while I watched, the sparrow came to the oriole nest carrying something (presumably food) in her beak. Each time she entered the nest head-first, upon which the characteristic loud begging calls of oriole nestlings could be heard. Then she would emerge empty-beaked, fly off, and return a couple of minutes later to repeat the performance.

Reluctant at first to credit the evidence of my own eyes, I tried to explain away the sparrow's strange behavior. I reasoned that the orioles must have already fledged, and the nest had been taken over by a pair of House Sparrows. But then the female oriole put in an appearance, entering the nest to feed the young birds. Also, the frantic calls coming from inside the nest were not being made by House Sparrows. Still grasping for an explanation, I speculated that two different species were simultaneously raising their broods in one nest. Upon reflection, I decided that Occam's Razor should be invoked: among two or more possible explanations for one set of observations, the simplest explanation is probably the correct one. In this case, the simplest explanation was that a House Sparrow was sharing the task of feeding a brood of young orioles.

At 2:50 p.m., I returned to watch the nest. Again, I saw the House Sparrow make several visits to the nest. The female oriole also came to the nest, but less frequently than the sparrow. At no time did I see them together. The male oriole could be heard singing not far away, but I did not see him in the willow.

Just after 5:30 p.m. I found a stubby-tailed young oriole perched a few centimeters directly above the nest. The pointed bill and orange tinge left no doubt that it was an oriole, not a sparrow. Seeming to ignore the just-fledged bird, the House Sparrow continued to feed the remaining occupants of the nest.

The next morning at 6:10 a.m., I saw the House Sparrow feed the newly-fledged oriole. She did this twice while I watched. She also entered the nest to feed the remaining nestlings. I saw the male oriole flying overhead, but he did not come near the nest. On subsequent visits to the Public Garden, I did not see any orioles, nor did I hear vocalizations from the nest, but I did hear adult and

young orioles vocalizing nearby. I cannot say if the House Sparrow continued to play any role in the care or feeding of the young orioles.

Coincidentally, in July I observed behavior suggesting that House Sparrows were attempting to feed Eastern Kingbird (*Tyrannus tyrannus*) chicks nearby. On July 3, I confirmed that the Public Garden's resident Eastern Kingbirds were nesting for the fourth consecutive year. Within fifteen minutes of discovering the nest, I saw a female House Sparrow try to approach it. She did this six times, five times from below, and once from the side. When coming up from below the nest she got to within 45 centimeters before one of the kingbirds drove her away. She got a bit closer to the nest when approaching from the side, coming to within about 20 centimeters. But again, one of the kingbirds shooed her away. I could not see what, if anything, the nest contained. For almost two weeks after this date I did not notice any unusual activity involving House Sparrows near the kingbird nest.

On July 15 at the Charles River Esplanade, about a half-mile from the Public Garden, I heard kingbirds calling. I spotted three recently-fledged birds in a locust tree. All had stubby tails but seemed able to fly reasonably well for short distances. Almost immediately I also noticed a female House Sparrow. This bird was perched on the same twig as one of the kingbirds, and was close enough to touch it. The young kingbird turned its head toward the House Sparrow, opened its beak, and fluttered its wings. The House Sparrow then turned its own head to face the kingbird. Due to distance and the positions of the birds, I was not able to tell if the House Sparrow actually fed the kingbird. After two or three minutes, during which the sparrow stayed close to the young kingbird, an adult kingbird alighted within a few centimeters of them. The House Sparrow immediately flew off. The adult kingbird did not chase it, but devoted its entire attention to feeding the fledgling. The House Sparrow soon joined two other House Sparrows, and eventually they departed together.

On July 17, back at the Public Garden, I saw an adult kingbird perched one-half meter above its nest. On the same twig as the kingbird and about 30 centimeters from it was a female House Sparrow. The two maintained their respective positions for one minute. Five minutes later I glimpsed an adult kingbird on the nest. By now the House Sparrow had descended to a perch level with the nest, about 15 centimeters from it. The two birds were facing one another, but gave no indication of reacting to each other. After 30 seconds the sparrow flew away.

In a book titled *Helpers at Birds' Nests*, Alexander Skutch (1999) refers to House Sparrows feeding a variety of other species, including Eastern Kingbirds, but he doesn't mention orioles. House Sparrows apparently frequently help conspecific pairs as well as members of other species, but they are not considered to be truly cooperative breeders (see Hersek, this issue). Skutch suggests that this behavior often results from the strong innate urge to feed

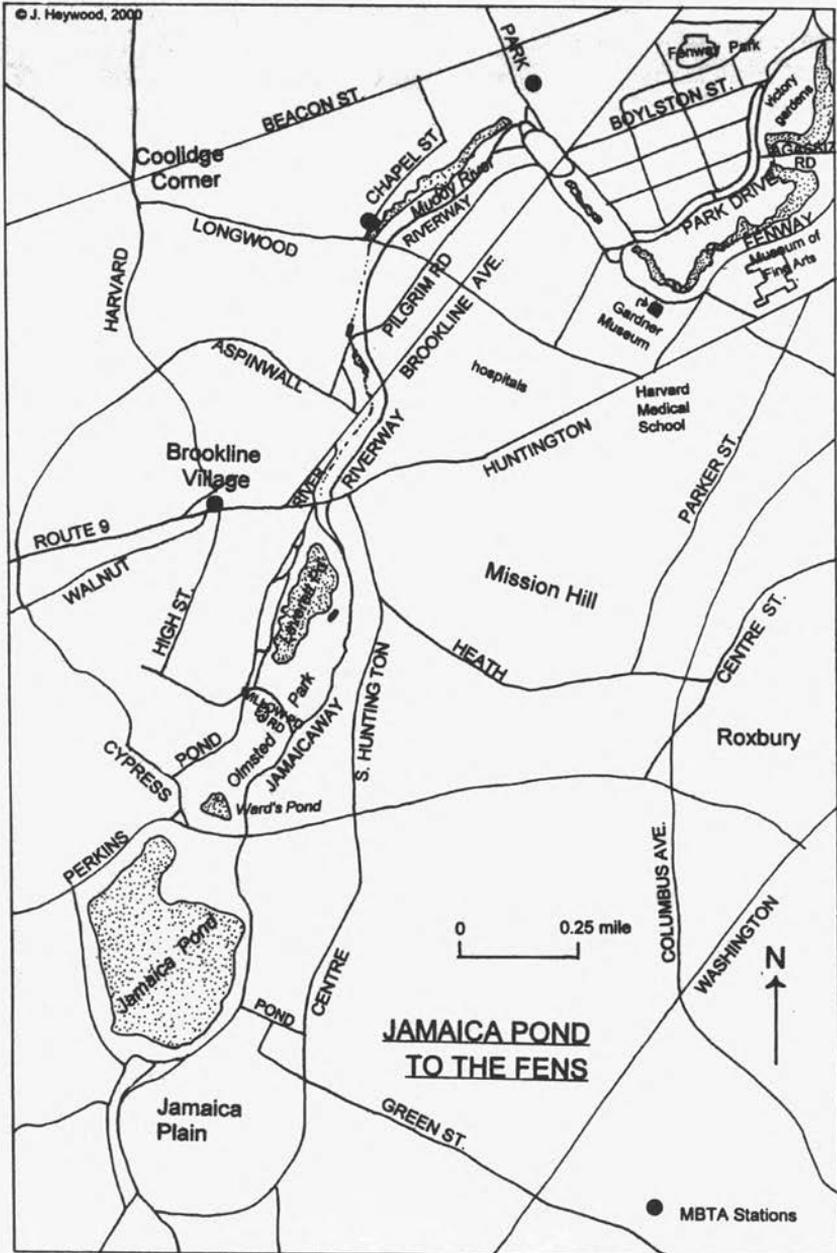
nestlings, and that it probably occurs in most species — we just haven't observed them carefully enough to notice it.

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Eastern Kingbird nestlings in Arlington, MA - digital image by
Marjorie W. Rines



BIRDING THE LOWER EMERALD NECKLACE: JAMAICA POND TO THE BACK BAY

by Robert G. Mayer

There is a special excitement to birding in the city. Those of us who live in Boston envy the residents of the North Shore, Marshfield, or Concord as we hear of the display of avifauna at the ready. But watching a Peregrine Falcon pluck a Starling on a window ledge of Saks Fifth Avenue, seeing a redstart chase a Yellow-rump along the trees lining the Southwest Corridor near Back Bay Station, standing four feet from a Northern Pintail at the Swan Pond in the Public Garden, or hearing nighthawks call as they feed over the rooftops in the South End seems like nature captured from somewhere it doesn't belong.

City birding is an experience of quality, not quantity, viewing. Apart from robin roosts in the Fens in fall and masses of gulls on Jamaica Pond or the Charles River in winter, most birding experiences in the city are close-up views of a small number of limited species. This reflects the compactness of urban open spaces as well as a tolerance for the hubbub of humanity that urban specimens seem to develop. It is common to pass within ten feet of a Black-crowned Night Heron on the Esplanade in June. Red-tailed Hawks will sit on a fence post no more than an arm's length away in the Victory Gardens of the Fenway. Northern Shovelers follow the Mallards just a few feet from the shore in the waters behind the Museum of Fine Arts.

This is a plan for birding the lower portion of Boston's Emerald Necklace. The walk starts at Jamaica Pond, the primary source of the Muddy River, and follows the water down through several smaller ponds and then to the Riverway dividing Brookline from Boston, on to the Fenway, and down the Esplanade to the Public Garden. While it will be presented in sequence as if one is walking the roughly four miles along this route, the better birding areas of Leverett Pond, the Fens, or the Garden can be approached separately by car, foot, or public transportation; details appear at the end of the article.

Jamaica Pond/Olmsted Park/Leverett Pond

Jamaica Pond is the largest and purest body of water in Boston (it was a major water source for Boston until 1848), a spring-fed glacial kettle over fifty feet deep with a one-and-one-half-mile developed pathway surrounding it. Many species of waterfowl and an impressive variety of landbirds can be seen here in appropriate seasons, but Leverett Pond, downstream, is generally more productive, and because of its smaller size and elliptical shape, offers better viewing as well. If you are doing the complete walk to the Public Garden, it is best to view Jamaica Pond briefly from the northwest side (where some free parking is available along Perkins Street), scanning for a special duck, reviewing

the gull population for unusual species, or admiring the Mute Swans brought in by Boston Parks and Recreation as in the Public Garden.

Cross Perkins Street on the north side of Jamaica Pond at the traffic light on the corner of Cypress Street, and you will approach Olmsted Park, named for the architect of the Emerald Necklace, Frederick Law Olmsted. This area may best represent Olmsted's concept of an urban park: an informal, undeveloped area from which the city populace may "gain tranquillity and rest to the mind." Farther down the Necklace at the Fenway and below, much of Olmsted's original plan has been altered by the addition of formal gardens and playing fields. But here, if you step over a low stone wall on the right, you can descend the hill to Ward's Pond, a small kettle with sharply sloping sides surrounded by a path and boardwalk. This tiny pond can be a trap for warblers and other spring migrants; other woodland birds such as woodpeckers, titmice, and nuthatches are regular here as well.

Exiting on the northwestern side of this pond, you may follow a gravel path along Pond Road or walk along undeveloped trails through mixed woods with many large oaks. There you will pass thickets that remain wet and marshy much of the year, ideal for many birds, including Northern Waterthrush. Whether you take the formal path from Jamaica Pond or the "birdier" route through the woods, you will shortly cross Willow Pond Road and enter a large playing field, which is now Olmsted Park proper. For several years, Red-tailed Hawks have nested on a light stanchion on Daisy Field, apparently oblivious to the day and evening activity there. Two young were fledged from this nest in 1998 and took up residence farther down the Muddy River in the Fenway, where Red-tails are regularly seen.

Leverett Pond appears ahead, one of the hot spots for waterbirds on this walk. In the fall, winter, and early spring, Bufflehead, Common and Hooded mergansers, Ruddy Duck, and coot are usually present, and Northern Shoveler, Northern Pintail, Wood Duck, American Wigeon, Ring-necked Duck, and Pied-billed Grebe have been recorded. Black-crowned Night-Heron, Great Blue and Green herons, Double-crested Cormorant, Spotted Sandpiper, and the three common gull species round out the water-loving birds recorded on this small pond, and the long, thin shape of the pond allows for very good viewing. The woods and shrub-lined paths circling the pond provide good cover for passerines in season. The entire park can be covered in an hour and is almost always rewarding.

The Riverway

To continue your trip down the Muddy River, walk out to and carefully cross Huntington Avenue (Route 9) and follow the sidewalk on River Road, to the left of the slowly meandering and by now quite muddy Muddy River. From here to the old Sears (now Landmark Center) Building at Park Drive, the area is

called the Riverway. An excellent article by Kenneth Hudson in *Bird Observer* ("Birding the Muddy River," Vol. 13, No. 1, February 1985) gives an in-depth account of the birds and other flora and fauna in this area. It is truly a creation of Olmsted, who relocated the outflow from the upper ponds to follow along this route. The Riverway is heavily wooded for the city, and botanists may note that the trees on the west, or Brookline, side of the river are mostly native, whereas the Boston side of the river was planted with some imports, both European and southern, at Olmsted's direction (note the Sweet Gum and Burr Oaks farther downstream).

As the Green Line "D" trolley joins in along the walkway, you pass the Longwood "T" stop, another entry point along this urban nature trail. There is a path on both sides of the stream along here, and several footbridges allow for passage from one side to the other. Because of a noticeable current here, this stretch of the river tends to remain unfrozen most of the winter, inviting waterfowl including Wood Duck and Green-winged Teal. The reeds and trees along the way harbor Belted Kingfishers, Great Blue Herons, Black-crowned Night-Herons, and many smaller woodland birds. On occasion one may find an abundant fall-out of warblers, vireos, and other migrants along this pretty pathway. At the end of this section, Red-tailed Hawks are frequently seen sitting on or near the old Sears Building at Park Drive.

The Fenway and the Victory Gardens

Bearing right and carefully crossing a cloverleaf and Brookline Avenue, you will finally enter the birding crown jewel of this portion of the necklace: the Fenway. It is easiest to keep the river to your right, staying on the Park Drive side, as you travel downstream here. (Another useful article by Ken Hudson, "Birding Boston: the Common to the Fens," appeared in *Bird Observer*, Vol. 20, No. 6 and offers tips for birding this area, starting at the Back Bay and working upstream.) This upper Fens area, with its towering old oaks, maples, and willows, can be a good spot for migrants in May. Many of the twenty-seven species of warblers recorded in the Fenway (*Editor's note: twenty-nine, counting a MacGillivray's Warbler and a Yellow-breasted Chat found here in early December 1999*) can be seen here or farther down in the trees surrounding the South and North Basins of the Muddy River. Notable regulars during migration include Blue-winged, Parula, Black-throated Blue, Palm, and Blackpoll warblers. Other migrants seen in the Fenway, beginning in the early spring, are Woodcock, Fox Sparrow, both kinglets, Brown Creeper, Warbling and Blue-headed vireos, Northern Waterthrush, and Rose-breasted Grosbeak.

After you cross a connecting road and pass several college buildings on the opposite side, the river makes a sharp left turn, and you will be facing an open area of the Fenway with large sports fields and rolling greens that run past the enclosed Rose Garden (at its peak in June) and into the War Memorial area. This

is a particularly good spot to see raptors, which, in addition to Red-tails and the occasional Osprey fishing over the water here, have included Cooper's Hawk, Kestrel, Merlin, Peregrine Falcon, and Northern Harrier. The woodpecker family is also well represented in this area, with highlights including Red-bellied Woodpecker and Yellow-bellied Sapsucker. In the pools or "basins" behind the Museum of Fine Arts, a dozen species of waterfowl have been counted in fall and winter, with Green-winged Teal, Northern Shoveler, and Hooded Merganser fairly reliable, and American Wigeon, Gadwall, and Northern Pintail occasional. Belted Kingfishers, Spotted Sandpipers, Black-crowned Night-Herons, and Great Blue and Green Herons are also attracted to the open water and to the fish species that include huge carp, over-grown "goldfish" carp, sunfish, and alewife; the latter find their way up the Muddy from the Charles and the sea in spring.

Before moving on to the Victory Gardens and the North Basin, admire the stone arched bridge that takes Agassiz Road across the river from Park Drive to the Fenway. Northern Rough-winged Swallows have nested beneath it for several years. The trees along the edge of the *Phragmites*, just across Agassiz Road and behind a boarded-up stone maintenance shed, can be very good for warblers and vireos, and the reeds may harbor Fox and Swamp sparrows, Eastern Towhee, Hermit Thrush, and Veery during the spring. The route to the Victory Gardens is to the left of this area, along Park Drive.

When Olmsted was originally engaged to develop the Fenway, his purpose was not only a scenic one but a hygienic one as well. The area, as well as much of what is now Back Bay, had been tidal in nature and received a "flush" twice a day until a dam was constructed near what is now Beacon Street to power a mill in the 1820s. This, combined with population growth and lack of modern sanitation, had created a serious health problem by the 1870s. Olmsted resolved the problem by designing a series of "water gates" that restored the tidal flow. His original plantings were salt-tolerant, and the rest of the park was left relatively undisturbed and natural, without the athletic fields, formal gardens, and monuments seen here today. In 1910, a dam and lock were built on the Charles River, and the sea no longer had open access to the region, which led to major ecological change as freshwater plants including the invasive *Phragmites* and Japanese Knotweed forced the salt-marsh species out. These plants now threaten to close in the river.

Long-delayed plans to reclaim the scenic beauty of the Muddy River seem to be moving ahead. In November 1999, the City of Boston and the Commonwealth of Massachusetts, in collaboration with many public and private organizations, announced a \$70 million plan to restore the area. Projects include dredging Ward's and Leverett Ponds to clear the tons of silt that have settled from storm-drain runoff over the years. In addition, narrow culverts at the north end of the Riverway will be enlarged, channels will be dredged through the basins in the Fenway, and debris and trash will be removed from the mouth of

the river where it flows into the Charles. Throughout its course, the banks of the river will be scraped away in an attempt to eradicate the choking reeds and invasive plants and restore vegetation native to the area.

A project of this magnitude will certainly have a great effect on the birds and other fauna of the area; initially, this impact is likely to be adverse. Hopefully, the project's architects will minimize construction damage and will be kept alert to the environmental issues by activist organizations concerned about the health of this important urban nature preserve.

The Fenway Victory Gardens, between the reedy edge of the North Basin on the east and Park Drive on the west, are the only surviving WW II Victory Gardens in Boston. At their peak in 1944, victory gardens supplied nearly half of the fresh produce in America as part of the war effort. Today they survive as an enchanting collage of fifteen-by-thirty-foot plots representing all manner of style and design. On this walk, the Gardens alone are worth the trip; some are spectacularly manicured botanical gardens, while others are funky and freestyle. Several exhibit finely pruned exotic trees and plants with small ponds and rock landscaping. Others are laid out in rows named for local streets like a floral Monopoly game, or sport small patios with grill, table and chairs, or pink plastic flamingos.

The real birds don't seem to mind the lack of a cohesive theme; they appreciate the diversity of flowers, vegetables, trees, shrubs, and grasses available. Nearly thirty species nest in the area, including the Rough-winged Swallows just mentioned, Tree Swallows in bird houses in the gardens, Baltimore Orioles in the adjacent trees, and Common Nighthawks on the roofs of nearby flat-top buildings. On an early summer morning, the gardens, with their abundance of food including many feeders, and the marshy area behind are a symphony of song. This is a reliable site for Fox and Savannah sparrows, as well as the more common sparrows, in early spring. Red-tailed Hawks and American Kestrels hunt the area throughout the summer. The four hundred members of the Fenway Garden Society are justly proud of their plots and the contribution they make to the ecology of the area. (For more information on the gardens, including how to apply for a garden plot, write to the Fenway Garden Society, PO Box 23038, Astor Station, Boston 02123.)

The Esplanade and Commonwealth Avenue

Below the Fens, the Muddy River is neither an esthetic nor an ornithological pleasure. The river passes under H. H. Richardson's (architect of Trinity Church in Copley Square) beautiful Boylston Street Bridge and nearly disappears beneath a jungle of ramps, overpasses, and cloverleafs that carry the Massachusetts Turnpike and other major roadways to and fro. Those who wish to push on to the Esplanade and the Public Garden may do so by several equally unappealing connections; crossing Boylston and ascending the overpass over the

train tracks and the Pike and following Charlesgate East down to Commonwealth Avenue, or, alternatively, continuing east on Boylston Street to Massachusetts Avenue. Consider a brief detour here a few blocks south on Massachusetts Avenue to the Christian Science Church complex, where from April through midsummer you have a good chance of seeing the Peregrine Falcons that nest on the uppermost window ledge at the northeast corner of the Administration Building, above the reflecting pool.

You can move east to the Public Garden along Commonwealth Avenue, admiring the wonderful brownstones along the way, or follow Massachusetts Avenue to the river and the Esplanade. To reach the Esplanade, take the walkway down at the beginning of the Harvard Bridge (which carries Massachusetts Avenue across the Charles to Cambridge) on the right. There along the Charles River in fall and winter you may see Horned Grebe, American Coot, all three mergansers, Bufflehead, Common Goldeneye, and large rafts of Great Black-backed Gulls. Tree Swallows and Chimney Swifts dive over the lagoon pools in spring and summer. In the spring, don't miss the Black-crowned Night-Herons that hang out along the river and the lagoons, especially on the small islands just off the Community Boating docks, where as many as 35 night-herons have been seen. They begin to arrive in mid-April and peak in May when the alewives run up the Charles; they dwindle in number after the massive crowds and noise of the July Fourth celebration.

The Public Garden

If you have stayed the course (from the Esplanade take the Arthur Fiedler Footbridge near the Hatch Shell to Arlington Street), you finally arrive at the Public Garden — a combined arboretum, botanical garden, city pond, and tourist attraction. Not surprisingly, this mix is an attraction to birds as well, and during the spring migration, warblers, thrushes, and other passerines are well represented here. It is not Mount Auburn Cemetery, but it can be very active in May. The Swan Pond, although it is drained each spring, somehow contains fish, and along with the regular park ducks attracts an occasional Northern Shoveler, Northern Pintail, or Green-winged Teal. The Mute Swans are "stocked." During the late fall of 1998, an Orange-crowned and a Yellow-throated Warbler stayed in the willows around the pond for nearly a month, delighting many birders. If you are seeking warblers here in May, it is best to arrive early, because distinguishing call notes over the noise of traffic can be a challenge (the similarity of the Blackpoll's song and the squeal of brakes on Arlington Street is striking).

This entire walk, assuming a fairly leisurely pace, some active birding, and a stop for refreshment, will take the better part of a day. It can be well worth it, not only for the good bird sightings but also for the beauty and history of this natural area in the midst of the big city.

Getting There

The best way to get to this area is by public transportation; parking anywhere in Boston is not easy. The Green Line gives access to the Public Garden at the Arlington stop, as well as at Museum or Longwood Avenue (Fenway) or Heath (Leverett Pond) on the Heath Street "E" line. The "D" Green Line stops at Fenway Park (Fenway), Longwood (Riverway), and Brookline Village (Leverett Pond). The No. 39 Forest Hills Bus originates at the rear of the Back Bay train/subway station and travels up Huntington Avenue, offering stops at the Museum of Fine Arts and Longwood Avenue for the Fenway, and at the intersection of Huntington Avenue and South Huntington Avenue for Leverett Pond. It then turns up South Huntington Avenue, giving fairly close access at Bynner Street to Leverett Pond and at Perkins Street to Jamaica Pond before it continues on to Forest Hills Station.

If you do drive, Jamaica Pond offers limited on-street parking. To reach Leverett Pond by car, approach it from the Jamaica way, either from Perkins Street right onto Cypress and bearing right onto Pond Road, or directly from the Jamaica way onto Willow Pond Road, where there is parking for Daisy Athletic Field. There is a parking area off Pond Road on the west side of the pond. Entering Pond Road from the Jamaica way when traveling south is possible from the exit ramp marked Route 9 East, VA Hospital, at the foot of which you can turn left onto Pond Road. There is very limited street parking as well as a few metered spaces at the Longwood MBTA stop on the Riverway.

Parking for the Fenway is also limited. There is some unmetered parking along the Fenway behind the art museum, and metered parking on the side streets. Most other areas are resident parking only, and without a sticker your car may be ticketed. Museum parking is available for a fee. If you approach this excursion from the Public Garden, there is metered parking around the Garden and paid parking in the Boston Common Garage off Charles Street.

Rest stops are available at the Jamaica Pond Boat House (seasonal), some fast food restaurants on Boylston Street near the Fenway, at the MFA (accessible without a ticket or pass), or in stores, hotels, and restaurants in the Back Bay. An all-day trip might land you in the Fenway area at lunch time; there are several inexpensive and interesting ethnic restaurants (with take-out) on Jersey Street that abuts the Fenway on the Park Drive side.

Boston's public parks are officially closed from 11:30 p.m. to 6:00 a.m. All of the areas discussed are quite safe during daylight hours; after dark you should stay on the lighted walkways and sidewalks. Going into the tall reeds or the denser bushy areas of the Fenway is not advised. These precautions are common sense in any urban area.

NOTABLE BIRDS OF THE LOWER EMERALD NECKLACE

Over 170 species have been documented along the Muddy River and adjacent areas (for a check-list see *Birds of the Back Bay Fens And Vicinity*, Jones, G., and A. Roth, Special Publication #3, available from the Center for Vertebrate Studies, Northeastern University, Boston, MA 02115). Some of these sightings were single reports or overflights, while many of these species can be seen commonly in season at many birding areas. Listed below are species which are quite reliably present in season in the area identified and which are either uncommon elsewhere or can be seen particularly well here.

(Key: Br = Breeding, J= Jamaica Pond, L= Leverett Pond, O= Olmsted Park, R= Riverway, F= Fenway, E= Esplanade, B= Back Bay, P= Public Garden)

Pied-billed Grebe	L,F	N. Rough-winged Swallow	L,F Br F
Great Blue Heron	L,R,F	Golden-crowned Kinglet	O,P
Black-crowned Night-Heron	R,F,E	Ruby-crowned Kinglet	O,F
Wood Duck	R	Hermit Thrush	F,P
Northern Shoveler	F	Blue-headed Vireo	F,P
Bufflehead	J,L,E	Warbling Vireo	F
Hooded Merganser	J,L,F	Blue-winged Warbler	F
Ruddy Duck	L	Northern Parula	F, P
Red-tailed Hawk	O,F Br O	Black-throated Blue Warbler	F,P
American Kestrel	F	Palm Warbler	F, P
Peregrine Falcon	B Br	Blackpoll Warbler	F, P
Spotted Sandpiper	L,F	Northern Waterthrush	O,F
Common Nighthawk	F,B Br	American Tree Sparrow	R,F
Chimney Swift	F,E Br	Savannah Sparrow	F
Belted Kingfisher	L,R,F	Fox Sparrow	F
Yellow-bellied Sapsucker	F	Swamp Sparrow	F
Eastern Wood Pewee	F	Baltimore Oriole	O,F,P Br

Robert G. Mayer, MD, is a psychiatrist who works at the Boston Veterans Administration Hospital in Jamaica Plain just above Leverett Pond. He lives in the nearby South End. He has been birding seriously since 1983 (obsessively for only the last five years), but has been an enthusiastic naturalist since childhood.



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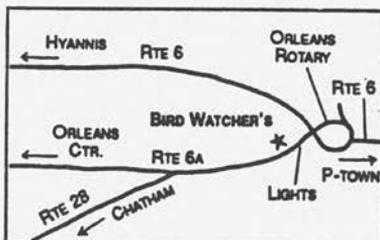
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ABOUT BOOKS: Looking Back

(Bird Observer continues its series celebrating some of the books that have inspired, delighted, or enlightened some of our regular book reviewers.)

BOOKS THAT MADE ME A BIRDER

by John Kricher

As Claude Rains said at a climactic moment (and much to the relief of Humphrey Bogart) in a most memorable film: "Round up the usual suspects." Yes, my first bird book, as for many of us, was the *Golden Nature Guide to Birds*, a present from my Grandmother Min. I first perused that book when I was about seven or eight, in the early 1950s. Min and I marveled at how odd the American Bittern appeared, hunched over, so strangely compact looking. Were there such things? Must be so, because other birds pictured in the little book, the Bluebird, the Robin, and the Red-winged Blackbird, were regular visitors to our suburban backyard. So too were the Mourning Dove, the Crow, and the Grackle. In the summer, little yellow birds were common, "wild canaries," which, according to the Guide, were properly called Goldfinches. In winter, little gray and white birds appeared, which we called "snowbirds," but which the Guide called "Slate-colored Juncos." I learned the names. And one extremely memorable day (because I still remember it with utter clarity), an amazing-looking feathered creature was hitching up one of our slender backyard trees: a Red-headed Woodpecker. Yes, I guess there are such things. I was hooked.

Years later, as I reached my teens, I discovered the reprinted Reed Guide and, soon thereafter, the stunning *Field Guide to the Birds*, written and illustrated by some guy who used three names: Roger Tory Peterson. I still have the worn, now disarticulated copies of each of these three guides — my treasures, my past, my life. But there were other books, many others. And two of the best were by the guy who used three names.

Birds Over America, which I bought in a little bookstore in Jenkintown, Pennsylvania, was a real bonus. Peterson had signed it. The clerk was impressed, and I was thrilled, neither of us realizing until I was at the cash register that the book was graced with the author's own signature. And what a book. To me, RTP was, and still is by far, the best at capturing the magic that is birding. Reading Peterson is almost like having him there, he's so good. Those first chapters captivated me, and I still go back and reread them: "Birds and I," "The Lure of the List," "The Big Day," "Census at Christmas," "Deceiving the Experts." From the opening line — "So you've been out after birds again!" — these chapters collectively captured the psychology and sociology of birding. To this day, they make me feel "warm and fuzzy" about how I have chosen to spend

the greater part of my life. Later chapters were as informative as they were entertaining, discussing such topics as how many North American birds there might be, which are the most abundant, and how birds migrate. There were profiles of people who had devoted their lives to studying such species as Bald Eagle and Barn Owl, and a riveting account of Peterson's successful search for the Ivory-billed Woodpecker on the old Singer Tract. Two vivid chapters were "West of the 110th Meridian" and "Rain Shadows of the Mexican Border," both of which made me yearn to travel, to go west, go south, go any place where there were birds to see, so many birds to see. Peterson described pelagic trips, warbler waves, bird colonies, everything. He talked about the coast of Maine — so I convinced my parents to take me to the coast of Maine. He wrote of sand and tide and the many birds to be found along the seashore — and, again, my parents obliged.

But for the pure excitement of travel, the book that I most recall is *Wild America*, coauthored by Roger Tory Peterson and British ornithologist James Fisher. This marvelous book, taken largely from Peterson's and Fisher's journals, chronicled their 30,000 mile automobile journey around North America in 1953. To me, their accounts of birding the Appalachians, the deep South, the Everglades, the Dry Tortugas, South Texas and Mexico, the Southwestern Deserts, California and the Pacific Northwest, and, finally, Alaska and the Pribilofs were spectacular. Peterson and Fisher set the bar high in that volume, and those of us who became their disciples knew what we had to do, a commitment we made with the utmost enthusiasm. Birding was extended for us, beyond the backyard list, beyond the state list, to a real life list, whose assembly would take countless miles and provide a lifetime of pleasure. How many of us can look back with satisfaction to having devoted decades to our own versions of "Wild America"? For this we can thank Roger and James.

Both of the books described above had strong ecological overtones. It became readily apparent to me that there was much more to birding than naming birds. Peterson, who showed how to skillfully name birds, had a far broader message. Birds are only one form that life takes; there are numerous others, and they, too, are satisfying to learn. Peterson spoke of butterflies and plants, of whole ecosystems. And I soon began to find pleasure in looking beyond birds and reading accounts that included a broader treatment of nature.

So many books I could name, but one does surface above most others. My high school library contained a volume written by a newspaper columnist named John Kieran, a book titled *Footnotes on Nature*. Published in 1947, the book is an account of Kieran's field experiences, all in the New York area, with friends named only as "the Medical Student," "the Astronomer," and "the Artist." Kieran does a lot of birding in this book but also discusses other things, wildflowers among them. And he has fun doing it. This was a book to which I could easily relate, as it in so many ways mirrored what my own life was

becoming. Kieran exudes the pleasures of being in the field, where opportunities abound for fun and for learning. For example, he relates a trip to a reservoir where he sought a rare duck, the European Teal (then still considered a species separate from Green-winged Teal). He found it, and in the process met a famous author of natural history works, Edwin Way Teale. And, says Kieran, there were Green-winged and Blue-winged teals as well, a "four teal(e) afternoon."

What I have related here is but the proverbial tip of the iceberg — I have many books — but it will have to do. In looking back, I can say with great fondness that many of the pleasures I have experienced in a lifetime with birds have been on the printed page as well as in the field.

Golden Nature Guide to Birds, by Herbert S. Zim and Ira Gabrielson. New York, NY. Simon and Schuster. 1949. *Birds Over America*, by Roger Tory Peterson. New York, NY. Dodd, Mead & Company. 1947. *Wild America*, by Roger Tory Peterson and James Fisher. Boston, MA. Houghton Mifflin Company. 1955. *Footnotes on Nature* by John Kieran. Garden City, NY. Doubleday & Company. 1947.

John Kricher is a professor at Wheaton College and has written prolifically on birds, biology, and ecology. He is perhaps best known for *A Neotropical Companion: An Introduction to the Animals, Plants, and Ecosystems of the New World Tropics*. John is a long-time friend (and former editorial board member) of *Bird Observer* and currently serves on the board of directors of the American Birding Association.

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Field Notes From Here and There _____

RED-TAILED HAWK CHASED OFF BY COMMON NIGHTHAWKS

While studying the behavior of Common Nighthawks (*Chordeiles minor*) near Boston's Fenway during the summer of 1999, I observed the reaction of a nesting nighthawk pair to an encroaching Red-tailed Hawk (*Buteo jamaicensis*). At around 5 a.m. on July 16, I was on the roof of a Northeastern University-owned apartment building watching a male nighthawk perched on a neighboring roof. While this bird was perched, I heard a second nighthawk calling from about a block away, in the direction of the Back Bay Fens. After about thirty seconds, this second bird flew into view. I was able to identify it as a female by the lack of a white throat patch. It was vigorously pursuing an adult Red-tailed Hawk. As soon as these two birds came into view, the perched male nighthawk took flight and joined the female in chasing the hawk. Both nighthawks gave their characteristic *peent* call and made swift passes near the hawk. After another thirty seconds, the hawk flew toward the Fens with the nighthawks still in close pursuit. The nighthawks were not heard or seen again until the next night.

Due to the crepuscular habits of this species, observations of this type are rare. This appears to be the first account of Common Nighthawks driving off an aerial predator. Male nighthawks have been reported to defend nest sites from possible ground predators such as raccoons (*Procyon lotor*) and domestic cats (*Felis catus*) by diving at the intruder and rapidly giving *peent* calls (Poulin et al. 1996). It is assumed that roof-nesting nighthawks, such as the pair noted here, are relatively safe from these types of predators (Poulin et al. 1996). However, they are still vulnerable to aerial predators. American Kestrels (*Falco sparverius*) have been reported preying on roof-nesting nighthawks (Gross 1940), but the response to the predators of these nighthawks was not reported. The observation reported here is also one of only a few accounts of female nighthawks displaying agonistic behavior. Gross (1940) reported a female nighthawk helping her mate chase off an intruding conspecific. Caccamise (1974) stated that females may join the male in excluding intruders from a territory; he did not specify how common this behavior may be. Neither of these reports mention any response to aerial predators.

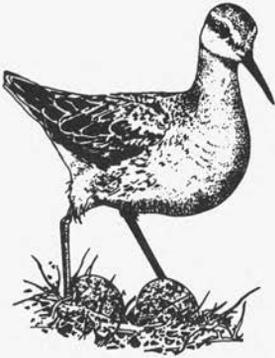
I thank Gwilym Jones for reviewing and editing this note. This note came from research funded by the Nuttall Ornithological Club.

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— Aaron Roth
Center for Vertebrate Studies
Northeastern University

OBSERVATIONS ON A CHUKAR IN BOSTON

This report may sound bizarre, but it's true. How a Chukar got to the Boston Public Garden is a mystery that I will leave to others to resolve. I can only assume that the bird escaped in transit between some game farm and a private estate or shooting preserve. It's certain that the species isn't native, or even established, in this part of the country, and a "wind-blown vagrant" seems more than a little far-fetched!

In any case, at about 8:30 a.m. on the morning of September 6, 1999, I noticed a strange bird feeding on the ground in the Boston Public Garden. At first, I assumed that it was a variety of pigeon, although it was bigger than the park Rock Doves feeding nearby. The morning was overcast, and in the shade cast by the trees, I was unable to distinguish colors and patterns very well. Upon closer approach, I determined that the unknown bird was of a gallinaceous species that I had never seen before; the name "Chukar partridge" kept popping into my mind. I had not seen a Chukar before, but I had certainly seen pictures of them.

I left the park to fetch a monocular and a camera. Upon returning fifteen minutes later, I again located the bird and studied it through the 8 x 20 glass. The pattern matched that of a Chukar, which I had quickly looked up in my field guide while getting the camera. The red beak, osprey-like facial pattern, and prominent dark flank bars were easily discerned. I got two quick photos of the bird on the ground, at a distance and in very poor light. Then it took flight and

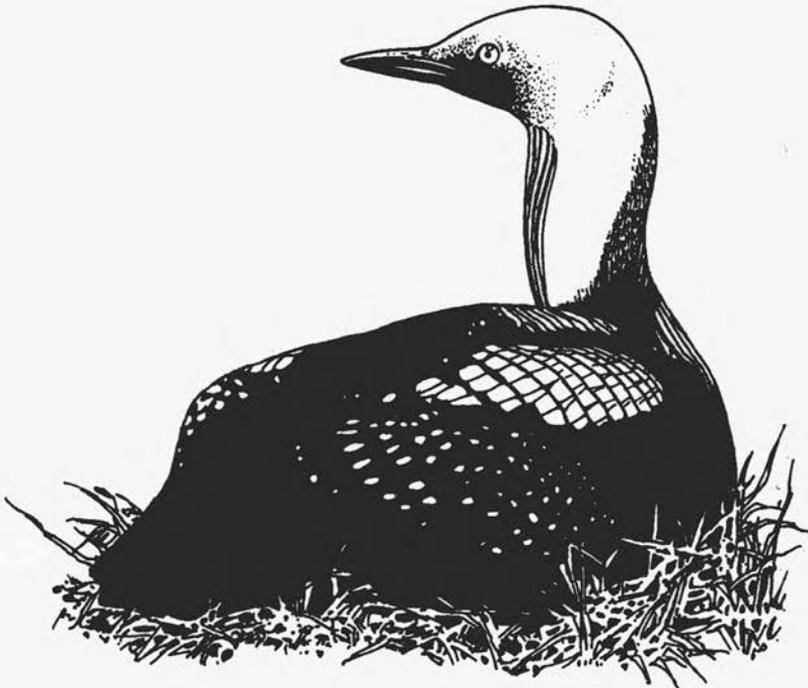
headed over the lagoon. The manner of flight was very different from that of a pigeon but resembled that of a pheasant or Ruffed Grouse.

Unfortunately, the bird either deliberately or inadvertently set down in the water about thirty meters from shore. It flapped frantically for a few seconds but was unable to make much headway. I was able to get two more photos as the bird gradually sank lower into the water; the light was somewhat better with the bird in the open than it had been under the trees, but all I could really see was the black-and-white facial pattern. Before long — no more than five minutes or so — the bird had sunk completely and presumably drowned.

I know exactly where the bird sank, and the remains might be identifiable, even if badly decomposed, by an expert. The Parks Department usually drains the lagoon in autumn, so the carcass might be found.

I am quite certain that the bird was either a Chukar or some species so similar as to be indistinguishable in the field. The only other possibility I have been able to find was Red-legged Grouse, but this species has a white eyebrow stripe that this bird lacked. I'm also pretty sure it lacked the extensive black markings on the chest that a Red-legged Grouse would show. It positively was not a bobwhite, being much too big. I am familiar with Ruffed Grouse, and the bird I saw was not a Ruffed Grouse. It was also too small for a pheasant.

— *Kenneth Hudson*
Boston, Massachusetts



BIRD SIGHTINGS

MAY/JUNE 1999

SUMMARY



By Seth Kellogg, Marjorie W. Rines, Simon A. Perkins, and Robert H. Stymeist

May 1999 was dry with normal temperatures, averaging 58.2° in Boston. It was a good month weatherwise for birders, with comfortable temperatures and very little wind. In Boston, the high for the month was 87° on May 31, which was the first 80° reading of the year, well later than the average date of May 6. Coastal sea breezes kept the temperature down along the coast and warmest temperatures were mainly recorded inland. Rainfall totaled 2.70 inches, with measurable amounts falling on just nine days. There were increased grass and forest fire alerts, since May was the third dry month in a row. There was little wind recorded; in fact, this was the month with the lowest average wind recorded for Boston since 1973. During the first nine days of the month, the light winds were unfortunately from the east or northeast, with fog recorded on May 3-9. Those favorable winds for birders, southwest, were noted on May 14, 25, 26, and 30. Other days with a southerly flow were noted on May 16, 17, 23, 24, 28, and 31.

June was a wonderful month for those seeking tans, with over 62 percent of possible sunshine recorded. June, however, was also very hot and extremely dry. The temperature averaged 71° in Boston, 3.3° above normal, and this was the seventh hottest June in 129 years of record. The high reached 97° on June 7, and many communities west of Boston exceeded 100°. Temperatures over 80° were recorded on more than 16 days in the month in Boston. Rainfall was just a trace, a new record low for June and equaling March 1915 as the two driest months in 129 years of records.

R. H. S.

LOONS THROUGH WOODPECKERS

One hundred and eighty Red-throated Loons were still lingering off Tuckernuck in mid-May, and a late Pacific Loon was identified off Cape Ann. A pair of Pied-billed Grebes, present in Westminister for the entire month of May, may have nested locally, an event that is becoming increasingly rare in Massachusetts. A Western Grebe was photographed off Magnolia in mid-May. Most state records of this rare visitor occur in winter.

Cory's Shearwaters typically arrive in the warmer waters south of the Cape and Islands in late June and early July following the completion of their breeding season in the eastern Atlantic. One hundred Cory's arrived on schedule south of Martha's Vineyard, where roughly 50 Leach's Storm-Petrels were also seen. The petrels were over 100 miles from the nearest known nesting colony at Penikese Island in the Elizabeth Islands (moreover, this colony contains only a few pairs, not nearly enough to account for this total), and roughly 200 miles from the nearest nesting Islands in the Gulf of Maine where hundreds breed. While petrels often forage far from their colonies, the birds off Martha's

Vineyard might have been pre-breeding sub-adults instead of foraging breeders. Stellwagen Bank was off to a good start on the seabird season by mid June.

Two reports of Least Bitterns might have pertained to locally nesting birds, though no direct evidence of breeding was found at either site. The distributions and abundances of the various species of Ciconiiformes that nest at Kettle Island in Manchester have not changed substantially since last year's (1998) nesting season. This year Snowy Egrets, the most abundant and widespread species, numbered 185 pairs; Great Egrets and Glossy Ibises, the two next most abundant species, numbered 90 pairs and 93 pairs respectively; Little Blue Herons numbered 17 pairs, and Black-crowned Night-Herons, 14 pairs. The most noticeable change was in the number of Great Egrets, which increased from an all-time high total of 80 pairs last year to another all-time high of 93 pairs this year. This species and Glossy Ibis have been the only two species within this particular colony that have shown a steady increase in their numbers since annual monitoring began eight years ago, although, this year, the count of Glossy Ibises showed signs that the numbers of this species might be leveling off. Since the early to mid-1970s, when Cattle Egrets reached their peak abundance as a breeding species in Massachusetts (ten pairs), their numbers have declined. Now, roughly 2-3 pairs presumably still nest each year on Eagle Island in Salem, though no one has reported on this last remaining state breeding site for roughly five years. The larger numbers of Cattles that occur in spring in towns such as Essex and Ipswich may reflect spring overshoots (which eventually retreat to more southerly colonies), or birds that are passing through on their way to nest in south coastal Maine at the northeastern-most limit of the species' breeding range.

As uncommon as Yellow-crowned Night-Herons are in the state, they are even rarer inland, so single Yellow-crowns in Wayland and Worcester were particularly noteworthy. The Worcester bird was especially intriguing since it was an adult, and it was present during the peak of the nesting season. Yellow-crowns, unlike Black-crowns, occasionally nest inland and are not colonial. They will nest almost anywhere, but their solitary habits make their breeding sites very difficult to find.

The only place in the state where Glossy Ibises routinely occur inland is in southeastern towns such as the Bridgewaters, Middleboro, and Taunton. Presumably, this is because some northbound migrants follow Narragansett Bay and the rivers that flow into it (such as the Taunton River), and proceed through these towns. A less likely explanation may be that these are individuals foraging from the nearest known colony, at Gould Island in Tiverton, Rhode Island. Four Glossy Ibises at the Great Meadows Refuge in Concord were, no doubt, attracted by the mud flats that were exposed there as a result of the spring drought. A record-high total of eight Black Vultures tallied from various parts of the state (including three in Sheffield alone) was the latest indication of this species' gradual spread northward.

A small Canada Goose, identified as belonging to the Canadian arctic race, *hutchinsii*, was noted at Plum Island, and a higher-than-average number of Mute Swans found in western Massachusetts included seven in Springfield. Further increases in the numbers of swans inland could represent a potentially bothersome development given this species' tendency for disrupting the ecology of small water bodies and excluding native species of waterfowl, a problem that

already prevails in many coastal areas in southeastern New England. The continued presence and slow increase in the numbers of feral Whooper Swans in Essex County has raised similar concerns.

A Greater Scaup in Marshfield and an Oldsquaw in Gloucester remained late into the spring, as did two Common Goldeneye on the Connecticut River and a Ruddy Duck in Melrose. Thousands of White-winged Scoters were observed in mid-May departing on migration to the north from a traditional staging area at Nantucket.

Ospreys are currently known to nest at only two inland localities (in Pepperell and Westboro). But wandering birds seen inland during the breeding season each year heighten our expectation that additional nesting will eventually occur elsewhere in the interior, especially in places such as Quabbin Reservoir and along the Connecticut River.

Sightings of both Swallow-tailed and Mississippi kites at a Truro hawkwatch on successive days in June included two Mississippi Kites on one of the days, and another Swallow-tailed was seen in Marshfield around the same time. Other noteworthy raptor reports included eight migrating Bald Eagles at Plum Island May 10; a minimum of five (and possibly more than twice this number) immature Bald Eagles in Truro in early June; at Plum Island, relatively high counts in the second week of May of Northern Harrier, Sharp-shinned Hawk, and Merlin; the first confirmed nesting of Cooper's Hawk at Nantucket; and notable concentrations of Broad-winged Hawks on two dates in May in Truro. These latter records were examples of a phenomenon that occurs among several species of raptors (mostly late-migrating, non-breeding sub-adults) each spring as a result of the birds being deflected by southwest winds, and being funneled onto the narrowest portion of the outer Cape.

The two reports of King Rail both came from sites where the species has appeared in previous years, and one of the records, in West Bridgewater, involved an apparently mated pair. Also reported from West Bridgewater were high counts of both Virginia Rail and Sora.

An American Golden-Plover in breeding plumage, found in Chatham, furnished an uncommon (but annual) spring record, and one or two American Oystercatchers seen at two different sites on Cape Ann re-ignited suspicions that this species has, or will soon, establish a breeding position on the North Shore. Southbound Lesser Yellowlegs, Least Sandpipers, and Short-billed Dowitchers all returned from Canada on schedule at the end of June, while fifty-six Willets at Nantucket in mid-May were probably mostly (if not all) northbound migrants. Upland Sandpipers in Massachusetts currently nest only at airfields. Censuses of Uplands conducted by the Massachusetts Audubon Society at Hanscom AFB (Bedford, Lexington, Lincoln, and Concord), the former Fort Devens in Lancaster, and Westover AFB in Chicopee, produced a total of roughly 175 individuals, the great majority being at Westover. The only other airfields in the state that are known to support breeding Uplands, but which were not surveyed, include Logan International Airport and Otis AFB (Sandwich, Bourne, Mashpee, Falmouth). A Western Sandpiper, a very rare spring migrant in the state, was reported from Martha's Vineyard, and a breeding-plumage Red-necked Stint at Plum Island in late June represented the second state record for this vagrant in less than a year. Single Ruffs were seen in Newburyport and East Boston, both for only one day.

In this century, Common Snipe have rarely been confirmed nesting in the state. Most of those that breed farther north migrate through the state in April, so any snipe that remain into mid-May raises suspicion of breeding, especially in western Massachusetts, whence most of the nesting records have come. Two Red-necked Phalaropes that made separate appearances at Great Meadows NWR in Concord in the third week of May furnished rare inland records for this oceanic sandpiper.

Little, Black-headed, and Lesser Black-backed gulls were all found in typical numbers. Among the six reports of Caspian Terns, the most noteworthy, because it was inland, came from Wachusett Reservoir, and several Royal Terns wandered north into state waters a bit early. Each year, upon returning from their wintering grounds, hundreds of Roseate Terns usually spend one or two weeks around Nantucket, refueling and recharging their batteries, before they settle into colonies in Buzzards Bay. Eighty Roseates, seen in mid-May at Muskeget Island, just northwest of Nantucket, were assumed at the time to be doing the same; however, they remained to breed — a significant development, given the sensitive status of this species, and one that will be discussed more fully in the next issue of *Bird Observer*. A "Portlandica" Arctic Tern that made a protracted and very surprising visit to the Connecticut River in the latter half of June was well documented with photographs, and in mid-May a Forster's Tern was seen, albeit fleetingly, in Newburyport, the only locality in New England where this species has been found breeding.

A Common Murre found lingering in Wellfleet in May might have been ill or injured. Four breeding-plumage Black Guillemots at Cape Ann in June fueled the faint hope that this species might have been nesting locally, while the presence of two Atlantic Puffins seen at the same locale, the same day was remarkable and inexplicable.

Because of their aversion for crossing broad bodies of water, Great Horned Owls are seldom seen on coastal islands, so a pair on Nashawena was noteworthy. Short-eared Owls nesting at Tuckernuck were found in lower numbers than in the previous year; two Short-eareds at Nantucket provided no firm evidence that they were breeding on that island, the only other known nesting locality in New England. A minimum of sixteen Northern Saw-whet Owls tallied by a single observer (listener) during a spring survey within several towns in Berkshire County provided a glimmer of insight into the status of a species whose true abundance, like that of many nocturnal species, remains largely a matter of conjecture.

Away from Martha's Vineyard, where the species has been suspected of breeding for years, Chuck-will's-widow is still a rare visitor, though spring reports on Cape Cod have become more or less annual. This spring a Chuck was also noted far inland, in Montague. Despite apparent declines elsewhere, healthy numbers of Whip-poor-wills were found for the second consecutive year in Lancaster. The remarkable Rufous Hummingbird that has now spent several consecutive winters in a greenhouse in Northhampton was released again in early May.

Noteworthy woodpecker reports included a single Red-headed Woodpecker in Hanson and above-average counts of Red-bellied Woodpecker (in Medford) and Pileated Woodpecker (at Oxbow NWR).

S. A. P.

Red-throated Loon			
5/2	Cape Ann	2	J. Berry#
5/2	P.I.	11	R. Heil
5/2	Westport	1	M. Lynch#
5/14-16	Nantucket	50	S. Perkins
5/15	Tuckernuck	180	S. Perkins#
5/16	Manchester	3	M. Lynch#
5/21	P.I.	1	S. Perkins#
5/21	Plymouth	4	G. d'Entremont
5/22	N. Monomoy	2	W. Petersen
6/26-27	Falmouth	1	R. Farrell
Pacific Loon			
5/14	Gloucester (B.R.)	1	R. Heil
Common Loon			
5/1	Maynard	1	L. Nachtrab
5/1	Worcester	1	M. Lynch#
5/6	Quabbin (G40)	2	T. Pirro
5/8	Auburn	1	P. Meleski#
5/14-16	Nantucket	90	S. Perkins
5/15	Northfield	1	B. Coyle
5/15	Ludlow	1	B. Platenik
5/16	Manchester	15	M. Lynch#
5/22	N. Monomoy	12	W. Petersen
5/23	Lynnfield	1	P. + F. Vale
5/25	Cheshire	1	R. Rancatti
5/26	P.I.	2	S. Perkins#
5/29	Wachusett Res.	2	M. Lynch#
6/1	Hingham	2	D. Peacock#
6/5	Plymouth	5	BBC(G. d'Entremont)
6/6	Gloucester (E.P.)	4	D. Furbish#
6/12	Quabbin (G37)	4	BBC (R. Lockwood)
Pied-billed Grebe			
5/1-31	HRWMA	1 pr	T. Pirro
5/15	Petersham	1	M. Lynch#
6/26	Wayland	1	K. Hamilton
Red-necked Grebe			
5/1-15	N. Scituate	1	G. d'Entremont
5/15	Tuckernuck	1	br pl S. Perkins#
Western Grebe			
5/12-14	Magnolia	1	R. Heil + v.o.
Cory's Shearwater			
6/23-24	100m S. of M.V.	100	V. Laux#
Greater Shearwater			
6/9	Rockport (A.P.)	1	R. Heil
6/14	off Gay Head	2	R. Shriber#
6/19	Stellwagen	200	L. Ferrarasso
6/23-24	100m S. of M.V.	40+	V. Laux#
Sooty Shearwater			
5/27	off Edgartown	2+	S. Yurkus#
6/9	Rockport (A.P.)	3	R. Heil
6/14	Nantucket	3	E. Ray
6/14	off Gay Head	2	R. Shriber#
6/19	Stellwagen	100	L. Ferrarasso
Manx Shearwater			
5/21	P.I.	1	R. Heil
5/27	off Edgartown	1	V. Laux#
6/5	Gloucester (E.P.)	1	D. Furbish#
6/9	Rockport (A.P.)	29	R. Heil
6/19	Stellwagen	3	L. Ferrarasso#
Wilson's Storm-Petrel			
6/12	Stellwagen	100-125	K. Dorsey#
6/19	Stellwagen	40	L. Ferrarasso
6/23-24	100 m s of M.V.	1000+	V. Laux#
Leach's Storm-Petrel			
6/23-24	100m S. of M.V.	50+	V. Laux#
Northern Gannet			
5/2	P.I.	12	R. Heil
5/2	Cape Ann	9	J. Berry#
5/10	Duxbury	3	adD. + S. Larson
5/14-16	Nantucket	1200	S. Perkins
5/22	N. Monomoy	2	W. Petersen
6/9	Rockport (A.P.)	223	R. Heil
6/12	Stellwagen	15+	K. Dorsey#
Great Cormorant			
5/2	N. Scituate	18	G. d'Entremont
5/2	Cape Ann	13	imm J. Berry#
5/14	Rockport	8	imm R. Heil
5/15	N. Scituate	4	imm SSBC (R. Fox)
5/16	Nantucket	3	imm S. Perkins#
Double-crested Cormorant			
5/2	Cape Ann	350	J. Berry#
5/6	Longmeadow	200	S. Kellogg + v.o.
5/6	Wayland	150+	N. Patterson
5/9	S. Quabbin	28	M. Lynch#
5/14	Cape Ann	2200	R. Heil
5/16	Nantucket	3	imm S. Perkins#
6/21	DWWS	241	D. Furbish
6/26	S. Hadley	3	M. Lynch#
6/28	DWWS	282	D. Furbish
6/30	P.I.	1	migr S. Perkins#
American Bittern			
5/1, 6/3	HRWMA	1	T. Pirro
5/1-28	Windsor	1-2	R. Rancatti
5/2	Savoy	1	R. Rancatti
5/7	Pittsfield	1	T. Collins
5/8	Gardner	1	T. Pirro
5/8	Hubbardston	1	D. + S. Larson#
5/8	Bolton Flats	2	E. Salmela#
5/8-14	Granville	1	S. Kellogg
5/11	Northampton	1	H. Allen
5/13-14	Newbury	1	J. Soucy
5/15	Berkshire Cty	4	Hoffmann Club
5/15	Newbury	1	R. Heil
5/15	Stockbridge	1	M. Lynch#
5/15	Harvard	1	B. Lafley#
5/18	Bolton	1	E. Stromsted
5/23	Pepperell	1	P. Duke
5/24	Blandford	1	S. Kellogg#
5/27-28	Hawley	1	R. Packard
5/28	Cummington	1	H. Allen
6/26	Hinsdale	1	H. Allen
Least Bittern			
5/14	W. Bridgewater	1	m, 1 f S. Arena#
5/15	Sudbury	1	H. Miller#
6/20	W. Brookfield	1	M. Lynch#
Great Blue Heron			
5/22	Westboro	6	ad,9 juvE. Taylor
5/23	W. Boxford	61	nests J. Berry#
5/25	GMNWR	7	S. Perkins
5/31	Hopkinton	4	ad,4 juvE. Taylor
6/5, 26	Hopkinton	3	ad,4 yg E. Taylor
6/13	Peabody	19+	P. + F. Vale
Great Egret			
5/2	P.I.	37	R. Heil
5/6	Manchester	25	S. Hedman
5/15	W. Springfield	1	J. Zepko
5/23	Newbypt	11	M. Lynch#
5/29	Manchester	90	nests S. Perkins#
5/31	Orange	4	L. Rousell
6/2	Nantucket	13	fide E. Ray
6/18	Arlington	2	R. LaFontaine#
6/19	Peabody	1	P. + F. Vale
6/30	Rowley	14	J. Berry
Snowy Egret			
5/2	N. Monomoy	6	W. Petersen
5/16	Hingham	18	SSBC (N. Swirka)
5/23	Essex	25+	M. Lynch#
5/29	Manchester	180	nests S. Perkins#
6/10	P.I.	36	W. Drew#
6/26	E. Boston (B.I.)	25	S. Zende#
6/30	Rowley	28	J. Berry
Little Blue Heron			
5/1	Nantucket	1	E. Ray
5/2	P.I.	1	ad R. Heil
5/6	Oak Bluffs	1	V. Laux#
5/6	Manchester	5	S. Hedman

Little Blue Heron (continued)				"Richardson's" Canada Goose			
5/17	DWWS	1	R. Hodson	5/1	P.I.	1	G. Wood
5/23	Essex	9	M. Lynch#	Brant			
5/29	Manchester	17 pr	S. Perkins#	5/2	Westport	19	M. Lynch#
6/10	N. Monomoy	2 (imm)	B. Nikula	5/2	Squantum	225	G. d'Entremont
6/18	Nantucket	2	E. Ray	5/5, 21	Nahant	55, 25	R. Heil
6/25	Hingham	1 ad	K. Vespaziani	5/9, 21	Newbypt	435, 300	R. Heil
6/28	P.I.	1 BBC	(D. + D. Oliver)	5/10-12	Vineyard Haven	45	A. Brown
Tricolored Heron				Mute Swan			
5/15-25	Quincy	1	E. Giles# + v.o.	5/2	Westport	154	M. Lynch#
5/23	Essex	1	M. Lynch#	5/3	Southwick	1	S. Kellogg
5/28	Mattapoisett	1	G. Mock	5/8	Chicopee	2	T. Swochak
6/10	N. Monomoy	1	B. Nikula	5/13	Northampton	1	R. Packard
6/11-14	P.I.	1	J. Soucy#	5/15	Springfield	7	L. Richardson
Cattle Egret				5/21	Gloucester	10BBC	(D. Jacques)
5/1-2	Dorchester	1	D. Brown + v.o.	Whooper Swan			
5/5	S. Hadley	1	H. Allen	5/2	P.I.	7	R. Heil
5/14	Beverly	4	D. + S. Larson	Wood Duck			
5/31	P.I.	1	S. Grinley	5/21	Worcester	11 ad; 15 yg	M. Lynch#
6/27	Essex	1	T. Young	5/22	GMNWR	40+ chicks	D. + S. Larson#
Green Heron				5/26	DWWS	27	D. Furbish
5/1	Worcester	3	M. Lynch#	6/18	Agawam	23	S. Kellogg
5/13-14	Newbury	2	J. Soucy	6/27	Worcester	49 ad + 31 yg	M. Lynch#
5/28	GMNWR	2	D. + I. Jewell	Gadwall			
5/29	Lexington	2	M. Rines	5/15	S. Monomoy	25	B. Nikula#
5/30	P.I.	2	P. + F. Vale	5/15	Muskeget I.	8	S. Perkins#
Black-crowned Night-Heron				6/10	P.I.	20	W. Drew#
5/6	Medford	31	M. Rines	6/21	Nashawena I.	2 pr	A. Jones
5/20	Belmont	10	M. Rines	6/30	Rowley	25	J. Berry
5/22	Hingham	18	D. Peacock#	Blue-winged Teal			
5/29	Manchester	14 nests	S. Perkins#	5/6	Longmeadow	1	S. Kellogg + v.o.
6/21	DWWS	7	D. Furbish	5/7	Squantum	1 pr	G. d'Entremont#
Yellow-crowned Night-Heron				5/8	Worcester	pr	M. Lynch#
5/13	WBWS	1	S. + M. Miller	5/8	Nantucket	8	E. Ray
5/15-31	MNWS	1 ad	R. Heil	5/15	Berkshire Cty	1	Hoffmann Club
5/23	Hamilton	1	J. Farley	5/15	S. Monomoy	2	B. Nikula#
6/11	Katama	1 sub ad	V. Laux#	6/29	P.I.	1 m	J. Berry#
6/26-27	Worcester	1 ad	J. Liller + v.o.	Northern Shoveler			
Glossy Ibis				5/15	S. Monomoy	4	B. Nikula#
5/1	Newbury	5	R. Heil	5/30	Oak Bluffs	1	P. Hughes
5/22	N. Middleboro	11	K. Holmes	6/29	P.I.	1 m	R. Heil
5/29	Manchester	93 nests	S. Perkins#	Northern Pintail			
5/31	GMNWR	4	M. Rines	5/9	P.I.	1 pr	P. + F. Vale
6/2-6	Chilmark	8	A. Fischer#	5/15	S. Monomoy	6	B. Nikula#
6/3	E. Boston	7	J. Young	5/15	S. of Tuckernuck	1	S. Perkins#
6/8	DWWS	5	D. Furbish	Green-winged Teal			
6/28	P.I.	23 BBC	(D. + D. Oliver)	5/1	Squantum	2 pr	G. d'Entremont
6/30	Rowley	6	J. Berry	5/5	Hadley	4	H. Allen
Black Vulture				5/5-6	Longmeadow	2	S. Kellogg + v.o.
5/7-8	Barre	1	T. Atkinson	5/6	Southwick	15	S. Kellogg
5/9	Northampton	1	T. Gagnon	5/8	Nantucket	10	E. Ray
5/11	Truro	1	EMHW (M. Lowe#)	5/15	Muskeget I.	1 f n	S. Perkins#
5/15	Sheffield	3	M. Lynch#	5/15	S. Monomoy	5	B. Nikula#
6/3	Wilmington	1	S. Spangenberg	6/2	Nantucket	5	fide E. Ray
6/12	Littleton	1	S. Moore#	6/21	Nashawena I.	2 pr	A. Jones
Turkey Vulture				6/29	P.I.	11	R. Heil
5/1	Peabody	3	P. + F. Vale	Ring-necked Duck			
5/9	S. Quabbin	14	M. Lynch#	5/1	Randolph	6	G. d'Entremont
5/11	Truro	8	J. Young	5/1	W. Newbury	2	R. Heil
5/12	Milton	10	A. Joslin	5/2	Wakefield	1	P. + F. Vale
5/14-16	Nantucket	10	S. Perkins	5/2	W. Springfield	2	J. Zepko
5/15	Tuckernuck	1	S. Perkins#	5/2	Amesbury	9	R. Heil
5/21	Concord	5	R. Heil	5/3	Petersham	2	B. Coyle
5/22	N. Monomoy	9	W. Petersen	5/8	Medford	4	D. Oliver
5/22	Worcester	5	M. Lynch#	5/14	W. Bridgewater	1 m	S. Arena#
5/23	N. Scituate	9	W. Petersen	5/15	Berkshire Cty	2	Hoffmann Club
5/27	Melrose	6	D. + I. Jewell	Greater Scaup			
5/29	W. Newbury	5	R. Heil	5/1	Randolph	27	G. d'Entremont
6/27	Worcester	12	M. Lynch#	5/2	Westport	5	M. Lynch#
Snow Goose				5/8	Nahant	15	R. Heil
5/5	Hadley	1	H. Allen	6/28	DWWS	1 f	D. Furbish
5/6-7	Yarmouth	4	S. Thompson#	Lesser Scaup			
				5/2	Westport	3	M. Lynch#

Common Eider				5/2	Marshfield	45	G. d'Entremont#
5/16	Gloucester (E.P.)	137	M. Lynch#	5/2	Westport	37	M. Lynch#
5/30	Boston H.	30	D. Peacock	5/2, 22	N. Monomoy	800, 30	W. Petersen
5/31	Duxbury B.	43	D. Furbish#	5/2	N. Scituate	17	G. d'Entremont
Harlequin Duck				5/14	Rockport	45	R. Heil
5/2	N. Scituate	5	G. d'Entremont	5/14	Tuckermuck	250	S. Perkins#
Surf Scoter				6/21	Marblehead	20	R. Heil
5/7	Squantum	35	G. d'Entremont#	Common Merganser			
5/8, 21	Nahant	40, 10	R. Heil	5/1	Randolph	3 f	G. d'Entremont
5/14	Gloucester	15	R. Heil	5/1	W. Newbury	1 f	R. Heil
5/14-16	Nantucket	350	S. Perkins	5/9	S. Quabbin	7	M. Lynch#
5/15	N. Scituate	150	SSBC (R. Fox)	5/15	Menemsha	1 f	V. Laux
5/16	Nantucket Sound	450	S. Perkins	5/15	Sheffield	pr	M. Lynch#
5/16	Manchester	30	M. Lynch#	6/8	Williamsburg	2	R. Packard
5/22	N. Monomoy	70	W. Petersen	6/11	Northampton	1	T. Gagnon
6/12	E. Orleans	12	S. Smolen-Morton	6/12	Westfield	2	S. Kellogg
White-winged Scoter				6/26	Shelburne	8	H. Allen
5/2	Marshfield	15	G. d'Entremont#	Ruddy Duck			
5/8	Nahant	250	R. Heil	5/1	Pembroke	6	W. Petersen
5/14	Rockport	230 migr	R. Heil	5/1	Randolph	1 f	G. d'Entremont
5/14-16	Nantucket	50	S. Perkins	5/2	Westport	3	M. Lynch#
5/14	Tuckermuck	5400 migr	S. Perkins#	5/6	Southwick	1	S. Kellogg
5/16	Manchester	198	M. Lynch#	5/9	W. Newbury	15	R. Heil
5/21	Lynn	70	R. Heil	5/15	S. Monomoy	2	B. Nikula#
5/21	Gloucester	35	R. Heil	5/18	Lincoln	3	D. Oliver
5/22	N. Monomoy	10	W. Petersen	5/21	W. Newbury	1	R. Heil
5/23	N. Scituate	9	W. Petersen	6/9	Melrose	1	D. + I. Jewell
6/12	E. Orleans	15	S. Smolen-Morton	Osprey			
6/21	Nashawena I.	1	A. Jones	5/2	Westport	56	M. Lynch#
Black Scoter				5/8	Cotuit	5	J. Barton
5/6	Southwick	6	S. Kellogg	5/9	Montague	1	T. Gagnon
5/8	Nahant	30	R. Heil	5/thr	Westboro	pr n	E. Taylor
5/15	N. Scituate	1 f	SSBC (R. Fox)	5/10	P.I.	11	T. Carrolan
5/16	Manchester	19	M. Lynch#	5/23	Essex	pr n	M. Lynch#
6/1-11	Marshfield	1	D. Furbish#	5/26	N. Truro	22	T. Carrolan#
6/6	Gloucester (E.P.)	2	D. Furbish#	6/thr	Falmouth	6 max	R. Farrell
scoter species				6/3	Quabbin (G36)	1	K. Mills
5/6	M.V.	6000	V. Laux	6/19	Arlington	2	R. LaFontaine#
Oldsquaw				6/21	DWWS	5	D. Furbish
5/2	Westport	1	M. Lynch#	6/27	P.I.	4-5	J. Berry#
5/4	P.I.	200	D. Davis#	6/30	Mt. Holyoke	1	R. Packard
5/9, 15, 31	Newbypt	3300, 75, 1	R. Heil	6/thr	DWWS	5 max	D. Furbish
5/16	Manchester	1	M. Lynch#	Swallow-tailed Kite			
6/6	Gloucester (E.P.)	1	D. Furbish#	6/4	Marshfield	1 ad	MAS (D. Ludlow#)
Bufflehead				6/6	N. Truro	1	T. Carrolan#
5/1	Randolph	82	G. d'Entremont	Mississippi Kite			
5/2	Westport	46	M. Lynch#	6/5	N. Truro	2 sub ad	T. Carrolan#
5/8	Salem	40	R. Heil	Bald Eagle			
5/8	Squantum	7	G. d'Entremont	5/2	Marshfield	1 ad	G. d'Entremont#
5/9	Newbypt	11	R. Heil	5/9	Hingham	1 imm	S. Carey#
5/15	Pembroke	1 pr	SSBC (R. Fox)	5/9	Plymouth	1	R. Holmes
6/20	Hingham	1 m	T. Young#	5/9	S. Quabbin	pr n	M. Lynch#
Common Goldeneye				5/9	Needham	1 ad	E. Kile
5/2	Westport	1	M. Lynch#	5/10	P.I.	8	T. Carrolan#
5/2	Cape Ann	1 m	J. Berry#	5/10	Gay Head	1 imm	M. Stutz
6/3	Turner's Falls	2	H. Allen	5/11	Truro	6 imm	EMHW (M. Lowe#)
Hooded Merganser				5/12	Truro	3	EMHW (M. Lowe#)
5/7	Dorchester	2 f	G. d'Entremont#	5/12	Nantucket	1	S. Perkins
5/8	MNWS	1 f	R. Heil	5/15	Monomoy	2 imm.	B. Nikula#
5/19	Wayland	1 imm m	K. Hamilton	5/23, 24	Wayland	1 imm	N. Patterson
5/21	Monroe	1	R. Rancatti	5/26	Pepperell	2	B. Van Cleif
5/21	Orange	2	B. Coyle	5/27	Hudson	1 imm	L. Nachtrab
5/28	HRWMA	1 f	T. Pirro	5/27-6/30	Middleboro	pr + 3 yg	K. Anderson
5/28	Warwick	2	B. Coyle	5/27	Wayland	1 2S	K. Hamilton
5/29	Chesterfield	1	R. Packard	5/29	Truro	4 imm	J. Young
5/31	Hopkinton	1 f	E. Taylor	6/5	N. Truro	5 imm	T. Carrolan#
6/6	Royalston	1 f w/15yg	J. Young	6/12	Gay Head	1 imm	M. Stutz
6/12	Quabbin (G37)	1	BBC (R. Lockwood)	Northern Harrier			
6/20	Waltham	1	D. Oliver	5/1-6/31	Windsor	2	R. Rancatti
6/23	Goshen	7	R. Packard	5/10	P.I.	18	T. Carrolan
6/29	P.I.	1 f	R. Heil	5/14	Magnolia	1	R. Heil
Red-breasted Merganser				5/15	Westover	1	H. Allen
5/2	P.I.	95	R. Heil	5/15	Chicopee	1	N. Eaton

Northern Harrier (continued)				6/26	Lancaster	1	BBC (R. Lockwood)
5/15, 20	Northfield	1	B. Coyle	6/27	E. Middleboro	1 + nest	K. Anderson
5/31	P.I.	1	R. Heil	American Kestrel			
6/5	Falmouth	1	R. Farrell	5/8	Lancaster	3	R. Lockwood
6/12	Rowley	1	E. Taylor	5/8	Lunenburg	2	R. Lockwood
6/21	Nashawena I.	4	A. Jones	5/10	P.I.	27	T. Carrolan
Sharp-shinned Hawk				5/31	Barre F.D./Rutland S.P.	2	M. Lynch#
5/1	Truro	25	EMHW (M. Lowe#)	6/1-30	Southwick	2	S. Kellogg
5/10	Truro	123	EMHW (M. Lowe#)	6/1	Whately	1	R. Packard
5/10	P.I.	99	T. Carrolan	6/2	Amherst	2	H. Allen
5/11	Truro	59	EMHW (M. Lowe#)	6/3-21	DWWS	1pr	D. Furbish
5/11	P.I.	71	T. Carrolan	6/12	Tyringham	1S.	Kellogg +. v.o.
5/26	N. Truro	20	T. Carrolan#	6/21	Plainfield	1	R. Packard
6/12	Falmouth	1	imm D. Larson	6/30	Hadley	1	R. Packard
6/20	Windsor	1	BBC (G. d'Entremont)	Merlin			
6/24	Melrose	1	D. + I. Jewell	5/1	Truro	3	EMHW (M. Lowe#)
6/thr	DWWS	1	D. Furbish	5/2	DWWS	1	G. d'Entremont#
Cooper's Hawk				5/8	Peabody	1	R. Heil
5/8-6/30	Nantucket	pr n	A. Webb	5/8	Marblehead	1	J. Young
5/10	P.I.	2	T. Carrolan	5/9	MNWS	1	L. de la Flor
6/1-30	Nantucket	pr n	A. Webb	5/9	Georgetown	1	R. Lewis
6/1-30	S. Wellfleet	1 pr n	v.o.	5/10	P.I.	11	T. Carrolan
6/5	Wakefield	1	P. + F. Vale	5/11	P.I.	6	T. Carrolan
6/12	Millbury	1	J. Young	Peregrine Falcon			
6/19	Falmouth	1	SSBC (N. Swirka#)	5/6	Gardner	1 ad	T. Pirro
6/20	Lexington	1	D. + D. Oliver	5/9	P.I.	1	R. Heil
6/21	Groton	1	T. Pirro	5/10	Truro	5	EMHW (M. Lowe#)
6/25	Concord	1	R. Lockwood	5/11	Truro	2	EMHW (M. Lowe#)
Northern Goshawk				5/11	P.I.	3	T. Carrolan
5/6-6/5	Hingham	1 ad	D. Peacock#	5/15	Agawam	1	J. Hutchison
5/10	Truro	1	EMHW (M. Lowe#)	5/15	S. Monomoy	1	B. Nikula#
5/12	Pepperell	1	S. Maynes	5/20	Worcester	1 ad	M. Lynch#
5/15	Northfield	1	B. Coyle	5/23	Squantum	1	J. Young
5/15	Berkshire Cty	1	M. Lynch	6/17	Boston	1 ad	D. Larson
5/15	Monroe	pr	M. Lynch#	6/17	Westboro	1	B. Volkie#
5/20	Williamsburg	1	R. Packard	6/28	Nauset Marsh	1	fide J. Sones
6/4	Essex	pr	B. Wright	Ruffed Grouse			
6/25	N. Reading	pr + 2 yg	S. Vecho	5/2	Quabbin (G40)	3	R. Lockwood
6/26	Norwell	1 ad	D. Furbish	5/8	Lancaster	4	R. Lockwood
Red-shouldered Hawk				5/8	Worc. (BMB)	1	M. Lynch#
thr	E. Middleboro	pr + 1-2 yg	K. Anderson	5/9	ONWR	2	J. Bartos
5/1	Stoughton	1	D. + S. Larson	5/12	Stow	5	R. Lockwood
5/2	Fall River	3	M. Boucher	5/15	W. Newbury	1BBC	(W. Drummond)
5/9	S. Quabbin	1	M. Lynch#	5/15, 18	MBWMA	1	D. Davis# + v.o.
5/9	Georgetown	1	R. Lewis	5/17	Milton	1	A. Joslin
5/10	Mt.A.	1	P. + F. Vale	5/29	Barre	1	T. Pirro
5/10	Truro	2	EMHW (M. Lowe#)	6/5	Stoughton	1	D. + S. Larson
5/10-6/5	Cohasset	3 max	D. Peacock#	6/13	Monson	1	M. Lynch#
5/15	Quabbin (G40)	1	R. Lockwood#	6/20	W. Brookfield	1	M. Lynch#
5/22	Athol	1	P. Vale	Wild Turkey			
5/23	Hingham	1 ad	G. d'Entremont	5/1	Quabbin (G33)	1T. + D.	Brownrigg
5/30	Holliston	pr	R. Heil	5/4	Newbury	1 pr	D. Davis#
6/1, 28	Boxford	1	J. Brown#	5/8	N. Middleboro	1	K. Holmes
6/5	Stoughton	2	D. + S. Larson	5/8	ONWR	1	E. Salmela#
6/5	Hopkinton	1	E. Taylor	5/12	Hingham	10	C. Dalton
6/8	Sheffield	1	R. Laubach	5/12	Stow	2	R. Lockwood
6/20	Tolland	1	S. Kellogg +. v.o.	5/18	MBWMA	1	D. Wilkinson
Broad-winged Hawk				5/23	Newbypt	1	M. Lynch#
5/2	Harwich	1	W. Petersen	5/24	Lincoln	4	M. Rines
5/5	Topsfield	1	J. Berry#	5/29	New Braintree	1	M. Lynch#
5/8	Framingham	1	J. Slovin	5/31	Worc. (BMB)	1 ad, 3 juv	J. Liller
5/9	ONWR	1	J. Bartos	6/7	Saugus	1 m	D. + I. Jewell
5/10	Truro	48	EMHW (M. Lowe#)	6/13	Topsfield	8 m	P. + F. Vale
5/10	Stoughton	1	D. + S. Larson	6/17	Lancaster	2 ad + 15 fl	R. Lockwood
5/11	P.I.	2	T. Carrolan	6/20	W. Brookfield	2	M. Lynch#
5/13	Wakefield	2	F. Vale	6/22	Concord	1	R. Lockwood
5/14	Quabbin (G46, 40)	1, 1	R. Lockwood	Northern Bobwhite			
5/14	Mendon	1	J. Moffett	5/12	Hingham	1	C. Dalton
5/16	Mt.A.	2	P. + F. Vale	5/30	Mt.A.	1	R. Hamburger
5/23	Hingham	1 ad	G. d'Entremont	6/16	Plymouth (MSSF)	3	G. d'Entremont
5/27	N. Truro	35	T. Carrolan#	6/19	Falmouth	16	SSBC (N. Swirka#)
5/29	Sturbridge	1	M. Lynch#	6/27	Beverly	1	J. Paluzzi
5/31	Barre F.D./Rutland S.P.	2	M. Lynch#				

Clapper Rail				5/28	P.I.	19	PRNWR staff
5/23	P.I.	1	M. Lynch#	5/31	Duxbury B.	4	D. Furbish#
5/30	W. Barnstable	1	S. Miller	6/7	Ipswich (C.B.)	28	BBC (S. Hedman)
5/31	Dennis	1	R. Min#	6/10	P.I.	29	W. Drew#
6/2	Nantucket	1	fide E. Ray	6/12	E. Orleans 10 ad, 5 juv		S. Smolen-Morton
6/19	P.I.	2	S. Grinley	6/27	Plymouth	6	J. Hoye#
6/21	WBWS	1	J. Trimble	American Oystercatcher			
King Rail				5/1-15	Squantum	2G.	d'Entremont# + v.o
5/14	W. Bridgewater	1 pr	S. Arena#	5/2	N. Monomoy	30	W. Petersen
6/12	P.I.	1	K. Dorsey#	5/6	Newbury	1	D. Jacques
Clapper/King rail				5/7	Duxbury B.	4	D. Furbish#
5/2, 21	P.I.	1	R. Heil	5/8	Nantucket	11	A. Charder#
Virginia Rail				5/14	Winthrop	1	D. + S. Larson
5/8	Lynnfield	5	M. Emmons	5/15	Chatham	1	S. Hedman
5/8, 6/15	Gardner	2, 2	T. Pirro	5/16	Fairhaven	3	M. Boucher
5/10	Milton (F.M.)	4	P. O'Neill	5/31	N. Scituate	2	J. Higgins
5/12-21	Northampton	1-3	H. Allen	6/thr	N. Monomoy	40 max	B. Nikula
5/14	W. Bridgewater	18	S. Arena#	6/5	Gloucester (E.P.)	1	D. Furbish#
5/14	Ludlow	2	H. Allen	6/6, 13	Winthrop	3	S. Zende#
5/15	Chicopee	2	T. Swochak	6/12	Rockport (H.P.)	1	M. Lynch#
5/15	W. Newbury	4	R. Heil	6/12	E. Orleans	3	S. Smolen-Morton
5/15	Berkshire Cty	3	Hoffmann Club	6/19	Falmouth	2	R. Farrell
5/21	Littleton	4	R. Heil	Greater Yellowlegs			
5/21	GMNWR	5	R. Heil	5/1	Squantum	35	G. d'Entremont
6/19	Salem	1	BBC (I. Lynch)	5/1	Milton	7	G. d'Entremont
6/20	Sudbury	2 ad, 4-5 juv	R. Crissman	5/1	Northampton	4	T. Gagnon
6/thr	Essex	4+ ad	T. Young	5/1	Rowley	4	P. + F. Vale
Sora				5/2	Westport	30	M. Lynch#
5/8	Gardner	4	T. Pirro	5/5	Longmeadow	9	S. Kellogg + v.o.
5/14	Agawam	1	S. Kellogg	5/5	Hadley	6	H. Allen
5/14	W. Bridgewater	16	S. Arena#	5/5	Lexington	3	M. Rines
5/14	HRWMA	2	T. Pirro	5/6	Salem H.	16	K. Haley
5/15	Berkshire Cty	2	Hoffmann Club	5/9	P.I.	10	P. + F. Vale
5/15	S. Monomoy	2	B. Nikula#	5/9	Newbypt	350	R. Heil
5/15	Newbypt	1BBC	(W. Drummond)	5/9	W. Bridgewater	30	S. Arena
5/22	Wayland	1	D. + S. Larson#	5/14	Uxbridge	1	J. + D. Moffett
6/thr	Marshfield	2	D. Furbish	5/15	S. Egremont	1	M. Lynch
6/12	Hadley	2	T. Gagnon	5/15	Petersham	1	M. Lynch
6/21	Nashawena I.	1 + 5 yg	A. Jones	5/15	Berkshire Cty	1	Hoffmann Club
Common Moorhen				5/15	Barre	3	M. Lynch#
5/6-8	Marstons Mills	1	S. Clifton + v.o.	5/15	W. Springfield	4	J. & T. Zepko
Black-bellied Plover				5/17	E. Boston (B.I.)	4	P. + F. Vale
5/1	Nantucket	53	E. Ray	5/25	GMNWR	1	S. Perkins
5/2	N. Monomoy	30	W. Petersen	Lesser Yellowlegs			
5/17	E. Boston (B.I.)	119	D. Oliver	5/1	Rowley	3	P. + F. Vale
5/18	N. Monomoy	550	B. Nikula	5/9	P.I.	10	P. + F. Vale
5/21	Plymouth	50	G. d'Entremont	5/9	Newbypt	7	R. Heil
5/22	Newbypt	350	S. Perkins#	5/12	W. Harwich	2	B. Nikula
5/25	Katama	24	V. Laux#	5/14	Arlington Res.	2	M. Rines
5/28	P.I.	31	W. Drew#	5/25	GMNWR	1	S. Perkins
5/30	Falmouth-Mashpee	15BBC	(I. Giriunas)	5/26	P.I.	1	S. Perkins#
6/3, 21	N. Monomoy	120, 55	B. Nikula	6/29	P.I.	55	R. Heil
6/5	Plymouth	6BBC	(G. d'Entremont)	Solitary Sandpiper			
6/6	Winthrop	15	S. Zende#	5/8	Gardner	5	T. Pirro
American Golden-Plover				5/9	Arlington Res.	6	M. Rines
5/15	Chatham (S.B.)	1 br.pl.	J. Sones#	5/10	P.I.	5 migr	S. Perkins
Semipalmated Plover				5/12	Gardner	4	T. Pirro
5/9	W. Bridgewater	2	S. Arena	5/12	Worcester	2	M. Lynch#
5/9	P.I.	4	R. Heil	5/12	Newbury	2	J. + V. Kousky
5/15	Squantum	20	SSBC (R. Fox)	5/13-14	Newbury	2	J. Soucy
5/15	Chatham (S.B.)	12	B. Nikula#	5/14	Winchester	2	M. Rines
5/16	Fairhaven	82	M. Boucher	5/14	Arlington Res.	4	M. Rines
5/21	GMNWR	5	J. Center	5/15	Quabbin (G40)	2	R. Lockwood#
5/23	Essex	1	M. Lynch#	Willet			
5/26	P.I.	26	S. Perkins	5/2, 21	P.I.	1, 25	R. Heil
6/7	N. Monomoy	7	B. Nikula	5/5	Katama	32	V. Laux
6/12	Plymouth B.	2	D. Larson#	5/5	Nantucket	20	E. Ray
Killdeer				5/7	Rowley	2	J. Soucy#
5/25	GMNWR	6	S. Perkins	5/7	Gloucester	20	J. Soucy#
6/27	Worcester	17	M. Lynch#	5/8	Nantucket	56	E. Ray
Piping Plover				5/16	Westport	16	M. Boucher
5/22	N. Monomoy	5	W. Petersen	5/21	P.I.	25	R. Heil
5/26	Plymouth B.	7	W. Petersen	5/22	Duxbury B.	10	D. Furbish

Willet (continued)				5/19	Longmeadow	21	S. Kellogg +. v.o.
5/22	N. Monomoy	35	B. Nikula	5/22	Newbypt	300	S. Perkins#
5/23	Chappaquiddick	6	A. Keith#	5/25	GMNWR	30	S. Perkins
5/26	Plymouth B.	1	W. Petersen	5/26	P.I.	60	S. Perkins#
5/30	Falmouth-Mashpee	9BBC	(I. Giriunas)	5/28	Deerfield	2	R. Packard
6/thr	N. Monomoy	80 max	B. Nikula	6/29	P.I.	95	R. Heil
Spotted Sandpiper				6/30	Rowley	50	J. Berry
5/1, 6/27	Worcester	4, 2	M. Lynch#	White-rumped Sandpiper			
5/9	W. Bridgewater	3	S. Arena	5/6	DWWS	1	D. Furbish
5/14	Arlington Res.	4	M. Rines	5/15	Chatham (S.B.)	4	B. Nikula#
5/15	Petersham	5	M. Lynch#	5/15	P.I.	1	D. + S. Larson
5/25	Pepperell	3	E. Stromsted	5/15	Muskeget I.	1	S. Perkins#
5/26	P.I.	8	S. Perkins#	5/16	Fairhaven	1	M. Boucher
6/9	Amherst	3	H. Allen	5/22	N. Monomoy	5	W. Petersen
6/11	Hadley	1	H. Allen	5/23	Newbypt	1	M. Lynch#
6/22	Holyoke	2	S. Kellogg	5/25	Katama	1	V. Laux#
6/26	Lancaster	1	BBC (R. Lockwood)	5/26	Plymouth B.	4	W. Petersen
Upland Sandpiper				6/3	N. Monomoy	6	B. Nikula
thr	Bedford	18max	6/21R. Lockwood	6/10	P.I.	2	W. Drew#
thr	Lancaster	4-8	R. Lockwood	Pectoral Sandpiper			
5/4	Nantucket	1	E. Ray	5/3	DWWS	4	T. + D. Brownrigg#
5/6	W. Bridgewater	2	S. Arena	5/14	Winchester	2	M. Rines
5/18	Bolton Flats	3	D. Oliver	5/14	W. Bridgewater	1	S. Arena#
6/14	Chicopee	152	A. Jones	5/22	GMNWR	1	D. + S. Larson#
Whimbrel				Purple Sandpiper			
5/15	P.I.	1	D. + S. Larson	5/2	Westport	14	M. Lynch#
6/29	P.I.	1	R. Heil	5/2, 21	Gloucester	125, 6	J. Berry#
Ruddy Turnstone				5/16	Nantucket	12	S. Perkins
5/7	Duxbury B.	12	D. Furbish#	5/15	Lynn	113	R. Stymeist#
5/14-16	Nantucket	40	S. Perkins	5/15	N. Scituate	100	SSBC (R. Fox)
5/15	Chatham	1	S. Hedman	5/16	Fairhaven	4	M. Boucher
5/22, 6/3N.	Monomoy	70, 180	B. Nikula	5/18	Salisbury	100+	D. Wilkinson
5/31	Newbypt	3	R. Heil	Dunlin			
5/31	Plymouth B.	40	C. Floyd	5/2	Westport	210	M. Lynch#
6/5	P.I.	9	S. Moore#	5/2, 22	N. Monomoy	100, 1800	W. Petersen
6/6	Winthrop	2	S. Zende#	5/6	M.V.	80	V. Laux
6/11	Nantucket	6	fide E. Ray	5/7	Duxbury B.	120	D. Furbish#
Red Knot				5/16	Fairhaven	93	M. Boucher
5/1	Nantucket	5	E. Ray	5/21	Plymouth	10	G. d'Entremont
5/15	Chatham (S.B.)	4	B. Nikula#	5/22	Newbypt	300	S. Perkins#
5/22	Duxbury B.	1	D. Furbish	5/22	N. Monomoy	1800	W. Petersen
5/22	N. Monomoy	12	W. Petersen	5/24	Westfield	25	Kellogg, T. Swochak
5/23	Newbypt	1	M. Lynch#	5/25	Katama	280	V. Laux#
6/10	P.I.	2	W. Drew#	5/26	Plymouth B.	1	W. Petersen
6/12	Plymouth B.	1	D. Larson#	6/3	N. Monomoy	1	B. Nikula
Sanderling				6/10	P.I.	4	W. Drew#
5/15	Nahant	500	R. Heil	Ruff			
5/15	Muskeget I.	45	S. Perkins#	5/9	Newbypt	1	R. Heil
5/18, 22	N. Monomoy	1000, 2000	B. Nikula	5/13	E. Boston (B.I.)	1 f	J. Young
5/26	Plymouth B.	200	W. Petersen	Short-billed Dowitcher			
Semipalmated Sandpiper				5/2, 22	N. Monomoy	1, 8	W. Petersen
5/5	M.V.	1	V. Laux#	5/21	Plymouth	1	G. d'Entremont
5/15	Newbypt	3	R. Heil	5/22	Newbypt	12	S. Perkins#
5/22, 6/3N.	Monomoy	60, 300	B. Nikula	5/22	P.I.	67 migr	S. Perkins#
5/22	Newbypt	4	S. Perkins#	5/28	GMNWR	8	D. + I. Jewell
5/26	Plymouth B.	150	W. Petersen	5/29	Chesterfield	19	R. Packard
5/28	P.I.	210	W. Drew#	6/10	N. Monomoy	53	B. Nikula
6/7	Ipswich (C.B.)	75BBC	(S. Hedman)	6/10, 29	P.I.	15	W. Drew#, J. Berry#
Western Sandpiper				Common Snipe			
5/30	Katama	1 br pl	A. Keith	5/3	DWWS	4	T. + D. Brownrigg#
Red-necked Stint (details submitted)				5/6	Arlington Res.	1	M. Rines
6/26-29	P.I.	1 br pl	D. Sandee# + v.o.	5/9	W. Bridgewater	1	S. Arena
Least Sandpiper				5/15	Berkshire Cty	2	Hoffmann Club
5/6	DWWS	3	D. Furbish	5/19	Amherst	1	H. Allen
5/6	Longmeadow	2	S. Kellogg +. v.o.	American Woodcock			
5/7	Squantum	7	D. Larson	5/8	Gardner	5	T. Pirro
5/9	W. Bridgewater	26	S. Arena	5/9	Oxford	3	P. Meleski
5/9, 14	Arlington Res.	35, 98	M. Rines	5/14	Lancaster	3	R. Lockwood#
5/9, 15	Newbypt	600, 3000	R. Heil	5/15	Moran WMA	30+	M. Lynch#
5/12	W. Harwich	200	B. Nikula	5/15	Bolton Flats	4	R. Lockwood#
5/13	GMNWR	96	G. d'Entremont#	5/29	Worcester	6	M. Lynch#
5/15	Petersham	8	M. Lynch#	6/19	Salem	2	BBC (I. Lynch)
5/15	Muskeget I.	35	S. Perkins#				

Wilson's Phalarope				5/26	Plymouth B.	4	W. Petersen
5/1	P.I.	1 f	P. + F. Vale	6/9	Rockport (A.P.)	2 ad	R. Heil
5/3	Rowley	1 f	J. Berry	6/12	E. Orleans	4	S. Smolen-Morton
5/28	P.I.	5	W. Drew#	6/27	P'town (R.P.)	2	P. Champlin
5/31	DWWS	1	D. Furbish	Common Tern			
Red-necked Phalarope				5/1	Plymouth	50	O. Meise
5/19, 21	GMNWR	2	S. Perkins, K. Dorsey	5/1	Revere	2	J. Mittameier
Parasitic Jaeger				5/5	Longmeadow	2	J. Zepko + v.o.
5/8	Newbypt H.	1	S. Miller + v.o.	5/6	M.V.	150	V. Laux
5/9	N. Monomoy	1	B. Nikula	5/7	Duxbury B.	20	D. Furbish#
5/18	Nantucket	2	E. Ray	5/8	Nantucket	55	E. Ray
6/9	Rockport (A.P.)	1 dk	J. Soucy	5/8	Medford	1	D. Oliver
Laughing Gull				5/10	Duxbury	5	D. + S. Larson
5/1	Rockport (H.P.)	2	D. Jacques	5/22	Newbypt	200	S. Perkins#
5/1, 6/11	Nantucket	2, 5	E. Ray	5/22	N. Monomoy	1000	W. Petersen
5/2	N. Monomoy	2	W. Petersen	6/5	Plymouth	250 BBC (G. d'Entremont)	
5/10	Duxbury	5	D. + S. Larson	6/6, 13	Revere	75 ad, 6-7 juv.	S. Zende#
5/14	Lynn B.	2	D. + S. Larson	6/6, 13	Winthrop	30 ad	S. Zende#
5/23	P.I.	2	M. Lynch#	6/6, 13	E. Boston	220 ad, 150 ad	S. Zende#
5/29	Manchester	2	S. Perkins#	Arctic Tern			
6/5	Plymouth	71	BBC (G. d'Entremont)	5/26	Plymouth B.	3	W. Petersen
6/28	P.I.	2	BBC (D. + D. Oliver)	6/17-31	Holyoke, S. Hadley	1	phH. Allen + v.o.
Little Gull				6/27	Plymouth	1	J. Hoye#
5/13	Nantucket	1 IS	S. Perkins	Forster's Tern			
5/15	Muskeget I.	1 IS	R. Veit	5/15	Newbypt	1	D. Oliver
5/30	Katama	1	A. Keith#	5/22	P.I.	1	E. Nielsen#
6/15	P.I.	2	D. + I. Jewell	Least Tern			
6/27	P.I.	1 imm	J. Berry#	5/4	Scituate	3	S. Hecker
Black-headed Gull				5/5	M.V.	12	V. Laux#
5/15	Newbypt	1	D. + S. Larson	5/17	E. Boston (B.I.)	4-5	P. + F. Vale
6/27	Nahant	4	L. Pivacek	5/22, 31	Duxbury B.	2, 10	D. Furbish
6/29	P.I.	1 IS	R. Heil	5/23	Essex	2	M. Lynch#
Bonaparte's Gull				5/25	Quincy	2	D. Larson
5/15	S. Monomoy	45	B. Nikula#	6/7	Ipswich (C.B.)	100BBC (S. Hedman)	
5/15	P'town	45	B. Nikula#	6/27	Plymouth	50	J. Hoye#
5/17	Newbypt H.	75+	P. + F. Vale	Black Skimmer			
6/27	Nahant	9	L. Pivacek	5/15	E. Orleans	3	J. Sones#
6/29	P.I.	275	R. Heil	5/22	N. Monomoy	1	W. Petersen
Iceland Gull				5/31	Plymouth B.	1 pr	C. Floyd
5/4	Scituate	1 2W	S. Hecker	Common Murre			
5/13	Nantucket	1	S. Perkins	5/15	Wellfleet	1	E. Neumuth#
5/15	Muskeget I.	1	S. Perkins#	Razorbill			
5/15	Newbypt	1	D. + S. Larson	5/15	P'town (R.P.)	1	S. Carey#
5/15	P'town (R.P.)	1	S. Carey#	Black Guillemot			
5/16	Manchester	1 1stS	M. Lynch#	5/2	Marshfield	5	G. d'Entremont#
5/18	Salisbury	1 2W	D. Wilkinson	5/2	N. Scituate	3	G. d'Entremont
Lesser Black-backed Gull				5/2	Rockport	46	J. Berry#
5/2	N. Monomoy	2	W. Petersen	5/16	Manchester	1 br pl	M. Lynch#
5/14	Tuckernuck	1 IS	S. Perkins#	6/9	Rockport (A.P.)	4 br pl	R. Heil
5/25	Katama	2	V. Laux#	Atlantic Puffin			
Glaucous Gull				6/9	Rockport (A.P.)	2 br pl	R. Heil
5/14	Chatham (S.B.)	1 imm.	W. Harrington#	Black-billed Cuckoo			
5/15	P'town (R.P.)	1	S. Carey#	5/1, 22	Wayland	1, 3	N. Patterson
5/15	off Hyannis	1 1W	J. Barton	5/13	Milton	2	A. Joslin
5/15	Gloucester	1	B. Gette	5/23	Newbury	2	J. Berry#
Caspian Tern				5/26-6/05	Hingham	2	D. Peacock#
5/4	W. Tisbury	1	W. Manter	5/31	Barre F.D./Rutland S.P.	3	M. Lynch#
5/7	E. Gloucester	2	C. Leahy	6/5	Easton	3	S. Arena
5/9	Plymouth	3	R. Holmes	6/8	Sheffield	2	R. Laubach
5/22	Newbypt H.	1	S. Hedman#	6/16	Plymouth (MSSF)	2	G. d'Entremont
5/26	Plymouth B.	1	W. Petersen	6/17	Westboro	2	B. Volke#
5/29	Wachusett Res.	1 br pl	M. Lynch#	6/19	Nantucket	7	E. Ray
Royal Tern				5/9-6/18 Reports of indiv. from 18 locations			
5/23	Nantucket	1	A. Webb	Yellow-billed Cuckoo			
5/30	Katama	2	A. Keith#	5/14-6/05	Hingham	6 max	D. Peacock#
5/31	Plymouth B.	1	C. Floyd	5/23	Braintree	2	G. d'Entremont
6/11	Nantucket	1	fide E. Ray	5/23	Cohasset	3	L. Ferrarasso
Roseate Tern				5/26	MNWS	2	D. Crockett
5/6	Oak Bluffs	1	V. Laux	6/19	Brewster	5	B. Nikula
5/14-16	Nantucket	400	S. Perkins	5/8-6/7 Reports of indiv. from 14 locations			
5/15	Muskeget I.	80	S. Perkins#	Barn Owl			
5/16	Fairhaven	1	M. Boucher	5/14-16	Nantucket	1	S. Perkins
5/22	N. Monomoy	14	W. Petersen	6/11	Nantucket	5 b	fide E. Ray

Eastern Screech-Owl				5/15	Middleboro	4	W. Petersen
5/6	M.V.	1	V. Laux	5/15	Bolton Flats	2	R. Lockwood#
5/12	Cummaquid	1	red E. + S. Miller	5/16	Fairhaven	8	M. Boucher
5/13	Wakefield	1	P. + F. Vale	5/18	W. Gloucester	3	J. Soucy#
6/21	Marblehead	1	K. Haley	5/18-31	Maynard	1	L. Nachtrab
Great Horned Owl				5/29-6/30	Dover	2-3	E. Taylor
5/1	W. Boxford	3	J. Berry	5/30	Truro	11	J. Young
5/10	DWWS	1	pr D. Furbish	5/31	S. Wellfleet	3	R. Min#
5/15	Pepperell	1	R. Robbins	6/1-30	Plymouth (MSSF)30	max	G. d'Entremont
5/26	Topsfield	2	J. Berry#	6/5	Easton	18	S. Arena
5/30	Winchester	1	M. Rines	6/5	Newbury	2-3	P. + F. Vale
6/5	Lexington	2	M. Rines#	6/15	Lancaster	29	R. Lockwood
6/6	Stoneham	1	D. + I. Jewell	6/19	Montague	15	H. Allen
6/16	Plymouth (MSSF)	1	G. d'Entremont	6/19-20	Pepperell	1	M. Resch
6/21	Nashawena I.	1	pr A. Jones	6/21	Nashawena I.	3	A. Jones
Barred Owl				Chimney Swift			
thr	E. Middleboro	pr	K. Anderson	5/8	Winchester	21	D. Oliver
5/1-31	Pepperell	2	E. Stromsted	5/10	P.I.	15	S. Perkins
5/5	Bolton	1	R. Lockwood	5/13	GMNWR	125	G. d'Entremont#
5/8	Gardner	1	T. Pirro	5/22	P.I.	79	migr S. Perkins#
5/8	Manchester	2	D. Peloquin	6/13	Taunton	16	G. d'Entremont
5/8	Hubbardston	1	D. + S. Larson#	6/26	S. Hadley	15+	M. Lynch#
5/18	Boxford (C.P.)	1	P. + F. Vale	6/27	Worcester	40	M. Lynch#
5/31	Concord	1	J. Center	Ruby-throated Hummingbird			
6/12	Lincoln	2	M. Schwoppe	5/5	E. Middleboro	1	K. Anderson
Long-eared Owl				5/7	Southwick	1	S. Kellogg
5/14	Easton	1	S. Arena#	5/9	Petersham	1	D. Chapman#
Short-eared Owl				5/14	Oxford	2	P. Meleski
5/14	Tuckernuck	6 ad, 1 n w/6 yg	S. Perkins#	5/15	Hardwick	3	R. Lockwood#
6/24	Nantucket	2	E. Ray	5/23, 26	P.I.	4, 7	S. Perkins#
Northern Saw-Whet Owl				5/28	HRWMA	4	T. Pirro
5/1	Windsor	2	R. Rancatti	5/29	Barre	4	T. Pirro
5/2	Savoy	6	R. Rancatti	6/thr	Boxford	3-5	J. Brown#
5/5	Topsfield	1 n	J. Berry#	6/5-6/30	Falmouth	2 max	R. Farrell
5/10	Hinsdale	1	R. Packard	6/16	DWWS	1 pr	D. Furbish
5/14	Sharon	1	S. Arena#	Rufous Hummingbird			
5/15	Berkshire Cty	1	M. Lynch	5/2	Northampton	1	T. Gagnon
5/15	Shutesbury	1	B. Laflay#	Red-headed Woodpecker			
5/15	Florida	2	R. Rancatti	5/24	Hanson	1	D. Dahlberg
5/16	Hawley	4	R. Rancatti	Red-bellied Woodpecker			
5/23	Ashfield	1	R. Rancatti	5/1-31	Pepperell	2	E. Stromsted
6/4	Mt. Greylock	2	T. Gagnon	5/1-31	Bolton	2	R. Lockwood
6/19	WBWS	2	J. Trimble	5/18	Boxford (C.P.)	2-3	P. + F. Vale
Common Nighthawk				5/22	Worc. (BMB)	2	M. Lynch#
5/14	Uxbridge	3	J. + D. Moffett	5/27	Ipswich	3	J. Berry
5/15	Berkshire Cty	1	Hoffmann Club	5/30	Medford	7 ad	M. Rines
5/15	Amherst	2	H. Schwartz	6/13	Monson	2	M. Lynch#
5/15	Agawam	5	J. Hutchison	6/19	Worc. (BMB)	6	M. Lynch#
5/15	Petersham	1	M. Lynch#	Yellow-bellied Sapsucker			
5/15	Longmeadow	2	B. Kindseth	5/2	Quabbin (G40)	1	R. Lockwood
5/15	Plymouth	1	SSBC (R. Fox)	5/10	Boston	1	J. Dekker
5/16	Northboro	10	S. Moore	5/15	Marshfield	1	W. Petersen
5/16	IRWS	10	D. Hill	5/22	Quabbin (G29)	1	D. Small#
5/16	Stow	6	T. Carrolan	6/19	Mt. Greylock	8	BBC (G. d'Entremont)
5/17,21,22	Wayland	1,50+,25+N.	Patterson	Hairy Woodpecker			
5/22	Newbury	1	S. Hedman#	5/13	Milton	3 m, 1 f	A. Joslin
5/22	Sudbury	5	D. + S. Larson#	5/17	Pepperell	2	E. Stromsted
5/25	P.I.	3	D. Davis#	5/22	Medford	pr n	M. Rines
5/26	Ipswich	4	migr J. Berry	5/31	Barre F.D./Rutland S.P.	3	M. Lynch#
5/27	DWWS	2	D. Furbish	6/11, 22	Wakefield	3	F. Vale
6/28	Westfield	1	S. Kellogg	6/19	Worc. (BMB)	7	M. Lynch#
Chuck-will's-Widow				6/19	Falmouth	6	SSBC (N. Swirka#)
5/29	Montague	1	H. Allen	6/20	Lexington	2	D. + D. Oliver
5/31	S. Wellfleet	1	R. Min#	Pileated Woodpecker			
6/7-21	Nantucket	1	J. Van Voorst	5/1	Oxford	1	P. Meleski
Whip-poor-will				5/1-31	Pepperell	4	E. Stromsted#
5/2	ONWR	1	R. Lockwood	5/7, 30	Gardner	1	T. Pirro
5/8	Mt. A.	1	S. Moore#	5/8	ONWR	10	E. Salmela#
5/9	Oxford	4	P. Meleski	5/9	Medford	1	D. + I. Jewell
5/14	Sharon	16	S. Arena#	5/14	Quabbin (G40)	4	R. Lockwood
5/14	Mendon	1	J. + D. Moffett	5/15	Petersham	1	M. Lynch#
5/14	Sudbury	1	E. Taylor	5/17	Wayland	1	N. Patterson
5/14	Lancaster	60	R. Lockwood#	5/18	Boxford (C.P.)	2	P. + F. Vale

Pileated Woodpecker (continued)			6/13	Monson	1	M. Lynch#
5/26 Lincoln	1	S. Perkins	6/19	Mt. Greylock	2	BBC (G. d'Entremont)
6/6 Bolton	1	R. Lockwood	6/20	W. Brookfield	2	M. Lynch#
6/11 Milton		1 pr F. Bouchard#				

FLYCATCHERS THROUGH GROSBEAKS

A good number of Olive-sided Flycatchers were reported, with four reported before May 15, a decidedly early arrival for this species, which typically does not show up until the third week of the month. This species has been reported to breed very sporadically in Berkshire County, but none of the dates of these reports are suggestive of breeding. Acadian Flycatchers are uncommon and very local breeders, with most known nesting locales in the central and western part of the state. It is therefore intriguing to get reports of two males singing in Chilmark on Martha's Vineyard, where there has been circumstantial evidence of breeding in recent years, well into June, and another individual on Tuckernuck Island, near Nantucket, on June 23. Two Scissor-tailed Flycatchers were discovered on May 31, one on Nantucket and the second at Turner's Falls Airport in Montague. This species is rare enough in the state, but inland occurrences are especially infrequent.

A count of 14 Yellow-throated Vireos at South Quabbin Reservoir was an unusually high number, even for a known breeding location. A Philadelphia Vireo at Oxbow National Wildlife Refuge in Harvard was singing on territory throughout June, for the third year in a row. There is no breeding record for this species in the state, and there was no proof of this individual breeding. However, this sighting was particularly intriguing, because it was seen (and recorded) singing both Philadelphia and Warbling vireo songs. The Warbling Vireo song was not "perfect," but, according to the observer, "was close enough that one would think they were listening to a WAVI with a bit of an odd song. Since the bird was singing such an odd song I did scrutinize it more than usual and I can say unequivocally that it was a typical PHVI in all respects." While Philadelphia Vireo is most closely related to Warbling Vireo, there are no known cases of hybridization between these species.

A Fish Crow at Oaks Bluff may be a first record for Martha's Vineyard. A pair of Common Ravens nesting in Ashland produced two young — the southeastern-most confirmed breeding record in Massachusetts.

Purple Martins are rarely reported away from the coast; an individual in Petersham on May 29 is only the second report west of Worcester county since 1992.

Winter Wrens were reported in excellent numbers throughout the region, with counts of 12 in Hingham and Norwell being particularly impressive. Sedge Wren is extremely uncommon during spring migration, so an individual discovered in Provincetown by a Birdathon team on May 15 was a fine discovery. Golden-crowned Kinglets are known to breed in the mountains of Berkshire and Worcester counties, but breeding in the eastern part of the state is extremely uncommon. Since this species has generally cleared out of non-breeding territory by mid-May, individuals seen on May 15 in Sharon and Lakeville are interesting.

Since the division of Gray-cheeked Thrush into Gray-cheeked and Bicknell's, it has been problematic reporting these two species. Many contributors continue to refer to the species pair as simply "Gray-cheeked." Differentiating between the two species in the field is extremely difficult, so in the interest of conservative reporting, all reports of "Gray-cheeked" are classified as "Gray-cheeked/Bicknell's" unless accompanied by a description of why a specific identification was made. The Swainson's Thrush migration was mediocre for the second year in a row. The report of an individual on Mount Greylock on June 19 was suggestive of breeding.

Only four Golden-winged Warblers were reported during the period, and none during June, when they could be assumed to be breeding. By contrast, there were eight reports of

"Brewster's" and "Lawrence's," the Blue-winged/Golden-winged hybrids. The future of the Golden-winged Warbler in Massachusetts does not look promising.

Warbler migration in general was lackluster. Various species showed up at roughly the right time, but in atypically poor numbers. A Townsend's Warbler in Provincetown on May 10 was a true highlight. The last spring Townsend's reported in Massachusetts was on May 7, 1997, in the same location.

Blackpoll Warblers are among the latest of the spring migrants, with a typical arrival date in the middle of May, but there were several reports quite early in the month. Mourning Warblers pass through even later, usually not arriving until the last week in May, yet there were also a handful of early reports of this species as well. The later June reports of both of these species in the western part of the state were presumably breeders.

"Good" warblers were well reported: two Yellow-throated, two Prothonotary, three to four Kentucky, and a surprising eight Hooded warblers. A Yellow-breasted Chat loitered into the end of June in Westboro. This species has bred in Massachusetts, and this report is certainly suggestive.

Seven reports of Summer Tanager was an unusually high number for this occasional southern visitor. A single Western Tanager was exceptionally unusual for spring.

An "Ipswich" Savannah Sparrow on May 21 in Gloucester was late. Dark-eyed Juncos reported during the period were from breeding areas in the western part of the state. The only Dickcissel reported was an individual in Belchertown May 21-22.

American Goldfinches are often perceived to be non-migratory, however annual migration counts on Plum Island are showing that large diurnal flights of goldfinches are not uncommon. M.W.R.

Olive-sided Flycatcher				5/28	Cambridge	1	B. Stevens#
5/10	W. Springfield	1	J. Zepko	5/30	Gardner	1	T. Pirro
5/12	P.I.	1	J. + V. Kousky	Acadian Flycatcher			
5/12	MBWMA	1	N. Soulette	5/22	Granville	1	S. Kellogg
5/15	Agawam	1	S. Perreault	5/23	P'town	1	B. Nikula#
5/22	Quabbin (G43)	1	P. Meleski#	5/24	W. Springfield	1	S. Kellogg#
5/22	Worcester	1	M. Lynch#	5/25	MNWS	1	J. Hoye#
5/22	Quabbin (G29)	1	D. Small#	5/25-26	Mt.A.	1	C. Floyd# + v.o.
5/23	P.I.	1	M. Lynch#	5/29	Barre	1	M. Lynch#
5/25	HRWMA	1	T. Pirro	5/31	W. Quabbin	2	H. Allen
5/25	Amherst	1	H. Allen	6/2	Pepperell	1	M. Resch
5/28	Ashfield	1	H. Allen	6/2	Hingham	1	D. Peacock#
5/28	Southwick	1	S. Kellogg	6/5	Easton	1	S. Arena
5/29	MNWS	1	I. Smith	6/11-23	Chilmark	2 m	V. Laux#
5/30	Mt. Greylock	1	R. Rancatti	6/23	Tuckernuck	1	R. Veit
5/30	Newbypt	1	S. Grinley	6/24	Quabbin (G15)	1	C. Holzapfel
5/31	Barre F.D./Rutland S.P.	1	M. Lynch#	Alder Flycatcher			
6/5	Westboro	1	A. Boover	5/6	Quabbin (G40)	1	T. Pirro
6/5	Worc. (BMB)	1	J. Liller	5/15	Berkshire Cty	1	M. Lynch
Eastern Wood-Pewee				5/17	New Salem	1	B. Lafley
5/8	Chicopee	1	T. Swochak	5/17	Concord	1	R. Lockwood
5/9	Uxbridge	1	D. Moffett	5/22	Quabbin (G40)	2	R. Lockwood#
5/13	Milton	4	A. Joslin	5/28	HRWMA	4	T. Pirro
5/22	Quabbin (G46)	4	G. d'Entremont#	5/29, 6/3	Lexington	2, 3	M. Rines
5/26	P.I.	4	S. Perkins#	5/31	Barre F.D./Rutland S.P.	9	M. Lynch#
5/28	Medford	7	M. Rines	5/31	P.I.	6	R. Heil
5/31	Barre F.D./Rutland S.P.	22	M. Lynch#	5/31	W. Boxford	1-2 m	J. Berry
6/5	Easton	26	S. Arena	6/13	Monson	4	M. Lynch#
6/12	Quabbin (G37)	18BBC	(R. Lockwood)	6/15	Gardner	2	T. Pirro
6/13	Monson	6	M. Lynch#	6/19	Mt. Greylock	2BBC	(G. d'Entremont)
6/19	Worc. (BMB)	14	M. Lynch#	6/20	W. Brookfield	2	M. Lynch#
6/19	Falmouth	18	SSBC (N. Swirka#)	6/20	Windsor	8BBC	(G. d'Entremont)
6/19	Milton	5	A. Joslin#	Willow Flycatcher			
6/20	W. Brookfield	7	M. Lynch#	5/12	Amherst	1	H. Allen
Yellow-bellied Flycatcher				5/14	Quabbin (G46)	1	R. Lockwood
5/14	Worcester	1	M. Lynch#	5/15	W. Newbury	1	L. Ferraresso
5/15	Sudbury	1	H. Miller#	5/15	Bolton Flats	2	R. Lockwood#
5/15	Berkshire Cty	1	M. Lynch	5/22	Quabbin (G40)	4	R. Lockwood#
5/15	Springfield	1	J. Cavanaugh	5/29	Worc. (BMB)	4	M. Lynch#
5/24	Granville	1	S. Kellogg#	5/31	P.I.	24	R. Heil
5/26	P.I.	1	D. + I. Jewell	5/31	Barre F.D./Rutland S.P.	6	M. Lynch#

Willow Flycatcher (continued)				6/13	Fall River	1	G. d'Entremont
5/31	Wakefield	10	P. + F. Vale	6/15	Gardner	2	T. Pirro
6/13	Lancaster	5	R. Lockwood	6/19	Mt. Greylock	8	BBC (G. d'Entremont)
6/13	DWWS	6	D. Furbish	6/20	W. Brookfield	2	M. Lynch#
6/12	Westboro	9	A. Boover	Yellow-throated Vireo			
6/20	W. Brookfield	5	M. Lynch#	5/7	Lenox	1	R. Laubach
6/20	Lexington	6	D. + D. Oliver	5/9	S. Quabbin	14	M. Lynch#
Least Flycatcher				5/11, 6/6	Worcester	1, 1	M. Lynch#
5/1, 31	Barre F.D./Rutland S.P.	1, 42	M. Lynch#	5/13	ONWR	2	D. + S. Larson
5/1	Quabbin (G33)	2	T. + D. Brownrigg	5/14	Oxford	1	P. Meleski
5/8	Gardner	4	T. Pirro	5/15	Sudbury (GMNWR)	1	R. Crissman
5/9	P.I.	2	R. Heil	5/15	Lunenburg	1	R. Lockwood#
5/9	S. Quabbin	23	M. Lynch#	5/16	Lancaster	2	R. Lockwood
5/10	Mt.A.	1	P. + F. Vale	5/18	Groton	1	T. Pirro
5/12	MNWS	1 m	K. Haley	5/18	Boxford (C.P.)	4-6	P. + F. Vale
5/13	Bolton	2	D. + S. Larson	5/21	Newbury	1	P. + F. Vale
5/15	Middleboro	2	W. Petersen	5/21	Medford	1 m	M. Rines
5/21	Townsend	2	R. Heil	5/23	Wellfleet	1	B.Nikula, J.Trimble
5/22	Quabbin (G46)	15	G. d'Entremont#	5/29	Carlisle	1	T. + D. Brownrigg
5/22	Worc. (BMB)	3	M. Lynch#	5/31	Barre F.D./Rutland S.P.	3	M. Lynch#
5/23	P.I.	1	S. Perkins	6/2-5	Hingham	1	D. Peacock#
6/12	Quabbin (G37)	21	BBC (R. Lockwood)	6/5	Easton	1	S. Arena
6/13	Monson	2	M. Lynch#	6/17	Dunstable	1	M. Rines
6/17	Ayer	1	M. Rines	6/26	Hadley	1	M. Lynch#
6/20	W. Brookfield	2	M. Lynch#	6/27	Westboro WMA	1	D. + S. Larson
Great Crested Flycatcher				Warbling Vireo			
5/1	N. Dartmouth	3	M. Boucher	5/7	Woburn	12	M. Rines
5/1	Rowley	1	P. + F. Vale	5/16	Hingham	6	SSBC (N. Swirka)
5/2	E. Middleboro	1	K. Anderson	5/20	GMNWR	6	R. Lockwood
5/2, 21	Medford	1, 5	M. Rines	5/21	Worcester	64	M. Lynch#
5/2	Malden	1	P. + F. Vale	5/26	Pepperell	7	E. Stromsted
5/8	Cohasset	6	N. Swirka	5/31	Barre F.D./Rutland S.P.	10	M. Lynch#
5/9	Braintree	4	K. Vespaziani	5/31	Wakefield	14	P. + F. Vale
5/12	Stow	4	R. Lockwood	6/19	Salem	6	BBC (I. Lynch)
5/18	Boxford (C.P.)	4	P. + F. Vale	6/20	W. Brookfield	6	M. Lynch#
5/30	Ipswich	4	J. Berry	Philadelphia Vireo			
6/5	Easton	14	S. Arena	5/13-6/30	ONWR	1	D. + S. Larson + v.o.
6/5	Lexington	4	M. Rines	5/29	Worc. (BMB)	1	J. Liller
6/12	Quabbin (G37)	5	BBC (R. Lockwood)	Red-eyed Vireo			
6/27	Newbury	7	BBC (M. Burns)	5/7	Adams	2	R. Rancatti
Eastern Kingbird				5/8, 6/19	Worcester	1, 12	M. Lynch#
5/1	Arlington	1	M. Rines	5/9	Medford	1	M. Rines
5/1	Middleboro	1	K. Anderson	5/9	S. Quabbin	3	M. Lynch#
5/1, 6/27	Worcester	4, 31	M. Lynch#	5/16	Lancaster	12	R. Lockwood
5/31	P.I.	27	R. Heil	5/22	Quabbin (G46)	44	G. d'Entremont#
5/31	Barre F.D./Rutland S.P.	15	M. Lynch#	5/26	Newbury	8	J. Berry#
6/19	Falmouth	16	SSBC (N. Swirka#)	5/30	Ipswich	8 m	J. Berry
Scissor-tailed Flycatcher				5/31	Barre F.D./Rutland S.P.	133	M. Lynch#
5/31	Montague	1	M. Polana + v.o.	6/5	Easton	21	S. Arena
5/31	Nantucket	1	J. Stewart	6/12	Quabbin (G37)	57	BBC (R. Lockwood)
White-eyed Vireo				6/13	Monson	24	M. Lynch#
5/2	Westport	2	M. Lynch#	6/19	Mt. Greylock	67	BBC (G. d'Entremont)
5/10	MNWS	1	R. Heil	6/26	Hadley	19	M. Lynch#
5/14	Eastham (F.H.)	1	G. Wood	Fish Crow			
5/16	S. Dartmouth	2	M. Boucher	5/2	Malden	1	P. + F. Vale
5/23	P'town	1	S. + M. Miller	5/2	DWWS	5	G. d'Entremont#
5/29	MNWS	3	P. + F. Vale	5/2	Boston	1	D. Wilkinson#
6/13	Westport	1	G. d'Entremont	5/7	Mattapan	1	S. Perkins#
Blue-headed Vireo				5/9	ONWR	1	J. Bartos
5/1, 31	Barre F.D./Rutland S.P.	4, 20	M. Lynch#	5/11	S. Yarmouth	1	K. Blackshaw
5/1, 6/26	Lancaster	8, 3	R. Lockwood	5/11-6/25	Northampton	1-3	H. Allen
5/1-23	Mt.A.	7	max 5/12 BBC	5/13	Milton (F.M.)	1	G. d'Entremont#
5/2, 14	Quabbin (G40)	15, 10	R. Lockwood	5/14	Westfield	2	S. Kellogg
5/7	MNWS	4	K. Haley	5/15	Lakeville	1	SSBC (R. Fox)
5/8	Boxford (C.P.)	4	P. + F. Vale	5/15	Berkshire Cty	1	Hoffmann Club
5/9	Medford	4	M. Rines	5/15	Medford	1	P. + F. Vale
5/9	P.I.	5	P. + F. Vale	5/15	Oak Bluffs	1	V. Laux#
5/9, 21	Newbury	5, 4	P. + F. Vale	6/12	Lee	1	S. Kellogg + v.o.
5/12, 22	P'town	4, 4	B. Nikula	6/13	W. Springfield	1	H. Allen
5/21	Gloucester	3	BBC (D. Jacques)	6/18	Southwick	1	S. Kellogg
5/22	Quabbin (G46)	7	G. d'Entremont#	6/20	Lincoln	1	S. Perkins
6/12	Quabbin (G37)	5	BBC (R. Lockwood)	6/23	DWWS	8	D. Furbish
6/12	Petersham	4	J. Bartos				

Winter Wren (continued)				5/8	Oxford	4	P. Meleski#
5/18	Boxford (C.P.)	8	P. + F. Vale	5/9	MNWS	3	L. de la Flor
5/31	Barre F.D./Rutland S.P.	8	M. Lynch#	5/9	P.I.	3	R. Heil
5/6-6/05	Norwell	12	max D. Peacock#	5/12	Oxford	2	P. Meleski
6/4	Stow	2	R. Lockwood	5/12	Milton	4	A. Joslin
6/5	Easton	2	S. Arena	5/13	Worcester	3	M. Lynch#
6/19	Mt. Greylock	4	BBC(G. d'Entremont)	5/13	Wakefield	2	F. Vale
Marsh Wren				5/18	Boxford (C.P.)	2	P. + F. Vale
5/2	GMNWR	2	D. Oliver	5/20	Hingham	22	D. Peacock#
5/2	Lynnfield	1	P. + F. Vale	5/22	Quabbin (G46)	31	G. d'Entremont#
5/6	Wayland	1	R. Min	5/29	Carlisle	1	T. + D. Brownrigg
5/9	P.I.	22	R. Heil	5/29	Lexington	1	M. Rines
5/15	Richmond	5	T. Collins	5/30	Ipswich	8	J. Berry
5/19	Worc. (BMB)	1	M. Lynch#	5/31	Barre F.D./Rutland S.P.	27	M. Lynch#
5/31	Barre F.D./Rutland S.P.	1	M. Lynch#	6/5	Easton	11	S. Arena
5/31	Wakefield	12	P. + F. Vale	6/6	Hockomock WMA 20	SSBC (K. Anderson#)	
6/19	Salem	7	BBC (I. Lynch)	6/12	Quabbin (G37)	26	BBC (R. Lockwood)
6/20	W. Brookfield	4	M. Lynch#	6/13	Monson	32	M. Lynch#
6/21	DWWS	3	D. Furbish	6/13	Fall River	10	G. d'Entremont
Blue-gray Gnatcatcher				6/19	Mt. Greylock	18	BBC(G. d'Entremont)
5/1	Oxford	4	P. Meleski	6/20	W. Brookfield	33	M. Lynch#
5/1	W. Newbury	4	R. Heil	6/26	Hadley	4	M. Lynch#
5/6	Hingham	5	D. Peacock#	Gray-cheeked/Bicknell's Thrush			
5/8	ONWR	8	E. Salmela#	5/13	Worcester	1	M. Lynch#
5/8	Lancaster	12	R. Lockwood	5/15	Longmeadow	1	N. Eaton
5/9	S. Quabbin	12	M. Lynch#	5/15-16	Marshfield	1	R. Fox + v.o.
5/10	MNWS	6	R. Heil	5/23	Mt.A.	1	T. Leverich
5/13	P'town	5	B. Nikula	5/29-31	MNWS	1	P. + F. Vale + v.o.
5/18	Boxford (C.P.)	8	P. + F. Vale	Swainson's Thrush			
5/25	Hingham	3	W. Petersen	5/5	Boston	1	D. Larson
5/31	Barre F.D./Rutland S.P.	3	M. Lynch#	5/8	Ludlow	1	B. Platenik
6/20	W. Brookfield	10	M. Lynch#	5/8	Chicopee	3	T. Swochak
Golden-crowned Kinglet				5/12	MNWS	2	P. + F. Vale
5/1	MNWS	10	P. + F. Vale	5/13	Wakefield	2	F. Vale
5/15	Sharon	1	m S. Arena#	5/14	Quabbin (G40)	2	R. Lockwood
5/15	Lakeville	1	W. Petersen	5/15	W. Springfield	4	J. Zepko
5/18	Groton	1	T. Pirro	5/15	Hingham	2	D. Peacock#
5/21	Ashburnham	4	R. Heil	5/15	Northampton	5	T. Gagnon
5/31	Barre F.D./Rutland S.P.	5	M. Lynch#	5/20	Norwell	2	D. Peacock#
6/5	Mt. Greylock	5	T. Gagnon	5/22	Worcester	2	M. Lynch#
6/20	Windsor	2	R. Packard	5/22-23	Mt.A.	4	+ D. + S. Larson#
6/20	Cummington	2	R. Rancatti	6/19	Mt. Greylock	1	S. Kellogg + v.o.
Ruby-crowned Kinglet				5/9-5/31	Reports of indiv. from 12 locations		
5/1	MNWS	25	P. + F. Vale	Hermit Thrush			
5/1	Lancaster	1	R. Lockwood	5/1, 31	Barre F.D./Rutland S.P.	4, 24	M. Lynch#
5/6	Wakefield	3	F. Vale	5/6	Hingham	5	D. Peacock#
5/9	Newbury	1	P. + F. Vale	5/8	Cohasset	3	N. Swirka
5/9	P.I.	17	R. Heil	5/8	Lunenburg	6	R. Lockwood
5/9	Medford	1	M. Rines	5/9	S. Quabbin	7	M. Lynch#
5/10	Mt.A.	4	P. + F. Vale	5/12	MNWS	10	P. + F. Vale
5/10	Worcester	3	M. Lynch#	5/14	Quabbin (G40)	8	R. Lockwood
5/11	Medford	1	M. Rines	5/21	Ashburnham	6	R. Heil
5/15	Nantucket	2	E. Ray	6/19	E. Middleboro	3	m K. Anderson
5/15	Berkshire. Cty	1	Hoffmann Club	6/5	Easton	27	S. Arena
5/15	W. Springfield	1	J. Zepko	6/13	Monson	4	M. Lynch#
5/17	P.I.	2	P. + F. Vale	6/13	Freetown	4	G. d'Entremont
Eastern Bluebird				6/16	Plymouth (MSSF)	12	G. d'Entremont
5/1-31	Sherborn	10	E. Taylor	6/19	Falmouth	5	SSBC (N. Swirka#)
5/2	Quabbin (G40)	2	R. Lockwood	6/19	Milton	4	A. Joslin#
5/7	Sudbury	2	R. Lockwood	6/19	Medfield	3	J. Hoye#
5/8	Lunenburg	2	R. Lockwood	6/19	Mt. Greylock	10	BBC(G. d'Entremont)
5/8	IRWS	1	pr P. + F. Vale	Wood Thrush			
5/12	Westport	18	M. Boucher	5/6, 18	Hingham	2, 11	D. Peacock#
5/14	Mendon	pr	J. + D. Moffett	5/7	Lincoln	1	S. Perkins
6/12	Hingham	2	pr, 6 fl T. Young#	5/7	Stow	1	R. Lockwood
6/13	Berkley	1	G. d'Entremont	5/8	ONWR	4	E. Salmela#
6/19	Worc. (BMB)	4	M. Lynch#	5/8	Lancaster	6	R. Lockwood
6/20	W. Brookfield	2	M. Lynch#	5/9, 6/13	Medford	6, 7	M. Rines
6/20	Bolton	2	R. Lockwood	5/9	S. Quabbin	14	M. Lynch#
6/21	E. Middleboro	pr+4	yg K. Anderson	5/10	MNWS	6	R. Heil
Veery				5/13	Milton	6	A. Joslin
5/8, 16	Lancaster	1, 8	R. Lockwood	5/14	Oxford	5	P. Meleski
5/8	ONWR	4	E. Salmela#	5/16	Lancaster	11	R. Lockwood

Wood Thrush (continued)				5/14	Arlington	1	M. Rines
5/29	Worcester	6	M. Lynch#	5/14-23	Mt.A.	1	P. + F. Vale
5/30	Ipswich	5 m	J. Berry	5/15	P.I.	1	D. Oliver
6/12	Norwell	5-6 m	T. Young#	5/15	Agawam	4	J. Hutchison
6/13	Monson	7	M. Lynch#	5/15	Springfield	4	J. Cavanaugh
6/19	Worc. (BMB)	16	M. Lynch#	5/16	Manchester	1	M. Lynch#
6/19	Mt. Greylock	6BBC(G. d'Entremont)		5/17	Melrose	2	R. Heil
6/20	W. Brookfield	5	M. Lynch#	5/20	Hingham	3	D. Peacock#
6/27	Newbury	6 BBC (M. Burns)		5/21	Gloucester	1BBC (D. Jacques)	
Gray Catbird				5/22	E. Middleboro	1	K. Holmes
5/16	Gloucester (E.P.)	37	M. Lynch#	5/23-25	Medford	1	M. Rines
5/16	Hingham	25	SSBC (N. Swirka)	5/28	MNWS	1	I. Lynch
5/23	P.I.	83	M. Lynch#	5/29	W. Newbury	1	R. Heil
6/5	Easton	44	S. Arena	Orange-crowned Warbler			
6/6	Hockomock WMA	57SSBC (K. Anderson#)		5/7	Milton	1	G. d'Entremont#
6/13	Monson	90	M. Lynch#	5/9	MNWS	1	L. de la Flor
6/20	W. Brookfield	34	M. Lynch#	5/9	S. Quabbin	1	M. Lynch#
6/27	Worcester	67	M. Lynch#	Nashville Warbler			
Brown Thrasher				5/5, 8	Gardner	1, 7	T. Pirro
5/1	Oxford	4	P. Meleski	5/6	Longmeadow	1	N. Eaton
5/7	Medford	8	M. Rines	5/7, 11	Medford	1, 3	M. Rines
5/10, 6/27	Worcester	7	M. Lynch#	5/7	Sudbury	1	R. Lockwood
5/17	Concord	4	R. Lockwood	5/7-14	Mt.A.	10 max	5/11 BBC
5/26	P.I.	14	S. Perkins#	5/8	Lancaster	2	R. Lockwood
6/12	Rockport (H.P.)	3	M. Lynch#	5/8-22	Worcester	1-4	M. Lynch#
6/16	Plymouth (MSSF)	6	G. d'Entremont	5/9	W. Newbury	3	P. + F. Vale
6/22	Lancaster	7	R. Lockwood	5/9	P.I.	11	R. Heil
6/22	Wakefield	4	F. Vale	5/9	S. Quabbin	9	M. Lynch
6/23	Bedford	4	R. Lockwood#	5/11	Concord	3	R. Lockwood
American Pipit				5/12	Stow	3	R. Lockwood
5/1	Hadley	1	T. Gagnon	5/14	MNWS	3	S. Wallace
5/13	GMNWR	13	G. d'Entremont	5/31	Barre F.D./Rutland S.P.	4	M. Lynch#
5/14-16	Nantucket	4	S. Perkins	6/13	Monson	1	M. Lynch#
5/22	Newbypt	1	S. Hedman#	6/13	Pittsfield	1	E. Neumuth
Cedar Waxwing				6/19	Mt. Greylock	1S.	Kellogg +. v.o.
5/22, 30	P.I.	86 migr, 189 migr	S. Perkins#	6/20	W. Brookfield	1	M. Lynch#
Blue-winged Warbler				Northern Parula			
5/1	Stoughton	1	D. + S. Larson	5/1	GMNWR	1	M. Rines
5/2	Westport	1	M. Lynch#	5/6	Longmeadow	1	N. Eaton
5/8	ONWR	8	E. Salmela#	5/7, 9	Medford	3, 14	M. Rines
5/8	Lancaster	6	R. Lockwood	5/7	Gardner	7	T. Pirro
5/8	Worc. (BMB)	9	J. Liller#	5/8	Lexington	4	M. Rines
5/9	Braintree	4	K. Vespaziani	5/8	Lancaster	4	R. Lockwood
5/9	W. Newbury	7	P. + F. Vale	5/8-22	Worcester	7 max	5/13 M. Lynch#
5/11	Lexington	6	M. Rines	5/9	S. Quabbin	24	M. Lynch#
5/12	Stow	4	R. Lockwood	5/9-28	Mt.A.	15 max	5/11 BBC
5/17	MBWMA	6	P. + F. Vale	5/11	Worc. (BMB)	6	J. Liller
5/17	Concord	9	R. Lockwood	5/12	Stow	11	R. Lockwood
5/18	Burlington	6	M. Rines	5/12	P'town	10	B. Nikula
5/26	Newbury	6 m	J. Berry#	5/16	Hingham	6SSBC (N. Swirka)	
5/31	Barre F.D./Rutland S.P.	13	M. Lynch#	5/16	Gloucester (E.P.)	9	M. Lynch#
6/2	Bedford	4	R. Lockwood#	5/21	Newbury	4	P. + F. Vale
6/13	Monson	6	M. Lynch#	5/21	MNWS	5	D. Oliver
Golden-winged Warbler				5/22	P.I.	18	S. Perkins#
5/14	Easton	1 m	S. Arena#	5/22	P'town	8	B. Nikula
5/15-17	MNWS	1 f	K. Haley + v.o.	6/9	W. Newbury	1 m	R. Heil
5/16	P.I.	1 m	M. Gonsalo	Yellow Warbler			
5/26	Newbury	1 f	J. Berry#	5/1, 11	Lexington	4, 21	M. Rines
Brewster's Warbler				5/1	Oxford	4	P. Meleski
5/8	IRWS	1	P. + F. Vale	5/7	Woburn	15	M. Rines
5/15	Sharon	1	S. Arena#	5/8	Lancaster	14	R. Lockwood
5/15	Agawam	1	S. Kellogg	5/8	Oxford	23	P. Meleski#
5/16	ONWR	1	T. Roberts	5/14	Quabbin (G40)	16	R. Lockwood
5/17, 6/7	Concord	1	R. Lockwood	5/21	Worcester	33	M. Lynch#
6/20	W. Brookfield	1	M. Lynch#	5/23	P.I.	70	M. Lynch#
Lawrence's Warbler				5/31	Barre F.D./Rutland S.P.	44	M. Lynch#
5/12	Quabbin (G40)	1	R. Lockwood	6/6	Worcester	25	M. Lynch#
6/8	Williamsburg	1	J. Young	6/6	Hockomock WMA	51SSBC (K. Anderson#)	
Tennessee Warbler				6/12	Westboro WMA	25+	M. Lynch#
5/9	Newbypt	1	R. Heil	6/13	Monson	29	M. Lynch#
5/10, 15, 18	W. Springfield	1, 9, 1	J. Zepko	Chestnut-sided Warbler			
5/11, 14	Winchester	1, 2	M. Rines	5/1, 31	Barre F.D./Rutland S.P.	1, 55	M. Lynch#
5/11	Worcester	1	J. Liller	5/7, 14	Oxford	1, 3	P. Meleski

Chestnut-sided Warbler (continued)			5/7	Wakefield	35	P. + F. Vale	
5/8	Southwick	1	S. Kellogg	5/8	Lancaster	72	R. Lockwood
5/8	W. Springfield	1	J. Zepko	5/9	Agawam	40	S. Kellogg
5/8	Chicopee	1	T. Swochak	5/8	P.I.	250	R. Heil
5/8	Petersham	1	B. Coyle	5/9	W. Newbury	38	P. + F. Vale
5/9	S. Quabbin	34	M. Lynch#	5/9	MNWS	55	R. Heil
5/9-14	Medford	3	M. Rines	5/11	W. Springfield	40	J. Zepko
5/9-23	Mt.A.	4 max	BBC	5/11	Winchester	30	M. Rines
5/14	Quabbin (G40)	16	R. Lockwood	5/12	P'town	50	B. Nikula
5/16	Lancaster	8	R. Lockwood	5/13	GMNWR	28	R. Lockwood
5/22	P'town	8	B. Nikula	5/31	Barre F.D./Rutland S.P.	39	M. Lynch#
5/23-6/30	W. Boxford	3-4	J. Berry#	6/4	Stow	4	R. Lockwood
5/24	P.I.	6BBC	(W. Drummond)	6/12	Quabbin (G37)	15	BBC (R. Lockwood)
6/12	Quabbin (G37)	8	BBC (R. Lockwood)	6/13	Monson	5	M. Lynch#
6/12	Petersham	4+	J. Bartos	6/16	Plymouth (MSSF)	pr	G. d'Entremont
6/13	Monson	4	M. Lynch#	6/19	Mt. Greylock	29	BBC(G. d'Entremont)
6/19	Mt. Greylock	26	BBC(G. d'Entremont)	6/20	W. Brookfield	3	M. Lynch#
6/20	W. Brookfield	4	M. Lynch#	Townsend's Warbler			
Magnolia Warbler			5/10	P'town	1	M. Tuttle, A. King#	
5/7	Gardner	2	T. Pirro	Black-throated Green Warbler			
5/7	Granville	1	N. Eaton	5/1	Petersham	6T. + D. Brownrigg	
5/8	Lancaster	1	R. Lockwood	5/1, 30	Ipswich	3, 13	J. Berry
5/9, 14	Medford	5, 6	M. Rines	5/1-14	Medford	20 max	5/9M. Rines
5/9	S. Quabbin	3	M. Lynch#	5/2	Quabbin (G40)	14	R. Lockwood
5/9-23	Mt.A.	3-4	BBC	5/7	Gardner	10+	T. Pirro
5/10, 15	MNWS	14, 15	R. Heil	5/7	MNWS	10	S. Hedman
5/11-29	Worcester	5 max	5/13 M. Lynch#	5/7-23	Mt.A.	10 max	5/09 BBC
5/13	Stow	7	R. Lockwood	5/8	Boxford (C.P.)	12	P. + F. Vale
5/14	Quabbin (G40)	6	R. Lockwood	5/8	Lancaster	13	R. Lockwood
5/15	Melrose	3	D. + I. Jewell	5/8	ONWR	12	E. Salmela#
5/21	Maynard	6	R. Lockwood	5/8	Gardner	18	T. Pirro
5/21	Newbury	15	P. + F. Vale	5/9	W. Newbury	11	P. + F. Vale
5/22	P.I.	48 migr	S. Perkins#	5/9	S. Quabbin	36	M. Lynch#
5/22	Quabbin (G46)	3	G. d'Entremont#	5/9-25	Worcester	10 max	5/13 M. Lynch#
5/22	P'town	20	B. Nikula	5/12	P'town	10	B. Nikula
5/31	Barre F.D./Rutland S.P.	13	M. Lynch#	5/14	Quabbin (G40)	32	R. Lockwood
6/19	Mt. Greylock	6	BBC(G. d'Entremont)	5/15	P.I.	10	BBC (W. Drummond)
Cape May Warbler			5/16	Hingham	10	SSBC (N. Swirka)	
5/6	Westfield	1	J. Hutchison	5/21	Newbury	20	P. + F. Vale
5/7	Quabbin Park	1	W. Laflay	5/22	P.I.	17 migr	S. Perkins#
5/9-14	Mt.A.	1-2	BBC	5/31	Barre F.D./Rutland S.P.	35	M. Lynch#
5/10	P.I.	1	S. Perkins	6/19	Mt. Greylock	10	BBC (G. d'Entremont)
5/10	Lakeville	1	K. Holmes	6/20	W. Brookfield	14	M. Lynch#
5/12	Worcester	4-5	M. Lynch#	Blackburnian Warbler			
5/13	MNWS	1	K. Haley	5/7	Granville	1	N. Eaton
5/14	Winchester	1	M. Rines	5/7	Southwick	1	S. Kellogg
5/15	Berkshire Cty	1	Hoffmann Club	5/7-23	Mt.A.	1-2	BBC
5/18	Worc. (BMB)	1	J. Liller	5/9	S. Quabbin	5	M. Lynch#
Black-throated Blue Warbler			5/11-23	Medford	2-3	M. Rines	
5/2	Granville	1	S. Kellogg	5/12	Stow	2	R. Lockwood
5/2	Quabbin (G40)	1	R. Lockwood	5/12	Newbypt	2	J. + V. Kousky
5/8, 16	Lancaster	2, 4	R. Lockwood	5/14	Winchester	2	M. Rines
5/8	Gardner	7	T. Pirro	5/15	P.I.	4	BBC (W. Drummond)
5/9	Medford	5	M. Rines	5/18	MNWS	2	P. + F. Vale
5/9, 21	Newbury	3, 4	P. + F. Vale	5/21	Newbury	8	P. + F. Vale
5/9	S. Quabbin	6	M. Lynch#	5/21	Newbypt	20	BBC (W. Drummond)
5/9-23	Mt.A.	9 max	5/09 BBC	5/22	Wayland	5	N. Patterson
5/13	Worcester	15	M. Lynch#	5/22	P'town	12	B. Nikula
5/13	Stow	4	R. Lockwood	5/22	P.I.	4 migr	S. Perkins#
5/14	Quabbin (G40)	10	R. Lockwood	5/31	Barre F.D./Rutland S.P.	15	M. Lynch#
5/14	Medford	6	M. Rines	6/5	Mt. Greylock	38	T. Gagnon
5/16	MNWS	7	P. + F. Vale	6/12	Quabbin (G37)	11	BBC (R. Lockwood)
5/23	P.I.	14	M. Lynch#	6/13	Monson	3	M. Lynch#
5/31	Barre F.D./Rutland S.P.	3	M. Lynch#	6/20	W. Brookfield	3	M. Lynch#
6/12	Quabbin (G37)	11	BBC (R. Lockwood)	6/24	Quabbin (G15)	2	C. Holzapfel
6/19	Mt. Greylock	20	BBC(G. d'Entremont)	Yellow-throated Warbler			
Yellow-rumped Warbler			5/10	P'town	1	K. Gentalen	
5/1-19	Mt.A.	50 max	5/11 BBC	5/11	N. Middleboro	1	K. Holmes
5/1-21	Medford	105 max	5/7M. Rines	Pine Warbler			
5/1-26	P.I.	320 max	5/10 migr	5/1	Oxford	6	P. Meleski
5/1-13	Worcester	108 max	5/1 M. Lynch#	5/1	Quabbin (G33)	7T. + D. Brownrigg	
5/1	Lexington	50	M. Rines	5/1	Lancaster	10	R. Lockwood
5/2	Quabbin (G40)	40	R. Lockwood	5/1	Stoughton	6	D. + S. Larson

Pine Warbler (continued)			5/14, 23	Medford	2, 1	M. Rines	
5/1	Lexington	1	R. LaFontaine#	5/14, 17	Oxford	4	P. Meleski
5/2	Quabbin (G40)	20	R. Lockwood	5/17	Worc. (BMB)	2	J. Liller
5/8	Cohasset	8	N. Swirka	5/18	Maynard	3	L. Nachtrab
5/8	Milton	8BBC	(G.d'Entremont)	5/18	Boxford (C.P.)	3	P. + F. Vale
5/8	Oxford	16	P. Meleski#	5/21	Gloucester	7BBC	(D. Jacques)
5/23	Maynard	8	R. Lockwood	5/22	P'town	40+	B. Nikula
5/31	Barre F.D./Rutland	S.P. 29	M. Lynch#	5/22	M. V.	100+	V. Laux#
6/5	Stoughton	3	D. + S. Larson	5/22	Quabbin (G43)	4	P. Meleski#
6/12	Quabbin (G37)	13	BBC (R. Lockwood)	5/22	W. Springfield	3	J. Zepko
6/13	Monson	7	M. Lynch#	5/27, 31	Wakefield	4, 1	F. Vale
6/13	Fall River	13	G. d'Entremont	5/28	HRWMA	2	T. Pirro
6/13	Freetown	6	G. d'Entremont	5/29	MNWS	10+	P. + F. Vale
6/19	Falmouth	36	SSBC (N. Swirka#)	5/30-6/19	Mt. Greylock	4	R. Rancatti, vo
Prairie Warbler			5/31	P.I.	6	R. Heil	
5/2	Falmouth	2	B. Good	6/20	Cumington	2	R. Rancatti
5/6, 29	Woburn	1, 4	M. Rines	Cerulean Warbler			
5/8, 6/17	Lancaster	6, 7	R. Lockwood	5/8-6/30	S. Quabbin	2	T. Gagnon, vo
5/9	S. Quabbin	12	M. Lynch#	5/10	W. Springfield	1	J. Zepko
5/11	Worc. (BMB)	2	J. Liller	5/11	N. Middleboro	1	K. Holmes
5/11	Saugus	3	D. + I. Jewell	5/15, 6/6	Quabbin (G46)	1, 1	R. Lockwood#
5/15	Woburn	2	P. + F. Vale	5/22	Wayland	1	N. Patterson
5/17	Concord	4	R. Lockwood	5/22	Quabbin Park	2 m	J. Liller#
5/17	MBWMA	12	P. + F. Vale	5/23	Hingham	1	G. d'Entremont
5/31	Concord	3	M. Rines	6/12	Quabbin (G37)	1	BBC (R. Lockwood)
6/12	Quabbin (G37)	6	BBC (R. Lockwood)	6/26	Hadley	1 m	M. Lynch#
6/16	Plymouth (MSSF)	7	G. d'Entremont	Black-and-white Warbler			
6/19	Worc. (BMB)	11	M. Lynch#	5/1-14	Medford	22 max	5/9M. Rines
6/19	Falmouth	28	SSBC (N. Swirka#)	5/1-6/19	Worcester	7 max	M. Lynch#
6/19	Milton	4	A. Joslin#	5/5, 8	Gardner	4, 23	T. Pirro
6/27	Newbury	7	BBC (M. Burns)	5/6	Hingham	13	D. Peacock#
Palm Warbler			5/7-31	Mt.A.	20 max	5/11-14	BBC
5/1, 11	Lexington	8, 1	M. Rines	5/8, 10	MNWS	15, 23	R. Heil
5/1-12	Medford	13 max	5/1M. Rines	5/8	ONWR	10	E. Salmela#
5/1	Lancaster	9	R. Lockwood	5/8	Lancaster	7	R. Lockwood
5/1	Barre F.D./Rutland	S.P. 16	M. Lynch#	5/9	Medford	22	M. Rines
5/1, 8	MNWS	25, 6	P. + F. Vale	5/9	S. Quabbin	24	M. Lynch#
5/2	Quabbin (G40)	2	R. Lockwood	5/9	P.I.	24	R. Heil
5/2	Wakefield	3	P. + F. Vale	5/12	Stow	13	R. Lockwood
5/8	Lancaster	2	R. Lockwood	5/12	P'town	18	B. Nikula
5/10, 11	Mt.A.	4, 1	P. + F. Vale	5/22	P'town	15+	B. Nikula
5/11	Melrose	1	D. + I. Jewell	5/31	Barre F.D./Rutland	S.P. 20	M. Lynch#
5/12	Worcester	1	M. Lynch#	6/5	Easton	8	S. Arena
5/15	Westover	1	H. Allen	6/6	Hockomock WMA	8	SSBC (K. Anderson#)
Bay-breasted Warbler			6/12	Quabbin (G37)	5	BBC (R. Lockwood)	
5/9	Agawam	1	J. Hutchison	6/13	Monson	5	M. Lynch#
5/10	W. Springfield	1	J. Zepko	American Redstart			
5/10, 11	Mt.A.	1, 2	P. + F. Vale	5/1	Northampton	1	T. Gagnon
5/11, 14	Winchester	1, 2	M. Rines	5/7-23	Mt.A.	6 max	5/23 BBC
5/12	Hyannis	1	S. + M. Miller	5/9	S. Quabbin	110+	M. Lynch#
5/12	Arlington Res.	1	C. Floyd	5/9-6/4	Medford	9 max	5/9M. Rines
5/13	Worcester	6+	M. Lynch#	5/12	Oxford	8	P. Meleski
5/13	Stow	3	R. Lockwood	5/14	Quabbin (G40)	28	R. Lockwood
5/13	Boston	1	S. Katz	5/21	Gloucester	7	BBC (D. Jacques)
5/13	Northampton	3	R. Packard	5/21	Newbypt	20BBC	(W. Drummond)
5/13	Weymouth	3	K. Vespaziani	5/22	S. Quabbin	46	G. d'Entremont#
5/14	Oxford	1	P. Meleski	5/23	P.I.	59	M. Lynch#
5/15	Berkshire Cty	1	M. Lynch	5/25	Hingham	5	W. Petersen
5/15	P'town	1	S. Hedman	5/31	Barre F.D./Rutland	S.P. 29	M. Lynch#
5/15	Marshfield	3	W. Petersen	6/5	P.I.	15	P. + F. Vale
5/15	Melrose	1	D. + I. Jewell	6/12	Quabbin (G37)	29	BBC (R. Lockwood)
5/16	Hingham	1	SSBC (N. Swirka)	6/13	Monson	6	M. Lynch#
5/21	Newbury	4	P. + F. Vale	6/13	Fall River	8	G. d'Entremont
5/21	Gloucester	6BBC	(D. Jacques)	6/19	Mt. Greylock	30BBC	(G. d'Entremont)
5/21	Newbypt	1	D. Oliver	6/20	W. Brookfield	7	M. Lynch#
5/22	M. V.	1	V. Laux#	6/26	Hadley	19	M. Lynch#
5/23	P.I.	3 f	M. Lynch#	6/26	Lancaster	6	BBC (R. Lockwood)
Blackpoll Warbler			Prothonotary Warbler				
5/6, 11	Winchester	1, 3	M. Rines	5/22	Wayland	1	N. Patterson
5/8	Longmeadow	1	N. Eaton	5/26	Manomet	1 b t	Lloyd-Evans
5/8	Chicopee	1	T. Swochak	Worm-eating Warbler			
5/9-23	Mt.A.	1-3	BBC	5/7	Westfield	1	J. Hutchison
5/11-30	Worcester	11 max	5/28 M. Lynch#	5/8	Milton	2BBC	(G.d'Entremont)

Worm-eating Warbler (continued)			
5/9	Agawam	1	J. LaPointe
5/9-26	Mt. Tom	3	T. Gagnon
5/12	MNWS	1	P. + F. Vale
5/14	Mt.A.	1	P. + F. Vale
5/14	Rockport (H.P.)	1	G. Wood
5/15	Sharon	1	S. Arena#
5/15	Wilbraham	1	H. Schwartz
5/15	Mt. Washington	1	M. Lynch
5/17	Worcester	1	M. Lynch#
5/17	Medford	1	D. + I. Jewell
5/23	Amherst	1	H. Allen
6/5	Easton	1	S. Arena
6/13	Greenfield	3	R. Laubach
6/19	Medfield	1	J. Hoye#
6/26	Hadley	1	M. Lynch#
Ovenbird			
5/1	Quabbin (G33)	1T. + D.	Brownrigg
5/1, 8	Lancaster	2, 33	R. Lockwood
5/1	N. Middleboro	1	K. Holmes
5/1	Stoughton	1	D. + S. Larson
5/1	Mendon	1	D. Moffett
5/2	Southwick	1	S. Kellogg
5/7, 8	Gardner	10, 34	T. Pirro
5/7-23	Mt.A.	4 max	5/09 BBC
5/8	ONWR	20	E. Salmela#
5/8	Manchester	11	D. Pelouquin
5/8	Cohasset	12	N. Swirka
5/9	S. Quabbin	31	M. Lynch#
5/9-6/13	Medford	13 max	5/9M. Rines
5/10	Stoughton	14	D. + S. Larson
5/12, 6/4	Stow	16, 17	R. Lockwood
5/14	Quabbin (G40)	34	R. Lockwood
5/23	Hingham	21	G. d'Entremont
5/30	Ipswich	18 m	J. Berry
5/31	Barre F.D./Rutland	S.P. 93	M. Lynch#
6/5	Easton	59	S. Arena
6/13	Monson	19	M. Lynch#
6/19	Mt. Greylock	42BBC	(G. d'Entremont)
6/20	W. Brookfield	22	M. Lynch#
Northern Waterthrush			
5/1	Ipswich	3 m	J. Berry
5/7	E. Middleboro	4 m	K. Anderson
5/8	Oxford	3	P. Meleski#
5/8	Gardner	3	T. Pirro
5/9	Medford	5	M. Rines
5/9	P.I.	12	R. Heil
5/10	MNWS	13	R. Heil
5/13	Stow	4	R. Lockwood
5/13	Winchester	3	M. Rines
5/22	P'town	5	B. Nikula
5/30	Holliston	5	R. Heil
5/30	Ipswich	4 m	J. Berry
5/31	Barre F.D./Rutland	S.P. 4	M. Lynch#
6/6	Hockomock WMA	11SSBC	(K. Anderson#)
6/14	Savoy	1	R. Packard
6/19	Pittsfield	1	R. Laubach
6/20	Tolland	1S.	Kellogg + v.o.
6/23	Goshen	2	R. Packard
6/27	Norwell	1	D. Furbish
Louisiana Waterthrush			
5/5, 18	Boxford (C.P.)	2	N. Soulette, F. Vale
5/5, 17	Oxford	1	P. Meleski
5/6	Hingham	4	D. Peacock#
5/8	Lancaster	4	R. Lockwood
5/8	Lunenburg	1	R. Lockwood
5/9	P.I.	1	R. Heil
5/15	Quabbin (G40)	4	R. Lockwood#
5/15	Carlisle	1	K. Hart
5/21	Ashby	5	R. Heil
5/29	Barre	1	T. Pirro
5/30	Holliston	1	R. Heil
6/2	Groton	1	T. Pirro
6/13	Monson	1	M. Lynch#
Kentucky Warbler			
5/10-12	MNWS	1 m	R. Heil + v.o.
5/15	P'town	1	v.o.
5/22	MNWS	1	M. Gonsalo
6/1	Hingham	3	D. Peacock#
Mourning Warbler			
5/12	Agawam	1	J. LaPointe
5/15-6/19	Mt. Greylock	2	v.o.
5/18	Mt.A.	1	BBC (C. Floyd#)
5/21	Hadley	1	R. Packard
5/21	W. Springfield	2	J. Zepko
5/24	N. Middleboro	1	K. Holmes
5/29	Worc. (BMB)	1	M. Lynch#
5/29-31	MNWS	3	P. Vale + v.o.
5/31	P.I.	2	R. Heil
6/1	Hingham	2	D. Peacock#
6/12	Tyringham	1S.	Kellogg + v.o.
6/12	Lenox	1	R. Laubach
6/14	Savoy	1	R. Packard
Common Yellowthroat			
5/2	Amherst	4	H. Allen
5/2	Nahant	1	L. Pivacek
5/2	Wakefield	1	D. + I. Jewell
5/14	Quabbin (G40)	25	R. Lockwood
5/16	Lancaster	23	R. Lockwood
5/18	ONWR	28	D. Oliver
5/23	Maynard	27	R. Lockwood
5/23	P.I.	79	M. Lynch#
5/31	Barre F.D./Rutland	S.P. 102	M. Lynch#
6/6	Hockomock WMA	26SSBC	(K. Anderson#)
6/13	Monson	27	M. Lynch#
6/19	Worc. (BMB)	25	M. Lynch#
6/19	Falmouth	55	SSBC (N. Swirka#)
6/20	W. Brookfield	36	M. Lynch#
Hooded Warbler			
5/2-09	MNWS	1	K. Haley + v.o.
5/8	ONWR	1 f	E. Salmela#
5/15-16	P'town	1	v.o.
5/16	Gloucester (E.P.)	1 m	M. Lynch#
5/16	Hanson	1 m	W. Petersen
5/21	Lincoln	1	J. Collins
5/25	Hingham	1 m	W. Petersen
5/25	Boston (F.P.)	1 m	J. Young
Wilson's Warbler			
5/8	Chicopee	5	T. Swochak
5/9	S. Quabbin	1 m	M. Lynch#
5/10-29	MNWS	5 max	5/29 v.o.
5/11	Worc. (BMB)	1	J. Liller
5/12	Longmeadow	2S.	Kellogg + v.o.
5/13	Pittsfield	2	T. Collins
5/15	Springfield	2	J. Cavanaugh
5/15	P.I.	6	D. Oliver
6/12	Rockport (H.P.)	1 m	M. Lynch#
5/12-23	Reports of indiv. from	14	locations
Canada Warbler			
5/8	Chicopee	2	T. Swochak
5/8	Worc. (BMB)	1	M. Lynch#
5/9, 12	Medford	1, 2	M. Rines
5/10	P.I.	1	S. Perkins
5/12	MBWMA	1	J. + V. Kousky
5/12	Stow	1	R. Lockwood
5/12	Ipswich	1	G. Leet#
5/12-30	MNWS	7 max	5/29 v.o.
5/14	Oxford	2	P. Meleski
5/14	Brookline	1	J. A. Kuivenhoven#
5/14	Quabbin (G46)	1	R. Lockwood
5/21	Newbury	5	P. + F. Vale
5/22	Quabbin	1	P. + F. Vale
5/30	P.I.	4 migr	S. Perkins#
5/31	Barre F.D./Rutland	S.P. 11	M. Lynch#
5/31	Wakefield	1	P. + F. Vale
6/19	Mt. Greylock	8BBC	(G. d'Entremont)

Yellow-breasted Chat				6/21	Nashawena I.	30 pr	A. Jones
5/11, 13 DWWS	1	D. Furbish		Ipswich Sparrow			
6/5-24 Westboro	1	A. Boover		5/21	E. Gloucester	1	J. Berry
warbler species				Grasshopper Sparrow			
5/10 P.I.	145	S. Perkins		5/8-6/30 Lancaster	38 max	6/12 R. Lockwood	
Summer Tanager				5/14 Plymouth	3	W. Petersen	
5/8, 14 Nantucket	1	E. Ray		5/14-6/11 Westover	5+	v.o.	
5/10 Eastham	1	J. Berchtold		5/17-24 Westfield	2+	T. Swochak	
5/15 Marshfield	2	N. Swirka#		5/24, 6/7 Bedford	4, 2	R. Lockwood#	
5/15-16 P'town	1	S. Hedman		5/24 Falmouth	4	M. Sylvia	
5/20 Wakefield	1 m	P. + F. Vale		5/30 Millers Falls	9	M. Lynch#	
5/25-26 P.I.	1 m	B. + B. Buxton + v.o.		6/9 Sunderland	1	H. Allen	
5/29-30 MNWS	1	I. Smith + v.o.		6/14 Chicopee	150 pr	A. Jones	
Scarlet Tanager				6/19 Worcester	3	M. Lynch#	
5/1 Rockport (H.P.)	1 m	D. Jacques#		6/21 Nashawena I.	115 m	A. Jones	
5/8 Lancaster	2	R. Lockwood		Saltmarsh Sharp-tailed Sparrow			
5/8 Cohasset	3	N. Swirka		5/14-16 Nantucket	15	A. Webb	
5/9 Medford	3	M. Rines		5/15 P.I.	1	D. + S. Larson	
5/9 S. Quabbin	3	M. Lynch#		5/15 Muskeget I.	15	S. Perkins#	
5/9-23 Mt. A.	1-4	BBC		5/17 E. Boston (B.I.)	2	P. + F. Vale	
5/11 Concord	9	R. Lockwood		5/21 Newbury	1	R. Heil	
5/14 Quabbin (G40)	22	R. Lockwood		6/13 P.I.	8	P. + F. Vale	
5/16 Lancaster	12	R. Lockwood		6/19 Barnstable	12	J. Hoye#	
5/23 Hingham	13	G. d'Entremont		Seaside Sparrow			
5/30 Ipswich	13	J. Berry		5/10 Barnstable	10	S. + M. Miller	
5/31 Barre F.D./Rutland S.P.	31	M. Lynch#		5/21 P.I.	3	R. Heil	
6/12 Quabbin (G37)	12	BBC (R. Lockwood)		6/26 E. Boston (B.I.)	1	S. Zende	
6/19 Worc. (BMB)	11	M. Lynch#		Lincoln's Sparrow			
6/19 Mt. Greylock	10	BBC(G. d'Entremont)		5/10, 12 Northampton	1, 2	T. Gagnon	
6/20 W. Brookfield	16	M. Lynch#		5/11 Truro	1	J. Young	
Western Tanager				5/12 GMNWR	1	L. Nachtrab	
5/22 Truro	1 f	K. Gentalen		5/12 Hadley	1	H. Allen	
Eastern Towhee				5/13 Amherst	1	H. Allen	
5/6 Hingham	22	D. Peacock#		5/15 Berkshire Cty	1	Hoffmann Club	
5/7 Medford	31	M. Rines		5/15 Springfield	1	J. Cavanaugh	
5/8 Worc. (BMB)	27	J. Liller#		5/28 Boston	1	D. Wilkinson	
5/23 Maynard	21	R. Lockwood		White-throated Sparrow			
5/31 Barre F.D./Rutland S.P.	33	M. Lynch#		5/9 Medford	20	M. Rines	
6/5 Easton	71	S. Arena		5/10 MNWS	60	R. Heil	
6/19 Falmouth	147	SSBC (N. Swirka#)		5/21 Concord	1	G. d'Entremont	
6/21 Nashawena I.	100 m	A. Jones		5/28 Mt. A.	1 m	M. Rines	
Chipping Sparrow				5/29 Worc. (BMB)	1	J. Liller	
5/2 Quabbin (G40)	23	R. Lockwood		5/30 Ipswich	1 m	J. Berry	
6/13 Monson	40+	M. Lynch#		6/19 Mt. Greylock	24	BBC(G. d'Entremont)	
6/19 Falmouth	61	SSBC (N. Swirka#)		6/26 Norwell	1	D. Furbish#	
6/27 Worcester	34	M. Lynch#		White-crowned Sparrow			
Field Sparrow				5/6, 12 Longmeadow	2, 1	S. Kellogg	
5/6 Woburn	4	M. Rines		5/6 Wakefield	1 ad	P. + F. Vale	
5/12 Stow	4	R. Lockwood		5/8 Norfolk	1	M. Grzenda	
5/17 MBWMA	8	P. + F. Vale		5/9 P.I.	3	R. Heil	
5/24 Concord	5	R. Lockwood#		5/10 Northampton	4	T. Gagnon	
5/26 Newbury	6	J. Berry#		5/11 Worc. (BMB)	1	J. Liller	
6/17 Lancaster	18	R. Lockwood		5/12 Nantucket	4	S. Perkins	
6/19 Worc. (BMB)	13	M. Lynch#		5/12 GMNWR	1	R. Lockwood	
6/19 Falmouth	41	SSBC (N. Swirka#)		5/12 MBWMA	1	N. Soulette	
Vesper Sparrow				5/12 Stow	1	R. Lockwood	
5/1 Hadley	3	T. Gagnon		5/13 Hatfield	1	R. Packard	
5/3 Pittsfield	2	T. Collins		5/15 Bolton Flats	2	R. Lockwood	
5/7 Gardner	1	T. Pirro		5/15 DWWS	1	S. Hedman	
5/8-6/30 Lancaster	3-5	R. Lockwood		5/15 Rowley	5	D. Davis#	
5/8 Wellfleet	2	D. Crockett#		5/15 Springfield	2	L. Richardson	
5/13-15 Agawam	1	S. Kellogg		5/15 Marshfield	1	W. Petersen	
5/15 Berkshire Cty	1	Hoffmann Club		5/15 Berkshire Cty	3	Hoffmann Club	
5/15 P'town	2	G. Wood		5/22 Quabbin (G40)	1	G. d'Entremont	
5/17, 24 Westfield	1	T. Swochak		Dark-eyed Junco			
5/18-6/28 Sunderland	1-2	H. Allen		5/21 Ashburnham	6	R. Heil	
5/20 Northampton	2	R. Packard		5/31 Barre F.D./Rutland S.P.	2	M. Lynch#	
5/31 Plainfield	3	R. Rancatti		6/19 Mt. Greylock	31	BBC(G. d'Entremont)	
5/31 Hawley	1	R. Rancatti		Rose-breasted Grosbeak			
6/5 Plymouth	1	BBC (G. d'Entremont)		5/4 Amherst	1	H. Allen	
Savannah Sparrow				5/6 Hingham	1	D. Peacock#	
5/24, 6/21 Bedford	60, 159	R. Lockwood#		5/7 Woburn	1	M. Rines	
6/19 Worcester	37	M. Lynch#		5/7 Quabbin Park	1	W. Lafley	

Rose-breasted Grosbeak (continued)

5/7	MNWS	1	S. Hedman
5/7	Shirley	1	J. Bartos
5/7	Lincoln	1	S. Perkins
5/8	Lexington	5	M. Rines
5/8	Oxford	5	P. Meleski#
5/8, 6/26	Lancaster	7, 10	R. Lockwood
5/8	Hubbardston	6	D. + S. Larson#
5/9	P.I.	13	m R. Heil
5/9	S. Quabbin	32	M. Lynch#
5/17	Concord	7	R. Lockwood
5/18	ONWR	12	D. Oliver
5/26	Newbury	6	J. Berry#
5/31	Barre F.D./Rutland S.P.	17	M. Lynch#
6/13	Monson	10	M. Lynch#
6/19	Worc. (BMB)	8	M. Lynch#
6/19	Mt. Greylock	6	BBC (G. d'Entremont)

Blue Grosbeak

5/5	Nantucket	1	f K. Pochman
5/5	Tisbury	1	M. Pelikan
5/24	Falmouth	1	M. Sylvia

Indigo Bunting

5/5	Nantucket	3	E. Ray
5/6	M.V.	2	V. Laux
5/8	Framingham	1	m J. Slovin
5/9, 28	Medford	1, 4	M. Rines
5/9	Agawam	1	S. Kellogg
5/15	Boxford (C.P.)	4	R. Heil
5/17	MBWMA	4	P. + F. Vale
5/22	S. Quabbin	4	G. d'Entremont#
5/22	Quabbin Park	4	J. Liller#
5/23	Hingham	3	G. d'Entremont
5/24	Weston	3	M. Rines
5/26	Newbury	3	m J. Berry#
5/29	Woburn	3	M. Rines
6/13	Monson	4	M. Lynch#
6/17	Lancaster	5	R. Lockwood
6/19	Mt. Greylock	4	BBC (G. d'Entremont)
6/27	Newbury	8	BBC (M. Burns)
6/30	W. Boxford	3	J. Berry

Dickcissel

5/21-22	Belchertown	1	S. Sumer
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Bobolink

5/2	Amherst	1	H. Allen
5/6	Wayland	6	R. Min
5/8	Gardner	6	T. Pirro
5/9	P.I.	40	R. Heil
5/13	E. Boston (B.I.)	14	J. Young
5/14	Lancaster	24	R. Lockwood#
5/14, 26	Pepperell	41, 37	E. Stromsted
5/16	Hingham	15	SSBC (N. Swirka)
5/22	Rowley	10-12	J. Berry
5/24	Bedford	24	R. Lockwood#
5/27	Ipswich	40+	J. Berry
5/31	Barre F.D./Rutland S.P.	9	M. Lynch#
6/7	Bedford	24	R. Lockwood#
6/13	Worcester	12	M. Lynch#
6/22	Lancaster	58	R. Lockwood
6/23	Ipswich	53	J. Berry
6/27	DWWS	62+	D. Furbish

Eastern Meadowlark

5/8	Lunenburg	6	R. Lockwood
5/23	Newbypt	5+	M. Lynch#
5/24	Bedford	25	R. Lockwood#
5/27	Ipswich	6-7	m J. Berry
5/30	Falmouth	6	BBC (I. Girunas)
6/7	Bedford	17	R. Lockwood#
6/17	Lancaster	13	R. Lockwood
6/25	Ipswich	25	J. Berry

Rusty Blackbird

5/1	GMNWR	1	m S. Perkins#
5/2	Southwick	1	S. Kellogg
5/14	Cheshire	1	R. Rancatti

Common Grackle

5/1, 26	Framingham	370, 262	E. Taylor
6/11	Framingham	1600	E. Taylor

Orchard Oriole

5/7	Mattapan	2	S. Perkins#
5/8	Melrose	2	D. + I. Jewell
5/11	Medford	2	M. Rines
5/11	Saugus	2	D. + I. Jewell
5/15	Boston (F.Pk.)	3	J. Young
5/16	Hingham	6	SSBC (N. Swirka)
5/17	Belmont	2	D. Wilkinson
5/17	P.I.	2	f P. + F. Vale
5/21	Uxbridge	1	pr J. Barthel
5/23	Newbury	3	J. Berry#
5/30	Lexington	2	M. Rines
6/19	Falmouth	10	SSBC (N. Swirka#)
6/27	Worcester	2	m M. Lynch#
6/27	Halifax	1	pr n D. Furbish

Baltimore Oriole

5/1	Lincoln	1	M. Rines
5/2	Southwick	2	S. Kellogg
5/2	Reading	3	D. Williams
5/9	S. Quabbin	55+	M. Lynch#
5/9	P.I.	22	R. Heil
5/21	Worcester	43	M. Lynch#
5/31	Barre F.D./Rutland S.P.	28	M. Lynch#
6/19	Falmouth	52	SSBC (N. Swirka#)

Purple Finch

5/1-31	Maynard	2	L. Nachtrab
5/2	E. Middleboro 1 female		K. Anderson
5/2	Quabbin (G40)	1	R. Lockwood
5/4-6/20	Bolton	3	R. Lockwood
5/5	Gardner	1	T. Pirro
5/7	Milton	1	G. d'Entremont
5/8	ONWR	2	E. Salmela#
5/8	Oxford	3	P. Meleski#
5/9	P.I.	12	R. Heil
5/9	S. Quabbin	1	M. Lynch#
5/14	Mendon	1	f J. + D. Moffett
5/22	Quabbin (G46)	1	G. d'Entremont#
5/23	Hingham	1	G. d'Entremont
5/31	Barre F.D./Rutland S.P.	2	M. Lynch#
6/27	Boxford	1-2	J. Brown#
6/27	Essex	2	T. Young
6/9	E. Middleboro 1 female		K. Anderson
6/12	Falmouth	2	m, 1 f D. Larson
6/13	Berkley	1	G. d'Entremont
6/13	Fall River	1	G. d'Entremont
6/16	Plymouth (MSSF)	1	G. d'Entremont
6/19	Mt. Greylock	8	BBC (G. d'Entremont)
6/26	Lancaster	2	BBC (R. Lockwood)

American Goldfinch

5/10	P.I.	892	migr S. Perkins
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Evening Grosbeak

5/4	Lenox	4	R. Laubach
5/7	Athol	1	B. Coyle
5/11	New Salem	1	B. Coyle
5/12	Becket	1	R. Laubach
5/13	Williamsburg	1	R. Packard
5/14	HRWMA	1	T. Pirro
5/15	Orange	1	B. Coyle
5/15	Berkshire Cty	1	M. Lynch
5/15	Quabbin (G40)	4	R. Lockwood#
5/16	P'town	1+	B. Nikula
5/21	Monroe	1	R. Rancatti
5/27	Hawley	2	R. Packard
5/28	Warwick	1	B. Coyle
5/29	Barre	1	T. Pirro
6/9	Amesbury	11	R. Heil
6/19	Gardner	4	T. Pirro
6/19	Rutland	1	f D. Small
6/20	Windsor	3	R. Packard
6/20	Royalston	2	B. Coyle

Evening Grosbeak (continued)

6/21	Boxford	pr	K. Disney	6/24	Quabbin (G15)	2	C. Holzapfel
6/21	Groton	1	T. Pirro	6/25	Bolton	1 m	J. Verban
6/22	Berlin	1 prF.	+ M. Howes	6/25	Athol	1	B. Coyle
6/23	Pepperell	1	M. Resch				

LIST OF ABBREVIATIONS

ad	adult	H.	Harbor
alt	alternate	I.	Island
b	banded	L.	Ledge
br	breeding	M.V.	Martha's Vineyard
dk	dark (phase)	Mt.A.	Mount Auburn Cemetery, Cambridge
f	female	Nant.	Nantucket
fl	fledged	Newbypt	Newburyport
imm	immature	P.I.	Plum Island
ind	individuals	Pd	Pond
juv	juvenile	P'town	Provincetown
loc	location	Quab.	Quabbin Reservoir
lt	light (phase)	Res.	Reservoir
m	male	R.P.	Race Point, Provincetown
max	maximum	S.B.	South Beach, Chatham
migr	migrating	S. Dart.	South Dartmouth
n	nesting	S.N.	Sandy Neck, Barnstable
ph	photographed	Stellw.	Stellwagen Bank
pl	plumage	Worc.	Worcester
pr	pair	Barre F.D.	Barre Falls Dam, Barre, Rutland, Oakham
S	summer (1S = first summer)	BBC	Brookline Bird Club
thr	throughout	BMB	Broad Meadow Brook, Worcester
vid	videotaped	CCBC	Cape Cod Bird Club
v.o.	various observers	DFWS	Drumlin Farm Wildlife Sanctuary
W	winter (2W = second winter)	DWMA	Delaney Wildlife Management Area
w/	with		Stowe, Bolton, Harvard
yg	young	DWWS	Daniel Webster Wildlife Sanctuary
#	additional observers	EMHW	Eastern Massachusetts Hawk Watch
A.A.	Arnold Arboretum, Boston	GMNWR	Great Meadows National Wildlife Refuge
A.P.	Andrews Point, Rockport	HRWMA	High Ridge Wildlife Management Area,
A.Pd	Allens Pond, S. Dartmouth		Gardner-Westminster
Arl.	Arlington	IRWS	Ipswich River Wildlife Sanctuary
B.	Beach	LBS	Local Bird Survey
B.I.	Belle Isle, E. Boston	LCES	Lloyd Center for Environmental Studies
B.R.	Bass Rocks, Gloucester	MARC	Massachusetts Avian Records Committee
Cambr.	Cambridge	MAS	Massachusetts Audubon Society
C.B.	Crane Beach, Ipswich	MBO	Manomet Observatory
Corp. B.	Corporation Beach, Dennis	MBWMA	Martin Burns Wildlife Management Area,
C.P.	Crooked Pond, Boxford		Newbury
Cumb. Farms	Cumberland Farms,	MDFW	MA Division of Fisheries and Wildlife
	Middleboro-Halifax	MNWS	Marblehead Neck Wildlife Sanctuary
E.P.	Eastern Point, Gloucester	MSSF	Myles Standish State Forest
F.E.	First Encounter Beach,	NAC	Nine Acre Corner, Concord
	Eastham	NBC	Needham Bird Club
F.H.	Fort Hill, Eastham	NEHW	New England Hawk Watch
F.M.	Fowl Meadow, Milton	ONWR	Oxbow National Wildlife Refuge
F.P.	Fresh Pond, Cambridge	SRV	Sudbury River Valley
F.Pk	Franklin Park, Boston	SSBC	South Shore Bird Club
G40	Gate 40, Quabbin	TASL	Take A Second Look Harbor Census
G45	Gate 45, Quabbin	USFWS	US Fish and Wildlife Service
H.P.	Halibut Point, Rockport	WBWS	Wellfleet Bay Wildlife Sanctuary
		WMWS	Wachusett Meadow Wildlife Sanctuary

* Indicates a species on the review list of the Massachusetts Avian Records Committee (MARC). Because these sightings are generally published before the MARC votes, they normally have not been approved by the MARC. The editors publish records that are supported by details, multiple observers, or both.

ABOUT THE COVER: MERLIN

A fearsome predator of small birds, a hunting Merlin (*Falco columbarius*) flies with powerful, rapid wingbeats that make this small falcon look bigger and more robust than it really is. The old name of "Pigeon Hawk" is thought by some to reflect a favored prey, but current interpretation suggests that this name derives from a similarity between the flight of this hawk and that of doves. The Merlin is a small, dark falcon that is dimorphic in size, with females averaging a third larger than males. It is distinguished from the somewhat smaller American Kestrel by the lack of rufous on the back and tail, and by its contrasting dark-and-light banded tail. Merlins are smaller than Peregrine Falcons and fly with faster wingbeats. Three subspecies are recognized in North America: the largely sedentary "Black" Merlin (*F. c. suckleyi*) of the Pacific Northwest, the pale "Prairie" Merlin (*F. c. richardsonii*) of the prairie states and provinces, and the widely distributed "Taiga" Merlin (*F. c. columbarius*), which is the subspecies that migrates through the New England states.

The Merlin's breeding range extends from Alaska across most of Canada, south to the U.S. border and into Maine, Michigan, and Oregon. They also breed throughout the boreal zone of Europe and Asia. Most Merlin populations are migratory; in North America, the species winters from the western half of the U.S. south through Central America as far south as Ecuador. Others winter along the Atlantic and Gulf coasts and in the Caribbean, while sedentary populations occur from Alaska south to Washington, and in the prairie states. Merlins migrate through Massachusetts in late April and early May, with males preceding females to their breeding grounds. They are considered an uncommon to fairly common migrant in Massachusetts; migration is largely (though by no means exclusively) coastal, with as many as twenty reported in a single day from Plum Island. They migrate back through Massachusetts from mid-September to mid-October, with a few Merlins overwintering on Cape Cod and the Islands.

Merlins are seasonally monogamous, produce a single brood, and may return to the same nesting territory and have the same mate in successive years. They nest in open woodlands, grasslands, and bogs; in the boreal zone, they prefer wet, open taiga. Their *Ki-Ki-Kee* calls serve both territorial and courtship functions, with males' calls higher-pitched and more rapid than females'. They also utter a variety of *chips* and *churrrs*. Their courtship and territorial flights are spectacular — rolls, dives, swoops, and flutter flights in circular and figure-8 patterns. Males pass food to females, often in midair exchanges.

Merlins occasionally nest on cliffs, on the ground, or in tree hollows, but usually use old crow or hawk nests in either deciduous or coniferous trees. The usual clutch is four or five whitish to brownish eggs, mottled with shades of rufous. During the one-month incubation period, the female does most of the

incubating while the male does the hunting and brings food to the female. After the eggs hatch, the male provides food which the female feeds to the chicks. The young fledge in about a month, and for another month the adults continue to feed them. During nesting, the male often perches on a high branch with a commanding view and attacks any other Merlins or potential nest predators that happen to wander into his territory.

Merlins eat mostly small and medium-sized birds, but will take bats, reptiles, and small mammals opportunistically. Merlins in urban areas or near grain elevators tend to specialize in House Sparrows. Waxwings and Horned Larks are favored prey in winter, and often spectacular ascending aerial flights — “ringing flights” — occur when these prey try to escape the pursuing Merlin. They take most prey on the wing, and may hunt by flying close to the ground to avoid detection. They cast pellets, and may cache prey.

Merlins are preyed upon by Peregrine Falcons, Great-horned Owls, and accipiters. Colliding with towers is a major cause of mortality. They suffered from egg-shell thinning during the DDT era. More recently, habitat alteration, particularly the removal of trees at prairie potholes, has had a negative impact on local populations, but this has been largely offset by increased numbers nesting in urban areas. Populations are thought to be stable or increasing in most areas of North America, although declining counts of Merlins at Cape May suggest problems in the northeast.

Despite their relatively small size, Merlins have, since the Middle Ages, been a favorite with many falconers, including Catherine the Great and Mary Queen of Scots, and some are still flown in North America. Most people, however, prefer them as wild birds, and look forward to the spring and fall migration when the chance of seeing one of these magnificent little falcons is greatest.

— William E. Davis, Jr.

ABOUT THE COVER ARTIST

Barry Van Dusen, a wildlife artist and illustrator based in Princeton, Massachusetts, frequently contributes his insightful bird drawings to *Bird Observer*. Some of Barry's art will be appearing in a two-person show, titled “A Passion for Birds,” at Massachusetts Audubon's South Shore Regional Center in Marshfield, Massachusetts, beginning on May 5, 2000. James Coe will be the other artist featured. For more information, call the Center at (781) 837-9400. Beginning in March 2000 and continuing through November, the Burrell Collection in Glasgow, Scotland, will be showing a range of the work Barry began in the fall of 1997 as part of “Project Tiger.” In addition to preparing work for a variety of upcoming juried shows, Barry has been working on illustrations to be used with the “Birdsong Identifier,” a new product designed to facilitate the identification of bird songs in the field.

Waterfowl identification can be quite straightforward, particularly where drakes in breeding plumage are concerned. However, where juveniles, males in eclipse plumage, or females are concerned, identification difficulties frequently arise. As has been noted previously in this column, for certain groups of birds (e.g., hawks, shorebirds, sparrows), shape and profile can often be as useful as plumage characteristics when trying to make a correct field identification. This criterion can also sometimes be applied to waterfowl. This month's mystery bird is a good case in point.



Photograph by O.J. Murie

A close examination of the bird in question reveals a most distinctive head profile. From the tip of the duck's bill to the top of its head is almost a perfectly straight line; that is, there is little or no angle at the point where the bill joins the bird's forehead. A thoughtful look at a field guide plate or at a variety of duck species will reveal that most waterfowl display either an abrupt "forehead" above the bill, or at least show a gently concave contour from the top of the bill to the top of the head. These features are conspicuously missing in the pictured bird.

Having established that the facial profile of the mystery duck is uniquely flattened, there are several approaches that can next be taken to determine the bird's identity. First, on the basis of head profile alone the viable possibilities are almost reduced to one of three choices — Canvasback, Common Eider, or King Eider. No other Massachusetts waterfowl so dramatically display such a distinctive head profile. Once the choices are narrowed down to these species, the solution is easy. Female eiders are virtually unique among ducks in having horizontal barring on their feathers instead of a uniform color or a complex pattern of scalloped, scaled, or streaked plumage. This feather barring is

especially evident on the pictured bird's scapulars, rump, and upper tail coverts, in marked contrast to the rather uniform appearance of the head. If the duck in question were a female Canvasback, its plumage would appear lighter in color and would be much more uniform in pattern. Additionally, a female Canvasback would usually possess a thin eye ring and often a pale line extending back behind the eye. Using these characters alone, it is safe to declare that the duck in the photograph is a female eider, not a Canvasback.

The female King Eider — a relative rarity in Massachusetts waters — is similar to the female Common Eider; however, the lobes on its bill are shorter and more rounded, and the feathering on top of the bill extends farther down the "bridge of the nose." This last feature makes the bill profile of a King Eider appear stubby, not long and flat as in the pictured eider. Also, the head of a female King Eider, especially the back of the head, is considerably more rounded than a Common Eider, giving the head a less angular appearance. Additionally, if the markings on the sides and flanks were visible in the photograph, they would appear crescent-shaped on a King Eider, not evenly barred, as they are on a female Common Eider. Because of these differences, the pictured eider is a female Common Eider (*Somateria mollissima*), not a King Eider.

The discerning reader may also note that the pictured eider looks a little different from the thousands of female eiders that one regularly encounters along our coastlines in winter. Specifically, the lobes on the upper portion of the bill that are such a distinctive feature of both Common and King Eiders are relatively short and notably pointed, and they barely extend halfway to the bird's eyes. In most Common Eiders seen in Massachusetts, the bill lobes are long, extend much closer to the eye, and are conspicuously rounded at the top. Such long, rounded bill lobes are typical of the eastern subspecies of Common Eider (*S. m. dresseri*), while the more northern, western, and European populations tend to have shorter and more pointed bill lobes like the eider in the photograph. Although the specific location at which this photograph was taken is unknown, because Olaus J. Murie took it, it was likely taken in Alaska, in which case the eider is probably of the subspecies *S. m. v-nigrum*.

In Massachusetts, Common Eiders are abundant in migration and winter, especially in the waters around Cape Cod and the Islands. There is a small breeding population in Buzzards Bay, and summering nonbreeding individuals occur in many coastal areas.

AT A GLANCE

Photograph by Wayne R. Petersen



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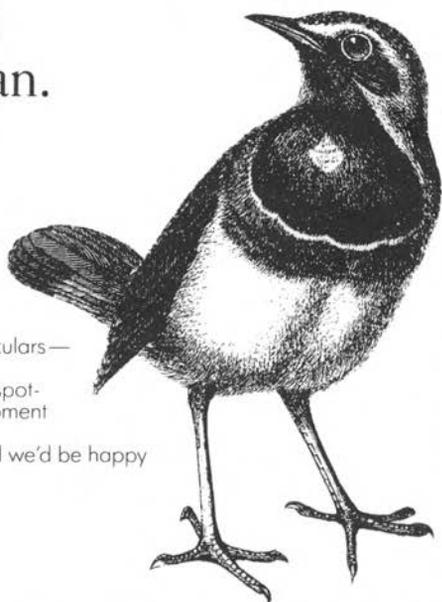
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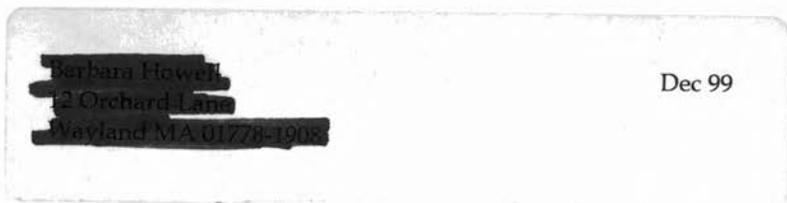
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