Bird Observer

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HOT BIRDS

On December 3, 2008, Tom French found a **Barnacle Goose** (left) in Charlton, and it was still there for Sheila Carroll to photograph on December 13.

Phil Brown found and photographed this **Yellow-headed Blackbird** (right) on Dock Lane in Salisbury on January 5, 2009.

An **Eared Grebe** (left) was found on the Buzzard's Bay Christmas Bird Count at Quisset Harbor in Falmouth and was later photographed by Peter Trimble on January 9, 2009.

On January 12, 2009, Greg Hirth found a **Pink-footed Goose** (right) at Salt Pond in Falmouth. The bird was photographed by Barry Burden on January 14.

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TAKEOFF BY DAVID LARSON

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Northern Saw-Whet Owls in Massachusetts

Strickland Wheelock and Elizabeth Milke

A Big Night at Lookout Rock

Lookout Rock Owl. Photograph courtesy of Newburyport Birders.

Southwest winds, rain, and mild temperatures marked the beginning of October 2005 in the Northeast — far from ideal conditions for migrating Northern Saw-whet Owls (*Aegolius acadicus*). The owl banding team at Lookout Rock in Northbridge waited until October 17, a week later than usual, to open mist nets to capture birds. That night, the recorded call of a male Saw-whet was beamed from a ridge above the Blackstone River valley. Two owls were netted on the seventeenth and another on the eighteenth. Little did we know what was in store for us the following two nights.

On the twentieth, the weather changed. Temperatures dropped to the low forties, and winds shifted to the west and northwest — favorable conditions for migration in the Northeast. A few Saw-whet calls were heard in the woods around the banding station. Over the course of the evening, thirty-three owls flew into the nets and kept four crew members banding, weighing, and measuring nonstop. By midnight, things had quieted down. We closed the nets, tired but excited to have witnessed a record capture at Lookout Rock.

Weather conditions were similar the following night. One Saw-whet was netted early. Then we heard Saw-whet calls and realized it would be another hectic night. Hustling back and forth between the nets and the banding station, the team banded twenty-one Saw-whets in the next few hours. Thinking the night was winding down, we couldn't believe what we found at 10:15 — eight Saw-whets in the first group of nets, six owls farther along, and nine in one net at the edge of the ridge. Working quickly, the crew banded the owls, measured them, checked for new feathers to determine age, recorded the data for the U.S. Bird Banding Lab, and released the owls one by one.

Midnight came and went, bringing another ten owls. At that point, we were cold and weary; our fingers were sore from the grip of sharp talons. After 1 a.m., admitting we were no match for more adorable little Saw-whets, we closed the nets.

When this Saw-whet banding project had begun two years earlier, we didn't know whether one owl would appear, let alone fifty-five in a single evening!

Banding Northern Saw-whet Owls in Massachusetts

Northern Saw-whet Owl. Photograph courtesy of U. S. Fish & Wildlife Service.

Each fall, as cold weather brings snow cover to northern regions, numbers of Saw-whet owls move south in search of food and cover for the winter. These owls typically do not relocate in the same wintering and breeding areas each year as "true" migrant species do. For many purposes, however, their overall pattern of movement, southward in fall and northward in spring, is called migration. Until about twenty years ago, Northern Saw-whet Owls were thought to follow only one or two major migration routes. During the 1990s, however, the expanding network of Saw-whet banding stations across the U.S. and Canada began to document the broad seasonal movements of this species (Gentes 2002).

The presence of these small, secretive raptors in Massachusetts was something of a mystery until 1994 and the start of Danielle Smith's Saw-whet banding project at Daniel Webster Wildlife Sanctuary in Marshfield (Smith 2002). In fall 2003 the owl-banding station opened at Lookout Rock in Northbridge (Clayton 2004) and joined other stations already monitoring Saw-whets in the state. Since then, in cooperation with the owl-banding network, the Lookout Rock team has learned a great deal about Saw-whets and their migration: where they come from, weather conditions that affect their flight, and some of the places they visit.

Last spring, we combined the Lookout Rock data with that of other Massachusetts owl-banding stations to get a better understanding of Saw-whet migration in the state. From west to east, the six stations are Hopkins Memorial Forest (Williamstown), South Hadley, Lookout Rock (Northbridge), Drumlin Farm Wildlife Sanctuary (Lincoln), Blue Hills Reservation (Milton/Quincy), and Daniel Webster Wildlife Sanctuary (Marshfield).

How Many Saw-whets Are Banded Each Year?

The number of Northern Saw-whet Owls netted at banding stations varies from site to site and from year to year. Some of the fluctuation appears to be cyclical. Across eastern North America, there has been a large increase in the number banded every fourth year since 1995 (U.S. Bird Banding Laboratory). In 2006 there was a major decrease in the East — only 416 Saw-whets were netted in Massachusetts (Figure 1). In 2007, however, the six banding stations netted a combined total of over 1100 Saw-whet Owls!

An interesting exception to this pattern, Hopkins Memorial Forest in the northwest corner of the state, did *not* experience a drop in 2006, nor did it have a

large increase in 2007. There was a notable difference again this year; while Hopkins Forest netted a record number of Saw-whet owls in 2008, stations in eastern Massachusetts had numbers far below average.

Figure 1: Northern Saw-whet Owls Netted in Massachusetts, 2006, 2007

Banding Station	2006	2007
Hopkins MF	160	161
S. Hadley	6	40
Lookout Rock	67	269
Drumlin Farm	54	266
Blue Hills	49	129
Daniel Webster	80	268
Total	**416**	**1133**

Because of its location, Hopkins Forest may be aligned with a somewhat different population of Saw-whets, one that moves down through the Great Lakes region and takes a more westerly route. Another possibility, to be discussed below, is that many adult Saw-whets take a more inland route as they move south.

Sex and Age of Saw-whets

In general, female Northern Saw-whet Owls are larger than males. Sex can be reliably determined using an index that combines weight and wing length, with females at the high end and males at the low end of the index. Sex cannot be determined for those owls whose weight and wing length fall within an area of overlap on the index.

The majority of netted Saw-whets are female, a fact at least partially explained by the use of a male mating call to attract owls. It is also possible, however, that male Saw-whets do not move as far south as females or that males use somewhat different routes. The 2007 Massachusetts data lend some support to the idea of different routes. That year, eighty-three percent of owls netted at Hopkins Memorial Forest (in western MA) and sixty percent at Daniel Webster Wildlife Sanctuary (in eastern MA) were female. The corresponding percentage of males was four percent at Hopkins Forest and about fifteen percent at Blue Hills Reservation and at Daniel Webster WS.

Every year, certain worn-out flight feathers on adult Saw-whets are replaced with new ones. The pattern of old and new wing feathers allows banders to distinguish adults from hatching-year owls.

The age of netted owls varies considerably from year to year and station to station. In 2007, at Hopkins Forest (west) fifty-seven percent were hatching-year birds, and forty-three percent were adults. At Daniel Webster (east) seventy-three percent were hatching-year birds, and twenty-seven were adults. The data suggest that some young Saw-whets, especially males, may follow a route closer to the coast, while older owls take a more direct route south.

Releasing a banded saw-whet. Photograph by K. Seymour.

The 2007 boom in young Saw-whets resulted in an expected increase in second-year owls the following year. What was unexpected in 2008 was a large decrease in the number of hatching-year owls reported. Were weather conditions up north this past spring and summer unfavorable for breeding success? After a boom year, were there too many Saw-whets competing for food and nest sites? Will there be a rebound of young birds in 2009? As the study goes forward, we hope to find answers to these questions.

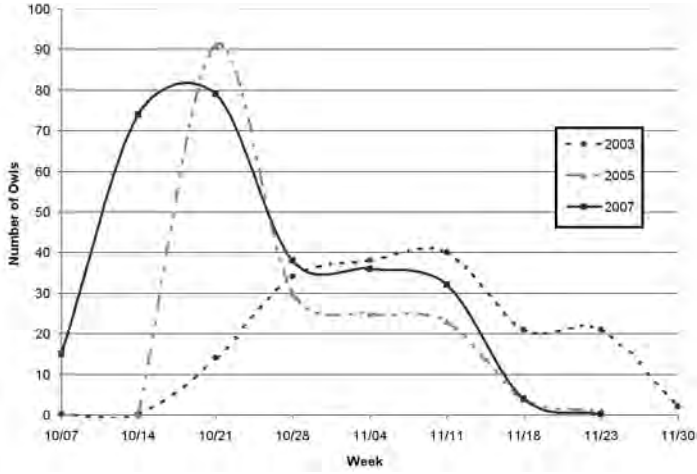

Figure 2: Timing of flights in 2003, 2005, 2007, based on Lookout Rock weekly captures

When Do Saw-whets Move Through Massachusetts?

Generally, the annual flight of Saw-whets begins in Massachusetts in early to mid-October and trails off by late November. Variations occur, as shown in Figure 2. At Lookout Rock, for example, total weekly captures rose gradually in 2003 from mid-October, held a steady peak into mid-November, and then gradually decreased until late in the month. In 2005, the year of the two big nights described earlier, a large number of Saw-whets passed by Lookout Rock during the third week of October. Captures then dropped quickly to a normal level for two weeks before trailing off after mid-November. Another different pattern emerged in 2007, the big year. After reports of early captures in eastern Canada, nets at Lookout Rock were opened on October 2, by far the earliest beginning date for Saw-whet migration in five seasons. By mid-October, when the first few Saw-whets typically arrive, we had already captured 100! High numbers continued until the end of October, decreased but held steady until mid-November, then declined quickly the following week, signaling the end of migration.

Weather Conditions and Peak Capture Nights

Light northerly winds and cold temperatures are conducive to Saw-whet flight. A rising barometer, signaling a period of fair weather, is another favorable factor. A clear

dark sky, usually around the time of the new moon, is especially important; when mist nets are illuminated by moonlight, the owls seem to detect and avoid them.

Peak capture nights may occur under such conditions (see Figure 3). In 2007, the peak nights tended to occur simultaneously at banding stations across Massachusetts.

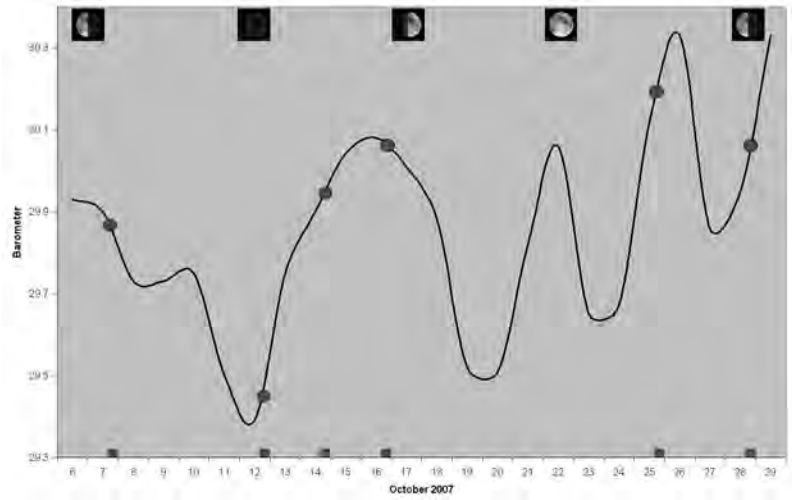

Figure 3: 2007 Peak capture nights in Massachusetts with barometric pressure and moon phase.

There was a lunar eclipse on November 8, 2003 — a cold, clear night. A number of visitors were present at Lookout Rock for a banding demonstration. We were curious to see whether the temporary darkness of the eclipse would affect the rate of capture. As the eclipse got underway around 7:00 p.m., five Saw-whets were netted. By 8:15 the sky was dark, and seven more owls were captured. As moonlight increased, captures decreased — four owls at 9:00 p.m., and the last two owls of the night at 10:00 p.m. We learned later through Project Owlnet, which coordinates Saw-whet banding stations, that banders in Pennsylvania, Maryland, and Virginia had similar experiences during the eclipse.

Where Are the Saw-whets Coming From?

A small percentage of owls netted at banding stations have already been banded at other stations, in or outside Massachusetts. Some of these "foreign recaptures" are netted the same season; others may not be recaptured until a year or more later. During 2003–2007, there were fifty-seven foreign recaptures in Massachusetts.

The recapture of Saw-whets at different stations during the same season reveals something about routes and rate of travel. These owls may make many stops during migration. Brinker et al. (1997) found that while Saw-whets are capable of crossing Delaware Bay in less than a night (about twenty miles or thirty-two kilometers), the time varied considerably for different owls. It's important to note that rate of travel is

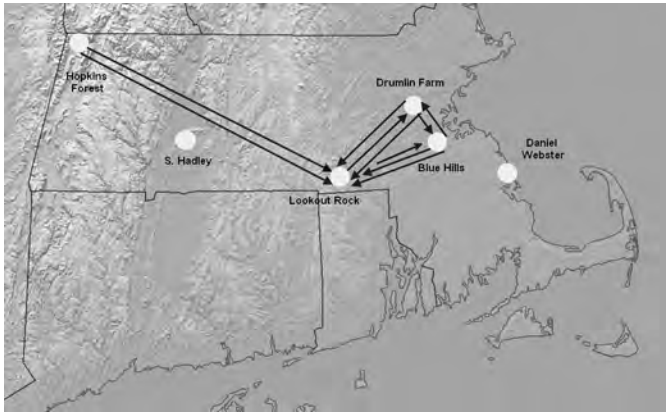

Figure 4: Recaptures at Massachusetts banding stations

determined by the date of recapture, which is not necessarily the date the owl arrives at a particular place.

We looked at a number of point-to-point recaptures of Massachusetts Saw-whets. Many of these involved considerable distances — some as much as several hundred miles. Our analysis confirmed an average travel rate of twenty-two miles per night, with a high degree of variation.

Fewer than ninety miles separate most Massachusetts banding stations. As a result, the stations tend to recapture each other's owls (Figure 4). From 2003 through 2007, there were ten exchanges between the stations. In 2007 Drumlin Farm and Blue Hills Reservation, about twenty miles apart, had two such exchanges; one recapture was twenty-two days later, the other, twenty-eight days. Hopkins Forest (the westernmost station) had only two recaptures within the state; and Daniel Webster WS (the easternmost) had none.

Between 2003 and 2007, thirteen Saw-whets banded out of state were recaptured here within a few months. Most of these had been banded originally to the north in Ontario, Quebec, or southern Maine. One owl, a juvenile banded in northern Michigan in late July, was netted at Lookout Rock two and a half months later. Many more foreign recaptures had been banded out-of-state in previous years, providing information about long-term movement and longevity. In the past five seasons, there were thirty-five such recaptures. Most of these Saw-whets were originally banded to the north (Ontario or Quebec) or to the south (Pennsylvania, Maryland, or Virginia). For example, a Saw-whet banded in Maryland in November 1999 was recaptured at Hopkins Forest in October 2004 — a sixth-year owl! Another old-timer (in Saw-whet years), banded in Rhode Island in October 2001, was recaptured at Lookout Rock in November 2005.

Where Do the Owls Go When They Leave Massachusetts?

Some recaptures involve outgoing owls — Saw-whets banded in Massachusetts and reencountered out-of-state. Between 2003 and 2007 there were twenty-six such

reencounters. Nine of these occurred within the same season. Three owls from Hopkins Forest, for example, were recaptured within a month or so in southeastern New York; others traveled as far south as Maryland and Virginia.

Another seventeen owls banded here were reencountered out-of-state in a later year. Their destinations were divided almost evenly between our neighboring states, southeastern Canada, and points south (Pennsylvania, Maryland, and Virginia).

Recaptures are a complicated but interesting aspect of owl migration research. One question to be explored concerns differences between banding stations in the number of foreign recaptures and in the number of owls reencountered.

Most of the banding stations have at least several foreign recaptures and re-encounters of their owls every year. Given the high numbers of Saw-whets banded over the years at Daniel Webster WS, one would expect the station to have quite a few recaptures and re-encounters. However, there have been only a half dozen or so since 1994. Does this tie in with the idea that adult Saw-whets move more directly south, heading inland and avoiding the coast?

We hope an ongoing comparison of Massachusetts data will reveal long-term trends in the relationship between sex and age of Northern Saw-whet Owls and their migration routes.

Our Goal in Ongoing Saw-whet Owl Research

Having had this opportunity to learn about Northern Saw-whet Owls and share what we've learned has been a wonderful experience for the banding team at Lookout Rock. We extend thanks to our fellow Saw-whet banders for sharing their ideas and data, which has allowed us to see beyond our own efforts. Our thanks, also, go to the parks and Mass Audubon sanctuaries that have allowed us to set up banding stations and share this experience with visitors. Through our various programs and articles such as this, we hope to increase awareness of the Saw-whet and highlight the importance of conserving habitat for this special little owl.

Banded Saw-whet owl departs. Photograph by R. Stevens.

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Strickland Wheelock *has been able to combine his passion for birding with his career in the woolen industry. A Master bander since 1972 and longtime member of both the Forbush Bird Club and Mass Audubon, Strickland has led birding trips for Drumlin Farm, Joppa Flats, and Stony Brook WS for over twenty years. He has helped coordinate the annual Bird-a-thon at Drumlin Farm, where he serves on the Birders' Advisory and other committees. Of special interest for Strickland are his efforts to increase interest in birds through the Audubon Young Birder's Club at Drumlin Farm and the Saw-whet Owl Project.* ***Elizabeth Milke*** *has been bird watching in Massachusetts since moving to the state twenty years ago. She and her husband Paul met Strickland Wheelock when he was setting up mist nets at West Hill Park in 2003. Since then, they have been on his passerine- and owl-banding team each spring and fall. Beth serves as a volunteer and helps coordinate the group's programs about bird banding.*

Northern Saw-whet Owls in the net (top) and banded (bottom). Photographs by K. Magannis.

Aggression by Birds at Winter Bird Feeders

William E. Davis, Jr.

Millions of people in the United States provide supplemental food for birds in winter, and studies indicate that survival rates, particularly during prolonged cold periods, are higher among birds that receive supplemental food. For example, Brittingham and Temple (1988) and Egan and Brittingham (1994) found survival rates were higher in Black-capped Chickadees that received supplemental food during northern winters.

Further, it has been suggested that winter bird feeders have been at least partially responsible for northward range expansion in a number of species. These include species that directly benefit from winter feeders, for example, Tufted Titmouse (*Baeolophus bicolor*) (Kricher 1981) and Carolina Wren (*Thryothorus ludovicianus* (Davis 1991), and species that benefit indirectly from feeders such as Cooper's Hawk (*Accipter cooperi*) (Davis 1992).

But all is not copasetic at winter bird feeders. Birds compete for access to food. And particularly during prolonged cold spells or during and following snowfalls when they concentrate at feeders, birds often engage in aggressive interactions or even overt fighting. Are there any identifiable patterns to these aggressive interactions? What species tend to be aggressive, and against whom is the aggression directed (e.g., smaller birds? larger birds? members of the same species?). In an attempt to search for patterns in aggression, I recorded 1174 aggressive interactions among birds at winter feeders at my Foxboro home on 151 days from November 1995 through January 2002 and present here an analysis of the results.

Most attacks involved one bird charging another and displacing it from the ground or a feeder by causing it to fly or run. Occasionally one bird would chase another in flight. In rare instances, birds would grapple, or the attacked bird would turn on the attacker with a countercharge.

Large birds, such as Blue Jays, often come flying into a feeder, scattering the smaller birds present. I did not count these as aggressive moves because they were not directed at a single individual and did not appear to differ from a jay's normal approach to an unoccupied feeder. Most of the time, I also recorded the type of feeder at which aggression occurred: ground (scattered seed), platform, hanging (sunflower seed), hanging (thistle), or suet (Table 3).

The results for all bird species that had nine or more aggressive interactions are presented in Tables 1 and 2. Black-capped Chickadees and Tufted Titmice were, surprisingly, un-aggressive, with only four aggressive moves by chickadees and one for titmice. In both tables, species are arranged by decreasing weight. In Table 1 the diagonal from upper left to lower right gives the intraspecific aggressive interactions, which dominate the aggressive behavior of most species. Table 2 includes the scientific names for bird species listed in the tables. The following are patterns that emerge from an examination of the data.

Table 1. Aggressive moves by birds in vertical column (left) against birds in horizontal row (top). For example, Blue Jays attacked starlings twice and starlings attacked Blue Jays three times.

	MODO	COGR	BLJA	EUST	RBWO	RWBL	NOCA	HOSP	DOWO	WTSP	ATSP	SOSP	SCJU	AMGO
MODO	40	0	2	0	0	1	0	6	0	0	0	0	0	0
COGR	1	2	0	4	0	1	0	0	0	0	0	0	0	0
BLJA	2	0	132	2	0	0	8	12	2	0	0	0	1	0
EUST	1	0	3	147	0	1	0	2	4	0	0	0	0	0
RBWO	0	0	2	0	0	0	0	10	0	0	0	0	0	0
RWBL	4	0	0	7	0	9	0	7	0	0	0	0	0	0
NOCA	0	0	0	0	0	0	47	1	0	3	2	0	17	0
HOSP	0	0	0	0	0	0	1	95	0	7	0	1	20	0
DOWO	0	0	0	0	0	0	0	0	11	0	0	0	0	0
WTSP	0	0	0	0	0	0	0	7	0	48	4	3	33	0
ATSP	0	0	0	0	0	0	0	0	0	0	9	0	20	0
SOSP	0	0	0	0	0	0	0	4	0	6	0	2	8	0
SCJU	0	0	0	0	0	0	0	5	0	1	19	0	600	0
AMGO	0	0	0	0	0	0	0	0	0	0	0	0	0	32

MODO = Mourning Dove; COGR = Common Grackle; BLJA = Blue Jay; EUST = European Starling; RBWO = Red-bellied Woodpecker; RWBB = Red-winged Blackbird; NOCA = Northern Cardinal; HOSP = House Sparrow; DOWO = Downy Woodpecker; WTSP = White-throated Sparrow; ATSP = American Tree Sparrow; SOSP = Song Sparrow; DEJU = Dark-eyed (Slate-colored) Junco; AMGO = American Goldfinch.

Table 2. Attacks summary; weights from Sibley (2000).

Species	Weight	AO	AL	AS	ABL	ABS
Mourning Dove *Zenaida macrocura*	120 g	40	0	10	0	8
Common Grackle *Quiscalus quiscula*	115 g	2	1	6	0	0
Blue Jay *Cyanocitta cristata*	85 g	132	2	24	3	3
European Starling *Sturnus vulgaris*	82 g	147	6	6	6	7
Red-bellied Woodpecker *Melanerpes carolinus*	63 g	0	2	10	0	0
Red-winged Blackbird *Agelaius phoeniceus*	52 g	9	11	7	3	0
Northern Cardinal *Cardinalis cardinalis*	45 g	47	0	23	8	1
House Sparrow *Passer domisticus*	28 g	95	1	29	33	16
Downy Woodpecker *Picoides pubescens*	27 g	11	0	0	6	0
White-throated Sparrow *Zonothricia albicollis*	26 g	48	7	40	12	7
American Tree Sparrow *Spizella arborea*	20 g	9	0	20	6	19
Song Sparrow *Melospiza melodia*	20 g	2	10	8	4	0
Dark-eyed Junco *Junco hyemalis*	19 g	600	32	0	101	0
American Goldfinch *Carduelis tristis*	13 g	32	0	0	0	0
Total		1174	72	183	182	61

AO = Attacks own species; AL = Attacks larger species; AS = Attacks smaller species; ABL = Attacked by larger species; ABS = Attacked by smaller species

Table 3. Numbers of attacks by birds by type of bird feeder

	Ground		Platform		Hanging sunflower		Hanging thistle		Suet	
	intra	inter	intra	inter	intra	inter	intra	inter	intra	inter
Species										
MODO	27	3	13	7	0	0	0	0	0	0
COGR	2	4	0	3	0	0	0	0	0	0
BLJA	76	18	56	6	0	0	0	0	3	0
EUST	3	2	2	1	0	0	0	0	142	8
RBWO	0	0	0	0	0	12	0	0	0	0
RWBL	4	13	5	5	0	0	0	0	0	0
NOCA	47	23	0	0	0	0	0	0	0	0
HOSP	28	16	33	14	34	0	0	0	0	0
DOWO	0	0	0	0	0	0	0	0	11	0
WTSP	43	33	5	14	0	0	0	0	0	0
ATSP	5	17	4	3	0	0	0	0	0	0
SOSP	2	16	0	2	0	0	0	0	0	0
SCJU	344	19	256	13	0	0	0	0	0	0
AMGO	0	0	0	0	0	0	32	0	0	0

Intra = intraspecific aggression (attacks on own species); inter = interspecific aggression (attacks on other species); species codes as in Table 1.

(1) Intraspecific aggression dominates in most species. In goldfinches and Downy Woodpeckers, aggression was 100% intraspecific. Among Dark-eyed Juncos 96% of aggressive moves were directed at other juncos. Similarly, 93% of aggressive moves among starlings were intraspecific, as well as 86% of those among Blue Jays, 85% of those among Mourning Doves, and 77% of those among House Sparrows. Of the fourteen species listed in the tables, ten directed a majority of their aggressive moves toward other members of their species.

Only the Common Grackle, Red-bellied Woodpecker, and Tree and Song sparrows attacked more birds of species other than their own. Only one Red-bellied Woodpecker was present at the feeders, and hence intraspecific aggression was not possible. Similarly, few grackles and Song Sparrows were present at any one time. Species in which numbers were consistently high (e.g., juncos and Blue Jays) had more opportunity for intraspecific aggression simply because of their greater numbers. Tree Sparrows attacked juncos, and this also may be an artifact of the presence of juncos in consistently substantial numbers.

The reasons birds are more aggressive toward members of their own species remain obscure, but may be related to the fact that in many species winter flocks have strong dominance hierarchies that are enforced by aggressive behavior (Harrington 1973, Smith 1976, Ketterson 1979, Anderson 2006). Moreover, with common species more of their own species are available to attack or be attacked by.

(2) Birds tend to attack birds smaller than themselves. Seventy-two percent of the attacks on other species were made on smaller (lighter) birds (Table 2). If we ignore the junco, the functionally smallest species (it did not interact with the lighter goldfinch because the goldfinches utilized only the thistle feeders that the juncos did

not), because it could attack only larger species, and the Mourning Dove that was the largest species and thus could attack only smaller birds, the numbers are even more dramatic.

Eighty-two percent of the interspecific aggressive moves were against smaller birds. For example, the White-throated Sparrows, which had 47 recorded attacks on other bird species, attacked smaller birds 85% of the time. The exceptions to the rule were the Red-winged Blackbirds and the Song Sparrows, which attacked larger birds 61% and 56% of the time, respectively. The Red-winged Blackbirds were particularly feisty, attacking the larger starlings, Blue Jays, and Mourning Doves.

(3) During snowstorms or particularly cold conditions more bird species and more individuals come to feeders (Stapanian et al. 1999), which increases the competition for the available food and thus promotes aggressive behavior. Some species, such as Black-capped Chickadees and juncos, have dominance hierarchies that tend to regulate and limit intraspecific aggressive interactions. Juncos, for example, have a hierarchy in which older, larger males dominate females, and adult juncos dominate young birds.

Several reports indicate (e.g., Ketterson 1979) that females are more aggressive on days when snow is falling, which suggests to me that juncos congregate in larger numbers on snowy days and are most aggressive when conditions are harsh. I trapped and banded birds at my feeders from 1978 through 1998 and usually waited until it was snowing or there was a fresh snowfall for my banding activities because of the notable increase in numbers of birds that occurred at these times.

(4) The type and location of feeders has a dramatic effect on patterns of aggression. For example, American Goldfinches concentrated at thistle feeders and did not interact with ground-feeding species such as juncos or American Tree Sparrows. Goldfinches had only intraspecific encounters, and all thirty-two were at thistle feeders.

Some species visited several feeder types but concentrated aggressive interactions at one type. For example, the European Starlings attacked other starlings on the ground three times, on a platform feeder twice, but at suet feeders 142 times. House Sparrows spread their aggression toward each other fairly evenly on the ground (n=28), platform feeders (n=33), and hanging feeders (sunflower) (n=34). All seventy attacks by Northern Cardinals occurred on the ground. For all species, relatively few attacks occurred at hanging feeders (n=48) as compared to the ground (n=758), platform feeders (n=241), and suet (n=168).

Aggression is energy-expensive, so why are birds aggressive toward one another at bird feeders? There are probably a number of factors involved, but competition for food under the harsh conditions of winter is certainly a factor. Studies indicating that aggression increases when weather conditions (snow and cold) are worst (e.g., Ketterson 1979) suggest competition for limited resources is a factor affecting aggression.

Birds are also in a hurry when feeding at bird feeders. The longer they are feeding on open ground or at platform or hanging feeders, the longer they are vulnerable to predation. Anyone who regularly feeds birds in winter is aware that feeders concentrate birds and attract accipiters and even shrikes. Hence, acquiring food in a hurry and thus reducing the probability of predation may make the energetic costs associated with aggression worthwhile.

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Weaving a Web of Life with Birds, Bugs, and Native Plants

Steven Ziglar

All life depends on plants, and the life of birds is no exception. Food, habitat, and shelter are all provided by plants. Bugs, the food source of choice for many birds, also depend on plants for their sustenance. By understanding the interplay between birds, bugs, and plants, a bird enthusiast can create a web of life in the garden with great appeal for many creatures.

To make your personal environment more hospitable to birds, begin with an inventory of the plants in your home's landscape. A number of simple, excellent field guides are available to help with plant identification and native plant selection for garden design. (See below for resources, books, and courses available through the New England Wildflower Society).

Native plants in your garden design contribute not only to its aesthetics but also to its sustainability. Since after the initial planting year many native plants require less watering and host a greater number of bug species, they provide a better ecological alternative and more bird food than the non-native alternatives. Some people may reason that invasive — non-native and aggressive — plant species provide important nourishment for birds and other wildlife because those plants have become so pervasive. However, studies show that invasive plants support thirty-five percent fewer insect species than native plant species (Tallamy 2007). When an invasive plant comes into a new environment, it has few, if any, natural herbivorous predators. A plant that hosts 350 or more insect species in its native environment may host only one or two when introduced into a new environment. With fewer bugs feeding on the plant, it can spread uncontrolled in the landscape. The incredible proliferation throughout the Northeast of invaders such as *Celastrus orbiculatus* (oriental bittersweet) and *Lonicera japonica* (Japanese honeysuckle) are two examples. Both of these plants are now illegal to sell in Massachusetts. See the list of invasive plants for each New England state at <http://www.newenglandWILD.org/protect/invasive-plants/state-invasive-plant-list-links>.

When designing your garden, develop a plant list that provides a varied food supply for every season. For hosting bugs for pollination and for serving as a food source for birds, a range of plants is important. Native trees, shrubs, and herbaceous perennial plants of different sizes, shapes, colors, and density not only bring beauty to the landscape but also offer a variety of food, shelter, and habitat to birds. There are literally hundreds of native wildflower species that are excellent garden subjects; these also attract wildlife. They are available at New England Wild Flower Society nurseries in Framingham and Whately, Massachusetts.

Start your list with the tall end of the spectrum, trees. *Acer saccharum* (sugar maple) grows to 60 to 100 feet and has beautiful fall leaf colors. Many birds eat the

ripe seeds in summer, including bobwhites, cardinals, Purple Finches, Evening and Pine grosbeaks, and Pine Siskins. White-breasted Nuthatches nest in the cavities of mature trees. Insect-eating birds such as orioles, warblers, and wrens find food in the foliage. During winter, chickadees, Brown Creepers, and nuthatches glean insects from the rough bark. For medium-size trees, *Cornus sericea* (red-osier dogwood) matures at seven to nine feet tall, and *Cornus florida* (flowering dogwood) grows fifteen to forty feet tall. Dogwoods provide larval food for spring azure butterflies. Dogwood berries are also eaten by at least ninety-eight species of birds and are a preferred food for Common Flickers, Yellow-bellied Sapsuckers, Downy Woodpeckers, Eastern Kingbirds, Brown Thrashers, Gray Catbirds, Eastern Bluebirds, American Robins and other thrushes, Cedar Waxwings, vireos, Pine Warblers, Northern Cardinals, grosbeaks, and Purple Finches. Many bird species also use dogwoods for cover and nesting. The American Goldfinch particularly is inclined to nest in *C. sericea*.

As for shrubs, many species of *Ilex verticillata* (winterberry) grow six to twelve feet tall and provide excellent shelter and nesting sites for many birds. The fruits of winterberry are eaten by at least forty-nine species, including flickers, robins, bluebirds, thrashers, catbirds, mockingbirds, and waxwings. *Vaccinium augstifolium* (lowbush blueberry), two feet tall, and *V. corymbosum* (highbush blueberry), six to eight feet tall, are preferred nesting sites for Gray Catbirds and provide shelter for many bird species. Blueberries are a favorite food for many birds, including Orchard Orioles, Scarlet Tanagers, White-throated Sparrows, and Wood Thrushes.

Northern Mockingbird on winterberry. Photograph by David Larson

Many herbaceous perennials also provide seeds and berries for birds. *Asclepias tuberosa* (butterfly weed) grows to two feet and provides nectar for hummingbirds. *Echinacea purpurea* (purple coneflower) matures at two to three feet tall. Goldfinches feed on its seeds. It is also a nectar plant for mid-season butterflies. Many species of *Viola* (violets), which grow six to sixteen inches tall, provide seeds that are eaten by many birds, including cardinals and Dark-eyed Juncos.

Don't forget the fall season when planning and planting for birds and butterflies. Asters add an important nectar source to your garden in the fall. *Aster (Symphiotrichum) novae-angliae* (New England aster) and *Aster laevis* (smooth aster) are great additions to any native plant garden. Many birds feed on the seeds, including cardinals, chickadees, goldfinches, sparrows, nuthatches, titmice, towhees, and Indigo Buntings. Many people choose not to cut back perennials in the fall since seeds, lingering on plant stalks, provide a great winter food source for birds.

Consider eliminating as much lawn as possible, replacing it with native plants, to restore your property to a more natural state. Plants not only generate a more interesting landscape but require fewer resources for success. Depending on your budget, consider decorative elements like stone walls, boulders, and water features to complete the landscape. Birds need water to survive. Bubbling or flowing water features are as attractive to birds as they are to people.

Careful planning will generate a beautifully constructed web of life in your garden. It will be appreciated by birds, bugs, and plants and will provide you with years of enjoyment.

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Resources available through the New England Wildflower Society

For both the casual and the ambitious gardener, there is a tremendous amount of information available for creating bird-friendly gardens. The New England Wild Flower Society has over 100 courses, seminars, books, and tours to help you design and construct exciting, biodiversified landscapes. A walk through the Society's Garden in the Woods, located at 180 Hemenway Road in Framingham, Massachusetts, is enough to generate many ideas. Visitors to the Garden return again and again in all seasons to see over 1500 native plant species and cultivars. More than 200 of these are so rare they are likely to be seen for the first time. In 2009, Garden in the Woods reopens on April 15. For a complete listing of books, courses, and plants available through the New England Wildflower Society, please visit the society's web site at <http://www.newenglandwild.org/>. [*Note: a course on invasive plant identification and control will be offered on April 5, 2009.*]

The Society also recommends Douglas W. Tallamy's recently published *Bringing Nature Home, How Native Plants Sustain Wildlife in Our Gardens*, Timber Press, 2007. Tallamy discusses the state of the planet, biodiversity, and use of alien versus native plants. He offers lists of native plants by region that have value for wildlife as well as desirable landscaping attributes. Tallamy's book includes a comprehensive list of host plants for butterflies and moths.

Foreign Cuisine: Invasive Plants and Native Birds

Derek Lovitch

[*Editor's Note: This article has been adapted from "The Changing Seasons: Food for Thought" by Marshall Iliff and Derek Lovitch. For the full article, more examples, and additional reading and references, please visit the archives of* North American Birds*, which are available online at: <http://www.aba.org/nab/v61n2p208.pdf>.*]

The distribution of birds is constantly changing due to a myriad of influences. From habitat modification to global climate change, where and when birds can be found is in a constant flux.

One influence on birds that I believe is not being adequately discussed is invasive plants. After being convinced to work on an article about the topic for the "Changing Seasons" column of *North American Birds*, I set out simply to demonstrate how the proliferation of invasive fruit-bearing plants, such as oriental bittersweet (*Celastrus orbiculatus*), various species of honeysuckle (*Lonicera spp.*), Russian olive (*Eleaegnus angustifolia*), multiflora rose (*Rosa multiflora*), *Euonymus* spp., and others are having an impact on bird distribution in the Northeast, or, at least, on how and where we bird and what we see.

Dense thickets and tangles of these plants provide an abundant food supply when native foods are less readily available. They often grow in disturbed areas and produce fruit in larger quantities than native species. Climate change, development, disturbance, and even such factors as seed dispersal by frugivorous birds have accelerated the spread and increase of a number of these plants.

Therefore, these plants could be increasing survivorship for "wrong-way," "reverse migrant," or "lingering" birds. Furthermore, these dense patches of foodstuff, which tend to flourish in disturbed areas close to humans, may increase our detection of birds by keeping them alive long enough to be found, and concentrating them in locations that birders are learning to pay attention to. No matter how the half-hardy gets there, once it finds the food, it can survive, and be detected by growing legions of birders.

Do Eastern Point in Gloucester or the Nahant thickets come to mind?

While little doubt exists that birds are making use of these resources, the more I read, and the more I researched, the more I doubted whether this was a good thing. Before I knew it, I was in WAY over my head — fully immersed in avian physiology and plant ecology. While my plan for this "Changing Seasons" article was simply to digest and document facts, such as we're seeing more Gray Catbirds overwintering in the thickets of eastern Massachusetts, I soon began to realize what I had gotten myself into.

Yellow Warbler nesting in oriental bittersweet. Photograph by Sandy Selesky.

Countless hours in the library and twenty-two pages for *North American Birds* later, I had many more questions than answers! To oversimplify, I began to wonder if what was good for birding was actually good for the birds.

While some research has been done on the topic, we have only begun to scratch the surface of the issues involved. Watching a Gray Catbird eating oriental bittersweet in January or a Townsend's Warbler eating privet in November, one easily concludes that the food source is good for the bird. After all, if that fruit wasn't there, the frugivores wouldn't have anything to eat. Plus, if it wasn't good for the bird, they wouldn't eat it. Right? Well, maybe.

It seems that there is much more to the selection process that meets the eye. While it may not be a conscious decision, we know birds select what they want or need to eat. Some species fine-tune their search image to a very specific range. Choices are likely made by sight, hence the bright color of many fruits. This selective foraging has evolved over eons and can be very specific in some species. Neotropical hummingbirds that feed only on one particular blossom are an extreme example. However, even apparent generalists such as Cedar Waxwings and American Robins pick and choose their foodstuffs. How does the proliferation of invasive plants affect these decisions? Are our native birds being fooled into eating something that they shouldn't?

Foraging decisions are based on a number of characteristics and features of fleshy fruit. These factors include sugar and lipid content, the presence of secondary compounds, other nutritional components, and overall abundance of the fruit.

Therefore, we must consider all of the following issues and influences when discussing the overall value — or lack thereof — of invasive fruiting plants.

- Nutritional value
- Insect life — Invasive plants host fewer insects than native plants.
- Impacts on migration — Are low-lipid, invasive fruits the avian equivalent of eating junk food all day? Can these poor food sources actually be stopping birds from being able to migrate — or migrate further?
- Coevolution — Many species of plants and birds have evolved together, developing defenses and mutualistic relationships. Invasive plants are "new." Dependence on the waxy fruits of plants in the *Myrica* family, such as bayberry, by such species as Yellow-rumped Warbler, has been well documented.

- Population sources versus sinks — Are birds utilizing invasive plant-dominated habitats less fit than birds in healthier, more "natural" habitats?

- Nesting success — Structural differences, insect abundance, and predator populations are all affected by the dominance of invasive plants.

Biodiversity

Thinking back to our eastern Massachusetts examples, many of these thickets are becoming frighteningly short on plant biodiversity. Ecology 101 teaches us that biodiversity is good. The addition of a vagrant here, a half-hardy there, and the colonization by one or two other bird species hardly seems to make up for virtual monocultures of foreign vegetation. It may be good for a few bird species and a few misguided individuals of other species. However, what is the ecological cost? What species no longer find valuable resources in these thickets? Are they able to adapt? If not, are they declining or just moving elsewhere? In other words, what is the long-term impact on bird biodiversity — the inherent reason why people enjoy birding. One of the few facts we have is that introduced species are a threat to overall biodiversity. Limited biodiversity begets limited biodiversity. Therefore, we cannot consider the addition of one new food source to be either good or bad on its own. We have to consider the broader ramifications.

Invasive plants, whether they produce fruit or not, have replaced native species. Those replaced native species, whether in disturbed areas or not, have a role to play — a niche to fill — in the ecosystem. What niches are no longer filled now that the biodiversity of a specific habitat has been much reduced? What birds depended on food sources provided only by the now-absent native? How is the ecosystem affected? There is significant evidence linking invasive plants to problems ranging from impeding the progress of forest succession to interfering with a healthy food chain. In a number of instances invasive plants have altered communities of insects, which can exert a strong, negative effect on insectivores (Reichard et al. 2001), and invasive grasses are wreaking havoc on the biodiversity of the Great Basin by limiting the diversity of native food sources for birds, while increasing the frequency and severity of fires (John Sterling, pers. com).

On the other hand, I find it impossible to argue that a new parking lot is more valuable than the last stand of vegetation, no matter how nonnative. In the case of the eastern Massachusetts thickets, it is unthinkable to argue that we should build another fast food dive in the last undeveloped patch of habitat, just because it's "only buckthorn!" The more important question is whether we should replace the buckthorn with something native.

Competition with native plants is not something that can be dismissed. The thickets of eastern Massachusetts host a number of persistent native fruits, such as catbrier (*Smilax rotundifolia*), *Sumac* spp., bayberry (*Myrica pennsylvanica*), poision ivy (*Toxicodendron radicans*), eastern red cedar (*Juniperus virginiana*),winterberry (*Ilex verticillata*), and others. Are these any less valuable and important to birds than oriental bittersweet and glossy buckthorn?

We will likely never be able to restore the landscape to pre-Columbian times — if that is, or should be, our goal. However, our inability to do so cannot be used as an excuse to do nothing. Habitat management and ecological restoration are now facts of life, as we need to at least try to fix some of the things we've royally screwed up.

Thinking out of the box

No matter what your opinion is regarding the complex issue of invasive plants and birds, it is critical to consider that it is not occurring inside a hermetically sealed box. Many of the invasive plants that provide fruits for birds are spread by birds — it is one of the reasons they're so invasive. The seeds of these invasives can be carried well beyond the thickets of eastern Massachusetts. Birds spread seeds faster and farther than other vectors, because they tend to fly between similar habitats and travel longer distances (Drummond 2005, Reichard et al. 2001). Larger quantities of fruit, higher germination rates, and widespread dispersal by birds all compound this issue. As these plants become established in new areas, and even new regions, the same questions arise in new locations. A species that has become invasive in one region is significantly more likely to become invasive elsewhere, and dispersal by birds is one facilitating factor (Herron et al., in press).

This may be the single biggest issue that we face. Does tolerance of invasive plants in the few urbanized locations where they might be good for birding contribute to the very real and very significant threat that invasive plants pose to biodiversity? The whole purpose of a plant expending energy to make fleshy fruits is to entice birds to eat the fruit and disperse the plant's seeds far and wide, encouraging rapid range expansion (Lafleur 2006). If our native birds are choosing invasive plants over native fruits, native fleshy-fruited plants may be outcompeted for dispersal services (Lafleur 2006), further impacting biodiversity and greatly impacting the important food supplies offered by many native fruiting plants.

These large quantities of fruit are also feeding species that may affect native birds directly or indirectly. European Starlings are invasive birds that feed readily on many species of invasive plants, especially oriental bittersweet. In fact, 84 percent of the seeds collected from starling fecal samples were from this species (Lafleur 2006). Lafleur (2006) also demonstrated that starlings are likely to adopt a novel food more quickly than robins when no other choices are present, as is the case with many generalist foragers (Reichard 2001).

European Starling populations could be buoyed by the fruit of invasive plants to the point that they further outcompete native secondary cavity nesters, as suggested by Renne et al. (2002). See especially Bessinger and Osborne (1982). And what about eastern chipmunks and red squirrels? Both of these critters will feed on the nests and nestlings of birds, at least on occasion. Is the supplemental food provided by invasive plants augmenting their survival, which, come spring, will add more nest-predation pressures on native songbirds?

Let us not forget the significant and well-documented economic cost of invasive plants. For example, $34 billion is lost or spent annually in the U.S. to control

"noxious weeds," and an estimated $137 billion is spent annually fighting "non-indigenous plants, birds, reptiles, fish, arthropods, mollusks, and microbes" (Pimentel et al. 2000). Should we be choosing our battles more wisely? Is the battle against invasive fruit-producing plants one that is worth fighting? Should we be fighting it?

American Robin on bittersweet. Photograph by David Larson.

"Invasive species are the second leading cause — after habitat loss — of species being listed as endangered or threatened, and infest more than 100 million acres across the United States," according to Lori Williams, executive director of the National Invasive Species Council (2004). Meanwhile, invasive plants infest an additional 700,000 hectares (2302 square miles) of wildlife habitat each year (Babbitt 1998), and many of the worst invasive plants are thought to be bird dispersed (Cronk and Fuller 1995). Invasive plants can also alter nutrient and even hydrologic cycles and change the frequency and intensity of fires (Reichard et al. 2001). Scary thoughts indeed. Is this worth a few more Gray Catbirds on New England Christmas counts?

Conclusions

When the "Changing Seasons" article for *North American Birds* was first discussed, the focus was on how invasive plants may be affecting bird populations and ranges. Increasing the food supply for one group of birds (overwintering frugivores) seems to lead to increased numbers of these species and changes in their ranges. However, I am by no means a plant ecologist, nor an avian nutritionist. All we have to go on are observations (such as those submitted to journals such as *North American Birds* and *Bird Observer*) and references to the limited research available on this issue. What began as an examination of how new fruit sources may be affecting the ranges of native birds species rapidly spiraled into tangents about nutrition, ecological consequences, and significant scientific uncertainty.

After all, birds — thanks to their wings — respond quickly to changes in environmental conditions. We know that birds, sometimes in large numbers, will move into a new area to take advantage of a food resource (such as our irruptive winter finches). It is hard to imagine frugivores wouldn't expand their range and grow their populations in response to a new source of food. However, questions regarding the nutritional value of some of these plant species, the overwhelming of important native food sources, increases in potential nest predators or competitors, and other issues should cause us to pause before suggesting invasive plants are "good for birds." Furthermore, other variables, such as forest fragmentation, suburbanization and development, and global climate change certainly play a larger role in affecting the distribution of birds (see especially Valiela and Bowen 2006). How significant are these issues when compared with the addition of a nonnative abundance of food?

Would there be Carolina Wrens and Hermit Thrushes in the thickets of eastern Massachusetts today, even without buckthorn, bittersweet, etc.? After all, there are Northern Cardinals, Red-bellied Woodpeckers, and Tufted Titmice here now.

I was really hoping to find some hard facts. Unfortunately, those hard facts are difficult to come by. Few studies have been conducted on the question of whether invasive plants are, in fact, good for birds, and rigorously quantified studies are scarce (Reichard et al. 2001). Christmas Bird Counts — with their numerous inherent variables — seem to provide the only real evidence to support the theory that invasive plants keep lingering half-hardies alive at least long enough to be discovered. For the most part, we are left piecing together anecdotes and other tidbits to draw conclusions.

However, as I explored each species (plant or frugivore), the lack of research into specifics left me wondering if everything is as it seems. Does more fruit equal more frugivores? Does A equal B? As usual, in nature, A does not equal B, but instead A plus B plus C plus D equal X. Some of the evidence certainly suggests that invasive plants are increasing bird populations in certain areas. However, this can have consequences. It is also often questionable whether the invasive plant is the proximate or the ultimate cause of perceived changes.

The ultimate issue here really seems to be habitat fragmentation, and, more often than not, that is directly due to human activities. Invasive plants, Brown-headed Cowbirds, raccoons, Blue Jays, etc. have resulted from this fragmentation. While it is unfair and misguided to use these species (or groups of species) as scapegoats for the bigger issue, their impacts cannot be ignored.

So, what do we do? Do we clear acres of invasive plants in order to attempt to reestablish native plant communities? During the difficult and sometimes long transition, a given site may lose its productivity to birds and birding. Ecological impacts from such tools as herbicides, controlled burning, and heavy machinery also need to be considered. Do we need to pay this price to right some of our wrongs? We will never return eastern Massachusetts to a pristine or "natural" (whatever that means) state. Does that mean we shouldn't try? Do we resign ourselves to defeat, assume oriental bittersweet is a good thing, and celebrate its virtues? Do we simply ignore the complex issues, go out and check our local invasive thicket, enjoy the birds that it may hold, and nothing more?

Increasing urbanization will accelerate the proliferation of invasive plants, and continued introduction of new species by the horticultural trade could compound the problem (Reichard et al. 2001). Climate change will continue to alter ranges of both birds and plants. Invasive plants will continue to spread rapidly, if left alone. The issue will only become more important. So, at the very least, we should be aware of these various intertwined relationships (Reichard et al. 2001).

Absolute conclusions are lacking. It seems that I have raised many more questions than I have answered, but I deeply believe that there is enough concern to withhold celebrating the virtue of invasive plants. On the other hand, it's hard to deny

that they are having an impact on birds and birding. So, in the end, this whole essay was really nothing more than food for thought!

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A Steaming Mug of Conservation

Scott Weidensaul

Coffee and birds are intertwined, and not just because you may enjoy your first cup of java in the morning while the dawn chorus is still going strong.

For years, ornithologists have recognized the importance of traditional coffee farms, where the crop is raised beneath a rich, structurally complex canopy, in preserving tropical biodiversity. Although nothing can replace a wild, untouched forest, in much of Latin America and the Caribbean a quality shade-coffee farm is the next best thing.

That's especially true when the seasonal rush of migrants floods in, swelling the flocks of resident birds: Wood Thrushes and Swainson's Thrushes scuffing through thickets; Black-throated Green Warblers, Wilson's Warblers, and Blue-gray Gnatcatchers joining honeycreepers, tropical tanagers, and euphonias to forage among the bromeliads; nectar-seeking Baltimore Orioles and Tennessee Warblers plunging their bills into the filamentous, starburst blossoms of *Inga* trees that rise above the coffee shrubs.

Wilson's Warbler by Rob Kipp

Birders, too, have long appreciated the way an old-fashioned shade-coffee farm can be a hot spot. "Birding a lot in Mexico when I was in my late teens and early twenties, I became accustomed to the idea that coffee plantations were great bird habitats," field guide author Kenn Kaufman recalls. "In some places we would even go out of our way to go to coffee plantations because the birding was so good." (Kaufman 2007)

But in the 1970s all that began to change. New varieties of coffee that grow in sun, not shade, began to overtake Latin America and the Caribbean. By the late 1990s, as much as 40 percent of the region's coffee had been converted to sun-grown, or "technified" farms, which are little more than agricultural deserts for birds and other species.

"I'll never forget the day that I found out about sun coffee — riding across Costa Rica early one morning, looking out the windows and idly wondering what crop I was seeing, these bushes growing in sterile rows across the hillside," Kenn said. "When it dawned on me that I was seeing coffee growing out in the sunlight, I was physically ill, because I saw a whole semi-natural ecosystem disappearing, a whole way of life crashing down." (Kaufman 2007)

It's hard to overstate the importance of coffee to Latin America, where it ranks second only to oil as the most important legal export. And it's equally hard to overstate the size of the American coffee market, which consumes roughly a third of the world's supply. That's why ornithologists have tried for twenty years to harness the American obsession with coffee to preserve bird habitat by encouraging Americans to drink shade-grown coffee from traditional farms.

As Paul Baicich has detailed in his 2007 article in *Bird Observer*, buying shade-grown coffee allows you to enjoy a superb, artisanal beverage while at the same time preserving critical habitat for birds, especially many neotropical migrants.

It's a win-win, but only if consumers are discerning enough to buy the right kind of coffee. Go into a coffee shop, and you'll find an increasing array of choices, organic, fair-trade, or shade-grown in varying combinations. Even among shade-grown coffees there are different cultivation approaches (some of which are only marginally better than sun plantation) and different certification programs. How do you know what to buy?

First, it helps to know a little about how different kinds of coffee are grown. Traditionally, the flavorful Arabica coffee of Latin America was raised in a system known as "rustic" farming, with the coffee shrubs sheltered beneath low-growing banana and fruit trees and above them a canopy of tall hardwoods and shade trees as high as 120 feet.

Such a farm produces guavas, citrus, and other produce for the family; nearby beehives provide honey, and the canopy trees generate firewood and lumber. Nothing duplicates untouched forests — there are a few birds that simply cannot tolerate any habitat alteration, even the light touch of a traditional shade coffee plantation. But rustic coffee farming is one of the gentlest land uses in the Neotropics.

In the 1970s, however, with fears of an imported fungal disease known as coffee leaf rust sweeping Latin America, producers began to switch to Robusta coffee, a taller, hardier, higher-caffeine species that originated in Africa and is widely grown in Asia. Planted in the open sun, Robusta coffee can produce substantially higher yields than Arabica — but at a much greater cost, reckoned in lost habitat, eroded soils, and heavy fertilizer and pesticide use. Still, about forty percent of the nearly seven million acres under coffee production in Latin America has been converted to sun coffee, millions of acres of land supporting few, if any, birds. If you drink instant or canned supermarket coffee, chances are you're drinking Robusta coffee.

Chestnut-sided Warbler photograph courtesy of SMBC and Gerhard Hofmann

As early as the late 1980s, conservationists realized that the birders might reverse that sorry trend by changing their buying habits. If coffee

Wood Thrush by Kenn Kaufmann

drinkers in North America could be convinced to buy shade-grown, land still in traditional production could be preserved, and sun coffee plantations might be restored to more beneficial shade operations.

Unfortunately, it hasn't been that simple. For a long time, simply finding coffee that was sold as "shade grown" was a challenge, and birders often assumed that they were accomplishing the same goal by purchasing coffee sold as organic or fair-trade.

But while many organic or fair-trade blends are grown in some form of shade cultivation, not all are, and, it turns out, not all shade coffee systems are equally beneficial for conservation. For example, the approach known as shaded monoculture grows coffee, not beneath a diverse, naturalistic forest, but an artificially planted canopy of a single, heavily pruned (and often nonnative) shade species.

"Both extremes qualify as 'shade coffee,' but their contributions to biodiversity are significantly different….For instance, coffee plantations with tall, multilayered overstories of native trees can have avian diversity comparable to that of native forest, whereas other types of shade coffee, dominated by single tree species…are little different from sun coffee in terms of avian diversity and species richness." (Rappole, King, and Vega Rivera 2003)

One way consumers can make an intelligent choice is through shade coffee certification programs, of which there are now several, including the Rainforest Alliance's sustainable coffee label, and UTZ, the latter an industry-led program that has been criticized for lax standards. The most rigorous, however, is the Bird Friendly (BF) certification program developed by scientists at the Smithsonian Migratory Bird Center (SMBC), which is widely viewed as the gold standard among shade-grown designations. "Of the two certification programs in the U.S. that currently require shade, Bird Friendly and Rainforest Alliance, Bird Friendly has the most rigorous requirements." (*Consumer Reports* April 2006)

To qualify as Bird Friendly, a farm must meet substantial benchmarks for canopy height, foliage cover, forest structure, composition and diversity of woody and herbaceous plants, presence of epiphytes like orchids and bromeliads, streamside buffers, and much more. The forest canopy must be comprised of native species, and the operation must be certified organic by an agency with USDA accreditation.

It's a high bar, and one that many coffee farms can't make — sometimes not even those with a long history of organic production. In all, almost 20,000 acres of coffee lands have been certified BF, producing more than eight million pounds of coffee every year. The high standards make a huge difference to birds and other tropical

organisms. In 2004, researchers Alexandre Mas and Thomas Dietsch published a review in the journal *Ecological Applications* that examined bird and butterfly biodiversity on coffee plantations in the highlands of southern Mexico that ranged from traditional rustic farms to shaded monocultures.

Not surprisingly, the traditional rustic farms did best — even beating the oldest organic farm in Mexico, first certified in 1929. What's more, only the rustic farms met the SMBC's Bird Friendly criteria. "So, just as all shade is not created equal, all certified shade-grown coffee programs might not produce the same conservation benefits," the scientists conclude. (Mas and Dietsch 2004)

That's not to say that other certification programs have no value. Mas and Dietsch noted that the less stringent requirements of the Rainforest Alliance program, which has certified about 1.3 million acres in nineteen countries, may serve as an entry point for farmers who aspire to more strenuous certification in the future. But one drawback of the Rainforest Alliance program is that it permits coffee with as little as 30 percent certified content to carry its seal.

For birders who want to make the biggest impact on conservation, Smithsonian's BF coffee is clearly the best choice. It hasn't always been the easiest coffee to find (unless you happen to live in the Pacific Northwest or Alaska, where the omnipresent Fred Meyer supermarket chain sells BF coffee in its 130 stores). There's a source locator on the SMBC website at <http://nationalzoo.si.edu/ConservationAndScience/MigratoryBirds/Coffee/lover.cfm#find>.

What about buyers who are also concerned about social equality and improving the lives of coffee workers? The real triple whammy would be BF coffee. In addition to good habitat and its USDA organic blessing, BF coffee is grown on farms with a reputable fair-trade certification. Consumers know that the farmers can make a decent living growing it on cooperatives that are operated in a socially responsible way.

A new brand, Birds & Beans, produced by a consortium of New England roasters beginning this winter, hits all three buttons. It's SMBC certified as Bird Friendly and thus organic, and it carries fair trade certification from TransFair USA. That why I, Kenn Kaufman, ornithologist Bridget Stutchbury, and others are advising and supporting the producers.

But regardless of the source, the important thing is for conservation-minded birders — and that ought to mean all of us — to change our drinking habits. If you're using canned coffee, switch to one of the shade-certified brands; it'll cost a bit more, but if the taste alone isn't reward enough, do it for the birds. And when you're

shopping, look for coffee with the SMBC Bird Friendly seal, which provides the greatest benefit for birds and other wildlife.

"In the steam that rises from your coffee cup," Bridget Stutchbury writes in *Silence of the Songbirds*, "could be the ghosts of warblers flitting among the orchids, orioles sipping nectar from spectacular bouquets in the treetops, and thrush flipping up leaves on the forest floor." Not a bad way to great the dawn chorus, mug in hand.

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MassWildlife: Remember Endangered Species on Your State Tax Form

Want to know how to raise birds, hatch turtles, and grow flowers with nothing but paper and ink? Join the thousands of in-the-know people who use their state tax form to make a big difference for rare species in Massachusetts!

Since 1983, Massachusetts tax filers of Form 1 have had the option of donating to the Natural Heritage & Endangered Species Fund when filing their state income tax (Line 32a: "Endangered Wildlife Conservation"), and tens of thousands of people have done so over the years. All contributions go directly into the Fund, currently the source of a significant portion of the annual operating budget of MassWildlife's Natural Heritage & Endangered Species Program (NHESP), which conserves and protects endangered species and their habitats in Massachusetts.

ABOUT BOOKS

Cet Obscur Objet du Désir

Mark Lynch

Birdwatcher: The Life of Roger Tory Peterson. Elizabeth J. Rosenthal. 2008. The Lyons Press. Guilford, Connecticut.

Egg & Nest. Rosamond Purcell, Linnea S. Hall, and René Corado. 2008. The Belknap Press of Harvard University Press. Cambridge, Massachusetts.

A Summer of Hummingbirds: Love, Art and Scandal in the Intersecting Worlds of Emily Dickinson, Mark Twain, Harriet Beecher Stowe, and Martin Johnson Heade. Christopher Benfey. 2008. The Penguin Press. New York, New York.

Passion is a positive obsession. Obsession is a negative passion.
– Paul Carvel, Belgian writer and editor.

In Luis Buñuel's classic 1977 film *Cet Obscur Objet du Désir* (*That Obscure Object of Desire*), Mathieu, played by Fernando Rey, becomes obsessed with a woman. The object of his passion is Conchita, surrealistically played by two different actresses, Carole Bouquet and Angela Molina. Though Conchita continually tempts Mathieu, she also simultaneously frustrates all of his attempts to romantically and sexually satisfy his lust. Among other things, this is a film about how our passions can mutate into obsessions that drive us to act irrationally.

If you think this has nothing to do with your life, think again. Recently I dithered for some time about whether to drive the distance from Worcester to Cape Ann in a serious snowstorm on dangerous roads to see a rare bird that wasn't a "lifer" or even a state first for me. Luckily, I had a "reality check" moment and started to do some serious thinking about the relationship of passion to obsession. Because I am a birder, that moment of healthy maturity didn't last long. The next day my wife and I ditched work and drove to Cape Ann and twitched the bird anyway. All you hard cores reading this know the drill: the rationalizations, the excuses made to concerned family, the consuming desire, and finally the deep anxiety *en route* that the bird may disappear just before you get there. Like Mathieu, we are doomed to never really being satisfied. Despite the thrill of finally seeing one bird, there is always the inevitable *next* new bird to chase. It's an avian version of the myth of Sisyphus. Passion? Obsession? It seems to be a sliding scale that depends on the bird species. Following are three books that are certainly about avian passions and perhaps about obsessions too.

I started out thinking that I wanted to do a field guide that I wanted to be artistic, birds in lots of different poses, and lots of detail in all the paintings, and I ended up after six years of working on it…going back to some of the

basic principles that Roger had started with in the 1930s. He really had it right from the very beginning.

– David Allen Sibley quoted on p. 273-274 of *Birdwatcher*

It's surprising that even though Roger Tory Peterson (1908–1996) was one of the most influential and well-known figures in twentieth century natural history; there have been only a few biographies of him. In 1977 John C. Devlin and Grace Naismith published *The World of Roger Tory Peterson: An Authorized Biography*, written while Peterson still had many productive years ahead of him. Much later came *Roger Tory Peterson: A Biography* by Douglas Carlson, published in 2007 by the University of Texas Press. This shortage makes Elizabeth J. Rosenthal's thorough and enjoyable *Birdwatcher: the Life of Roger Tory Peterson*, a "must read" for anyone who has used a Peterson field guide.

Beyond the usual biographical details, Rosenthal relies on extensive interviews with family, friends, fellow naturalists, and admirers to create a more intimate sense of the man behind the well-known image. Though this is by no means a "tell all" book, Peterson is shown to have his share of foibles and neuroses. He was not a great family man, and certainly not a "hands on" parent. He was typically absent during his sons' early years, just "not there," in the words of family friend Katie Lewin. Neighbors and friends considered Peterson a "monomaniac," interested in talking about nothing but "birds, birds, and birds." Rosenthal shows that Peterson did have other interests like butterflies and wildflowers, all of which he approached with the same passionate fervor. Peterson also harbored a deep resentment about getting old and talked a lot to friends about death. This fear is perhaps not unusual for a man whose life was a constant whirlwind of activity.

A major facet of *Birdwatcher* is Rosenthal's examination of the global importance of Peterson's writings and conservation work. She emphasizes the influence that Peterson's first American field guide had on European birders and describes his efforts with Guy Mountfort and Phillip Hollum to create the first European pocket-sized field guide.

> Peterson was a behind-the-scenes player in conservation rather than a table pounder like Rosalie Edge. (p. 178)

Peterson never marched or hoisted angry placards, but if you engaged him one-on-one verbally on conservation issues, you were in for the debate of your life. He made important contributions to such conservation issues as the effects of DDT on osprey eggs, something he was writing about long before the issue came before the general American press. *Birdwatcher* details Peterson's conservation work in such locations as the Coto Doñana in Spain, Lake Nakuru in Kenya, and, of course, his beloved Antarctica. Peterson wrote extensively and passionately about these and many other locations, and because he was such a recognized and admired figure, his words carried weight around the world.

Birdwatcher also reveals the details of Peterson's long-term relationship with James Maxwell McConnell Fisher. Fisher, a brilliant British ornithologist, was a bit of an upstart who did not suffer fools lightly and could be very difficult to get along with. Fisher met Peterson at the 1950 International Ornithological Congress in Gotlland Sweden, and they immediately became lifelong friends. It was Fisher and Peterson's "buddy trip" across America looking for the best places to find birds that is recounted in *Wild America*, Peterson's most influential and beloved book after his field guide. When Fisher died in a car accident in 1971 at the age of fifty-eight, Peterson was profoundly shaken. He told Keith Shackleton, "It's like a light's gone from my life." (p. 341)

Birdwatcher is not a perfect biography. At times the prose can be workman-like; Rosenthal's desire to insert as much material as possible from her interviews into the text can sometimes make for an awkward flow in the writing. But these are minor flaws. Overall, *Birdwatcher* is a dynamic and much-needed biography of a major writer and artist of twentieth century natural history. *Birdwatcher* reveals Roger Tory Peterson to be a complex man, passionate and perhaps obsessed with birds. This rich biography also reminds the reader that writing and illustrating the seminal field guide to American birds was only the start of Peterson's long and rewarding life.

> Not infrequently I am moved by the presence of an extraordinary specimen. The extinct Passenger Pigeon, with its sunset colors and history of massacre, is a relic that evokes great melancholy.
>
> – p. 189 *Egg & Nest by* Rosamond Purcell

Rosamond Purcell is an internationally acclaimed artist and photographer. Over the years, she has created a provocative series of photographs of natural history museum collections. These are complex art pieces layered with meaning. On the surface, her photos are an aesthetic celebration of the objects themselves, but Purcell's work also speaks to the obsessive nature of collecting and how those collections eventually decay. Previously published collections of Purcell's work include *Bookworms* (2006 Quantuck Lane Press), in which she photographs antique books in various stages of being destroyed by insects, rodents, and birds. *Dice: Deception, Fate and Rotten Luck* (2002 Quantuck Lane Press) is a startling series of photographs by Purcell of one person's collection of dice. These are not pristine specimens. Because of the dice's material and considerable age, all of them are melting, decaying, or otherwise turning to dust. Purcell's photographs are never just about the objects themselves but represent a complex dialogue between herself, the collector, and the collection.

For *Egg & Nest*, Harvard University Press asked Purcell to photograph the vast oological (eggs) and nidilogical (nests) collections of the Western Foundation for Vertebrate Zoology (the WFVZ) in Camarillo, California. Most of the specimens here are from the worldwide expeditions of ornithologist Ed Newton Harrison. Harrison also obsessively bought other people's egg and nest holdings, making him a collector of collections.

Purcell told me in an interview that every one of her projects begins by building trust with the various museums' curators. Some museums let her have the keys to the place, while others jealously guard their holdings and will never leave her alone. Linnea S. Hall, Executive Director of the museum, and René Corado, Collections Manager, were uneasy about leaving Purcell alone with their precious (and fragile) eggs and nests. Purcell was not allowed to actually touch any specimen, but instead had to micro-direct museum personnel on how and where to place the object, a procedure which added to the difficulty of the project. As with all her photography, natural light was used.

Egg & Nest is a large-format book, and at first one cannot help but regard the photographs as art. However, what we are really looking at is the end product of millions of years of evolution. A tailorbird's nest is revealed to be composed of "pop-riveted" yarn meticulously strung through leaves to create the ultimate safe pouch for the eggs. By contrast, an urban Rock Pigeon's nest of metal rods, dried leaves, and fireworks fragments resembles a Frank Stella assemblage. Similarly, the Bullock and Altimira oriole nests, made of woven raffia, shiny plastic Easter grass, and brightly colored plastic strips resemble the work of some contemporary fabric artist. Some nests are labeled "ready made"—a nod to Marcel Duchamp—and utilize human-made objects for their foundations. There are nests in water cans, in oil lamps, in a saucepan, on metal bolts. A tiny hummingbird's nest that was made on a knot of a yacht's rope was purchased at great expense from the yacht's owner by Ed Harrison.

Some "specimens" are certainly interesting to behold, but one has to question their ornithological importance. What appears to be a small delicate marble sculpture of a nest is instead the calcified remains of a nest left in a limestone cave in France under dripping stalactites. This is an object that would be at home in any eighteenth century European "Cabinet of Curiosities." The Dada-esque "anti-nest" of the Blue Booby consists simply of a box of dirt, the exact dirt the bird used to create a minimalist scrape in which to place its egg. It is with specimens like these that you begin to sense the mind of the man behind the collection. Is this collection serving the science of ornithology or one man's obsessions?

The eggs in this book present quite different initial visual experiences. Many of them are jewel-like in their ovoid and pyriform perfection, but Purcell has also included weird-looking specimens of deformed eggs and eggs within eggs. The complex black patterns on the mostly whitish eggs of Red-winged Blackbirds and Common Murres look like the calligraphy of Francis Bacon. The subtle textures, colors, and hues of many of the specimens are wonderfully captured because of Purcell's reliance on natural light. This is indeed a stunningly beautiful collection of specimens.

There is a world of difference between how Purcell looks at this collection, and how the museum personnel do. The lengthy introductory essay written by Linnea Hall and René Corado is a rather dry history of egg collecting and Ed Harrison's gradual assembling of the collection. The essay also defends egg and nest collecting in a museum context; a practice that they acknowledge has a bad reputation today. By contrast, Rosamond Purcell's essay at the end of the book is personal in tone and

focuses on her experience with the collection and how she felt looking at all these eggs and nests. She never forgets that these are never mere specimens but the remains of what were once living creatures. It is this tension between the view of the obsessive scientist/collector and the artist/natural historian that makes *Egg & Nest* more than just a collection of beautiful photographs — which it certainly is — but instead a subtle meditation on museums and collecting.

A Route of Evanescence
With a revolving Wheel
A Resonance of Emerald
A Rush of Cochineal
And every Blossom on the Bush
Adjusts its tumbled Head
The mail from Tunis, probably,
An easy Morning's Ride
From *A Route of Evanescence* by Emily Dickinson

A Summer of Hummingbirds: Love, Art, and Scandal in the Intersecting Worlds of Emily Dickinson, Mark Twain, Harriet Beecher Stowe, and Martin John Heade is a unique history about a diverse network of American artists and writers adrift in a dreamlike world of their own creation during the Civil War and its aftermath. Time and again in their considerable global wanderings: in the tropical mountain passes of Nicaragua, the candlelit drawing rooms of Europe, or the well-tended gardens of Amherst, this peculiar set of creative minds keeps crossing paths, sharing desires and ideas. Somehow, they all seem to be on the same odd wavelength. At the hub of this Pynchonesque drama is the legendary poet Emily Dickinson, alone in her Amherst house, a hermit in one respect, yet surprisingly "plugged in" to the crazy goings on around her, and many of the characters in this book end up passing through Amherst. Author Christopher Benfey is a Mellon Professor of English at Mount Holyoke College, and he uses his considerable literary talents to reveal the rich inner world of these artists and uncover some of the meaning behind their shared set of personal symbols, like the hummingbirds of the title.

Hummingbirds flit in and out of this book in quite unexpected ways. There was a veritable "hummingbird-mania" among the intelligentsia of the times. This obsession went hand in hand with a deep fascination with the New World tropics of Central and South America and Florida. This was the first generation influenced by Darwin's writings, and the tropics represented the place where Darwin discovered the mysterious cause behind the rich diversity of life. The tropics were also viewed as an earthly Garden of Eden, pristine and mystical. The rainforest was also a place of the erotic imagination, humid, hot, and passionate. Describing Martin Johnson Heade's painting *Cattleya Orchid and Three Brazilian Hummingbirds*, Benfey concludes:

> Now look closer. Allow your eye to be drawn to the mysterious emanation of light, the strangest light ever seen in heaven or on earth, under the gothic

> branches. Somewhere back there the sun is shining, though the flower has turned away from it. What we feel is some other kind of light, an inner or spiritual emanation, found nowhere else in American art. It's the light we divine in certain paintings of Vermeer or Caspar David Friedrich, or in the mystical array of deer or birds in Chinese landscape painting. We are in another world, a world that doesn't know us. (p. 187)

Hummingbirds in all their stunning variety and impossibly delicate, scintillate forms were seen as icons of these "tropics of the imagination." People collected hummingbirds, wore hummingbirds, wrote about hummingbirds, and painted them. Harriet Beecher Stowe drew hummingbirds and kept one as a pet. Of course there is Dickinson's famous poem (see above), which on its most basic level describes the appearance of a hummingbird in her garden. But as is typical of her deceptively simple and "reckless" poetry, the hummingbird stands for much more, like desire, the erotic, life, and God. Nothing is as simple as it initially appears in Dickinson's poetry, and this is true of the passions of the other artists in this book.

It is Martin Johnson Heade who becomes the most obsessed with hummingbirds. Initially a painter of landscapes, like hayfields in Newburyport, Heade feels the lure of the tropics and spends most of the Civil War in Brazil painting hummingbirds, typically shown in the presence of some extraordinary orchid. The paintings are lush and magical in their ability to visually capture the essence of the tropics by depicting one of its tiniest residents. Heade decides he wants to be the "Audubon of hummingbirds" and plans to paint all the hummingbirds of the world and publish a definitive volume on the species featuring color plates of his work. It is a doomed project.

Heade returns to Amherst and becomes hopelessly smitten with the famous Amherst femme fatale, Mabel Loomis Todd. A former student of Heade's and many years his junior, Todd is now married to a noted astronomical photographer, who just happens to be off taking shots of the Transit of Venus. Todd is a brilliant and multitalented woman, an accomplished pianist, artist, and writer, and very much a free spirit. She is the human embodiment of a hummingbird. She knows the effect she has on men and uses it to her advantage. Heade, like many before him, just cannot leave Todd alone, despite the fact that she is having a torrid and quite open affair with Austin Dickinson, brother of Emily. Like his passion for hummingbirds, Heade's unrequited desire for Mabel Loomis Todd becomes an obsession, though in this case a rather sad and creepy one. Eventually he leaves Amherst, reluctantly marries someone else more his age, and they retire to Florida, the nearest he can now get to his beloved tropics. One of the last photographs in *A Summer of Hummingbirds* shows an elderly Heade with his rather stern-looking wife, sitting outside their Florida home. On his wife's finger is perched a hummingbird.

Author Christopher Benfey's intimate knowledge of the subject matter is obvious on every page of this unique literary history. At times Benfey's story reads like a novel because of the unlikely nature of the events and coincidences it contains. Benfey stated in an interview I conducted with him recently, "You don't have to worry about being believable when you are writing nonfiction." *A Summer of*

Hummingbirds is a poetic investigation of the intersection of art and obsession among a singular group of nineteenth century American artists. Hummingbirds are only one of the touchstones of this group. Benfey reveals a time when certain elements of the natural world were imbued with a deeply felt poetic and erotic patina. After reading this book, you may never look at hummingbirds the same way again.

The riddle we can guess, we speedily despise.

- From a letter by Emily Dickinson.

Other Literature Cited:

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From MassWildlife: Water Supply Gull Study

This summer and fall, the Department of Conservation and Recreation (DCR) began conducting a research program to track the habits and flight patterns of gulls near the Quabbin and Wachusett Reservoirs and is now asking the public's help in reporting any sightings of tagged gulls. With funding from the Massachusetts Water Resources Authority's (MWRA) Water Supply Protection Trust, permit and capture assistance from the Division of Fisheries & Wildlife, and advice from the Massachusetts Audubon Society, DCR staff have already caught and tagged nearly 250 Ring-billed, Herring, and Greater black-backed gulls around the reservoirs in an effort to track their feeding habits and daily whereabouts. Information from sightings will be used to help identify local food sources for the birds and determine the best way to try to prevent them from spending the night at the reservoirs. From fall through spring, thousands of gulls spend the night sitting in the water at the reservoirs. For almost 20 years, DCR has used various techniques to scare the birds away from the MWRA intake pipes and prevent their droppings from polluting the water. While those techniques — which involve setting off loud noises near the gulls, for example — have proven effective, DCR is looking for a more ecological and efficient approach.

Each gull species has its own tag color with a unique identification number for each tag. With help from the public, DCR has already been able to record the whereabouts of many of the birds at various times during the day, week, and season. Sightings have already been received from central Massachusetts to Maine, as well as from the Canadian provinces of Manitoba and Newfoundland. Anyone who sees a wing-tagged bird is asked to try to obtain the alpha-numeric combination on the tag (e.g., A57) and report it using the contact information below. Be sure to include the time and place the bird was sighted. Contact Dan Clark at 508-792-7423, ext. 215 or dan.clark@state.ma.us. Gull Study information can be found at <http://www.mass.gov/dcr/waterSupply/watershed/study/index.htm>.

BIRD SIGHTINGS

September/October 2008

Seth Kellogg, Marjorie W. Rines, Robert H. Stymeist, and Jeremiah R. Trimble

September 2008 was a mixed bag, a bit on the mild side but very wet. The high for the month reached 89˚ in Boston on September 5, which was the last day of an amazing 17-day stretch without rain. In September rain totaled 6.45 inches in Boston, nearly three inches more than normal. The most rain in any 24-hour period was 2.17 inches on September 6–7 during tropical storm Hanna, which raced through Massachusetts. Not many seabirds were blown ashore on either Cape Ann or Cape Cod. Hurricane Kyle on September 28 produced a lot of excitement for the television meteorologists but was a bust for both weather and birds. The storm passed about 150 miles to our east, producing little wind. For hawk-watchers, September 18 was notable. Northeast winds switched to north, a change that produced large movements of Broad-wings at every lookout in the state. Northwest winds, considered the best for fall migration, occurred on September 15, 21, and 29.

October was perfect for birding: cool and dry with lots of sunshine. The temperature averaged 53.4˚ in Boston, just about average. The high was 74˚ on October 9, and the low was 33˚ on Halloween night. There was no killing freeze in Boston during October, but many suburbs dropped under the freezing mark on the 18th, about a week later than the average. Rain totaled just 1.41 inches during the month in Boston, 2.38 inches below average. Northwest winds were frequent and occurred on October 6, 7, 11, 16, and 30. Following a northwest wind on the 16th, there was an impressive flight of scoters past Manomet Point on October 17.

R. H. Stymeist

WATERFOWL THROUGH GULLS

A **Greater White-fronted Goose** spent much of the second half of October in the Acton area. A single **Cackling Goose** was reported on September 30 in Hatfield, but it did not linger. A single Brant was reported in Northampton on October 29. This species, very rare in the western half of the state, is reported an average of only three times per year. Two male **Eurasian Wigeons** were discovered during September and October, including one at Mill Pond in Marston Mills, which has proven to be the best location for this species in the state. Plum Island hosted typically large numbers of dabbling ducks, including 4100 Green-winged Teal, one of the highest counts ever for this species in the state. The first Canvasback this season set down at Fresh Pond in Cambridge on October 28. This species typically arrives during the last week of October, although in increasingly fewer numbers. Harlequin Ducks operate on roughly the same schedule and were on time this year at their stronghold on Cape Ann. During migration, the scoter species show up at inland localities with some regularity. This season, Black Scoters were particularly well represented at inland lakes and reservoirs. A massive migration of scoters was reported from Plymouth on October 17.

During a moderate flight of Red-throated Loons on October 19 totaling 102 individuals, an observer discovered an adult Pacific Loon flying past Andrew's Point in Rockport. A Horned Grebe in Squantum on September 20 was early. A report of two Western Grebes at Revere Beach on October 12 was unusual not just for the number (more than one), but for the date. This is the first time this species has been reported in the state before November.

During a major storm on October 28, an impressive 390 Northern Fulmars were recorded in Rockport. This total represents a record high count for this species at this location. After an unprecedented year for Cory's Shearwater in New England, the species lingered in small numbers until at least the end of October. An **American White Pelican** was photographed at Swansea on September 19. In addition to the more typical herons, Massachusetts observers discovered Cattle Egrets on Martha's Vineyard and in East Boston, possibly a first Suffolk County record. Because Glossy Ibis are very rare after September, the individuals lingering on Plum Island until October 3 were unusual.

A major hawk movement occurred on September 18. In particular, large numbers of Broad-winged Hawks were counted moving past hawkwatch sites at Mount Watatic, Wachusett Mountain, and Mount Tom. Hawk watchers at both Mount Watatic and Wachusett Mountain reported Golden Eagles as well on that day. On October 7 the appearance of a Rough-legged Hawk on Plum Island boded well for a good year for this species. Rough-legs rarely show up before the third week of October; in the last fifteen years there is only one other state record before the middle of October.

A single Clapper Rail was reported this period at Fort Hill in Eastham. Great Meadows NWR hosted a maximum of seven Sora during the period, a respectable total, given the steep decline in this species' numbers in recent years. At Great Meadows, a single immature **Common Moorhen** was seen during much of the period. Could this have been a result of a successful local breeding event? One other Common Moorhen was seen in West Barnstable during the second half of October. Although it was only for one day, the **Sandhill Crane** that turned up on Nantucket on September 3 was enjoyed by a number of observers, thanks, at least in part, to the small size of the island and the tightly knit birding community.

While Tropical Storm Hanna did not produce huge numbers of seabirds, one lucky observer witnessed the passing of two **South Polar Skuas** at Andrew's Point in Rockport. A single **Long-tailed Jaeger** and two **Sabine's Gulls** passed First Encounter Beach in Eastham on September 7. A count of sixteen Pomarine Jaegers at Andrew's Point on October 28 was a good total and the highest this season. Parasitic Jaegers peaked much earlier, at the end of September. On September 14, four Sabine's Gulls were reported from Stellwagen Bank. Caspian Terns were widely reported, with an impressive count of twelve on Plum Island on October 1. On this same date, one observer recorded a remarkable forty-eight Caspian Terns moving past Ragged Neck in Rye, New Hampshire, just to the north. *J. R. Trimble*

Greater White-fronted Goose			
10/16-26	Acton	1 ad	D. Sibley + v.o.
Snow Goose			
9/25	Carlisle	1	J. Center
10/6	Russell	1	Hawkcount (TS)
10/7-31	P.I.	17 max	v.o.
10/11	Mt. Watatic	1	T. Pirro
Brant			
thr	Revere B.	457 max	v.o.
10/6	Quabbin Pk	12	J. Smith
10/11	WBWS	100	M. Faherty
10/19	Plymouth	90	I. Davies#
10/25	Duxbury B.	50	R. Bowes
10/25	Brewster	300	B. Nikula
10/29	Northampton	1	H. Allen
10/29	P.I.	26	W. Tatro
Cackling Goose			
9/30	Hatfield	1	J. Smith
Wood Duck			
9/3	Longmeadow	55	J. Hutchison
9/18, 10/8	W. Roxbury	118, 130	M. Iliff
9/25	Bolton	30	J. Moosbruker
10/13	GMNWR	26	USFWS (JSS)
10/16	Norwell	30+	W. + A. Childs
10/19	Stoughton	26	G. d'Entremont
10/21	N. Quabbin	40	B. Lafley
10/27	Brookline	24	R. Mayer
Gadwall			
thr	P.I.	82 max	R. Heil
10/12	Acoaxet	3	M. Lynch#
10/17	Barnstable	7	M. Keleher
10/18	Woburn (HP)	3	M. Rines
10/19	Plymouth	23	I. Davies#
10/22	Waltham	2	J. Forbes
10/24	Ipswich	158	J. Berry
Eurasian Wigeon			
9/10-10/31	Marston Mills	1 m	v.o.
10/16-30	P.I.	1 m	v.o.
American Wigeon			
thr	Arlington Res.	32 max	M. Rines
9/7-10/31	P.I.	145 max	R. Heil
9/7, 10/19	Plymouth	1, 32	I. Davies
9/13-10/31	Marston Mills	82 max	M. Keleher
10/13	Longmeadow	5	E. Rutman
10/24	Ipswich	20	J. Berry
American Black Duck			
thr	P.I.	470 max	v.o.
10/4	WBWS	100	G. d'Entremont#

American Black Duck (continued)

10/24	Ipswich	310	J. Berry

Blue-winged Teal

thr	GMNWR	45 max	v.o.
thr	P.I.	12 max	v.o.
9/1	Woburn (HP)	5	M. Rines
9/5	Pepperell	27	T. Pirro
9/13-10/31	Marston Mills	16 max	M. Keleher
9/20	W. Newbury	10	I. Davies#
10/3	Norfolk	5	MAS (T. Yeager)

Northern Shoveler

thr	P.I.	6 max	v.o.
9/27	Arlington Res.	1	J. Forbes
9/30	Salisbury	3 m imm	S. McGrath
10/5-12	E. Boston	4	T. Factor
10/12	Melrose	3	D. + I. Jewell
10/25	GMNWR	1	J. Forbes

Northern Pintail

thr	P.I.	250 max	R. Heil
9/18-10/31	GMNWR	27 max	USFWS (JSS)
10/4	Quabbin Pk	10	M. Lynch#
10/7	Manomet	3	I. Davies
10/12	Duxbury	3	R. Bowes
10/12	Acoaxet	28	M. Lynch#
10/24	Ipswich	2	J. Berry

Green-winged Teal

thr	GMNWR	75 max	S. Perkins
thr	P.I.	4100 max	R. Heil
10/12	Acoaxet	64	M. Lynch#
10/17	Manomet	64	I. Davies
10/17	DWWS	50	MAS (J. Galluzzo)
10/25	E. Boston (B.I.)	42	K. Hartel#
10/31	Lincoln	52	M. Rines
10/31	DWWS	80	M. Keleher

Canvasback

10/28	Cambr. (F.P.)	2 m	B. Miller

Ring-necked Duck

9/20, 10/26	W. Newbury	15, 700	Davies, Berry
10/thr	Cambr. (F.P.)	172 max.	v.o.
10/8-31	GMNWR	41 max	S. Perkins#
10/18	Braintree	80	P. Peterson
10/19	Stoughton	325	G. d'Entremont
10/21	Haverhill	220	S. Mirick
10/24	Ipswich	180	J. Berry
10/27	W. Barnstable	32	M. Keleher

Greater Scaup

9/28, 10/18	P.I.	1, 14	S. Grinley#
10/2	Revere B.	1	J. Restivo
10/18	Cambr. (F.P.)	5	F. Bouchard
10/19	Rockport (A.P.)	4	R. Heil
10/20	Braintree	4	B. Kunkel
10/20	W. Newbury	1	S. McGrath

Lesser Scaup

10/13	Westport	10	J. Hoye#
10/17	Marshfield	20	MAS (J. Galluzzo)
10/19	Pembroke	16	SSBC (J. Sweeney)
10/21	Chestnut Hill	2	M. Garvey

Common Eider

9/26, 10/19	Rockport (A.P.)	16, 975	R. Heil
10/7	Manomet	62	I. Davies
10/18	Manomet	225	M. Faherty
10/19	Barnstable (S.N.)	42	M. Malin
10/31	WBWS	250	M. Faherty

Harlequin Duck

10/22-31	Rockport	33 max	v.o.

Surf Scoter

thr	P.I.	311 max	v.o.
9/20, 10/25	Nahant	112, 130	L. Pivacek
10/17	Manomet	8102	I. Davies
10/19	Rockport (A.P.)	380	R. Heil
10/22	Richmond	11	T. Gagnon
10/26	Cambr. (F.P.)	1	R. Stymeist
10/30	Revere B.	200	S. Walker

White-winged Scoter

9/5	Chatham (S. B.)	3	D. + S. Larson
9/10	Westport	14	G. Gove#
9/16-10/31	P.I.	150 max	v.o.
9/20, 10/25	Nahant	84, 240	L. Pivacek
9/22, 10/19	Rockport (A.P.)	90, 270	R. Heil
10/15-18	Reports of 1-15 indiv. from 6 inland loc.		
10/17	Manomet	7128	I. Davies
10/31	Brookfield	2	M. Lynch#

Black Scoter

9/17	Gloucester	3	S. Hedman
9/19-10/31	P.I.	95 max	v.o.
10/17	Manomet	1925	I. Davies
10/17	Reports of 26-249 ind. from 6 inland loc.		
10/18-31	Reports of 1-26 ind. from 8 inland loc.		
10/19	Rockport (A.P.)	130	R. Heil

Long-tailed Duck

10/17	Wachusett Res.	3	A. Marble
10/17	S. Quabbin	10	L. Therrien
10/19	Rockport (A.P.)	133	R. Heil
10/23	Eastham (F.E.)	800	B. Nikula
10/26	Cambr. (F.P.)	1 f	R. Furrow
10/27	S. Quabbin	1	L. Therrien

Bufflehead

10/18	Woburn (HP)	5	M. Rines
10/19	Barnstable (S.N.)	8	M. Malin
10/19	Plymouth	16	I. Davies#
10/30	Stockbridge	8	H. Allen
10/31	Duxbury	240	R. Bowes
10/31	P.I.	30	T. Wetmore
10/31	WBWS	14	M. Faherty

Common Goldeneye

10/13	GMNWR	1	USFWS (JSS)
10/25	Sharon	2	W. Sweet

Hooded Merganser

9/29	Cambr. (F.P.)	1 f	J. Trimble
10/10-31	P.I.	20 max	v.o.
10/23	Brighton	15	P. Peterson
10/24	Ipswich	63	J. Berry
10/25	Cambr. (F.P.)	12	W. Freedberg
10/26	Lincoln	30	J. Forbes
10/30	Pittsfield (Onota)	60	H. Allen

Common Merganser

9/30	P.I.	1	R. Heil
10/4	Quabbin Pk	8 imm	M. Lynch#
10/26	Pittsfield (Onata)	13	M. Lynch#
10/27	Waltham	3	M. Rines

Red-breasted Merganser

10/4-31	P.I.	140 max	v.o.
10/11	Duxbury B.	115	R. Bowes
10/13	Truro	1700	J. Young
10/19	Plymouth	122	I. Davies#
10/19	Rockport (A.P.)	105	R. Heil
10/25	Winthrop	110	R. Stymeist#

Ruddy Duck

9/20	Randolph	3	G. d'Entremont#
9/20, 10/26	W. Newbury	3, 210	Davies, Berry
10/5, 26	Brighton	19, 40	M. Garvey
10/10	W. Newbury	95+	P. + F. Vale#
10/13, 28	Cambr. (F.P.)	10, 27	Trimble, Miller
10/17	Marshfield	80	MAS (J. Galluzzo)
10/18	Braintree	100	P. Peterson
10/19	Pembroke	191	SSBC (J. Sweeney)
10/19	Ludlow	26	H. Allen

Ring-necked Pheasant

9/2	Essex	1	J. Nelson
9/13	Belmont	1	R. Furrow
10/5	Ipswich	1 m	J. Berry#

Ruffed Grouse

9/19	Mt. Watatic	1	T. Pirro
9/28	Rutland	3	K. Bourinot
9/30	Wompatuck SP	1	C. Nims
10/11	W. Quabbin	5	L. Therrien
10/14	Manomet	1	E. Dalton
10/15	Mashpee	4	M. Malin
10/27	Eastham	1	J. Sweeney#

Wild Turkey

9/6	Ware R. IBA	19	M. Lynch#
9/6	Natick	16	P. Trull
9/13	Wellfleet	51	BBC (R. Stymeist)
9/23	Waltham	13	J. Forbes
10/5	Truro	33	B. Nikula
10/5	P'town	18	B. Nikula

Wild Turkey (continued)
10/19 Eastham 38 A. Curtis
10/19 Plymouth 15 I. Davies#
Northern Bobwhite
9/6 Groton 1 S. McGrath
9/21 Mashpee 1 M. Keleher
9/28 Rutland 2 K. Bourinot
10/2 Rockport (H.P.) 1 J. Berry
10/4 WBWS 6 G. d'Entremont#
10/12 Eastham 30 M. Faherty
10/30 Yarmouth 18 J. Sullivan#
Red-throated Loon
thr P.I. 56 max v.o.
9/22, 10/19 Rockport (A.P.) 1, 102 R. Heil
10/7, 18 Manomet 3, 137 Davies, Faherty
10/20 Eastham (F.E.) 39 B. Nikula
10/22 Cheshire 1 T. Gagnon
10/25 Dennis 25 G. d'Entremont
10/26 Wellfleet 25+ P. + F. Vale
Pacific Loon *
10/19 Rockport (A.P.) 1 ad R. Heil
Common Loon
thr P.I. 67 max v.o.
9/22, 10/19 Rockport (A.P.) 43, 49 R. Heil
10/11 Duxbury B. 25 R. Bowes
10/17 Manomet 97 I. Davies
10/18 Wachusett Res. 14 M. Lynch#
10/26 S. Quabbin 15 M. Lynch#
Pied-billed Grebe
9/2 P.I. 3 R. Heil
9/5 Pepperell 3 T. Pirro
9/20 Randolph 5 G. d'Entremont#
10/5 W. Newbury 3 R. Heil
10/10 Barnstable 9 M. Keleher
10/13 GMNWR 5 J. Forbes
Horned Grebe
9/20 Squantum 1 G. d'Entremont#
10/12, 27 S. Quabbin 3, 7 L. Therrien
10/16 Winthrop 31 P. Peterson
10/16 Plymouth B. 17 I. Davies
10/31 P.I. 6 S. Grinley#
Red-necked Grebe
9/13 Wellfleet 1 BBC (R. Stymeist)
10/10 P.I. 5 T. Wetmore
10/16 Manomet 3 I. Davies
10/17 Wachusett Res. 1 A. Marble
10/25 Winthrop 5 R. Stymeist#
10/26 S. Quabbin 2 L. Therrien
10/26 Cambr. (F.P.) 1 R. Furrow#
10/26 Gloucester H. 8 R. Heil
Western Grebe (details submitted) *
10/12 Revere B. 2 T. Factor#
Northern Fulmar
9/26, 10/28 Rockport (A.P.) 2, 390 R. Heil
9/29 Stellwagen 1 K. Hartel
Cory's Shearwater
9/7, 28 Rockport (A.P.) 7, 13 R. Heil
9/11 Jeffries L. 27 S. Mirick#
9/14, 10/11 Stellwagen 350, 35 Petersen, Nikula
9/19, 10/26 P'town 105, 4 B. Nikula
9/20, 10/11 N. Truro 40, 200 B. Nikula
Greater Shearwater
9/14, 10/11 Stellwagen 225, 65 Petersen, Nikula
9/19, 10/26 P'town 105, 20 B. Nikula
9/20, 10/11 N. Truro 30, 100 B. Nikula
9/26, 10/28 Rockport (A.P.) 127, 125 R. Heil
Sooty Shearwater
9/14 Stellwagen 7 W. Petersen#
9/20, 10/25 N. Truro 1, 1 B. Nikula
9/26, 10/28 Rockport (A.P.) 3, 2 R. Heil
9/28, 10/26 P'town 2, 1 B. Nikula
Manx Shearwater
9/11 Jeffries L. 1 S. Mirick#
9/14 Stellwagen 4 W. Petersen#
9/19 P'town 9 B. Nikula
9/20 N. Truro 1 B. Nikula
9/26 Rockport (A.P.) 3 R. Heil
Wilson's Storm-Petrel
9/3 Stellwagen 40+ I. Giriunas
9/11 Jeffries L. 2 S. Mirick#
Leach's Storm-Petrel
9/7 Eastham (F.E.) 3 B. Nikula
9/19 P'town 1 B. Nikula
9/20 N. Truro 1 B. Nikula
9/26, 10/19 Rockport (A.P.) 1, 1 R. Heil
10/19 Barnstable (S.N.) 1 M. Malin
Northern Gannet
thr P.I. 850 max v.o.
thr Rockport (A.P.) 2450 max R. Heil
9/7, 10/17 Manomet 31, 531 I. Davies
9/7 Eastham (F.E.) 310 B. Nikula
9/28 P'town 555 B. Nikula
10/23 Wellfleet 600 M. Faherty
10/25 Duxbury B. 100 R. Bowes
American White Pelican *
9/18 Swansea 1 ph Butch Lombardi
Double-crested Cormorant
9/3 Chatham (MI) 3000+ D. Manchester
10/5 Nahant 880 L. Pivacek
10/12 IRWS 1000+ MAS (W. Tatro)
10/14 P.I. 4650+ R. Heil
10/31 P'town H. 525 B. Nikula
Great Cormorant
9/26 Rockport (A.P.) 5 R. Heil
10/11 Duxbury B. 5 R. Bowes
10/19 Plymouth 3 I. Davies#
10/19 Rockport (A.P.) 16 R. Heil
10/25 P.I. 7 T. Wetmore
American Bittern
thr P.I. 1-3 v.o.
9/21 Belchertown 1 L. Therrien
10/1 Newbypt 1 D. Larson
10/8 GMNWR 1 S. Perkins#
10/15 Mashpee 1 M. Malin
10/18 Eastham (F.H.) 3 J. Hoye#
10/20 Duxbury B. 1 R. Bowes
10/26 Salisbury 2 J. Hoye#
Great Blue Heron
9/16 P.I. 19 R. Heil
9/28 Sandwich 16 M. Keleher
9/30 GMNWR 32 migr S. Perkins#
10/1 Eastham 25 M. Faherty
10/12 Westport 19 M. Lynch#
Great Egret
thr P.I. 130 max R. Heil
9/1, 10/17 E. Boston (B.I.) 13, 11 R. Stymeist
9/3 Northampton 5 F. Bowrys
9/18, 10/21 GMNWR 8, 4 Perkins, USFWS
10/1 Eastham 71 M. Faherty
10/4 Westport 41 R. Stymeist#
10/16 Squantum 20 S. Williams#
Snowy Egret
9/1-10/21 P.I. 190 max v.o.
9/1, 10/17 E. Boston (B.I.) 39, 2 R. Stymeist
9/14 Revere 23 P. + F. Vale
9/20 Squantum 2 G. d'Entremont#
10/4 Eastham 2 G. d'Entremont#
Little Blue Heron
9/2 Essex 3 J. Nelson
9/2 P.I. 1 R. Heil
9/20 Chatham 1 P. Gaines
Tricolored Heron
10/12 P.I. 1 T. Wetmore
Cattle Egret
9/27 E. Boston 1 M. Iliff
10/30 M.V. 2 ph L. McDowell
Green Heron
9/1 Lincoln 3 J. Forbes
9/1 Woburn (HP) 3 M. Rines
9/3 Sterling 3 K. Bourinot
9/5 Mashpee 3 CCBC (M. Keleher)
9/16 GMNWR 3 USFWS (JSS)
10/13 Lexington 1 J. Trimble
Black-crowned Night-Heron
thr P.I. 6 max v.o.

Black-crowned Night-Heron (continued)

9/10, 10/24	Ipswich	42, 6	J. Berry
9/12	Eastham	42	BBC (R. Stymeist)
9/13	Gloucester (E.P.)	9	B. Harris
9/20, 10/19	Plymouth	10, 2	I. Davies#
10/10	Marshfield	10	MAS (J. Galluzzo)

Yellow-crowned Night-Heron

9/1-6	MNWS	1	v.o.
9/3-10/4	Eastham	2-4	M. Keleher + v.o.
9/21	WBWS	1 imm	M. Faherty

Glossy Ibis

9/1-10/3	P.I.	11 max	v.o.

Black Vulture

9/14	Granville	1	Hawkcount (JW)
9/27	Sheffield	5	J. Drucker
10/4	Russell	5	T. Swochak

Turkey Vulture

9/1, 10/7	P.I.	23, 20	R. Heil
9/1	Truro	11	J. Young
9/13-20	Mt. Watatic	109	Hawkcount (TP)
10/thr	Chatham (MI)	27	D. Manchester#
10/thr	Granville	148	Hawkcount (JW)
10/4-31	Barre Falls	247	Hawkcount (BK)
10/4	Westport	12	R. Stymeist#
10/13	Groton	34	T. Pirro
10/13	Ware	96	M. Lynch#
10/13	Barre Falls	123	Hawkcount (BK)

Osprey

9/thr	Granville	123	Hawkcount (JW)
9/thr	Mt. Wachusett	140	Hawkcount (SO)
9/7-25	Barre Falls	89	Hawkcount (BK)
9/10-21	Malden (PR)	12	Hawkcount (CJ)
9/16, 17	Mt. Watatic	26, 28	Hawkcount (TP)
9/18	Barre Falls	21	Hawkcount (BK)
9/24	Mt. Wachusett	15	Hawkcount (SO)
10/1-15	Granville	53	Hawkcount (JW)
10/thr	Chatham (MI)	13	D. Manchester#
10/2-31	Barre Falls	77	Hawkcount (BK)
10/4	Malden (PR)	19	Hawkcount (CJ)
10/25	E. Boston (B.I.)	1	K. Hartel#

Bald Eagle

9/thr	Granville	32	Hawkcount (JW)
9/thr	Mt. Wachusett	44	Hawkcount (SO)
9/10-25	Barre Falls	36	Hawkcount (BK)
9/13-20	Mt. Watatic	17	Hawkcount (TP)
9/18, 23	Barre Falls	9, 8	Hawkcount (BK)
9/18	Mt. Wachusett	14	Hawkcount (SO)
10/1-27	Barre Falls	17	Hawkcount (BK)
10/4	Quabbin Pk	7	M. Lynch#

Northern Harrier

thr	P.I.	10 max	v.o.
9/thr	Granville	17	Hawkcount (JW)
9/11-29	Mt. Wachusett	10	Hawkcount (SO)
9/16-21	Mt. Watatic	13	Hawkcount (TP)
9/18-29	Barre Falls	12	Hawkcount (BK)
10/thr	Chatham (MI)	5	D. Manchester#
10/thr	Granville	59	Hawkcount (JW)
10/2-31	Barre Falls	19	Hawkcount (BK)
10/13	Granville	17	Hawkcount (JW)

Sharp-shinned Hawk

9/thr	Chatham (MI)	59	D. Manchester
9/thr	Mt. Wachusett	152	Hawkcount (SO)
9/thr	Barre Falls	294	Hawkcount (BK)
9/thr	Granville	300	Hawkcount (JW)
9/7-21	Malden (PR)	35	Hawkcount (CJ)
9/13, 18	Mt. Watatic	38, 39	Hawkcount (TP)
9/13-21	Mt. Watatic	201	Hawkcount (TP)
9/17, 19	Mt. Wachusett	23, 19	Hawkcount (SO)
9/18, 23	Barre Falls	55, 45	Hawkcount (BK)
9/29, 10/7	Granville	81, 77	Hawkcount (JW)
10/thr	Chatham (MI)	814	D. Manchester#
10/thr	Granville	510	Hawkcount (JW)
10/thr	Barre Falls	507	Hawkcount (BK)
10/4	Malden (PR)	36	Hawkcount (CJ)
10/6, 7	Barre Falls	63, 70	Hawkcount (BK)
10/10	Russell	68	Hawkcount (TS)

Cooper's Hawk

9/thr	Chatham (MI)	19	D. Manchester
9/thr	Granville	36	Hawkcount (JW)
9/8-25	Barre Falls	22	Hawkcount (BK)
9/11-29	Mt. Wachusett	27	Hawkcount (SO)
9/13-21	Mt. Watatic	18	Hawkcount (TP)
10/thr	Chatham (MI)	100	D. Manchester#
10/thr	Granville	83	Hawkcount (JW)
10/2-26	Barre Falls	47	Hawkcount (BK)
10/4	Malden (PR)	14	Hawkcount (CJ)
10/10	Granville	12	Hawkcount (JW)
10/11	Barre Falls	11	Hawkcount (BK)

Northern Goshawk

9/6	P.I.	1	J. Hoye#
9/12	Lexington	1	M. Rines
9/21	Mt. Watatic	1	T. Pirro
9/29	Groton	1	T. Pirro
10/3	Mt. Wachusett	1	Hawkcount (SO)
10/5	Brookfield	2	M. Lynch#
10/6, 15	Barre Falls	3, 5	Hawkcount (BK)
10/30, 31	Barre Falls	3, 2	B. Kamp#

Red-shouldered Hawk

9/5	Mashpee	2	CCBC (M. Keleher)
9/8	W. Roxbury (MP)	2 juv	P. Peterson
9/21	Canton	4	J. Baur
10/13	Groton	3	T. Pirro
10/19	Essex	2	P. Brown

Broad-winged Hawk

9/thr	Mt. Wachusett	5316	Hawkcount (SO)
9/thr	Barre Falls	5223	Hawkcount (BK)
9/thr	Granville	5785	Hawkcount (JW)
9/10, 18	Barre Falls	250, 4246	Hawk (BK)
9/11-21	Mt. Watatic	7319	Hawkcount (TP)
9/16, 18	Granville	1910, 1851	Hawk (JW)
9/16, 17	Russell	2296, 1174	Hawk (TS)
9/17, 18	Mt. Watatic	771, 5132	Hawk (TP)
9/18	Mt. Tom	1731	T. Gagnon
9/18, 23	Mt. Wachusett	3752, 494	Hawk (SO)
9/18	Mt. Watatic	5132	Hawkcount (TP)
10/10, 17	Barre Falls	3, 1	Hawkcount (BK)

Red-tailed Hawk

10/thr	Granville	94	Hawkcount (JW)
9/15-19	Mt. Watatic	6	Hawkcount (TP)
10/4-30	Barre Falls	98	Hawkcount (BK)
10/thr	Chatham (MI)	26	D. Manchester#

Rough-legged Hawk

10/7-31	P.I.	1 juv lt	R. Heil + v.o.

Golden Eagle

9/16	Mt. Tom	1	T. Gagnon
9/18	Mt. Watatic	1	Hawkcount (TP)
9/18	Mt. Wachusett	1 imm	Hawkcount (SO)
10/6	Russell	1	Hawkcount (TS)
10/18	Malden (PR)	1 imm	Hawkcount (CJ)
10/31	Barre Falls	1 ad	Hawkcount (BK)

American Kestrel

9/thr	Barre Falls	29	Hawkcount (BK)
9/thr	Granville	157	Hawkcount (JW)
9/10-30	Mt. Wachusett	51	Hawkcount (SO)
9/13-21	Mt. Watatic	58	Hawkcount (TP)
9/19, 10/11	Mt. Watatic	24, 12	Hawkcount (TP)
10/1-23	Granville	141	Hawkcount (JW)
10/1-19	Barre Falls	122	Hawkcount (BK)
10/2, 4	Barre Falls	19, 17	Hawkcount (BK)
10/7	Granville	28	Hawkcount (JW)

Merlin

9/thr	Barre Falls	15	Hawkcount (BK)
9/13-21	Mt. Watatic	23	Hawkcount (TP)
9/14	P'town	5	E. Masterson
9/18	Mt. Watatic	9	Hawkcount (TP)
9/23	Barre Falls	4	Hawkcount (BK)
9/24	GMNWR	7	USFWS (JSS)
10/thr	Chatham (MI)	32	D. Manchester#
10/1-13	Granville	16	Hawkcount (JW)
10/1-19	Barre Falls	15	Hawkcount (BK)
10/4	Barre Falls	4	Hawkcount (BK)
10/12	Westport	5	M. Lynch#

Peregrine Falcon

9/thr	Chatham (MI)	10	D. Manchester
9/28	Rockport (A.P.)	5	R. Heil
10/thr	Chatham (MI)	79	D. Manchester#

Peregrine Falcon (continued)
10/1-17 Barre Falls 17 Hawkcount (BK)
10/4 Russell 4 T. Swochak
10/5, 6 Barre Falls 4, 5 Hawkcount (BK)
10/7, 14 P.I. 3, 3 R. Heil
10/12 Chatham (S.B.) 3 B. Nikula
10/13 Granville 4 Hawkcount (JW)
Clapper Rail
10/18 Eastham (F.H.) 1 J. Hoye#
Virginia Rail
9/21 Brookfield 3 M. Lynch#
9/24 GMNWR 7 USFWS (JSS)
10/5 Rowley 2 R. Heil
10/6 Mashpee 3 M. Keleher
10/11 WBWS 2 SSBC (GdE)
10/27 Cotuit 2 M. Keleher
Sora
9/1-10/12 GMNWR 7 max v.o.
9/14 P.I. 1 S. Grinley#
9/27 E. Boston 1 M. Iliff#
9/30 W. Roxbury (MP) 1 M. Iliff
9/30 Brewster 1 P. Trull
10/1 Eastham 1 M. Faherty
10/17 Natick 1 D. Gibson
Common Moorhen
9/1-10/21 GMNWR 1 imm v.o.
10/17 W. Barnstable 1 M. Keleher
American Coot
10/4 Eastham 1 G. d'Entremont#
10/13, 29 GMNWR 6, 3 USFWS (JSS)
10/13 Longmeadow 2 E. Rutman
10/18 Braintree 6 P. Peterson
10/20 Jamaica Plain 17 M. Iliff
10/26 Turners Falls 1 H. Allen
Sandhill Crane
9/3 Nantucket 1 E. Ray#
Black-bellied Plover
thr P.I. 189 max R. Heil
thr Duxbury B. 379max R. Bowes
9/1 P'town H. 350 B. Nikula
9/7 Plymouth B. 188 I. Davies
9/8 Hatfield 1 M. Fairbrother
9/13 Eastham (CGB) 720 I. Davies#
9/20, 10/27 Chatham (S.B.) 2300, 1200 B. Nikula
10/24 Ipswich 87 J. Berry
10/25 Winthrop 76 R. Stymeist#
American Golden-Plover
thr P.I. 11 max v.o.
9/5, 10/11 Duxbury B. 5, 1 R. Bowes
9/11 Cumb. Farms 4 J. Sweeney
9/14 Northampton 4 T. Gagnon
9/20 P'town 3 B. Nikula
9/20, 10/27 Chatham (S.B.) 3, 1 B. Nikula
9/28 Hatfield 5 M. Fairbrother
10/5 Essex 9 ph D. Jones
10/25 Hadley 1 H. Allen
Semipalmated Plover
thr Duxbury B. 450 max R. Bowes
thr P.I. 700 max v.o.
9/1-10/25 Revere B. 181 max v.o.
9/1 P'town H. 400 B. Nikula
9/20, 10/27 Chatham (S.B.) 350, 45 B. Nikula
10/15 Ipswich (C.B.) 101 J. Berry#
Piping Plover
9/1 Duxbury B. 2 imm R. Bowes
9/20, 10/27 Chatham (S.B.) 41, 1 B. Nikula
9/29 Orleans 5 M. Malin
Killdeer
9/8 Cumb. Farms 42 J. Sweeney
9/8 Hatfield 80 M. Fairbrother
9/13 Newbypt 77 P. + F. Vale
9/29 Middleboro 70+ J. Sweeney
10/9 Carlisle 50 T. Brownrigg
10/25 Arlington Res. 18 J. Forbes#
American Oystercatcher
9/12 Falmouth 3 CCBC (G. Hirth)
9/20, 10/27 Chatham (S.B.) 21, 10 B. Nikula
9/21 Fairhaven 2 C. Longworth
10/5 Winthrop 2 P. Peterson
10/15 Ipswich (C.B.) 2 ad J. Berry#
Spotted Sandpiper
9/6 Brewster 3 F. Bouchard
9/13 Gloucester (E.P.) 3 B. Harris
10/17 Marshfield 1 MAS (J. Galluzzo)
10/18 Braintree 1 P. Peterson
10/19 Ludlow 1 H. Allen
10/19 Waltham 1 J. Forbes#
Solitary Sandpiper
9/5 Mashpee 5 CCBC (M. Keleher)
9/7 GMNWR 6 D. Sibley#
9/7 Arlington Res. 3 M. Rines
10/2 Concord 7 juv J. Trimble
10/4 Melrose 2 D. + I. Jewell
10/17 Winthrop 1 R. Stymeist
Greater Yellowlegs
thr Duxbury B. 91 max v.o.
thr P.I. 185 max R. Heil
9/3 GMNWR 5 J. Forbes#
9/12, 10/11 Chatham 280, 230 B. Nikula
10/7 Marshfield 65 MAS (J. Galluzzo)
10/10, 31 WBWS 40, 18 M. Faherty
10/25 E. Boston (B.I.) 46 K. Hartel#
10/25 Eastham 55 G. d'Entremont
Willet
9/1 Duxbury B. 4 R. Bowes
9/2, 21 P.I. 6, 1 Heil, Drummond
9/3 Newbypt H. 2 MAS (B. Gette)
9/3 Duxbury B. 10 R. Bowes
9/7 Chatham (S.B.) 10 B. Nikula
9/20 Gloucester 1 juv. B. Harris#
Western Willet
10/4, 11 Chatham 10, 5 B. Nikula
Lesser Yellowlegs
thr P.I. 1-7 R. Heil
9/3 GMNWR 5 J. Forbes#
9/13 Eastham (CGB) 16 I. Davies#
9/28 Northampton 3 T. Gagnon
9/30 P.I. 21 R. Heil
10/1 Cumb. Farms 5 C. Nims#
10/5 E. Boston (B.I.) 7 S. Zendeh#
10/8 Scituate 8 S. Maguire
10/12 Duxbury 9 R. Bowes
Upland Sandpiper
9/7 Newbypt 1 ad B. Zajda
9/7 Worcester 2 M. Lynch#
Whimbrel
9/1-24 P.I. 7 max v.o.
9/1 WBWS 8 J. Young
9/7 Chatham (S.B.) 30 B. Nikula
9/10 Duxbury B. 7 R. Bowes
9/13 Wellfleet 27 BBC (R. Stymeist)
9/18 E. Boston (B.I.) 1 P. Peterson
10/4 Eastham 6 G. d'Entremont#
Hudsonian Godwit
9/7, 20 Chatham (S.B.) 7, 2 B. Nikula
10/4 Newbypt H. 1 imm L. Ferraresso
10/13 P.I. 1 juv B. Harris
Marbled Godwit
9/5, 20 Chatham (S. B.) 4 Larson, Nikula
9/12 Eastham 1 E. Masterson
10/3-31 P.I. 1 v.o.
Ruddy Turnstone
thr Duxbury B. 86 max R. Bowes
9/7, 10/17 Plymouth B. 21, 2 I. Davies
9/13 Eastham (CGB) 6 I. Davies#
9/20, 10/27 Chatham (S.B.) 45, 13 B. Nikula
9/29 Orleans 6 M. Malin
10/25 Winthrop 6 K. Hartel#
10/28 Gloucester 14 D. + J. Lovitch
Red Knot
9/1-10/10 P.I. 32 max v.o.
9/thr Revere B. 14 max P. + F. Vale
9/7 Plymouth B. 26 I. Davies
9/7 Duxbury B. 19 R. Bowes
9/20, 10/27 Chatham (S.B.) 625, 475 B. Nikula
10/28 Rockport (A.P.) 2 R. Heil

Sanderling

thr	Revere B.	918 max	P. + F. Vale
thr	P.I.	300 max	T. Wetmore
thr	Duxbury B.	3437 max	R. Bowes
9/1	P'town H.	500	B. Nikula
9/2, 10/27	Lynn B.	300, 1000	P. Peterson
9/10	Cumb. Farms	1 juv	J. Sweeney
9/20, 10/27	Chatham (S.B.)	1200, 650	B. Nikula

Semipalmated Sandpiper

thr	P.I.	3000 max	R. Heil
9/1, 10/11	Duxbury B.	400, 4	R. Bowes
9/2, 22	Lynn B.	1000, 100	P. Peterson
9/7	Plymouth	847	I. Davies
9/13	Eastham (CGB)	160	I. Davies#
9/14, 10/17	Revere B.	286, 16	Vale, Stymeist
9/20, 10/27	Chatham (S.B.)	50, 3	B. Nikula
10/15	Ipswich (C.B.)	32	J. Berry#

Western Sandpiper

9/2	P.I.	1	R. Heil
9/7	Plymouth	1	I. Davies
9/13	Eastham (CGB)	2 ad, 16 juv	I. Davies#
9/14, 21	Revere B.	1, 1	P. + F. Vale
9/20	Squantum	1	G. d'Entremont
9/20	Cumb. Farms	1	M. Maurer
10/4	Eastham (F. E.)	1	G. d'Entremont#

Least Sandpiper

9/1-20	P.I.	50 max	v.o.
9/1	P'town H.	75	B. Nikula
9/3	GMNWR	15	J. Forbes#
9/7	Duxbury B.	29	R. Bowes
9/9	Hatfield	15	H. Allen
9/12	Rowley	16	J. Berry
9/20, 10/27	Chatham (S.B.)	70, 2	B. Nikula

White-rumped Sandpiper

thr	P.I.	210 max	v.o.
9/1-10/2	Revere B.	31 max	P. + F. Vale
9/8	Cumb. Farms	1	J. Sweeney
9/20, 10/12	Chatham (S.B.)	30, 35	B. Nikula
10/8	GMNWR	1	S. Perkins#

Baird's Sandpiper

9/1-16	P.I.	1 juv	R. Heil
9/5	Scituate	1	MAS (J. Galluzzo)
9/7	Chatham (S.B.)	1	B. Nikula
9/13	Wellfleet	1	BBC (R. Stymeist)
9/13	WBWS	1 juv	MAS (Faherty)
9/18	Squantum	1	A. Birch

Pectoral Sandpiper

thr	P.I.	10 max	v.o.
9/7	P'town	13	J. Young
9/7, 22	Arlington Res.	4, 2	M. Rines
9/7, 10/12	Chatham (S.B.)	15, 25	B. Nikula
9/17	Hadley	7	H. Allen
9/19	Cumb. Farms	8	MAS (J. Galluzzo)
9/30	GMNWR	4	USFWS (JSS)

Dunlin

thr	P.I.	220 max	v.o.
9/7, 10/4	Duxbury B.	1, 2735	R. Bowes
9/14, 10/4	Revere B.	1, 225	P. + F. Vale
9/20, 10/27	Chatham (S.B.)	1000, 3600	B. Nikula
9/30	GMNWR	1	S. Perkins#
10/11, 31	WBWS	100, 400	M. Faherty

Stilt Sandpiper

9/3	P.I.	2	J. Berry
9/7	Revere B.	2	S. Zendeh
9/13	Eastham (CGB)	1	I. Davies#
10/26	Chilmark	1	L. McDowell

Buff-breasted Sandpiper

9/1-20	P.I.	1-3	v.o.
9/7	Newbury	4 juv	R. Heil
9/20	Chatham (S.B.)	1	B. Nikula
9/30	Hatfield	1	J. Smith

Short-billed Dowitcher

9/1-10/14	P.I.	62 max	R. Heil
9/1-10/3	Duxbury B.	54 max	R. Bowes
9/1	Revere B.	14	P. + F. Vale
9/13	Eastham (CGB)	77	I. Davies#
9/20	Gloucester	4 juv	B. Harris#
9/20, 10/27	Chatham (S.B.)	20, 4	B. Nikula

Long-billed Dowitcher

thr	P.I.	22 max	T. Wetmore
9/13	Eastham (CGB)	1	I. Davies#
10/12	Westport	1	M. Lynch#

Wilson's Snipe

9/7	GMNWR	12	D. Sibley#
9/19	Cumb. Farms	8	MAS (J. Galluzzo)
10/16	Hadley	3	H. Allen
10/25	Winthrop	3	P. Peterson
10/26	Burrage Pond	3	SSBC (GdE)

American Woodcock

9/18	P.I.	5	T. Wetmore
10/11	Wayland	2	B. Harris

Red-necked Phalarope

9/3, 19	P'town	2, 6	B. Nikula
9/3	Stellwagen	6	I. Giriunas
9/7	Rockport (A.P.)	2	R. Heil
9/7	Eastham (F.E.)	2	B. Nikula
9/13	Jeffries L.	26	BBC (I. Giriunas)

Red Phalarope

9/13	Jeffries L.	2	BBC (I. Giriunas)
10/25	Dennis	9	G. d'Entremont

South Polar Skua *

9/7	Rockport (A.P.)	2	R. Heil

Pomarine Jaeger

9/7, 10/23	Eastham (F.E.)	1, 1	B. Nikula
9/7	Manomet	1 imm	I. Davies
9/8, 10/25	P'town	1, 2	Young, Nikula
9/14	Stellwagen	3	W. Petersen#
10/3	P.I.	1 subad	R. Heil
10/25	N. Truro	1	B. Nikula
10/28	Rockport (A.P.)	16	R. Heil

Parasitic Jaeger

9/7, 10/23	Eastham (F.E.)	2, 1	B. Nikula
9/7, 28	Rockport (A.P.)	2, 6	R. Heil
9/14	Stellwagen	15	W. Petersen#
9/28, 10/26	P'town	19, 3	B. Nikula

Long-tailed Jaeger *

9/7	Eastham (F.E.)	1	B. Nikula

Black-legged Kittiwake

thr	Rockport (A.P.)	237 max	R. Heil
9/2	P.I.	1	T. Wetmore
9/28, 10/26	P'town	6, 120	B. Nikula
10/23	Eastham (F.E.)	23	B. Nikula
10/25	Duxbury B.	2	R. Bowes

Sabine's Gull

9/7	Eastham (F.E.)	2	B. Nikula
9/14	Stellwagen	4	W. Petersen#
9/28	P'town	1	B. Nikula

Bonaparte's Gull

thr	P.I.	500 max	R. Heil
9/1-10/5	Nahant	1000 max	L. Pivacek
9/26	Rockport (A.P.)	5	R. Heil
9/28, 10/25	P'town	11, 150	B. Nikula
10/14	Newbypt H.	3700	R. Heil
10/25	Brewster	150	B. Nikula
10/26	Brighton	1	C. Dalton

Black-headed Gull

9/7	Newbypt	1	B. Zajda
9/8	Lynn	1	J. Quigley
9/20	Gloucester	1	B. Harris#
10/11, 22	P.I.	1	Wetmore, Grinley
10/18	P'town	1	B. Nikula

Little Gull

10/13, 25	P'town	1, 1	B. Nikula
10/14	Newbypt H.	1 ad, 1 2W	R. Heil
10/19	Salisbury	1	J. Hoye

Laughing Gull

9/1-10/19	P.I.	14 max	R. Heil
9/7, 10/16	Plymouth B.	90, 15	I. Davies
9/11	Nahant	65	L. Pivacek
9/14	Stellwagen	225	W. Petersen#
9/28, 10/28	Rockport (A.P.)	180, 15	R. Heil
9/28, 10/25	P'town	800, 300	B. Nikula
9/28	Gloucester	61 (Niles P.)	K. Hartel

Iceland Gull

10/10	Chatham (MI)	1	D. Manchester
10/25	Eastham (F. E.)	1 1W	G. d'Entremont

Iceland Gull (continued)			
10/26	Chestnut Hill	1	M. Garvey
Lesser Black-backed Gull			
9/7, 20	Chatham (S.B.)	11, 4	B. Nikula
9/16	P.I.	2 ad	R. Heil
9/24	Lynn	1	J. Quigley
9/26	Rockport (A.P.)	1 ad	R. Heil
9/28, 10/26	P'town	3, 1	B. Nikula
10/5	Gardner	1 ad	T. Pirro
10/19	Brewster	2	B. Nikula
10/21	Westminster	1 ad	T. Pirro
Least Tern			
9/12	Chatham (S.B.)	2	E. Masterson
9/13	Duxbury B.	2 ad, 1 imm	R. Bowes
9/14	WBWS	1	E. Masterson
Caspian Tern			
9/17, 10/1	P.I.	1, 12	MAS (Larson)
9/26	Rockport (A.P.)	1 ad	R. Heil
10/4	Quabbin Pk	2	M. Lynch#
10/7-08	Chatham (MI)	2	D. Manchester
10/8	Ipswich (C.B.)	2	J. MacDougall
10/12	P.I.	2	T. Wetmore
Black Tern			
9/7	Chatham (S.B.)	350	B. Nikula
9/7	Rockport (A.P.)	3	R. Heil
9/7	P.I.	2	T. Wetmore
9/13	Eastham (CGB)	5	I. Davies#
9/14	Stellwagen	3	W. Petersen#
9/20	WBWS	45	M. Faherty
Roseate Tern			
9/1	P'town H.	250	B. Nikula
9/7	Plymouth B.	45	I. Davies
9/13	Eastham (CGB)	35	I. Davies#
Common Tern			
9/1-10/25	P.I.	20 max	v.o.
9/1, 10/25	P'town	5800, 250	B. Nikula
9/6	Wachusett Res.	1	M. Lynch#
9/7	Chatham (S.B.)	1000	B. Nikula
9/7	Rockport (A.P.)	32	R. Heil
9/8	Revere B.	47	P. + F. Vale
9/11	Nahant	43	L. Pivacek
10/14	Newbypt H.	3	R. Heil
Forster's Tern			
9/7, 10/20	Eastham (F.E.)	3, 86	B. Nikula
9/7, 20	Chatham (S.B.)	40, 40	B. Nikula
9/12	Eastham	20	E. Masterson
9/20, 10/31	WBWS	30, 19	M. Faherty
10/14	Newbypt H.	34	R. Heil
10/19	Eastham (F.E.)	20	B. Nikula
10/25	Duxbury B.	11	R. Bowes
10/25	P.I.	13	S. Grinley#
Black Skimmer			
9/8-10/13	Revere B.	3-4	P. + F. Vale
9/13-17	S. Boston	2 juv	P. Guidetti
Dovekie			
10/28	Rockport (A.P.)	1	R. Heil
Common Murre			
10/29	P.I.	3	MAS (D. Larson)
Razorbill			
10/14	P.I.	1	R. Heil
10/18	Manomet	1	M. Faherty
10/19, 28	Rockport (A.P.)	16, 172	R. Heil
10/19	P'town	2	B. Nikula
10/23	Eastham (F.E.)	1	B. Nikula
Black Guillemot			
10/18	Manomet	1	M. Faherty
10/28	Rockport (A.P.)	7	R. Heil

DOVES THROUGH FINCHES

Fall is, for this writer, the best season to be birding; the weather is often nearly perfect, and the likelihood of a vagrant is good. This is the height of passerine movement, and unlike the spring migration, which moves through quickly, the fall season is prolonged into November. Radar watchers were excited the night of September 15 by an extraordinary nocturnal flight of passerines. Observers could hear impressive numbers of thrushes, Rose breasted Grosbeaks, Bobolinks, and many warblers, especially Blackpolls, going over. The following morning, however, was lackluster. Rick Heil points out that large fallouts of migrants the day after a strong nocturnal movement typically coincide with meteorological barriers like an occluded or stalled front as well as with a low overcast or fog and rain. The meteorological conditions halt the migrants' progress while the low overcast and precipitation forces the birds to the ground. Northwest winds on October 7 produced a great fallout on Plum Island and at Manomet. On Plum Island many hundreds of migrants reoriented to the northwest during the first few hours of the day, and there was a constant wave of Yellow-rumps, kinglets, Red-breasted Nuthatches and sparrows coming by. At Manomet they had their busiest day of the season with 128 captures; highlights included twelve species of warblers.

The Saw-whet Owl banding season at Lookout Rock in Northbridge totaled only forty-one captures compared with 216 last year during the same period. The first Snowy Owl of the season was reported from Plum Island on October 23. Whip-poor-wills were heard calling on Plum Island as late as September 12, and one was heard even later on September 17 in Newbury. **Red-headed Woodpeckers** were noted from Holliston and Egremont.

We sometimes forget that Blue Jays are migrants, and on October 7 large numbers were counted on Morris Island in Chatham and at Millennium Park in West Roxbury. Also from Millennium was an all-time high count of 520 Northern Rough-winged Swallows. This species is continuing to expand in the Northeast and to remain in the area much later. A total of thirty-

three warbler species was reported during the period, not including a Brewster's hybrid and a Lawrence's, which was banded in Brewster. There was just one Golden-winged Warbler noted this fall, but a good flight of Orange-crowns, over forty individuals, was reported. Connecticut Warblers are the most sought-after warbler each fall, and twenty-three birds were seen, the last one on September 28.

October was sparrow month with eighteen species reported, plus Ipswich Sparrow and a Gambel's White-crowned. Veit and Petersen (1993) cite Clay-colored Sparrow as a rare fall migrant, but this species continues to increase in frequency, with thirty-six reports in this period. Nine Lark Sparrows were noted from as many locations compared with three reports during this period last year. There were forty-five reports of Dickcissels compared to thirteen last year.

The first state record of **Broad-billed Hummingbird** was noted on August 23 in West Dennis, and the bird continued to be seen regularly throughout the period. An adult male **Rufous Hummingbird** was photographed at a South Yarmouth feeder, and yet another ***Selasphorus*** hummer was reported from Leicester. A **White-winged Dove** was again found on Nantucket. This species seems to have an affinity for that island, with several reports since the first state record in June 1961. More recently, there was a record in June 2007. There were two reports of **Say's Phoebe** this period, one from Provincetown and another from Plum Island; both birds were photographed. A **Varied Thrush** was discovered and photographed with a cell phone in Gloucester on October 26, the earliest record for Massachusetts. A **MacGillivray's Warbler** was reported from Dunback Meadow in Lexington, ironically just a few yards from where the first MacGillivray's recorded in the state was seen and banded in November 1977. A **Western Tanager** was reported from Eastham. Among the more unusual but regular fall vagrants were **Western Kingbirds** at Great Meadows and Plum Island, a **Sedge Wren** on Nantucket, **Yellow-throated Warblers** from Marblehead Neck and Plum Island, and Yellow-headed Blackbirds at Cumberland Farms and Concord.

An Orchard Oriole discovered at Millennium Park on September 30 was exceptionally late. Although increasing as a breeding bird in our area, this species is one of the earliest migrants to leave the United States and is commonly back in Central America as early as July. There is an old record of an Orchard Oriole from Chatham on September 26, 1967, and a more recent report of one photographed on September 19, 2007, in Cambridge. Other unusually late dates during this period included a Ruby-throated Hummingbird on October 25, a dead Yellow-bellied Flycatcher on October 6, a Philadelphia Vireo on October 27, and a Yellow Warbler on October 30.

The winter finch flight was pretty much limited to the arrival of Pine Siskins in mid-October, a scattering of single White-winged Crossbills, and only two individual Red Crossbills.

R. H. Stymeist

White-winged Dove (no details) *			
9/8	Nantucket	1	V. Laux
Yellow-billed Cuckoo			
9/14	Stellwagen	1	W. Petersen#
9/20	Carlisle	1	A. Ankers
10/4	Westport	1	J. Trimble#
10/10	Chatham (MI)	3	D. Manchester
10/12	Truro	1	R. Heil
10/12	Mashpee	1	CCBC (M. Keleher)
10/20	W. Roxbury (MP)	1	M. Iliff
10/21	Needham	1	M. Salett
10/29	Eastham	1	M. Faherty
10/29	P.I.	1	W. Tatro
Black-billed Cuckoo			
9/1	Winchendon	1	M. Lynch#
9/2	Essex	1	J. Nelson
9/18	Brookline	1	M. Garvey
10/10	Duxbury B.	1	MAS (J. Galluzzo)
10/12	Ipswich	1	D. Brown#
Eastern Screech-Owl			
9/29	Cambr. (F.P.)	2	J. Trimble
9/30	Brewster	2	P. Trull
10/6	Newton	2	B. Cassie
10/10	Barnstable	2	M. Keleher
10/15	Hingham	2	S. Williams
Great Horned Owl			
9/21	Newbypt	3	BBC (Drummond)
10/5	Ipswich	2	J. + N. Berry
10/11	Sudbury	4	B.Harris
10/11	WBWS	2	M. Faherty

Snowy Owl
10/23-27 P.I. 1 C. Gras
Barred Owl
9/6 Ware R. IBA 1 M. Lynch#
9/11 Salisbury 1 D. Chickering#
9/20 Ware R. IBA 1 M. Lynch#
9/28 GMNWR 1 C. Corey
9/28 Rutland 1 K. Bourinot
10/11-19 Sudbury 1 B. Harris
Short-eared Owl
10/14 P.I. 1 R. Heil
10/15 Hingham 1 S. Williams
Northern Saw-whet Owl
10/15-30 Northbridge 41 b S. Wheelock
10/21 P.I. 1 T. Wetmore
Common Nighthawk
9/1 Truro 7 J. Young
9/3 Sterling 8 K. Bourinot
9/9 Springfield 9 S. McGrath
9/13 P'town 4 E. Masterson
9/23 Brookline 12 B. Cassie
9/29 Cambr. (F.P.) 2 J. Trimble
10/1 W. Roxbury (MP) 4 M. Iliff
Whip-poor-will
9/4 Lincoln 1 N. Levey
9/12 P.I. 2 T. Wetmore
9/17 Newbury 1 L. Leka
Chimney Swift
9/13 Lexington 4 M. Rines#
9/15 Mt. Watatic 4 T. Pirro
9/16 Barre Falls 1 B. Kamp#
9/20 Mt. Wachusett 1 R. Chase
9/25 Mt.A. 1 R. Stymeist
10/2 Granville 1 J. Weeks
Broad-billed Hummingbird (details submitted) *
9/2-10/31 Dennis 1 M. + R. Murphy#
Ruby-throated Hummingbird
9/6 Cumb. Farms 10+ M. Maurer
9/10 Dennis 3 G. Gove#
9/16 Barre Falls 6 B. Kamp#
9/19 Mashpee 3 M. Keleher
10/25 Metheun 1 m ph M. Bergeron
Rufous Hummingbird (details submitted) *
9/8-9 S. Yarmouth 1 ad m ph A. Middleton
***Selasphorus* species** (details submitted) *
10/8 Leicester 1 ph M. Rowden
Belted Kingfisher
9/5 Hingham 4 J. Moore
9/13 Hingham (WE) 5 SSBC (H. Cross)
9/20 Randolph 3 G. d'Entremont#
9/25 P.I. 4 W. Tatro
10/6 Mashpee 5 M. Keleher
Red-headed Woodpecker
10/10 Manomet 1 T. Lloyd-Evans
10/13-14 Egremont 1 ph J. Soules
10/21-23 Holliston 1 phT. Killoren# + v.o.
Red-bellied Woodpecker
9/30 Wompatuck SP 5 C. Nims
10/4 Westport 5 R. Stymeist#
10/7 Chatham (MI) 7 D. Manchester
10/11 Gloucester 7 J. Berry
10/12 Ipswich 5 D. Brown#
10/13 Brookfield 6 M. Lynch#
10/27 Barnstable 7 M. Keleher
Yellow-bellied Sapsucker
10/1 Ipswich 3 J. Berry
10/3 Melrose 3 P. + F. Vale
10/4 Quabbin Pk 5 M. Lynch#
10/5 Nahant 5 J. Hoye#
10/5 MNWS 3 J. Hoye#
10/7 P.I. 9 R. Heil
10/11 Medford 2 R. LaFontaine
Hairy Woodpecker
9/19 Mashpee 6 M. Keleher
10/5 Brookfield 6 M. Lynch#
10/5 Lincoln 4 J. Forbes#
10/5 Lexington 3 M. Rines
Northern Flicker
9/13 Lexington 25 BBC (R. Hodson)
9/15 Malden 17 P. + F. Vale
9/21 Brookfield 21 M. Lynch#
10/12 P.I. 13 F. Vale
10/13 Chatham (MI) 20 D. Manchester
Pileated Woodpecker
9/18 Mt. Watatic 2 T. Pirro#
9/20 Ware R. IBA 2 M. Lynch#
9/21 Windsor (Moran) 2 B. Zajda
9/23 Barre Falls 2 B. Kamp#
10/12 IRWS 2 MAS (W. Tatro)
10/21 N. Quabbin 2 B. Lafley
Olive-sided Flycatcher
9/1 Winchendon 1 M. Lynch#
9/1 Wellfleet 1 J. Young
9/1 Nahant 1 J. Hoye#
9/6 Woburn (HP) 1 P. Ippolito#
9/11 Barre Falls 1 B. Kamp#
9/14 Amherst 3 H. Allen
Eastern Wood-Pewee
9/1 Lincoln 2 J. Forbes
9/6 Westminster 2 T. Pirro
9/10 Cambr. (F.P.) 4 R. Furrow#
9/12 Falmouth 2 CCBC (G. Hirth)
9/13 Wellfleet 1ad, 2 ygBBC (Stymeist)
9/19 Salisbury 2 D. Chickering#
9/28 P.I. 2 N. Landry
Yellow-bellied Flycatcher
9/2 Cambr. (F.P.) 2 J. Trimble
9/3 P.I. 1 D. Chickering
9/6 Lexington 2 M. Rines
9/7 Nahant 1 J. Hoye#
9/13 Belmont 1 R. Furrow
9/21 MNWS 1 BBC (R. Stymeist)
10/6 Mattapoisett 1 dead M. LaBossiere
Least Flycatcher
9/2 P.I. 2 R. Heil
9/3 Woburn (HP) 1 P. + F. Vale
9/6 Westminster 1 T. Pirro
9/13 Gloucester (E.P.) 1 B. Harris
9/13 Windsor 5 M. Lynch#
9/17 Granville 1 J. Weeks
9/21 P.I. 1 b MAS (B. Flemer)
Empidonax species
10/31 P.I. 1 M. Virtz
Eastern Phoebe
9/13 Windsor 35 M. Lynch#
9/16, 10/30 P.I. 17, 1 Heil, Chickering
9/20 Ware R. IBA 73 M. Lynch#
9/27 DWWS 11 G. d'Entremont
10/5 Brookfield 39 M. Lynch#
10/5 Lexington 10 M. Rines
10/8, 31 Cambridge 9, 1 R. Stymeist
10/10 Barnstable 6 M. Keleher
Say's Phoebe *
9/11 P'town (R.P.) 1 ph P. Champlin + v.o.
10/2-3 P.I. 1 ph S. Stanton + v.o.
Great Crested Flycatcher
9/1 Squantum 1 G. d'Entremont
9/3 Fairhaven 1 C. Longworth
9/12 Mashpee 1 M. Keleher
9/20 Northampton 1 B. Zajda
10/3-14 P.I. 1 v.o.
Western Kingbird
9/7 GMNWR 1 D. Sibley#
10/25 P.I. 1 S. Sutton
Eastern Kingbird
9/1, 21 P.I. 20, 2 T. Wetmore
9/6 Ware R. IBA 1 M. Lynch#
Northern Shrike
10/31 P.I. 1 S. Grinley#
White-eyed Vireo
9/3 Fairhaven 2 C. Longworth
9/4 MNWS 1 D. Chickering#
9/5, 10/14 Manomet 1 b, 1 b T. LLoyd-Evans#
10/4 Westport 2 R. Stymeist#
10/18 Newton 1 BBC (L. Ferraresso)

White-eyed Vireo (continued)
10/26 Rockport 1 imm R. Heil
Yellow-throated Vireo
9/8 P.I. 1 D. Chickering#
9/9 ONWR 1 J. Hoye#
9/13 Lexington 1 BBC (R. Hodson)
9/20 Granville 1 J. Weeks
9/28 Rutland 1 K. Bourinot
Blue-headed Vireo
9/13 Windsor 27 M. Lynch#
9/16, 10/9 Lexington 1, 14 M. Rines
9/23 Central Quabbin 27 L. Therrien
10/5, 26 Gloucester 12, 1 R. Heil
10/5 Quabbin Pk 9 S. Surner
10/6, 17 Medford 19, 1 Rines, LaFontaine
10/16 Manomet 9 I. Davies
10/24 Eastham 1 M. Keleher#
Warbling Vireo
9/1 Woburn (HP) 5 M. Rines
9/10 Cambr. (F.P.) 6 R. Furrow#
9/30 Winthrop 1 P. Peterson
9/30 P.I. 1 R. Heil
Philadelphia Vireo
9/1-10/6 Reports of invid. from 24 locations
9/3 Medford 2 P. + F. Vale
9/13 Wellfleet 2 BBC (R. Stymeist)
9/13 Lexington 2 M. Rines#
9/13 Windsor 2 M. Lynch#
9/13 Rockport (H.P.) 2 B. Harris
9/16 P.I. 3 R. Heil
10/26-27 Gloucester (E.P.) 1 R. Heil + v.o.
Red-eyed Vireo
9/1-10/21 P.I. 21 max 9/16 R. Heil
9/1-10/9 Lexington 8 max M. Rines
9/13 Rockport (H.P.) 8 B. Harris
9/13 Windsor 57 M. Lynch#
9/20 Burlington 7 M. Rines#
10/6 Medford 6 M. Rines#
10/15 Hingham 5 S. Williams
10/27 Lincoln 1 S. Perkins#
Blue Jay
10/7 Chatham (MI) 552 D. Manchester
10/7 W. Roxbury (MP) 225 M. Iliff
10/12 Westport 411 M. Lynch#
10/13 Brookfield 105 M. Lynch#
Fish Crow
9/19 Mashpee 9 M. Keleher
9/29 Manomet 13 I. Davies
10/24 Sharon 8 W. Sweet
10/24 Bourne 3 F. Bouchard
10/27 Barnstable 2 M. Keleher
10/31 WBWS 15 M. Faherty
Common Raven
9/18 Concord 1 S. Perkins
9/19 Waltham 1 J. Forbes
9/20 Quabbin Pk 1 S. Ricker#
9/20 Ware R. IBA 3 M. Lynch#
9/20 Mt. Watatic 18 T. McCullough
9/23 Mt. Wachusett 14 S. Olson#
10/5 Quabbin Pk 2 S. Surner
10/11 Malden (PR) 2 C. Jackson#
10/13 Brookfield 2 M. Lynch#
10/31 Carlisle 1 A. Ankers
Horned Lark
9/8 P'town 6 J. Young
9/28 Northampton 2 T. Gagnon
10/11 Duxbury B. 5 R. Bowes
10/12 Westport 13 M. Lynch#
10/25 Eastham (F. E.) 7 G. d'Entremont
10/31 P.I. 12 S. Grinley#
Purple Martin
9/2 P.I. 2 T. Wetmore
Tree Swallow
thr P.I. 5000 max v.o.
9/1 P'town H. 2000 B. Nikula
9/13 Duxbury B. 2300+ R. Bowes
9/17 E. Bridgewater 300+ J. Sweeney
9/22 Barnstable (S.N.) 4200 M. Keleher
9/23 Chatham (MI) 5000+ D. Manchester
10/4 Westport 1265 J. Trimble#
10/4, 19 N. Truro 1000, 500 B. Nikula
10/6 W. Roxbury (MP) 40 M. Iliff
10/8 Scituate 400+ S. Maguire
10/11, 31 WBWS 25, 7 M. Faherty
Northern Rough-winged Swallow
9/14 P.I. 1 T. Wetmore
9/17, 10/8 W. Roxbury 520, 3 M. Iliff
9/23 Waltham 2 J. Forbes
10/5 Wayland 16 G. Long
10/8 GMNWR 25 S. Perkins#
10/9 Concord (NAC) 14 S. Perkins#
Bank Swallow
9/5 Mashpee 2 CCBC (M. Keleher)
9/7, 16 P.I. 22, 12 R. Heil
Cliff Swallow
9/5 P.I. 2 T. Wetmore
9/17 Mt. Watatic 1 T. Pirro#
10/4 Chatham (MI) 2 D. Manchester#
Barn Swallow
9/1-26 P.I. 65 max v.o.
9/7 Lexington 1 M. Rines#
9/14 Worcester 1 M. Lynch#
9/27 Harwich 6 A. Curtis
9/28 Cumb. Farms 5 J. Hoye#
Red-breasted Nuthatch
9/13 Windsor 8 M. Lynch#
9/20 Ware R. IBA 8 M. Lynch#
10/5 Central Quabbin 7 L. Therrien
10/5 Gloucester 6 R. Heil
10/6 Mashpee 13 M. Keleher
10/7 P.I. 22 R. Heil
10/12 N. Eastham 8 R. Heil
Brown Creeper
9/20 Ware R. IBA 4 M. Lynch#
9/21 Gloucester (E.P.) 6 S. Hedman
10/5 MNWS 2 J. Hoye#
10/5 Quabbin Pk 2 S. Surner
10/6 Medford 2 M. Rines#
10/7 Manomet 7 I. Davies
10/10 Barnstable 2 M. Keleher
10/18 P.I. 3 S. Grinley#
Carolina Wren
10/4 Westport 29 R. Stymeist#
10/25 Lexington 11 M. Rines#
10/26 Cape Ann 31 R. Heil
10/27 Barnstable 10 M. Keleher
House Wren
9/6, 10/7 Lexington 19, 2 M. Rines
9/17 Burlington 8 M. Rines
9/21 Ipswich 8 J. Berry
10/5 Gloucester 6 R. Heil
10/9 P.I. 1 b MAS (B. Flemer)
10/12 Westport 1 M. Lynch#
Winter Wren
9/21-10/31 Reports of indiv. from 17 locations
10/4 Westport (G.N.) 2 R. Stymeist#
10/5 Central Quabbin 3 L. Therrien
10/6, 21 Medford 2, 2 M. Rines#
10/7 P.I. 2 R. Heil
10/10 Manomet 2 b T. Lloyd-Evans#
10/26 Cape Ann 7 R. Heil
Sedge Wren
9/29 Nantucket 1 V. Laux
Marsh Wren
9/1-10/11 GMNWR 8 max v.o.
9/1-10/21 P.I. 8 max v.o.
9/21 E. Boston (B.I.) 2 S. Zendeh
10/5 Brookfield 2 M. Lynch#
10/6 Mashpee 4 M. Keleher
10/19 Wayland 4 B. Harris
10/21 W. Roxbury (MP) 1 P. Peterson
10/27 Cotuit 4 M. Keleher
Golden-crowned Kinglet
9/21-10/30 P.I. 53 max 10/7 v.o.
9/30 Manomet 16 I. Davies
10/5 Nahant 20 P. + F. Vale

Golden-crowned Kinglet (continued)

10/5	Central Quabbin	23	L. Therrien
10/6	Quabbin Pk	22	J. Smith
10/11	Salem	15	BBC (L.de la Flor#)
10/15	Hingham	16	S. Williams
10/26	Cape Ann	17	R. Heil

Ruby-crowned Kinglet

9/19-10/31	Lexington	18 max	M. Rines
9/20-10/31	P.I.	55 max	v.o.
9/23	Central Quabbin	42	L. Therrien
10/5	Brookfield	37	M. Lynch#
10/5	Gloucester	14	R. Heil
10/6	Quabbin Pk	25	J. Smith
10/6	Medford	21	M. Rines#
10/26	Cape Ann	13	R. Heil

Blue-gray Gnatcatcher

9/3	S. Quabbin	1	L. Therrien
9/3	Longmeadow	2	J. Hutchison
9/7, 10/17	Manomet	4, 1	I. Davies
9/19	P.I.	2	J. Berry#
10/7	Marshfield	1	MAS (J. Galluzzo)
10/11	WBWS	1	M. Faherty
10/11	Eastham	1	SSBC (GdE)
10/25	Boston (BNC)	1	BBC (L. Ferraresso)

Eastern Bluebird

9/19	Cumb. Farms	20	MAS (J. Galluzzo)
9/21	Middleboro	20	D. Cabral
10/2	S. Quabbin	23	L. Therrien
10/12	Acton	100	B. Porter
10/12	Ipswich	22	D. Brown#
10/24	Eastham	18	M. Keleher#

Veery

9/2-20	P.I.	1-2	v.o.
9/13	Duxbury B.	1	R. Bowes
9/15	W. Roxbury (MP)	1	M. Iliff
9/16	Nahant	1	L. Pivacek
10/5	Lexington	1	M. Rines

Gray-cheeked Thrush

9/29	Manomet	1 b	T. LLoyd-Evans
10/4	WBWS	1	G. d'Entremont

Gray-cheeked/Bicknell's Thrush

9/15	W. Roxbury (MP)	1	M. Iliff
10/5	MNWS	1	J. Hoye#
10/11	Nahant	1	J. Hoye#

Swainson's Thrush

9/5	Hancock	1	G. Hurley
9/12	Lexington	1	M. Rines
9/15	W. Roxbury (MP)	1	M. Iliff
9/16-10/12	P.I.	1-3	v.o.
10/5	MNWS	1	J. Hoye#
10/5	Quabbin Pk	5	S. Surner
10/5	Boston (P.G.)	1	T. Factor
10/5	Gloucester	1	R. Heil
10/7	Manomet	2	I. Davies
10/10	Nahant	1	L. Pivacek

Hermit Thrush

9/6	Ware R. IBA	5	M. Lynch#
10/6	Medford	10	M. Rines#
10/9	Lexington	7	M. Rines#
10/12	Westport	6	M. Lynch#
10/15	Hingham	19	S. Williams
10/21	P.I.	21	R. Heil
10/21	S. Quabbin	11	L. Therrien
10/26	Cape Ann	14	R. Heil

Wood Thrush

9/11	Woburn	1	M. Rines
9/15	W. Roxbury (MP)	1	M. Iliff
9/20	P.I.	1 b	MAS (B. Flemer)
10/4	Wayland	1	B. Harris
10/5	Boston (RKG)	1	R. Stymeist#

American Robin

9/20	Holbrook	2000	G. d'Entremont#
9/21	Burlington	1061	M. Rines
9/30	P.I.	480	R. Heil
10/18	Brewster	300	SSBC (D. Clapp)
10/19	W. Roxbury	6000+	M. Iliff
10/25	Boston (BNC)	200	BBC (L. Ferraresso)
10/26	Burrage Pond	325	SSBC (GdE)

Varied Thrush

10/26	Cape Ann	1 imm ph	R. Heil + v.o.

Gray Catbird

9/1-10/24	P.I.	133 max 9/16	v.o.
9/13, 10/9	Lexington	72, 5	M. Rines#
9/21	Mashpee	44	M. Keleher
9/21	Brookfield	162	M. Lynch#
10/4	Westport	30	R. Stymeist#
10/5	Brookfield	64	M. Lynch#
10/13	Westport	6	J. Hoye#
10/26	Cape Ann	4	R. Heil

Brown Thrasher

9/1-10/21	P.I.	29 max	v.o.
9/1	W. Newbury	1	S. McGrath
9/1	Woburn (HP)	4	M. Rines
9/13	Rockport (H.P.)	10	B. Harris
9/17	Burlington	4	M. Rines
9/18	Manomet	3	I. Davies
9/19	Lexington	3	P. + F. Vale
9/30	Burlington	3	M. Rines
10/12	Westport	8	M. Lynch#
10/26	Magnolia	3	R. Heil

American Pipit

thr	P.I.	41 max	R. Heil
9/1	Windsor (Moran)	4	B. Zajda
10/4	Plympton	23	J. Sweeney
10/8	GMNWR	35	S. Perkins#
10/11	Bolton Flats	20+	M. Lynch#
10/15	Newbypt	50	MAS (B. Gette)
10/15	Easthampton	300	L. Therrien
10/19	Cumb. Farms	41	SSBC (J. Sweeney)
10/25	Concord	60+	P. + F. Vale#
10/25	Duxbury B.	150	R. Bowes
10/31	Newbury	114	S. Grinley

Cedar Waxwing

9/1	Windsor (Moran)	150+	B. Zajda
9/13	Windsor	266	M. Lynch#
9/16	P.I.	96	R. Heil
10/7	W. Roxbury (MP)	70	M. Iliff

Blue-winged Warbler

9/6	Lexington	2	M. Rines
9/9	Waltham	1	J. Forbes
9/21	Wakefield	1	P. Vale#
10/7	Manomet	1 b	T. Lloyd-Evans#
10/13	Truro	1	J. Young

Golden-winged Warbler

10/5	Nahant	1	C. Ciccone#

Brewster's Warbler

9/1	Windsor (Moran)	1	B. Zajda

Lawrence's Warbler

9/9	Brewster	1 b	S. Finnegan

Tennessee Warbler

9/3	S. Quabbin	1	L. Therrien
9/6	Lexington	1	M. Rines
9/20	MNWS	1	J. Hoye#
9/23	Cambridge	1 juv	J. Trimble
9/28	Rutland	1	K. Bourinot
10/4	Carlisle	1	A. Ankers
10/5	Central Quabbin	2	L. Therrien
10/5	Northampton	1	C. Blagdon
10/5	Nahant	1	J. Hoye#
10/12	Chestnut Hill	1	C. Dalton
10/13	Westport	1	J. Hoye#
10/20	P.I.	1	T. Spahr

Orange-crowned Warbler

9/13-10/31	Reports of indiv. from 33 locations		
10/6	W. Roxbury (MP)	2	M. Iliff
10/7	Nahant	2	T. Factor
10/11	Wellfleet	2	SSBC (GdE)
10/19	P.I.	3	T. Spahr
10/26	Rockport	2	R. Heil

Nashville Warbler

9/6	Westminster	1	T. Pirro
9/10-10/31	Lexington	1-2	M. Rines
9/16-10/22	P.I.	3 max	v.o.
10/4	E. Bridgewater	5	J. Sweeney
10/5	Brighton	4	M. Garvey
10/6	W. Roxbury (MP)	5	M. Iliff

Nashville Warbler (continued)

10/16	Winchester	2	R. LaFontaine
10/22	Cambr. (Danehy)	2	R. Stymeist#

Northern Parula

9/1-10/5	Lexington	5 max	M. Rines
9/1-10/17	Medford	8 max	M. Rines
9/20	Ware R. IBA	31	M. Lynch#
9/23	Central Quabbin	10	L. Therrien
10/5, 30	Brighton	6, 1	Garvey, Stymeist
10/6	Medford	8	M. Rines#

Yellow Warbler

9/1-10/5	P.I.	1-3	v.o.
9/5	Cambr. (F.P.)	6	J. Trimble
9/6	Lexington	2	M. Rines
9/20	Gloucester (E.P.)	2	B. Harris#
10/30	Brighton	1ph	R. Stymeist

Chestnut-sided Warbler

9/5	Westminster	3	T. Pirro
9/6, 16	Lexington	1, 2	M. Rines
9/13	Windsor	21	M. Lynch#
9/16	P.I.	2	R. Heil
9/20	Ware R. IBA	9	M. Lynch#
10/18	P.I.	1 b	MAS (B. Flemer)

Magnolia Warbler

9/1-10/26	P.I.	1-3	v.o.
9/2, 10/4	Nahant	1, 3	Peterson, Vale
9/13	Windsor	6	M. Lynch#
9/21	Gloucester (E.P.)	3	S. Hedman
10/2, 21	Medford	3, 1	M. Rines#
10/3	Falmouth	3	M. Keleher
10/26	Manchester	3	R. Heil

Cape May Warbler

9/1	P.I.	1	J. Hoye#
9/13	Westboro	1 m imm	T. Spahr
9/13	Rockport (H.P.)	1	B. Harris
9/28	DWWS	1	J. Hoye#
10/4	E. Bridgewater	1	J. Sweeney
10/23	Salisbury	1	D. Chickering#

Black-throated Blue Warbler

9/1-10/2	Medford	1-2	M. Rines
9/1-10/9	Lexington	1-2	M. Rines
9/1-10/23	P.I.	7 max	v.o.
9/13	Windsor	5	M. Lynch#
9/20	Burlington	3	M. Rines#
10/12	Truro	4 f	R. Heil
10/24	Sharon	2 f	W. Sweet
10/31	Winchester	1 f	R. LaFontaine

Yellow-rumped Warbler

thr	Lexington	206 max 10/9	M. Rines
thr	P.I.	720 max 10/7	R. Heil
10/5	Granville	100	J. Weeks
10/5	Boston (A.A.)	115	M. Garvey
10/5	Wayland	200	B. Harris#
10/6	Quabbin Pk	110	J. Smith
10/6	E. Bridgewater	100	C. Nims#
10/12	Longmeadow	100	T. Alicea
10/12	Westport	481	M. Lynch#

Black-throated Green Warbler

9/1-10/21	Medford	12 max	M. Rines
9/1-10/21	P.I.	6 max	v.o.
9/17	Manomet	6	I. Davies
9/19	Lexington	7	P. + F. Vale
9/20	Ware R. IBA	38	M. Lynch#
10/3	Melrose	8	P. + F. Vale
10/4	Fairhaven	7	M. Maurer
10/6	Quabbin Pk	10	J. Smith
10/26	Cape Ann	7	R. Heil
10/30	Brighton	1ph	R. Stymeist

Blackburnian Warbler

9/13	Windsor	8	M. Lynch#
9/20	Ware R. IBA	2	M. Lynch#
9/27	Woburn (HP)	2	P. Ippolito#
10/5	Boston (PO Sq)	4	R. Stymeist#
10/5	Fairhaven	1	C. Longworth
10/5	Brookfield	1	M. Lynch#
10/10	P.I.	1 m imm	P. + F. Vale#

Yellow-throated Warbler

9/1	MNWS	1	D. Noble
9/4	P.I.	1	B. Murphy

Pine Warbler

9/13	Wellfleet	14	BBC (R. Stymeist)
9/14	P'town	50	E. Masterson
9/19	Mashpee	10	M. Keleher
9/20	Ware R. IBA	110	M. Lynch#
9/28	Rutland	5	K. Bourinot
9/30	Groton	6	T. Pirro

Prairie Warbler

9/6	Westminster	4	T. Pirro
9/16	P.I.	2	R. Heil
9/16	P'town	2	E. Masterson
9/20	Ware R. IBA	8	M. Lynch#
9/21	Nahant	1	L. Pivacek
9/25	DFWS	1	J. Hoye#
9/27	Lexington	1	C. Floyd
10/7	W. Roxbury (MP)	1	M. Iliff
10/12	Truro	1	R. Heil

Palm Warbler

9/3	Sterling	1	K. Bourinot
9/20, 10/9	Northampton	5, 33	Zajda, Terrien
10/4	Westminster	21	T. Pirro
10/6	Cambridge	23	R. Furrow#
10/6	E. Bridgewater	30+	C. Nims#
10/6	Newton	35	B. Cassie
10/7, 26	W. Roxbury (MP)	36, 3	M. Iliff
10/9	Lexington	46	M. Rines#
10/24	Eastham	22	M. Keleher#
10/31	WBWS	1	M. Faherty

Bay-breasted Warbler

9/9	Hadley	1	M. Richardson
9/18	Newton	1	B. Cassie
9/19	W. Quabbin	1	L. Therrien
9/20	Ware R. IBA	2	M. Lynch#
9/20	Squantum	1	G. d'Entremont#
9/24	P.I.	2	D. Chickering#
10/3	Cambridge	1	J. Trimble
10/7	Manomet	1 b	T. Lloyd-Evans#
10/7	Nahant	1	T. Factor

Blackpoll Warbler

9/1-10/25	Lexington	18 max 10/5	M. Rines
9/10	Cambr. (F.P.)	25	R. Furrow#
9/13	Rockport (H.P.)	50	B. Harris
9/16	P'town	90	E. Masterson
9/20	Ware R. IBA	286	M. Lynch#
10/4	Westport	60	J. Trimble#
10/5	Brookfield	28	M. Lynch#
10/6	Quabbin Pk	25	J. Smith
10/12	Brighton	25	C. Dalton
10/28	Gloucester	1	D. + J. Lovitch

Black-and-white Warbler

9/3	MNWS	5	P. Peterson
9/19	P.I.	6	T. Wetmore
9/19	Salisbury	4	D. Chickering#
9/22	Lexington	8	M. Rines
9/23	Cambr. (F.P.)	4	K. Hartel
10/6	Medford	5	M. Rines#
10/26	Gloucester	1 m imm	R. Heil

American Redstart

9/1	Lowell	4	M. Baird
9/2	MNWS	5	G. Dysart
9/2, 10/1	Cambr. (F.P.)	4, 2	J. Trimble
9/5, 10/5	P.I.	7, 4	P. + F. Vale
9/6	Westminster	10	T. Pirro
9/8	Lexington	9	M. Rines
9/8, 10/6	Medford	3, 3	M. Rines
9/13	Wellfleet	6	BBC (R. Stymeist)
10/4	Fairhaven	5	M. Maurer
10/23	Wellfleet	1	M. Faherty
10/31	DWWS	1	M. Keleher

Worm-eating Warbler

9/11	Nahant	1	L. Pivacek

Ovenbird

9/9	Boston	2	M. Garvey
9/13	Wellfleet	4	BBC (R. Stymeist)
10/5	P.I.	2 b	MAS (B. Flemer)
10/14	Osterville	2	C. Walz
10/17	Boston (PO Sq)	2	M. Garvey

Northern Waterthrush
9/1 Nahant 2 P. + F. Vale
9/19 P.I. 3 b MAS (B. Flemer)
9/21 Nahant 2 P. + F. Vale
10/25 E. Boston (B.I.) 1 R. Stymeist#
10/26 Gloucester (E.P.) 1 R. Heil
Connecticut Warbler
9/1-10/6 Reports of indiv. from 19 locations
9/13 Windsor 2 imm M. Lynch#
9/28 Wayland 2 G. Long
Mourning Warbler
9/2-10 Cambr. (F.P.) 1-2 J. Trimble
9/4 Nahant 1 imm L. Pivacek
9/6 Lexington 1 M. Rines
9/8 Cumb. Farms 1 f J. Sweeney
9/8 Nantucket 1 f ad V. Laux
9/16 Eastham (F.H.) 1 E. Masterson
MacGillivray's Warbler (details submitted) *
9/6 Lexington 1 ad m M. Rines
Common Yellowthroat
9/1, 10/7 P.I. 16, 6 R. Heil
9/6 Lexington 32 M. Rines
9/13 Windsor 37 M. Lynch#
10/5 Brookfield 33 M. Lynch#
10/5 Cambr. (F.P.) 12 R. Stymeist
10/5 Wayland 10+ G. Long
10/6 W. Roxbury (MP) 6 M. Iliff
10/13 Concord 4 M. Rines#
10/20 W. Roxbury (MP) 3 M. Iliff
10/23 Chestnut Hill 2 P. Peterson
Hooded Warbler
9/4 Manomet 1 f I. Davies#
10/7 Salisbury 2 S. Grinley
10/9 P.I. 1 m F. Vale#
10/25 Winthrop 1 S. Zendeh
Wilson's Warbler
9/4 Manomet 3 I. Davies#
9/16 P.I. 5 R. Heil
9/17 Burlington 2 M. Rines
9/18 Manomet 2 I. Davies
10/8 Nahant 2 P. + F. Vale
10/15 Hingham 1 m ad S. Williams
10/26 Brewster 1 F. Bouchard
Canada Warbler
9/2 MNWS 7 G. Dysart
9/9 Waltham 1 J. Forbes
9/13 Windsor 1 M. Lynch#
9/13 Rockport 2 B. Harris
10/4 Wayland 1 G. Long
Yellow-breasted Chat
thr Reorts of indiv. from 18 locations
Scarlet Tanager
9/19 Marlboro 5 T. Spahr
9/20 Ware R. IBA 6 M. Lynch#
9/23 Marlboro 5+ T. Spahr
10/4 Lexington 2 BBC (R. Hodson)
10/4 Arlington Res. 1 imm I. Davies#
10/11 Wayland 1 B. Harris
10/11 Gloucester (E.P.) 1 S. Hedman
Western Tanager
10/4 Eastham 1 G. d'Entremont#
Eastern Towhee
thr P.I. 45 v.o.
9/19 Mashpee 51 M. Keleher
9/20 Ware R. IBA 31 M. Lynch#
9/28 S. Quabbin 13 M. Lynch#
10/4 Westport 14 R. Stymeist#
10/13 Newton 3 P. + F. Vale
American Tree Sparrow
10/5 Carlisle 1 T. Brownrigg
10/9 P.I. 1 F. Vale
10/31 Manomet 1 ad b T. Lloyd-Evans#
Chipping Sparrow
9/16 P'town 130 E. Masterson
9/20 Ware R. IBA 48 M. Lynch#
9/22 Barnstable 85 M. Keleher
9/23 Lincoln 90 S. Perkins#
9/30 Groton 100 T. Pirro
10/1 Melrose 75+ P. + F. Vale
10/4 Quabbin Pk 75 M. Lynch#
10/5 N. Eastham 100 B. Nikula
10/8 Malden 50+ P. + F. Vale
10/12 Eastham 40 M. Faherty
10/27 Malden 40+ P. + F. Vale
Clay-colored Sparrow
9/13-10/31 Reports of indiv. from 28 locations
9/23 Cambridge 2 ph J. Trimble
10/12 N. Eastham 2 1W R. Heil
10/19 Boston (RKG) 2 R. Stymeist#
Field Sparrow
9/27 Mashpee 5 M. Keleher
10/7 P.I. 6 R. Heil
10/12 Ipswich 4 D. Brown#
10/12 N. Eastham 5 R. Heil
10/13 Concord 7 M. Rines#
10/24 Eastham 10 M. Keleher#
10/26 Burrage Pond 15 SSBC (GdE)
Vesper Sparrow
9/14 Northampton 1 B. Zajda
9/16 P'town 1 E. Masterson
10/4 Carlisle 1 A. Ankers
10/6 Quabbin Pk 1 J. Smith
10/7 Windsor 1 T. Gagnon
10/8 Cambridge 1 T. Spahr
10/8 Williamstown 2 L. Reed-Evans
10/8 P.I. 1 S. Pierce
10/11 Sheffield 1 J. Drucker
10/11 W. Roxbury (MP) 1 P. Peterson
10/18-24 Eastham 1 J. Hoye#
10/28 M.V. 1 ph L. McDowell
10/30 Belmont 2 ph A. Piccilo
Lark Sparrow
9/4-6 Nahant 1 L. Pivacek + v.o.
9/7 W. Roxbury (MP) 1 M. Iliff
9/10 Duxbury B. 1 imm ph R. Bowes
9/12 Falmouth 1 CCBC (G. Hirth)
9/18-10/5 Cambr. (Danehy) 1 imm K. Hartel
10/5 Cambr. (F.P.) 1 R. Stymeist
10/12 Westport 1 M. Lynch#
10/16-19 Winthrop 1 imm P. Peterson
10/18-19 Plymouth 1 M. Faherty + v.o.
Savannah Sparrow
9/20 Northampton 35 B. Zajda
10/5 Newbury 125 R. Heil
10/5 Rowley 50 R. Heil
10/5 Cumb. Farms 50 G. d'Entremont#
10/6 E. Bridgewater 50+ C. Nims#
10/7 P.I. 83 R. Heil
10/8 W. Roxbury (MP) 110 M. Iliff
10/11 W. Gloucester 100 S. Hedman#
10/19 Lexington 124 M. Rines
Ipswich Sparrow
10/18 Ipswich (C.B.) 1 J. Berry
10/19 Eastham 1 A. Curtis
10/21 P.I. 5 R. Heil
10/25 Duxbury B. 1 R. Bowes
10/26 Salisbury 1 J. Hoye#
Grasshopper Sparrow
10/7 Framingham 1 J. Hoye#
10/8 Cambr. (Danehy) 1 J. Trimble
10/26 W. Roxbury (MP) 1 ph M. Garvey
Nelson's Sharp-tailed Sparrow
9/14 Northampton 1 B. Zajda
9/28 P.I. 3 MAS (D. Larson)
10/1 Eastham 1 M. Faherty
10/8, 20 W. Roxbury (MP) 1, 1 M. Iliff
10/25 Eastham (F.H.) 1 J. Hoye#
Saltmarsh Sharp-tailed Sparrow
9/1-10/19 P.I. 8 max v.o.
9/20 Newbypt. 9 I. Davies#
9/27 E. Boston (B.I.) 15 M. Iliff#
10/5 Fairhaven 1 C. Longworth
10/5 Orleans 22 P. Trull
10/10 WBWS 2 M. Faherty
Sharp-tailed Sparrow species
10/25 Eastham (F.H.) 5 J. Hoye#

Seaside Sparrow
10/11 Eastham 2 G. d'Entremont#
10/12, 30 P.I. 2, 1 T. Wetmore
10/26 Salisbury 1 J. Hoye#
Fox Sparrow
10/7 Lexington 1 P. + F. Vale
10/8 Lunenberg 2 R. Monroe
10/11 Marlboro 1 T. Spahr
10/11 Salem 1 BBC (L.de la Flor#)
10/19 Wayland 3 B. Harris
Song Sparrow
10/4 Wayland 50+ G. Long
10/5 Gloucester 53 R. Heil
10/5 Cumb. Farms 225 G. d'Entremont#
10/5 Ipswich 70 R. Heil
10/6 E. Bridgewater 50+ C. Nims#
10/10 Barnstable 64 M. Keleher
10/12 Eastham 65 M. Faherty
10/13 Westboro 55 T. Spahr
10/18 Concord 64 R. Stymeist#
Lincoln's Sparrow
9/1 Windsor (Moran) 2 B. Zajda
9/17 Northampton 6 T. Gagnon
9/20 Cumb. Farms 7 M. Maurer
9/20, 10/15 Burlington 4, 4 M. Rines#
10/4 Plympton 7 J. Sweeney
10/4 E. Bridgewater 8 J. Sweeney
10/5 Ipswich 5 BBC (T. Young)
10/10 Wayland 5 G. Long
10/12, 24 Eastham 12, 4 Faherty, Keleher
10/13 Westboro 6 T. Spahr
Swamp Sparrow
10/4 E. Bridgewater 55 J. Sweeney
10/5 Brookfield 104 M. Lynch#
10/5 Cumb. Farms 75 G. d'Entremont#
10/5 Lexington 63 M. Rines
10/8 GMNWR 110 S. Perkins#
10/13 Westboro 58 T. Spahr
10/19 Wayland 45 B. Harris
10/27 Barnstable 15 M. Keleher
White-throated Sparrow
9/13 Windsor 16 M. Lynch#
9/16 P.I. 1 R. Heil
9/18 Boston (PO Sq) 1 M. Garvey#
10/5 Boston (RKG) 85 R. Stymeist#
10/6 Quabbin Pk 60 J. Smith
10/7 Lexington 135+ P. + F. Vale
10/7 P.I. 62 R. Heil
10/12 Eastham 60 M. Faherty
10/13 Brookfield 125 M. Lynch#
10/26 Cape Ann 63 R. Heil
White-crowned Sparrow
9/22 Rockport (A.P.) 1 1W R. Heil
9/30 Medford 1 R. LaFontaine
10/5 Boston 14 M. Garvey
10/11 Duxbury B. 10 R. Bowes
10/11 W. Gloucester 25 S. Hedman#
10/12 Eastham 18 M. Faherty
10/13 Concord 15 M. Rines#
10/15 Easthampton 20 L. Therrien
10/19 P.I. 14 F. Vale#
Gambel's White-crowned Sparrow
10/12 N. Eastham 2 1W R. Heil
Dark-eyed Junco
9/9 Mt. Wachusett 17 S. Olson
9/12 Boston 1 M. Garvey
9/16, 10/7 P.I. 1, 68 R. Heil
10/12 N. Eastham 33 R. Heil
10/13 Brookfield 43 M. Lynch#
10/16 Melrose 50+ P. + F. Vale
10/27 Malden 40+ P. + F. Vale
Lapland Longspur
10/7 W. Roxbury (MP) 4 M. Iliff
10/10 Granville 1 J. Weeks
10/11 DWWS 1 MAS (J. Galluzzo)
10/12 Chatham (S.B.) 15 B. Nikula
10/13-31 P.I. 19 max v.o.
10/18 P'town 2 P. Champlin
10/21 Concord 1 D. Sibley
Snow Bunting
10/16-31 P.I. 12 max v.o.
10/20 W. Roxbury (MP) 1 M. Iliff
10/22 Salisbury 1 S. McGrath
10/22 Granville 1 J. Weeks
10/24 Plymouth 15 K. Doyon
10/26 Duxbury B. 18 R. Bowes
10/31 Quabbin Pk 8 M. Lynch#
Rose-breasted Grosbeak
9/6 Lexington 6 M. Rines
9/13 Malden 8 P. + F. Vale
9/21 Brookfield 5 M. Lynch#
10/11 WBWS 1 M. Faherty
Blue Grosbeak
9/8, 10/4 E. Bridgewater 1, 1 J. Sweeney
9/13, 10/5 Newbury 1, 1 Harris, Heil
9/29 Cambr. (F.P.) 1 J. Trimble
9/30 Framingham 1 J. Hoye#
10/5-6 N. Truro 1 C. Skowron
10/19-23 Cumb. Farms 1 J. Sweeney# + v.o.
10/24 Eastham 2 M. Malin
10/27 Lincoln 1 M. Rines
Indigo Bunting
9/6, 10/9 Lexington 14, 3 M. Rines
9/9 Arlington Res. 10 M. Rines
9/18 Cumb. Farms 16 J. Sweeney
10/12 N. Eastham 10 R. Heil
10/31 P.I. 1 S. Grinley#
Dickcissel
thr Reports of indiv. from 23 locations
9/13 Cambridge 2 C. Cook
10/5 Lexington 2 M. Rines
10/5 Ipswich 2 J. Berry#
10/10 Nahant 2 L. Pivacek
10/12 Westport 2 M. Lynch#
10/21 P.I. 2 R. Heil
10/24 Eastham 3 M. Keleher#
10/27 Essex 2 J. Hoye#
Bobolink
9/6 Lexington 95 M. Rines
9/9, 10/10 Arlington Res. 20, 2 M. Rines
9/10 Cumb. Farms 26 J. Sweeney
9/14 P'town 20 E. Masterson
9/16, 10/8 W. Roxbury (MP) 50, 2 M. Iliff
9/17 E. Bridgewater 26 J. Sweeney
9/17 Northampton 402 T. Gagnon
10/5 Ipswich 18 R. Heil
10/15 Newbypt 5 MAS (B. Gette)
10/19 Granby 1 H. Allen
Red-winged Blackbird
9/18 GMNWR 900 S. Perkins#
9/20 Holbrook 250 G. d'Entremont#
9/29 Carlisle 400 MAS (Brownrigg)
10/5 Brookfield 1353 M. Lynch#
10/19 Cumb. Farms 250 SSBC (J. Sweeney)
10/25 Sutton 2500+ M. Lynch#
10/26 Manchester 320+ R. Heil
Eastern Meadowlark
thr P.I. 1-4 v.o.
10/3 Essex 3 J. Nelson
10/4 Carlisle 2 A. Ankers
10/5 Ipswich 6 R. Heil
10/6 Burrage WMA 3 C. Nims#
10/17 DWWS 1 MAS (J. Galluzzo)
10/24 W. Roxbury (MP) 1 A. Morgan
10/31 Chatham (MI) 4 D. Manchester
Yellow-headed Blackbird
9/21 Cumb. Farms 1 m imm M. Maurer
10/2 Concord 1 m imm J. Trimble
Rusty Blackbird
9/16 P.I. 1 R. Heil
9/20 Northampton 10 B. Zajda
9/29, 10/20 W. Roxbury (MP) 1, 8 M. Iliff
10/5 Wayland 110 G. Long
10/5 Sudbury 125+ B. Harris#
10/12 IRWS 100+ MAS (W. Tatro)
10/17 Bolton Flats 10 B. de Graaf#

Rusty Blackbird (continued)			
10/21	GMNWR	15	P. Gilmore
10/25	Concord	4	J. Forbes
Common Grackle			
9/20	Holbrook	10000	G. d'Entremont#
9/22	Bridgewater	1000+	J. Sweeney
10/3	Newton	740	H. Miller
10/5	Brookfield	1440	M. Lynch#
10/18	Scituate	1500+	S. Maguire#
10/25	Sutton	3000+	M. Lynch#
Brown-headed Cowbird			
10/3	Falmouth	45	M. Keleher
10/13	Concord	125	M. Rines#
10/14	P.I.	100	R. Heil
10/19	Plymouth	94	I. Davies#
Orchard Oriole			
9/7	P'town	1	J. Young
9/30	W. Roxbury (MP)	1	M. Iliff
Baltimore Oriole			
9/16	W. Roxbury (MP)	2	M. Iliff
9/16, 10/21	P.I.	15, 2	Heil, Chickering
10/10	W. Barnstable	2	M. Keleher
10/12	Truro	3	R. Heil
10/21	Concord	2	D. Sibley
Purple Finch			
9/13	Windsor	39	M. Lynch#
9/16	P.I.	15	R. Heil
9/19-10/30	Numerous reports of 1-9 indiv.		
10/thr	Wayland	63 max	B. Harris
10/13	Brookfield	15	M. Lynch#
10/21	N. Quabbin	10	B. Lafley
10/21	Northampton	35	T. Gagnon
10/25	Lexington	34	M. Rines#
Red Crossbill			
9/16	P'town	1 m	E. Masterson
9/20	Rockport (H.P.)	1 m ad	T. Spahr#
White-winged Crossbill			
9/1	Boston (A.A.)	1	M. Garvey
9/12	Manomet	1 juv m b	T. Lloyd-Evans#
10/3	Cambridge	2+	J. Trimble
10/19	P.I.	1	T. Spahr
Pine Siskin			
9/18, 10/11	GMNWR	1, 41	Perkins, Lynch
10/1	Gloucester	1	J. Nelson
10/5, 14	P.I.	1, 38	Vale, Heil
10/5-31	Numerous reports of 1-25 indiv.		
10/12	Granville	300	J. Weeks
10/12	Sudbury	75	T. Spahr
10/21	Northfield	100	M. Taylor
10/21	S. Quabbin	105	L. Therrien
10/22	Groton	100	T. Pirro

HOW TO CONTRIBUTE BIRD SIGHTINGS TO *BIRD OBSERVER*

Sightings for any given month must be reported in writing by the eighth of the following month, and may be submitted by postal mail or e-mail. Send written reports to Bird Sightings, Robert H. Stymeist, 36 Lewis Avenue, Arlington, MA 02474-3206. Include name and phone number of observer, common name of species, date of sighting, location, number of birds, other observer(s), and information on age, sex, and morph (where relevant). For instructions on e-mail submission, visit: <http://massbird.org/birdobserver/sightings/>.

Species on the Review List of the Massachusetts Avian Records Committee (indicated by an asterisk [*] in the Bird Reports), as well as species unusual as to place, time, or known nesting status in Massachusetts, should be reported promptly to the Massachusetts Avian Records Committee, c/o Marjorie Rines, Massachusetts Audubon Society, South Great Road, Lincoln, MA 01773, or by e-mail to <marj@mrines.com>.

PINE SISKINS BY DAVID LARSON

ABBREVIATIONS FOR BIRD SIGHTINGS

Taxonomic order is based on AOU checklist, Seventh edition, 42nd, 43rd, 44th, 45th, 46th, 47th, and 48th Supplements , as published in *The Auk* 117: 847-58 (2000); 119:897-906 (2002); 120:923-32 (2003); 121:985-95 (2004); 122:1026-31 (2005); 123:926-936 (2006); 124(3):1109–1115, 2007 (see <http://www.aou.org/checklist/index.php3>).

Location-#	MAS Breeding Bird Atlas Block
ABC	Allen Bird Club
A.P.	Andrews Point, Rockport
A.Pd	Allens Pond, S. Dartmouth
B.	Beach
B.I.	Belle Isle, E. Boston
B.R.	Bass Rocks, Gloucester
BBC	Brookline Bird Club
BMB	Broad Meadow Brook, Worcester
C.B.	Crane Beach, Ipswich
CGB	Coast Guard Beach, Eastham
C.P.	Crooked Pond, Boxford
Cambr.	Cambridge
CCBC	Cape Cod Bird Club
Corp. B.	Corporation Beach, Dennis
Cumb. Farms	Cumberland Farms, Middleboro
DFWS	Drumlin Farm Wildlife Sanctuary
DWMA	Delaney WMA Stow, Bolton, Harvard
DWWS	Daniel Webster WS
E.P.	Eastern Point, Gloucester
F.E.	First Encounter Beach, Eastham
F.P.	Fresh Pond, Cambridge
F.Pk	Franklin Park, Boston
G40	Gate 40, Quabbin Res.
GMNWR	Great Meadows NWR
H.	Harbor
H.P.	Halibut Point, Rockport
HRWMA	High Ridge WMA, Gardner
I.	Island
IRWS	Ipswich River WS
L.	Ledge
MAS	Mass Audubon
M.P.	Millennium Park, W. Roxbury
M.V.	Martha's Vineyard
MAS	Mass. Audubon Society
MBWMA	Martin Burns WMA, Newbury
MNWS	Marblehead Neck WS
MSSF	Myles Standish State Forest, Plymouth
Mt.A.	Mt. Auburn Cemetery, Cambr.
NAC	Nine Acre Corner, Concord
Newbypt	Newburyport
ONWR	Oxbow National Wildlife Refuge
P.I.	Plum Island
Pd	Pond
P'town	Provincetown
Pont.	Pontoosuc Lake, Lanesboro
R.P.	Race Point, Provincetown
Res.	Reservoir
S.B.	South Beach, Chatham
S.N.	Sandy Neck, Barnstable
SRV	Sudbury River Valley
SSBC	South Shore Bird Club
TASL	Take A Second Look Boston Harbor Census
WBWS	Wellfleet Bay WS
WMWS	Wachusett Meadow WS
Wompatuck SP	Hingham, Cohassett, Scituate, and Norwell
Worc.	Worcester

Other Abbreviations	
ad	adult
b	banded
br	breeding
dk	dark (morph)
f	female
fl	fledgling
imm	immature
juv	juvenile
lt	light (morph)
m	male
max	maximum
migr	migrating
n	nesting
ph	photographed
pl	plumage
pr	pair
S	summer (1S = 1st summer)
v.o.	various observers
W	winter (2W = second winter)
yg	young
#	additional observers

SHORT-EARED OWL LANDING BY SANDY SELESKY

ABOUT THE COVER

Red Crossbill

The Red Crossbill (*Loxia curvirostris*) is a nomadic species with crossed mandibles, which are adapted for removing seeds from conifer cones. It is a finch with a comparatively big head and short tail. Males are pinkish-red with dark brown wings and tails. Females are yellowish-green, and juveniles are brownish and heavily streaked with brown. They lack the prominent white wing-bars of the closely related White-winged Crossbill. Despite their nomadic proclivities and the opportunities for populations to mix, Red Crossbills show substantial geographic variation in body size, bill size and shape, and in-flight calls and song. Thus they are polymorphic. As many as seven subspecies are recognized on the basis of size and bill differences, and, more recently, eight or nine discrete populations have been identified, primarily on differences in flight calls. It has been suggested that because these populations are reproductively isolated, primarily by song and call, they should be considered as separate full species.

Red Crossbills are considered rare breeders in Massachusetts. A few may remain to breed after winter irruptions into the state. They are erratic winter visitors, always found in flocks, and can, on occasion, be fairly common, particularly in pine groves on Cape Cod and the Islands. Nearly 500 were reported on one Cape Cod Christmas Bird Count. They breed from southern Alaska across Canada to Newfoundland and south to northern New England and the Great Lakes. In mountainous areas in the west they are found south through Mexico and Central America. In irruptive winters they can be found as far south as Georgia.

Red Crossbills are a monogamous species that wanders nomadically through boreal and other forests in search of cone crops. Each subspecies is associated with a particular conifer species, an association probably related to differences in body size and bill shape. They are opportunistic breeders that breed when they find a suitable seed crop. Worldwide, they breed in every month of the year. Food supply is crucial in determining the timing of breeding, but it is also influenced by photoperiod. Males sing in flight, with slow exaggerated wing beats, or they sing from tree-tops. The song is variously described as *whit-whit, zzzzt, zzzzt* or *pit-pit torr-ree*. Females sing less frequently and more softly than males. Crossbills also have a variety of flight, distress, alarm, and chitter calls. They are not highly territorial, but chases and fights occur in disputes over cones, roost sites, and females. Threat displays include leaning forward, opening the bill, wing-flicking, and chattering.

The pair chooses the nest site, usually well hidden in a conifer. The nest may consist of conifer twigs, lichen, bark strips, hair, and feathers. The usual clutch is three eggs, colored light green to rose with dark spots or splotches. The female alone develops a brood patch, and only she incubates the eggs for the two week period until hatching. The time until fledging is variable, fifteen to twenty-five days, probably determined by the availability of food. The parents feed young chicks a seed paste

and, after fledging, may continue to feed the young for a month. Red Crossbills may raise a second brood while fledglings from the previous brood are still being fed. In this case, the male feeds the fledglings.

Although Red Crossbills may eat insects in summer, their main food is conifer seeds, especially the seeds of spruce, pine, hemlock, and fir. They use their crossed bills, which cross either to the right or left, to cut between cone scales and expose the seeds. Cone crops can vary from year to year in number of cones and quality, and this variable as well as general food scarcity triggers their characteristic nomadic behavior. They travel in flocks; flocking is more efficient both in locating patchily distributed food and in avoiding predators — many eyes are better than two at spotting danger.

Red Crossbills are preyed upon by the usual avian predators: falcons, shrikes, accipiters, and owls, and there is evidence that rapid deforestation has had a negative impact on some populations. Starvation in winter is another problem. It is, however, very difficult to determine population trends in nomadic species. Red Crossbills are widespread, with populations in Europe, North Africa, and Asia, as well as North and Central America, and they are genetically diverse. Thus it appears that the species (or multiple species) is secure.

William E. Davis, Jr.

About the Cover Artist: Barry Van Dusen

Barry Van Dusen's cover illustrations are well known to readers of *Bird Observer*. In addition, he has illustrated several nature books and pocket guides, and his articles and paintings have been featured in *Birder's World, Birding,* and *Bird Watcher's Digest*. He was one of thirteen artists to contribute to *Birds of Peru,* published by Princeton University Press in 2007, and is currently preparing new illustrations for a revised edition of *Birds of Trinidad and Tobago* by Richard ffrench and John O'Neill.

Barry became attracted to nature subjects through an association with the Massachusetts Audubon Society, which began in 1982. He has been influenced also by the work of European wildlife artists and has adopted their methodology of direct field sketching. His skill as a field artist has enabled Barry to participate in projects abroad sponsored by the Netherlands-based Artists for Nature Foundation. With this organization he has traveled to India, Peru, England, Ireland, and Spain to raise funds for conservation of threatened habitats. In 2007 he became the first U.S. artist to be commissioned by the Wildlife Habitat Trust of Wexham, England, to design the 2007 UK Habitat Conservation Stamp, which is modeled after the U.S Duck Stamp.

Barry frequently exhibits in New England, elsewhere in the United States, and abroad. From February 22 to April 5, 2009, "At the Water's Edge," an exhibition of his paintings, will be shown at the Joppa Flats Education Center in Newburyport. Barry will host a "Meet the Artist" event there on March 1.

Barry resides in the central Massachusetts town of Princeton. His website is <http://www.barryvandusen.com>.

AT A GLANCE

December 2008

WAYNE R. PETERSEN

This month readers see what is sometimes affectionately called a "Sneaky, Streaky Brown Job" — a term that translates to a sparrow of some sort. While not all sparrows are particularly sneaky, most are streaky at least somewhere in their plumage. In the case of the pictured mystery bird, the streaks appear on the back, even though the underparts are apparently plain. The identification task is considerably simplified once we recognize that the mystery bird is a sparrow. Very few other North American bird species exhibit the combination of small size (compared to the twig the bird is perched on), a fairly thick conical bill, and plain underparts with a prominently streaked back.

Despite a nasty reputation for being hard to identify, some sparrows are relatively easy to recognize. A close look at the mystery bird reveals a couple of key characteristics that are quite distinctive. First, and possibly more important, is the distinct dark line running through the eye. There is also a wide, white stripe (supercilium) above the eye that runs from in front of it to well behind the eye. Although few sparrows that regularly occur in Massachusetts have such a distinctive combination of facial and head markings, there are two species that do — Clay-colored Sparrow and Chipping Sparrow. Although there are other species that exhibit pale eye-stripes, few show one as extensive as that of the mystery sparrow, and none have one in combination with such a prominent black eye-line.

Nonetheless, distinguishing between Clay-colored and Chipping sparrows can sometimes be a little tricky, especially when an image is in black and white instead of color. In a color photo the generally sandy or buffy tones of a Clay-colored Sparrow are usually obvious, especially on the breast. In our "At a Glance" image, these differences cannot be seen. However, the absence of a distinct malar stripe on each side of the throat is a clue that the pictured bird may be a Chipping Sparrow, as is the

lack of a clearly defined, white median crown-stripe. These are typically solid characteristics of Clay-colored Sparrows. What we do see, in addition to the barely traceable malar stripes, is a crown thinly streaked with dark and a mere suggestion of a diffuse median crown-stripe, an off-white coloration on the underparts, and thin black lores between the eye and the bill. In Clay-colored Sparrows the lores are buffy, not dark. This last feature clinches the identification as a Chipping Sparrow (*Spizella passerina*), and the combination of an unstreaked breast and a finely streaked crown indicate that the pictured Chipping Sparrow is either a bird in its first-winter plumage, or possibly an adult in non-breeding plumage.

Chipping Sparrows favor open woodlands and suburban areas for nesting and are very common summer residents in Massachusetts. They are especially obvious when they first arrive in April, and again in mid-fall, when large flocks may sometimes be found along weedy roadsides and in nearby fields. Chippies are relatively rare in Massachusetts during the winter, when they are most often found in southeastern Massachusetts. The author photographed this first-winter plumaged Chipping Sparrow in Orleans on October 11, 2008.

Wayne R. Petersen

MassWildlife: Eagle-eyed Effort Pays Off with Record Sightings

A one-day concentrated survey of wintering Bald Eagles conducted throughout the Commonwealth on January 9, 2009, yielded sightings of a record 80 individual birds. The previous record one-day count was 76 eagles in 1998. Wildlife officials from the Division of Fisheries and Wildlife (MassWildlife), volunteers, and interested citizens braved chilly temperatures and biting winds to observe birds from the ground and from the air during the event, which is part of an annual national survey.

Highlights of the one-day count included 17 adult and 9 juvenile eagles spotted by the National Grid helicopter crew at the Quabbin Reservoir, followed by their count of a record 14 adults and 3 juvenile eagles along the Massachusetts stretch of the Connecticut River.

MassWildlife staff and volunteers observed 2 juvenile eagles on the Mashpee River, 5 adult and 3 juvenile eagles in the Lakeville area, and 3 adults and 1 juvenile eagle at the Merrimack River. Eagles were also reported in Natick, Wayland, Wrentham, New Bedford, Taunton, Wareham, Plymouth, Shrewsbury, and Sheffield.

Another highlight of the count day was the discovery of a new eagle nest in Hadley, on the Connecticut River. In 2008, 26 bald eagle pairs were nesting in territories including the Quabbin Reservoir, the Connecticut and Merrimack Rivers, and areas in Plymouth, Berkshire, and Worcester Counties.

AT A GLANCE

WAYNE R. PETERSEN

Can you identify the bird in this photograph?
Identification will be discussed in next issue's AT A GLANCE.

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